LK 7550

Lockheed Environmental Systems & Technologies Co.
Lockheed Analytical Services
975 Kelly Johnson Drive Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 800-582-7605 Facsimile 702-361-8146

0048950

LOCKHEED MARTIN

September 27, 1996

APR 1998 RECEIVED

SEP 1996 RECEIVED Data Log In

Ms. Joan Kessner
Bechtel Hanford, Inc.
3350 George Washington Way
MISN B1-35
Richland, WA 99352

RE:	Log-in No.:	L7550/L7561
	Quotation No.:	Q400000-B
	SAF:	B96-142
	Document File No.:	0730596D/0801596
	BHI Document File No.:	392
	SDG No.:	LK7550

L7550 The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on July 30, 1996. The temperature of the cooler upon receipt was 15°C. Sample containers received coincided with the chain-of-custody documentation. All sample containers were received intact. Samples were received in time to meet the analytical holding time requirements. All discrepancies (if applicable) identified upon receipt of the samples have been forwarded to the client and are documented in the enclosed chain-of-custody records. (See attached Sample Receiving Checklist for details).

L7561 The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on August 1, 1996. The temperatures of the four coolers upon receipt were 2, 3, 4, and 4°C. Sample containers received did not all coincide with the chain-of-custody documentation. All sample containers were received intact. Samples were received in time to meet the analytical holding time requirements. All discrepancies (if applicable) identified upon receipt of the samples have been forwarded to the client and are documented in the enclosed chain-of-custody records. (See attached Sample Receiving Checklist for details).

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 Mary Wolf at (702) 361-3955, extension 311. If you are unable to contact the client services representative, please call Mary B. Ford, client services manager, at extension 326.

"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 Manager or a designee, as verified by the following signature."

Sincerely,

Mary K. Wolf

Mary K. Wolf
Client Services Representative

cc: Client Services
Document Control

Sample Disposition Record

Control #: B96-0128
Revision #: 0
Date Initiated: 09/10/96

Section 1 - BACKGROUND

SAF #: B96-142
OU: N/A
Project ID: 100N 90-Day Pad
Task ID: 1
Sampling Event: 109N Unknown Wastes -- Oil
Laboratory: Lockheed
Project Coordinator: C. C. Koerner
Task Manager: D. W. Eckert

Section 2 - SAMPLE INFORMATION

Number of Samples: 1
ID Numbers: B0HXX1
Matrix: Other Solid
Collection Date: 07/29/96

Section 3 - ISSUE

Class: Lab Direction
NCR Number: N/A
Type: Revision of Direction
Description: Chain of Custody associated with sample number B0HXX1 indicated containers and requested analyses for gamma spec, gross alpha/gross beta. Lockheed received sample number B0HXX1 but did not received a container for gamma spec, gross alpha/gross beta analyses.

N/A

NCR Validation (Print/Sign) Date

Section 4 - DISPOSITION

Type: Reject
Description: Lockheed is directed to cancel the gamma spec, gross alpha/gross beta analyses for sample number B0HXX1.

C. C. Koerner/ C C Koerner 9-10-96

Project Coordinator (Print/Sign) Date

D. W. Eckert/ D W Eckert 9/10/96

Task Manager (Print/Sign) Date

N/A

QA (Print/Sign) Date

Section 5 - INSPECTION (Issue Class: Nonconformance Only)

Inspection Number: N/A
Inspection Results: N/A

N/A

Inspector (Print/Sign) Date

CASE NARRATIVE
INORGANIC NON METALS ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

- Six liquid waste and two solid waste samples were received for LK7550 and analyzed in batches 730 bh4 and 730 bh5 for selected analytes to be analyzed in client-specified order as requested on the chain of custody. Quality control analysis was performed on the following samples:

Client ID	LAL #		Method
Liquid Waste			
BOHXW6	L7550-28	DUP, MS	335.2 Total Cyanide
BOHXW5	L7550-33	DUP, MS	9030 Sulfide
BOHYM8	L7550-28	DUP	9041 pH
Solid Waste			
BOHXX3	L7550-2	DUP, MS	335.2 Total Cyanide
	L7550-2	DUP	9041 pH
N/A	N/A	N/A	1010 Ignitability

Holding Time Requirements

- The samples were received and analyzed within method-specific holding time except for the following:

  For Method 9041 pH the samples were received and analyzed outside of the method-specific holding time and the associated samples are flagged with an "H".

  For Method 335.2 Total Cyanide and Method 9030 Sulfide, due to the client-specified sequence of analyses, these samples were analyzed outside of the method-specific holding time and the associated 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.

Samples

- For Method 335.2 Total Cyanide and 9030 Sulfide the samples were logged in with a matrix of liquid waste. However, as the samples were oil and grease, the matrix spike, sample duplicate and samples are reported in mg/kg.

- The solid waste samples are reported on an as received basis.

Kay McCann
Prepared By

September 4, 1996
Date

CASE NARRATIVE
INORGANIC NON METALS ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

- Six liquid waste and one solid waste samples were received for LK7561 and analyzed in batches 730 bh4 and 730 bh5 for selected analytes to be analyzed in client-specified order as requested on the chain of custody. Quality control analysis was performed on the following samples:

Client ID	LAL #		Method
Liquid Waste			
BOHXX4	L7561-29	DUP, MS	335.2 Total Cyanide
	L7561-36	DUP, MS	9030 Sulfide
BOHYM8	L7561-28	DUP	9041 pH
Solid Waste			
BOHXX1	L7561-31	DUP, MS	335.2 Total Cyanide
	L7561-38	DUP, MS	9030 Sulfide
	L7561-31	DUP	9041 pH
N/A	N/A	N/A	1010 Ignitability

Holding Time Requirements

- The samples were received and analyzed within method-specific holding time except for the following:

  For Method 9041 pH the samples were received and analyzed outside of the method-specific holding time and the associated samples are flagged with an "H".

  For Method 9030 Sulfide, due to the client-specified sequence of analyses, these samples were analyzed outside of the method-specific holding time and the associated 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 with the following exception:

  For Method 9030 Sulfide for solid waste, the matrix spike recovery exceeded the 75-125% acceptance limit. However, the LCS recovery was within criteria (92.5%) indicating the system was under control. The associated sample is flagged with an "N".

Samples

- For Method 335.2 Total Cyanide and 9030 Sulfide the samples were logged in with a matrix of liquid waste. However, as the samples were oil and grease, the matrix spike, sample duplicate and samples are reported in mg/kg.

- The solid waste samples are reported on an as received basis.

Kay McCann
Prepared By

September 4, 1996
Date

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), and duplicate sample(s).

Preparation and Analysis Requirements

All samples were received on July 30, and August 1, 1996. The samples were logged in as L7550 and L7761 and were prepared and analyzed in batch 730 bh4 for TCLP metals. The samples were analyzed by Method 6010A ICP Trace and Method 7470 Mercury.

Holding Time Requirements

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

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.
- The LCS for silver recovered 79% of its true value. All silver results were below the Reporting Detection Limit and the matrix spike recovery of 91.4% indicates the slightly low bias of the LCS does not affect the results, therefore, redigestion was not performed.

Sample Results

- The liquid waste samples were prepared as a solid and the density was determined in order to report the results in mg/L.

Shellee McGrath
Prepared By

September 25, 1996
Date

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), and duplicate sample(s).

Preparation and Analysis Requirements

All samples were received on August 1, 1996. The samples were logged in as L7661 and were prepared and analyzed in batch 730 bh2 for TCLP metals. The samples were analyzed by Method 6010A ICP Trace and Method 7470 Mercury.

Holding Time Requirements

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

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.

Shellee McGrath
Prepared By

September 27, 1996
Date

CASE NARRATIVE
ORGANIC ANALYSES

Analytical Method 8080 Pesticides/PCBs

The associated samples were analyzed in three analytical batches.

Analytical Batch 080596-8080-E-4 (Liquid Waste)

NOTE: Client sample BOHXW5 (L7550-15) was very acidic and required a proportionally large volume of sodium hydroxide to bring the pH to 6.0. When the sample was extracted the sample was biphasic. Equal amounts of both phases were taken for analysis. Even then the native sample reacted differently than the Matrix Spike (39818MS) and Matrix Spike Duplicate (39818MSD).

Client sample BOHXW5 (L7550-15) was the native sample used for the 39818MS and 39818MSD.

The Laboratory Control Sample (39818LCS) contained several compounds in addition to the six (6) required spike compounds.

The samples were extracted within the required holding time on August 5, 1996 and analyzed within the required holding time on August 8, 1996. All initial and continuing calibrations met criteria except for 4,4'-DDD, Methoxychlor, and D-BHC in the beginning continuing and Dieldrin and Endrin Aldehyde in the ending continuing calibrations. There were no compounds detected in client sample BOHXW5 (L7550-15) and we believe that data quality was unaffected. There were no target compounds detected in the Method Blank (39818). Surrogate recoveries were within QC limits except for DCB in samples BOHXW5 (L7550-15) and 39818MSD due to matrix interference. Compound recoveries were within QC limits in the 39818MS and 39818MSD except for 4,4'-DDT, Dieldrin, and Endrin due to matrix interference. Compound recoveries were within QC limits in the 39818LCS. The Relative Percent Differences (RPDs) between the 39818MS and 39818MSD recoveries were within QC limits except for Endrin.

Analytical Batch 081196-8080-E-5 (Solid Waste)

NOTE: Client sample BOHXX3 (L7550-2) was the native sample used for the 39838MS and 39838MSD.

The 39838MS, 39838MSD, and 39838LCS contained several compounds in addition to the six (6) required spike compounds.

Due to the nature of the samples, a reduced sample size of 0.2 grams was

extracted.

The samples were extracted within the required holding time on August 6, 1996 and analyzed within the required holding time on August 15 and 16, 1996. All initial and continuing calibrations met criteria except for most of the compounds in the ending continuing calibration. There were no compounds detected in the associated client samples and we believe that data quality was unaffected. There were no target compounds detected in the 39838MB. Surrogate recoveries were within QC limits except for DCB in client sample BOHXX1 (L7561-17). Compound recoveries were within QC limits in the 39838MS, 39838MSD, and 39838LCS except for Dieldrin in the 39838MSD. The RPDs between the 39838MS and 39838MSD recoveries were within QC limits.

Analytical Batch 081696-8080-C-1 (Liquid Waste)

NOTE: The 39875LCS contained several compounds in addition to the six (6) required spike compounds.

The continuing calibrations which follow the samples have responses which are below criteria. The samples analyzed in this analytical batch were analyzed in a prior analytical batch with similar ending continuing calibration results. The low continuing calibration responses are attributed to the sample matrix influence on the chromatographic system.

The samples were extracted within the required holding time on August 6, 1996 and analyzed within the required holding time on August 17 and 18, 1996. All initial and continuing calibrations met criteria except for all of the compounds in the ending continuing calibration. There were no compounds detected in the associated client samples and we believe that data quality was unaffected. There were no target compounds detected in the 39875MB. Surrogate recoveries were within QC limits. Compound recoveries were within QC limits in the 39875LCS. Refer to analytical batch 082096-8080-C-1 for the associated 39875MS and 39875MSD results.

Analytical Batch 082096-8080-C-1 (Liquid Waste)

NOTE: Client sample BOHYM7 (L7561-20) was the native sample used for the 39875MS and 39875MSD.

The 39875MS and 39875MSD contained several compounds in addition to the six (6) required spike compounds.

The continuing calibrations which follow the samples have responses which are below criteria. The samples analyzed in this analytical batch were analyzed in

a prior analytical batch with similar ending continuing calibration results. The low continuing calibration responses are attributed to the sample matrix influence on the chromatographic system.

The samples were extracted within the required holding time on August 6, 1996 and analyzed within the required holding time on August 21, 1996. All initial and continuing calibrations met criteria except for 4,4'-DDD, 4,4'-DDT, and Endrin Aldehyde in the ending continuing calibration. There were no compounds detected in the associated client samples and we believe that data quality was unaffected. Refer to analytical batch 081696-8080-C-1 for the associated 39875MB and 39875LCS results. Surrogate recoveries were within QC limits except for TCMX in client sample BOHXX4 (L7561-15). Compound recoveries were within QC limits in the 39875MS and 39875MSD. The RPDs between the 39875MS and 39875MSD recoveries were within QC limits.

Prepared By
Patricia Lonergan

September 27, 1996

CASE NARRATIVE
RADIOCHEMISTRY ANALYSES

The routine calibration and quality control (QC) 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, and duplicate samples.

Holding Time Requirements

All holding time requirements were met.

Analytical Method Gamma Spectrometry

The gamma spectrometry analysis was performed using standard operating procedure (SOP), LAL-91-SOP-0063. The samples were analyzed in workgroup 39711. The instrument calibration verification met criteria. The method blank was within QC criteria with the exception of uranium-235(GAMMA). Since all other QC criteria were met, data quality is not believed to be adversely affected. The samples associated with this method blank were flagged with a "B" qualifier. The laboratory control sample (LCS) recoveries were within QC criteria. The duplicate (DUP) recoveries were within QC criteria. The sample minimum detectable activities were greater than the reporting detection limit due to a limited aliquot volume available for analysis. No re-analyses were performed.

Analytical Method Gross Alpha/Beta

The gross alpha/beta analysis was performed using SOP, LAL-91-SOP-0060. The samples were analyzed in workgroups 39816 and 40473. The samples analyzed in workgroup 39816 were re-analyzed in workgroup 40473 due to the beta DUP and matrix spike (MS) results being out of QC criteria. No analyses from workgroup 39816 were reported. The instrument calibration verification met criteria. The method blank was within QC criteria. The LCS recoveries were within QC criteria. The alpha MS recovery was out of QC criteria; since the beta MS recovery and all other QC criteria were met, data quality is not believed to be adversely affected. The DUP recoveries were within QC criteria. No other re-analyses were performed.

Andrea Tippett
Prepared By

September 16, 1996
Date

Lockheed Analytical Services
DATA QUALIFIERS FOR INORGANIC ANALYSES
[Revised 08/28/92]

For Use on the Analytical Data Reporting Forms	
B	***For CLP Analyses Only*** -- Reported value is less than the contract required detection limit (CRDL) but greater than or equal to the instrument detection limit (IDL).
C	***For Routine, Non-CLP Analyses Only*** -- Any constituent that was also detected in the associated blank whose concentration was greater than the reporting detection limit (RDL).
D	Presence of high levels of interfering constituents required dilution of sample which increased the RDL by the dilution factor.
E	Estimated value due to presence of interference.
H	Sample analysis performed outside of method-or client-specified maximum holding time requirement.
M	***For CLP Analyses Only*** -- Duplicate injection precision criterion was not met.
N	Matrix spike recovery exceeded acceptance limits.
S	Reported value was determined from the method of standard addition.
U	***For CLP Reporting Only*** -- Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
W	***For AAS Only*** -- Post-digestion spike for Furnace AAS did not meet acceptance criteria and sample absorbance is less than 50% of spike absorbance.
X, Y, or Z	Analyst-defined qualifier.
*	Relative percent difference (RPD) for duplicate analysis exceeded acceptance limits.
+	Correlation coefficient (r) for the MSA is less than 0.995.
For Use on the QC Data Reporting Forms	
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

[1] Used as footnote designations on the QC summary form.

Lockheed Analytical Services
DATA QUALIFIERS FOR ORGANIC ANALYSES

[Revised 02/09/1996]

For Use On The Analytical Data Reporting Forms	
A	***For CLP analyses Only*** -- The TIC is a suspected aldol-condensation product.
B	Any constituent that was also detected in the associated blank whose concentration was greater than the practical or reporting detection limit (PQL or RDL).
C	Constituent confirmed by GC/MS analysis. *[pesticide/PCB analyses only]*
D	Constituent detected in the diluted sample. It also indicates that an accurate quantitation is not possible due to surrogates being diluted out of the samples during the course of the analysis.
E	Constituent concentration exceeded the calibration range.
G	The quantitation is not gasoline or diesel but believed to be some other combination of hydrocarbons.
H	Sample analysis performed outside of method- or client-specified maximum holding time requirement.
J	*Estimated value* -- (1) constituent detected at a level less than the RDL or PQL and greater than or equal to the MDL; (2) estimated concentration for TICs ***(For CLP Reporting Only)***.
N	***For CLP Reporting Only*** -- Tentatively identified constituents (TICs) identified based on mass spectral library search.
NQ	Analyte detected, but Not Quantified; see result from subsequent analysis
P	***For CLP Reporting Only*** -- The percent difference between the concentrations detected on both GC columns was greater than 25 percent *[pesticide/PCB analyses only]*.
U	***For CLP Reporting Only*** -- Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
X, Y, or Z	Analyst-defined qualifier.
N/A (% Moisture)	N/A in the % moisture cell indicates that data are reported on an *"as received"* basis. A value in the % moisture cell indicates that data are reported based on a *"dry weight"* basis.
For Use On The QC Data Reporting Forms	
*****	QC data (i.e., percent recovery data for matrix spike, matrix spike duplicate, laboratory control standard, or surrogates; and RPD for matrix spike duplicate or unspiked duplicate) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

[1] Used as footnote designations on the QC Summary Form.

Lockheed Analytical Services
DATA QUALIFIERS FOR RADIOCHEMICAL ANALYSES
[Revised 04/05/96]

For Use on the Analytical Data Reporting Forms	
B	Any constituent that was detected in the associated method blank at a concentration was greater than the reporting detection limit (RDL).
C	The minimum detectable activity exceeded the RDL due to the residue weight limitations forcing a volume reduction.
D	Constituent detected in the diluted sample.
E	Constituent concentration exceeded the calibration or attenuation curve range.
F	***For Alpha Spectrometry Only***-- Full width half max exceeded the acceptance limits.
H	Sample analysis performed outside of method-specified maximum holding time requirement.
Y	Chemical yield exceeded acceptance limits.
For Use on the QC Data Reporting Forms	
*	QC data (i.e., percent recovery data for laboratory control standard and matrix spike; and RPD for replicate analyses) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the MDA.

[1] Used as foot note designations on the QC summary form.

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 29 1996, 08:03 am

Login Number: L7550
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
L7550-1	B0HXX2	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: EXPENDED					
SolidWaste 8 S 1010 IGNITABILITY		Hold:30-JUL-96			
SolidWaste 8 S SCREENING					
L7550-2	B0HXX3	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: EXPENDED					
SolidWaste 8 S 1010 IGNITABILITY		Hold:30-JUL-96			
SolidWaste 8 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
SolidWaste 8 S 8080 PEST/PCBS		Hold:06-AUG-96			
SolidWaste 8 S 9045 PH		Hold:30-JUL-96			
SolidWaste 8 S SCREENING					
L7550-3	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: RFG01-43C					
Liq. Waste 7 S SCREENING		Hold:18-JAN-97			
L7550-4	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: RFG01-43C					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-5	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: RFG01-43C					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-6	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: RFG01-43C					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-7	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: RFG01-43C					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-8	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: RFG01-43C					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			

0019

0730596D

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 29 1996, 08:03 am

Login Number: L7550
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
L7550-9	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:29-JUL-96			
L7550-10	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:30-JUL-96			
L7550-11	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:30-JUL-96			
L7550-12	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:30-JUL-96			
L7550-13	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:30-JUL-96			
L7550-14	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:30-JUL-96			
L7550-15	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-105B					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:05-AUG-96			
L7550-16	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-105B					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-17	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-105B					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			

0020

C7305960

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 29 1996, 08:03 am

Login Number: L7550
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
L7550-18	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-105B					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-19	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-105B					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-20	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-105B					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-21	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 133					
Liq. Waste 7 S 1311	TCLP REG. EXTR.	Hold:05-AUG-96			
TCLP Extr 13 S 6010A	ICP TRACE	Hold:18-JAN-97			
TCLP Extr 13 S 7470	MERCURY	Hold:19-AUG-96			
Liq. Waste 7 S 9041	PH	Hold:29-JUL-96			
L7550-22	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 133					
Liq. Waste 7 S 1311	TCLP REG. EXTR.	Hold:06-AUG-96			
TCLP Extr 13 S 6010A	ICP TRACE	Hold:19-JAN-97			
TCLP Extr 13 S 7470	MERCURY	Hold:20-AUG-96			
Liq. Waste 7 S 9041	PH	Hold:30-JUL-96			
L7550-23	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 133					
Liq. Waste 7 S 1311	TCLP REG. EXTR.	Hold:06-AUG-96			
TCLP Extr 13 S 6010A	ICP TRACE	Hold:19-JAN-97			
TCLP Extr 13 S 7470	MERCURY	Hold:20-AUG-96			
Liq. Waste 7 S 9041	PH	Hold:30-JUL-96			
L7550-24	B0HXW8	23-JUL-96	30-JUL 96		14-AUG-96
TEMP 15					
Location: 133					
Liq. Waste 7 S 1311	TCLP REG. EXTR.	Hold:06-AUG-96			
TCLP Extr 13 S 6010A	ICP TRACE	Hold:19-JAN-97			

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 29 1996, 08:03 am

Login Number: L7550
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
TCLP Extr 13 S 7470 MERCURY		Hold:20-AUG-96			
Liq. Waste 7 S 9041 PH		Hold:30-JUL-96			
L7550-25	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 133					
Liq. Waste 7 S 1311 TCLP REG. EXTR.		Hold:06-AUG-96			
TCLP Extr 13 S 6010A ICP TRACE		Hold:19-JAN-97			
TCLP Extr 13 S 7470 MERCURY		Hold:20-AUG-96			
Liq. Waste 7 S 9041 PH		Hold:30-JUL-96			
L7550-26	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 133					
Liq. Waste 7 S 1311 TCLP REG. EXTR.		Hold:06-AUG-96			
TCLP Extr 13 S 6010A ICP TRACE		Hold:19-JAN-97			
TCLP Extr 13 S 7470 MERCURY		Hold:20-AUG-96			
Liq. Waste 7 S 9041 PH		Hold:30-JUL-96			
L7550-27	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:05-AUG-96			
L7550-28	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-29	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-30	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-31	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 29 1996, 08:03 am

Login Number: L7550
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
L7550-32	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-33	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 9030 SULFIDE		Hold:29-JUL-96			
L7550-34	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-35	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-36	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-37	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-38	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG19-135A					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-39	REPORT TYPE	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Water 1 S EDD -- DISK DEL.					
Water 1 S GC2					
Water 1 S INORG TYPE 2 RPT					

Signature: Mary B. Ford

Date: 8/29/96

0023
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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 10:31 am

Login Number: L7550
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
L7550-1	B0HXX2	23-JUL-96	30-JUL-96		14-AUG-9
TEMP 15					
Location: 156TMP-2					
SolidWaste 8 S 1010 IGNITABILITY		Hold:30-JUL-96			
SolidWaste 8 S 1311 TCLP REG. EXTR.		Hold:06-AUG-96			
SolidWaste 8 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
*TCLP Extr 13 S 6010A ICP TRACE		Hold:19-JAN-97			
TCLP Extr 13 S 7470 MERCURY		Hold:20-AUG-96			
SolidWaste 8 S 8080 PEST/PCBS		Hold:06-AUG-96			
SolidWaste 8 S 9030 SULFIDE		Hold:30-JUL-96			
SolidWaste 8 S 9045 PH		Hold:30-JUL-96			
SolidWaste 8 S SCREENING					
L7550-2	B0HXX3	23-JUL-96	30-JUL-96		14-AUG-9
TEMP 15					
Location: 156TMP-2					
SolidWaste 8 S 1010 IGNITABILITY		Hold:30-JUL-96			
SolidWaste 8 S 1311 TCLP REG. EXTR.		Hold:06-AUG-96			
SolidWaste 8 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
*TCLP Extr 13 S 6010A ICP TRACE		Hold:19-JAN-97			
TCLP Extr 13 S 7470 MERCURY		Hold:20-AUG-96			
SolidWaste 8 S 8080 PEST/PCBS		Hold:06-AUG-96			
SolidWaste 8 S 9030 SULFIDE		Hold:30-JUL-96			
SolidWaste 8 S 9045 PH		Hold:30-JUL-96			
SolidWaste 8 S SCREENING					
L7550-3	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-9
TEMP 15					
Location: 156TMP-2					
Liq. Waste 7 S SCREENING		Hold:18-JAN-97			
L7550-4	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-9
TEMP 15					
Location: 156TMP-2					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-5	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-9
TEMP 15					
Location: 156TMP-2					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-6	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-9
TEMP 15					
Location: 156TMP-2					

* Changed to Icp Trace per Kathleen Hall.

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 10:31 am

Login Number: L7550
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
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-7	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 156TMP-2					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-8	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 156TMP-2					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-9	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG02-25B					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:29-JUL-96			
Liq. Waste 7 S 9040 PH		Hold:29-JUL-96			
L7550-10	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:30-JUL-96			
Liq. Waste 7 S 9040 PH		Hold:30-JUL-96			
L7550-11	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:30-JUL-96			
Liq. Waste 7 S 9040 PH		Hold:30-JUL-96			
L7550-12	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:30-JUL-96			
Liq. Waste 7 S 9040 PH		Hold:30-JUL-96			
L7550-13	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:30-JUL-96			
Liq. Waste 7 S 9040 PH		Hold:30-JUL-96			

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 10:31 am

Login Number: L7550
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
L7550-14	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:30-JUL-96			
Liq. Waste 7 S 9040	PH	Hold:30-JUL-96			
L7550-15	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG02-25B					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:05-AUG-96			
L7550-16	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-17	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-18	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-19	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-20	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
*L7550-21	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: RFG02-25B					
Liq. Waste 7 S 1311	TCLP REG. EXTR.	Hold:05-AUG-96			
TCLP Extr 13 S 6010A	ICP TRACE	Hold:18-JAN-97			
TCLP Extr 13 S 7470	MERCURY	Hold:19-AUG-96			

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 10:31 am

Login Number: L7550
- 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
*L7550-22	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 156CART-8					
Liq. Waste 7 S 1311 TCLP REG. EXTR.		Hold:06-AUG-96			
TCLP Extr 13 S 6010A ICP TRACE		Hold:19-JAN-97			
TCLP Extr 13 S 7470 MERCURY		Hold:20-AUG-96			
*L7550-23	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 156CART-8					
Liq. Waste 7 S 1311 TCLP REG. EXTR.		Hold:06-AUG-96			
TCLP Extr 13 S 6010A ICP TRACE		Hold:19-JAN-97			
TCLP Extr 13 S 7470 MERCURY		Hold:20-AUG-96			
*L7550-24	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 156CART-8					
Liq. Waste 7 S 1311 TCLP REG. EXTR.		Hold:06-AUG-96			
TCLP Extr 13 S 6010A ICP TRACE		Hold:19-JAN-97			
TCLP Extr 13 S 7470 MERCURY		Hold:20-AUG-96			
*L7550-25	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 156CART-8					
Liq. Waste 7 S 1311 TCLP REG. EXTR.		Hold:06-AUG-96			
TCLP Extr 13 S 6010A ICP TRACE		Hold:19-JAN-97			
TCLP Extr 13 S 7470 MERCURY		Hold:20-AUG-96			
*L7550-26	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 156CART-8					
Liq. Waste 7 S 1311 TCLP REG. EXTR.		Hold:06-AUG-96			
TCLP Extr 13 S 6010A ICP TRACE		Hold:19-JAN-97			
TCLP Extr 13 S 7470 MERCURY		Hold:20-AUG-96			
L7550-27	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG02-25B					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:05-AUG-96			
L7550-28	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			

* Changed matrix to Tclp + Icp Trace

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 10:31 am

Login Number: L7550
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
L7550-29	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-30	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-31	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-32	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-33	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG02-25B					
Liq. Waste 7 S 9030 SULFIDE		Hold:29-JUL-96			
L7550-34	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-35	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-36	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-37	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 10:31 am

Login Number: L7550
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
L7550-38	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 156CART-8					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-39	REPORT TYPE	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Water 1 S EDD - DISK DEL.					
Water 1 S GC2					
Water 1 S INORG TYPE 2 RPT					

Signature: Paul C Vang

Date: 8-02-96

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jul 31 1996, 03:38 pm

Login Number: L7550
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
L7550-1	B0HXX2	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
SolidWaste 8	S 1010 IGNITABILITY	Hold:30-JUL-96			
SolidWaste 8	S 1311 TCLP REG. EXTR.	Hold:06-AUG-96			
SolidWaste 8	S 335.2 CYANIDE TOTAL	Hold:06-AUG-96			
TCLP Extr 13	S 6010A ICP METALS	Hold:19-JAN-97			
TCLP Extr 13	S 7470 MERCURY	Hold:20-AUG-96			
SolidWaste 8	S 8080 PEST/PCBS	Hold:06-AUG-96			
SolidWaste 8	S 9030 SULFIDE	Hold:30-JUL-96			
SolidWaste 8	S 9045 PH	Hold:30-JUL-96			
SolidWaste 8	S SCREENING				
L7550-2	B0HXX3	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
SolidWaste 8	S 1010 IGNITABILITY	Hold:30-JUL-96			
SolidWaste 8	S 1311 TCLP REG. EXTR.	Hold:06-AUG-96			
SolidWaste 8	S 335.2 CYANIDE TOTAL	Hold:06-AUG-96			
TCLP Extr 13	S 6010A ICP METALS	Hold:19-JAN-97			
TCLP Extr 13	S 7470 MERCURY	Hold:20-AUG-96			
SolidWaste 8	S 8080 PEST/PCBS	Hold:06-AUG-96			
SolidWaste 8	S 9030 SULFIDE	Hold:30-JUL-96			
SolidWaste 8	S 9045 PH	Hold:30-JUL-96			
SolidWaste 8	S SCREENING				
L7550-3	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
Liq. Waste 7	S SCREENING	Hold:18-JAN-97			
L7550-4	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
Liq. Waste 7	S SCREENING	Hold:19-JAN-97			
L7550-5	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
Liq. Waste 7	S SCREENING	Hold:19-JAN-97			
L7550-6	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jul 31 1996, 03:38 pm

Login Number: L7550
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
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-7	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-8	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
Liq. Waste 7 S SCREENING		Hold:19-JAN-97			
L7550-9	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG02-25B					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:29-JUL-96			
Liq. Waste 7 S 9040 PH		Hold:29-JUL-96			
L7550-10	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:30-JUL-96			
Liq. Waste 7 S 9040 PH		Hold:30-JUL-96			
L7550-11	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:30-JUL-96			
Liq. Waste 7 S 9040 PH		Hold:30-JUL-96			
L7550-12	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:30-JUL-96			
Liq. Waste 7 S 9040 PH		Hold:30-JUL-96			
L7550-13	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-9
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:30-JUL-96			
Liq. Waste 7 S 9040 PH		Hold:30-JUL-96			

0031

0730596 D

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jul 31 1996, 03:38 pm

Login Number: L7550
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
L7550-14	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:30-JUL-96			
Liq. Waste 7 S 9040	PH	Hold:30-JUL-96			
L7550-15	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG02-25B					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:05-AUG-96			
L7550-16	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-17	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-18	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-19	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-20	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:06-AUG-96			
L7550-21	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: RFG02-25B					
Liq. Waste 7 S 1311	TCLP REG. EXTR.	Hold:05-AUG-96			
Liq. Waste 7 S 6010A	ICP METALS	Hold:18-JAN-97			
Liq. Waste 7 S 7470	MERCURY	Hold:19-AUG-96			

0032

0730596D

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jul 31 1996, 03:38 pm

Login Number: L7550
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
L7550-22	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
Liq. Waste 7	S 1311 TCLP REG. EXTR.	Hold:06-AUG-96			
Liq. Waste 7	S 6010A ICP METALS	Hold:19-JAN-97			
Liq. Waste 7	S 7470 MERCURY	Hold:20-AUG-96			
L7550-23	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
Liq. Waste 7	S 1311 TCLP REG. EXTR.	Hold:06-AUG-96			
Liq. Waste 7	S 6010A ICP METALS	Hold:19-JAN-97			
Liq. Waste 7	S 7470 MERCURY	Hold:20-AUG-96			
L7550-24	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
Liq. Waste 7	S 1311 TCLP REG. EXTR.	Hold:06-AUG-96			
Liq. Waste 7	S 6010A ICP METALS	Hold:19-JAN-97			
Liq. Waste 7	S 7470 MERCURY	Hold:20-AUG-96			
L7550-25	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
Liq. Waste 7	S 1311 TCLP REG. EXTR.	Hold:06-AUG-96			
Liq. Waste 7	S 6010A ICP METALS	Hold:19-JAN-97			
Liq. Waste 7	S 7470 MERCURY	Hold:20-AUG-96			
L7550-26	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15					
Location: 157					
Liq. Waste 7	S 1311 TCLP REG. EXTR.	Hold:06-AUG-96			
Liq. Waste 7	S 6010A ICP METALS	Hold:19-JAN-97			
Liq. Waste 7	S 7470 MERCURY	Hold:20-AUG-96			
L7550-27	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG02-25B					
Liq. Waste 7	S 335.2 CYANIDE TOTAL	Hold:05-AUG-96			
L7550-28	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7	S 335.2 CYANIDE TOTAL	Hold:06-AUG-96			

0033

0730596-D

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jul 31 1996, 03:38 pm

Login Number: L7550
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
L7550-29	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-30	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-31	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-32	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 335.2 CYANIDE TOTAL		Hold:06-AUG-96			
L7550-33	B0HXW5	22-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: RFG02-25B					
Liq. Waste 7 S 9030 SULFIDE		Hold:29-JUL-96			
L7550-34	B0HXW6	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-35	B0HXW7	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-36	B0HXW8	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-37	B0HXW9	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			

0034

0730596D

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jul 31 1996, 03:38 pm

Login Number: L7550
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
L7550-38	B0HXX0	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE		Hold:30-JUL-96			
L7550-39	REPORT TYPE	23-JUL-96	30-JUL-96		14-AUG-96
TEMP 15 60mls					
Location: 157					
Water 1 S EDD - DISK DEL.					
Water 1 S GC2					
Water 1 S INORG TYPE 2 RPT					

Signature: Paula Hawa
Date: 7-31-96

0730596 D 0025

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

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
B0HXW5	L7550-3		Liq. Waste	SCREENING
	L7550-9		Liq. Waste	1010 IGNITABILI
	L7550-9		Liq. Waste	9040 PH
	L7550-15		Liq. Waste	8080 PEST/PCBS
	L7550-21		Liq. Waste	1311 TCLP REG.
	L7550-21		Liq. Waste	6010A ICP METAL
	L7550-21		Liq. Waste	7470 MERCURY
	L7550-27		Liq. Waste	335.2 CYANIDE T
	L7550-33		Liq. Waste	9030 SULFIDE
B0HXW6	L7550-4		Liq. Waste	SCREENING
	L7550-10		Liq. Waste	1010 IGNITABILI
	L7550-10		Liq. Waste	9040 PH
	L7550-16		Liq. Waste	8080 PEST/PCBS
	L7550-22		Liq. Waste	1311 TCLP REG.
	L7550-22		Liq. Waste	6010A ICP METAL
	L7550-22		Liq. Waste	7470 MERCURY
	L7550-28		Liq. Waste	335.2 CYANIDE T
	L7550-34		Liq. Waste	9030 SULFIDE
B0HXW7	L7550-5		Liq. Waste	SCREENING
	L7550-11		Liq. Waste	1010 IGNITABILI
	L7550-11		Liq. Waste	9040 PH
	L7550-17		Liq. Waste	8080 PEST/PCBS
	L7550-23		Liq. Waste	1311 TCLP REG.
	L7550-23		Liq. Waste	6010A ICP METAL
	L7550-23		Liq. Waste	7470 MERCURY
	L7550-29		Liq. Waste	335.2 CYANIDE T
	L7550-35		Liq. Waste	9030 SULFIDE
B0HXW8	L7550-6		Liq. Waste	SCREENING
	L7550-13		Liq. Waste	1010 IGNITABILI
	L7550-13		Liq. Waste	9040 PH
	L7550-19		Liq. Waste	8080 PEST/PCBS
	L7550-24		Liq. Waste	1311 TCLP REG.
	L7550-24		Liq. Waste	6010A ICP METAL
	L7550-24		Liq. Waste	7470 MERCURY
	L7550-30		Liq. Waste	335.2 CYANIDE T
	L7550-36		Liq. Waste	9030 SULFIDE
B0HXW9	L7550-7		Liq. Waste	SCREENING
	L7550-12		Liq. Waste	1010 IGNITABILI
	L7550-12		Liq. Waste	9040 PH
	L7550-18		Liq. Waste	8080 PEST/PCBS
	L7550-25		Liq. Waste	1311 TCLP REG.
	L7550-25		Liq. Waste	6010A ICP METAL
	L7550-25		Liq. Waste	7470 MERCURY
	L7550-31		Liq. Waste	335.2 CYANIDE
	L7550-37		Liq. Waste	9030 SULFIDE
B0HXX0	L7550-8		Liq. Waste	SCREENING
	L7550-14		Liq. Waste	1010 IGNITABILI
	L7550-14		Liq. Waste	9040 PH
	L7550-20		Liq. Waste	8080 PEST/PCBS

0730596 D 0036

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

Client Sample Number*	LAL Sample Number	SDG Number	Matrix	Method*
	L7550-26		Liq. Waste	1311 TCLP REG.
	L7550-26		Liq. Waste	6010A ICP METAL
	L7550-26		Liq. Waste	7470 MERCURY
	L7550-32		Liq. Waste	335.2 CYANIDE T
	L7550-38		Liq. Waste	9030 SULFIDE
BOHXX2	L7550-1		SolidWaste	1010 IGNITABILI
	L7550-1		SolidWaste	1311 TCLP REG.
	L7550-1		SolidWaste	335.2 CYANIDE T
	L7550-1		TCLP Extr	6010A ICP METAL
	L7550-1		TCLP Extr	7470 MERCURY
	L7550-1		SolidWaste	8080 PEST/PCBS
	L7550-1		SolidWaste	9030 SULFIDE
	L7550-1		SolidWaste	9045 PH
	L7550-1		SolidWaste	SCREENING
BOHXX3	L7550-2		SolidWaste	1010 IGNITABILI
	L7550-2		SolidWaste	1311 TCLP REG.
	L7550-2		SolidWaste	335.2 CYANIDE T
	L7550-2		TCLP Extr	6010A ICP METAL
	L7550-2		TCLP Extr	7470 MERCURY
	L7550-2		SolidWaste	8080 PEST/PCBS
	L7550-2		SolidWaste	9030 SULFIDE
	L7550-2		SolidWaste	9045 PH
	L7550-2		SolidWaste	SCREENING
REPORT TYPE	L7550-39		Water	EDD - DISK DEL.
	L7550-39		Water	GC2
	L7550-39		Water	INORG TYPE 2 RF

0730596 0037

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST L7550

B96-142-3 | Page 1 of 2

Data Turnaround: ☐ Priority ☐ Normal

Collector Doug Bowers	**Company Contact** Don Eckert	**Telephone No.** 373-4955
Project Designation 100-N 90-Day Pad Waste Container Characterization	**Sampling Location** 109N (100N)	**SAF No.** B96-142
Ice Chest No. SML-483	**Field Logbook No.** EFL-1133-1	**Method of Shipment** Commercial Freight (truck)
Shipped To Lockheed	**Offsite Property No.**	**Bill of Lading/Air Bill No.**

POSSIBLE SAMPLE HAZARDS/REMARKS Unknown

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	P	G	aG	aG	aG	G	aG	G/P	aG	G
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	~~125ml~~ 60ml	~~250ml~~ 250ml	125ml	60ml	300ml	250ml	125ml	60ml	125ml
SAMPLE ANALYSIS	Activity Scan	Ignitability - 1010; pH (Soil) - 9045	Ignitability - 1010; pH (Soil) - 9045	Pest/PCBs - 8080 (TCL)	Pest/PCBs - 8080 (TCL)	See item (1) in Special Instructions	See item (2) in Special Instructions	Cyanide (Total) - 335.2	Cyanide (Total) - 335.2	Sulfides - 9030

Special Handling and/or Storage Cool to 4C

Sample No.	Matrix *	Sample Date	Sample Time										
B0HXX1	Other Solid												
B0HXX2 ✓	Other Solid	7-23-96	0955	X									
B0HXX3 ✓	Other Solid	7-23-96	1007	X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	7-24-96/0620	David St John	7/24/96 0620
DSt John ITA David St John	7-24-96 0730	ERC Bakitton	0730 7-24-96
ERC Bakitton	0900 7-24-96		

SPECIAL INSTRUCTIONS
Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR (same order as on chain of custody)
Turnaround time - 15 days

(1) Metals by ICP (TCLP) - 1311/6010A; Mercury (TCLP) - 1311/7470
(2) Metals by ICP (TCLP) - 1311/6010A; Mercury (TCLP) - 1311/7470

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: [signature]	Title: Sample Custodian	Date/Time: 2-30-96/16:00
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

0730596 D

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B96-142-3	Page 2 of 2

Data Turnaround: ☐ Priority ☐ Normal

Collector: Doug Bowers	Company Contact: Don Eckert	Telephone No.: 373-4955
Project Designation: 100-N 90-Day Pad Waste Container Characterization	Sampling Location: 109N (100N)	SAF No.: B96-142
Ice Chest No.: SML-483	Field Logbook No.: EFL-1133-1	Method of Shipment: Commercial Freight (truck)
Shipped To: Lockheed	Offsite Property No.	Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS: Unknown

Special Handling and/or Storage: Cool to 4C

Preservation	None	none	none									
Type of Container	aG	aG	aG									
No. of Container(s)	1	1	1									
Volume	60ml	250ml	1L									
SAMPLE ANALYSIS	Sulfides - 9030	See #1 below	See #1 below									

Sample No.	Matrix *	Sample Date	Sample Time										
B0HXX1	Other Solid												
B0HXX2	Other Solid	7-23-96	0955			X							
B0HXX3	Other Solid	7-23-96	1007			X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Doug Bowers	Date/Time: 7-24-96 0620	Received By: David St John	Date/Time: 7/24/96 0620
Relinquished By: D. St John FTH David St. John	Date/Time: 7-24-96 0730	Received By: Eric Whitten GR Bukhtten	Date/Time: 0730 7-24-96
Relinquished By: Eric Whitten GR Bukhtten	Date/Time: 7-24-96 0900	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR (same order as on chain of custody)
Turnaround time - 15 days

#1 entire sample volume in 1 bottle

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: Paula Nauss	Title: Sample Custodian	Date/Time: 2-30-96 16:00
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

0730596D 39

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B96-142-4

Data Turnaround: ☐ Priority ☐ Normal

Collector Doug Bowers	**Company Contact** Don Eckert	**Telephone No.** 373-4955
Project Designation 100-N 90-Day Pad Waste Container Characterization	**Sampling Location** 109N (100N)	**SAF No.** B96-142
Ice Chest No.	**Field Logbook No.** EFL-1133-1	**Method of Shipment** Commercial Freight (truck)
Shipped To Lockheed	**Offsite Property No.**	**Bill of Lading/Air Bill No.**

POSSIBLE SAMPLE HAZARDS/REMARKS
Unknown

Special Handling and/or Storage
Cool to 4C

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	P	G	aG	aG	aG	G	aG	G/P	aG	G
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	125ml	60ml	125ml	60ml	300ml	250ml	125ml	60ml	125ml
SAMPLE ANALYSIS	Activity Scan	Ignitability - 1010; pH (Soil) - 9045	Ignitability - 1010; pH (Soil) - 9045	Pest/PCBs - 8080 (TCL)	Pest/PCBs - 8080 (TCL)	See item (1) in Special Instructions	See item (2) in Special Instructions	Cyanide (Total) - 335.2	Cyanide (Total) - 335.2	Sulfides - 9030

Sample No.	Matrix *	Sample Date	Sample Time										
B0HXW5	Other Solid	7-22-96	1337	X		X		X		X		X	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	7-24-96/0620	Ken Whitten / B. Whitten	0620 7-24-96
Ken Whitten / B. Whitten	0900 7-26-96		

SPECIAL INSTRUCTIONS
Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR. Turnaround time - 15 days. Due to shipping requirements, the ERC Contractor acknowledges the holding time for Sulfides by EPA 9030 may not be met

(1) Metals by ICP (TCLP) - 1311/6010A, Mercury (TCLP) - 1311/7470
(2) Metals by ICP (TCLP) - 1311/6010A, Mercury (TCLP) - 1311/7470

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: Paul Williams — Title: Sample Custodian — Date/Time: 7-30-96/16:9

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

0730596

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B96-142-4	Page 2 of 2

Data Turnaround: ☐ Priority ☐ Normal

Collector: Doug Bowers	Company Contact: Don Eckert	Telephone No.: 373-4955
Project Designation: 100-N 90-Day Pad Waste Container Characterization	Sampling Location: 109N (100N)	SAF No.: B96-142
Ice Chest No.	Field Logbook No.: EFL-1133-1	Method of Shipment: Commercial Freight (truck)
Shipped To: Lockheed	Offsite Property No.	Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS: Unknown

Special Handling and/or Storage: Cool to 4C

Preservation	None	None										
Type of Container	aG	G/P										
No. of Container(s)	1	1										
Volume	60ml	1210g										
SAMPLE ANALYSIS	Sulfides - 9030, Gross Alpha	Gamma Spectroscopy										

Sample No.	Matrix *	Sample Date	Sample Time										
B0HXW5	Other Solid	7-22-96	1337	X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	7-24-96 / 0620	GR Bushitton	0620 7-24-96
GR Bushitton	0900 7-26-96		

SPECIAL INSTRUCTIONS

Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR. Turnaround time - 15 days. Due to shipping requirements, the ERC Contractor acknowledges the holding time for Sulfides by EPA 9030 may not be met.

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: Paul Davis	Title: Sample Custodian	Date/Time: 7-30-96 / 16:00
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

0730596D

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B96-142-1

Data Turnaround: ☐ Priority ☐ Normal

Collector Doug Bowers	**Company Contact** Don Eckert	**Telephone No.** 373-4955
Project Designation 100-N 90-Day Pad Waste Container Characterization	**Sampling Location** 109N (100N)	**SAF No.** B96-142
Ice Chest No. GWS-108	**Field Logbook No.** EFL-1133-1	**Method of Shipment** Commercial Freight (truck)
Shipped To Lockheed	**Offsite Property No.**	**Bill of Lading/Air Bill No.**

POSSIBLE SAMPLE HAZARDS/REMARKS
Unknown

Special Handling and/or Storage
Cool to 4C

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	P	G	aG	aG	aG	G	aG	G/P	aG	G
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	125ml	60ml	125ml	60ml	300ml	250ml	125ml	60ml	125ml
SAMPLE ANALYSIS	Activity Scan	Ignitability - 1010, pH (Soil) - 9045	Ignitability - 1010, pH (Soil) - 9045	Pest/PCBs - 8080 (TCL)	Pest/PCBs - 8080 (TCL)	See item (1) in Special Instructions	See item (2) in Special Instructions	Cyanide (Total) - 335.2	Cyanide (Total) - 335.2	Sulfides - 9030

Sample No.	Matrix *	Sample Date	Sample Time										
B0HXW5 ✓	Other Solid	7-22-96	1337	X		X		X		X		X	7-24-96
B0HXW6 ✓	Other Solid	7-23-96	0842	X		X		X		X		X	
B0HXW7 ✓	Other Solid	7-23-96	0855	X		X		X		X		X	

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	7-24-96/0620	Dgmd Sogn	7/24/96 DOS 0620
Relinquished By D.S. John ITH	Date/Time 7-24-96 0730	Received By EEE Bud Hon	Date/Time 0730 7-24-96
Relinquished By EEE Bud Hon	Date/Time 0906 7-24-96	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR (same order as on chain of custody)
Turnaround time - 15 days

(1) Metals by ICP (TCLP) - 1311/6010A; Mercury (TCLP) - 1311/7470
(2) Metals by ICP (TCLP) - 1311/6010A; Mercury (TCLP) - 1311/7470

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 Paula Davis	Title Sample Custodian	Date/Time 7-30-96/16:00
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

0730596 42 Tr/1

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B96-142-1	Page 2 of 2

Data Turnaround: ☐ Priority ☐ Normal

Collector: Doug Bowers	Company Contact: Don Eckert	Telephone No.: 373-4955
Project Designation: 100-N 90-Day Pad Waste Container Characterization	Sampling Location: 109N (100N)	SAF No.: B96-142
Ice Chest No.: GWS-108	Field Logbook No.: EFL-1133-1	Method of Shipment: Commercial Freight (truck)
Shipped To: Lockheed	Offsite Property No.	Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS: Unknown

Special Handling and/or Storage: Cool to 4C

Preservation	None										
Type of Container	aG										
No. of Container(s)	1										
Volume	60ml										
SAMPLE ANALYSIS	Sulfides - 9030										

Sample No.	Matrix *	Sample Date	Sample Time										
~~B0HXW5~~	~~Other Solid~~	~~7-22-96~~	~~1337~~	~~X~~	BU 7-24-96								
B0HXW6	Other Solid	7-23-96	0842	X									
B0HXW7	Other Solid	7-23-96	0855	X									

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	7-24-96/0620	David St John 7/24/96 Bas	7/23/96 0620
Relinquished By D. St John ETA	Date/Time	Received By	Date/Time
David St John	7-24-96 0730	Kim Button BUTTON	0730 7-24-96
Relinquished By	Date/Time	Received By	Date/Time
Kim Button BUTTON	0900 7-24-96		
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR (same order as on chain of custody)

Turnaround time - 15 days

DUE TO SHIPPING REQUIREMENTS, THE ERC CONTRACTOR ACKNOWLEDGES THE HOLDING TIME FOR SULFIDES BY EPA9030 MAY NOT BE MET.

BU 7-25-96

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
	Paul Williams	Sample Custodian	7-30-96/16:00

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

0930596 8 43 EWL

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B96-142-2	Page 1 of 2

Data Turnaround
☐ Priority
☐ Normal

Collector Doug Bowers	Company Contact Don Eckert	Telephone No. 373-4955
Project Designation 100-N 90-Day Pad Waste Container Characterization	Sampling Location 109N (100N)	SAF No. B96-142
Ice Chest No. SML-483	Field Logbook No. EFL-1133-1	Method of Shipment Commercial Freight (truck)
Shipped To Lockheed	Offsite Property No.	Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS
Unknown

Special Handling and/or Storage
Cool to 4C

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	P	G	aG	aG	aG	G	aG	G/P	aG	G
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	125ml	60ml	125ml	60ml	300ml	250ml	125ml	60ml	125ml
SAMPLE ANALYSIS	Activity Scan	Ignitability - 1010; pH (Soil) - 9045	Ignitability - 1010; pH (Soil) - 9045	Pest/PCBs - 8080 (TCL)	Pest/PCBs - 8080 (TCL)	See item (1) in Special Instructions	See item (2) in Special Instructions	Cyanide (Total) - 335.2	Cyanide (Total) - 335.2	Sulfides - 9030

Sample No.	Matrix *	Sample Date	Sample Time										
B0HXW8 ✓	Other Solid	7-23-96	0915	X		X		X		X		X	
B0HXW9 ✓	Other Solid	7-23-96	0927	X		X		X		X		X	
B0HXX0 ✓	Other Solid	7-23-96	0928	X		X		X		X		X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Doug Bowers	Date/Time: 7-24-96/0620	Received By: David St. John	Date/Time: 7/24/96 Bus 7/23/96 0620
Relinquished By: D. St. John ITH David St. John	Date/Time: 7-24-96 0730	Received By: Rice Whitten ERC	Date/Time: 0730 Rwhitten 7-24-96
Relinquished By: Rice Whitten ERC	Date/Time: 0900 Rwhitten 7-24-96	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR (same order as on chain of custody)
Turnaround time - 15 days

(1) Metals by ICP (TCLP) - 1311/6010A; Mercury (TCLP) - 1311/7470
(2) Metals by ICP (TCLP) - 1311/6010A; Mercury (TCLP) - 1311/7470

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: Paula Nash	Title: Sample Custodian	Date/Time: 7-30-96/16:00
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

0730596 D

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B96-142-2

Data Turnaround: ☐ Priority ☐ Normal

Collector Doug Bowers	**Company Contact** Don Eckert	**Telephone No.** 373-4955
Project Designation 100-N 90-Day Pad Waste Container Characterization	**Sampling Location** 109N (100N)	**SAF No.** B96-142
Ice Chest No. SMC-482	**Field Logbook No.** EFL-1133-1	**Method of Shipment** Commercial Freight (truck)
Shipped To Lockheed	**Offsite Property No.**	**Bill of Lading/Air Bill No.**

POSSIBLE SAMPLE HAZARDS/REMARKS Unknown

Special Handling and/or Storage Cool to 4C

Preservation	None	None									
Type of Container	aG	aG									
No. of Container(s)	1	1									
Volume	60ml	250ml									
SAMPLE ANALYSIS	Sulfides - 9030	Entire sample SAF # / below									

Sample No.	Matrix *	Sample Date	Sample Time	Sulfides - 9030									
B0HXW8	Other Solid	7-23-96	0915	X									
B0HXW9	Other Solid	7-23-96	0927	X									
B0HXX0	Other Solid	7-23-96	0938	X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	7-24-96/0620	David Sigman	7/24/96 DS 7-23-96 0620
David Sigman (ITH ASI JOL)	7-24-96 0730	Kim Button (CRE)	0730 BWButton 7-24-96
Kim Button (CRE)	0900 BWButton 7-24-96		

SPECIAL INSTRUCTIONS
Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR (same order as on chain of custody)
Turnaround time - 15 days

#1 Entire sample in 1 bottle
pull samples as needed from it
DUE TO SHIPPING REQUIREMENTS THE ERC CONTRACTOR ACKNOWLEDGES THE HOLDING TIME FOR SULFIDES BY EPA 9030 MAY NOT BE MET. BW 7-25-96

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: Paula Dunn — Title: Sample Custodian — Date/Time: 7-30-96

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

0730 5960 45 9/96

MEMO COPY 96/07/26 7/31

L01602
FREIGHT BILL # 569643455

viking freight
A Caldor System Company
P.O. BOX 6490
SAN JOSE, CA 95164
TELEPHONE (408) 922
CAL T84.649

SHIPPER
US DEPT OF ENERGY
PO BOX 1970 Q1 14
P. O. BOX 1970
RICHLAND WA 99352

DELV # 569643455
ROUTING WD SCAC = VIKN
PAS/LVS-21A
14528/999999
REF. #

PAGE 1 OF 2
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CONSIGNEE CCCA BILL: BCT350QRRC
LOCKHEED LAB
TONY MILLER SH# BHI3669
975 KELLY JOHNSON RD
LAS VEGAS NV 89119

UNITS	P	HM	DESCRIPTION	WEIGHT IN LBS	RATE	CHARGES
			*EMERGENCY CONTACT: *			
			1-509-373-3800 DAY OR NIGHT			
5	X		FLAMMABLE LIQUID, NOS (SAMPLES	309		
			*FOR ANALYSIS), 3, UN1993,			
			*PG I, LIMITED QUANTITY,			
			*NO LABELS REQUIRED, ERG# 128			
			*POLY COOLERS			
1	X		CORROSIVE LIQUID, ACIDIC,	110		
			*ORGANIC, NOS (SAMPLES FOR			
			*ANALYSIS), 8, UN3265, PG I,			
			*CORROSIVE LABELS APPLIED,			
			*ERG# 153			
			*STEEL DRUM			

DRIVER
UNITS
DATE
TIME

	RECEIVED IN GOOD ORDER EXCEPT AS NOTED	RECEIVING CO. NAME		SURCHARGE	
MOND	X				AMT. COL
	PRINT LAST NAME	SEAL #	INTACT ON RECEIPT X	AMT. DUE	

SEE BACK OF MEMO COPY DATE LAS VEGAS 702/871-5323 96/07/27 02:06:35

96/07/26 7/31

L01602
FREIGHT BILL # 569643455

viking freight
A Caldor System Company
P.O. BOX 6490
SAN JOSE, CA 951
TELEPHONE (408) 9
CAL T84.649

SHIPPER
US DEPT OF ENERGY
PO BOX 1970 Q1 14
P. O. BOX 1970
RICHLAND WA 99352

DELV # 569643455
ROUTING WD SCAC = VIKN
PAS/LVS-21A
14528/999999
REF. #

PAGE 2 OF 2
CONSIGNEE COPY
IL

CONSIGNEE CCCA BILL: BCT350QRRC
LOCKHEED LAB
TONY MILLER SH# BHI3669
975 KELLY JOHNSON RD
LAS VEGAS NV 89119

UNITS	P	HM	DESCRIPTION	WEIGHT IN LBS	RATE	CHARGES
			*COST CODE: X60125			
			*S7S			
			**..RDD..DEL..7-29-96..MONDAY			
			*FRIDAY P/U AND MONDAY DELVY			
			DEFICIT WEIGHT	81		
			FUEL SURCHARGE			
6				500		

DRIVE
UNITS
DATE
TIME

WE'RE ONE. WE'RE REGIONAL. WE'RE NATIONAL. WE'RE VIKING.

0046

	RECEIVED IN GOOD ORDER EXCEPT AS NOTED	RECEIVING CO. NAME		SURCHARGE	
MOND	X			0730596 D	AMT. C
	PRINT LAST NAME	SEAL #	INTACT ON RECEIPT X	AMT. DUE PREPAID	

HAZARDOUS MATERIAL SHIPMENT RECORD (HMSR)

SHIPPING INST.

SHIP TO: LOCKHEED LAB
Company: 975 KELLY JOHNSON RD
Address: LAS VEGAS NV 89119
City, State, Zip: TONY MILLER
Attention:

Originating Facility: Building 470LC, Area 11CC
Originator Signature: [signature]
Date: 7-26-96

FROM: ☐ WHC ☐ KEH ☐ PNL ☒ OTHER BHI

OFFSITE ONLY — SHIP: ☒ PREPAID ☐ COLLECT

VIA: ☐ Parcel Post ☐ Air Parcel Post ☒ Freight (~~Rail~~/Truck) ☐ Air (Passenger) ☐ Air (Cargo)

Cost Code: X60125

SHIPMENT DESCRIPTION

CONTAINERS/PACKAGING						CONTENT DESCRIPTION
Number of Containers	Type	DOT Spec	Package Dimensions	Quantity Pkg	Gross Wt. Each Pkg	See 49 CFR 172.101(c) Hazardous Material Table
1	STEEL DRUM	1A2	29.5"X19.5" 30 GAL DRUM	24 BOTTLES 7,130 ML	110 lbs	Proper Ship Name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N Hazard Class: 8 PG I (SAMPLES FOR ANALYSIS) UN/NA No.: UN3265 List Secondary Hazards: NONE List Labels Req'd/Applied CORROSIVE
				N/A		Proper Ship Name: Hazard Class: UN/NA No.: List Secondary Hazards: List Labels Req'd/Applied
						Proper Ship Name: Hazard Class: UN/NA No.: List Secondary Hazards: List Labels Req'd/Applied

Total No. Containers	Gross Wt of Shipment	Identify Placards Required	Identify Property Control or Return Order No. (if applicable)
1	110 lbs	1. NONE 2. 3. 4.	N/A

Material in manufacturers original container: ☐ Yes ☒ No
Container free of deterioration or damage: ☒ Yes
Container acceptability documented: ☒ Yes
Material is packaged, sealed, marked and labelled to meet DOT requirements: ☒ Yes

Describe Internal Packaging: SAMPLES ARE DOUBLE BAGGED WITH BLUE ICE CUSHIONED WITH VERMICULITE AND BUBBLE WRAP

RADIATION RELEASE	Survey No.	Date	RM Signature	Print Name
	N/A	43		

CERTIFICATION

CONTRACTORS CERTIFICATION

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transport according to the applicable regulations of the Department of Transportation.

This shipment is within the Limitations prescribed for: ☐ Passenger Aircraft ☐ Cargo Aircraft ☒ NA

Authorizing Signature: [signature] Print Name: RONALD L. CLAWSON Date: 7-26-96

FOR OFFSITE SHIPMENTS — ADDITIONAL APPROVAL REQUIRED

WHC	TRAFFIC	B.L. No.	Date Shipped	ETA	Routing	Special Considerations
		BHI-3669	7/26/96	7/29/96	Viking	

WHC Traffic: Great - [illegible] WHC Shipping:

0047

0730596 D

54-1000-596 (10-87)

VALIDATED RESULTS SHORT REPORT 24 Jul 199

Customer ID: BOHXX7
Lab Sample#: S96E000883
Sample Date:
Recv. Date: 07/23/96 18:45

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	4.79	%Uncertainty
Total Activity by LSC (Solid)	2.24e-4	uCi/g

Customer ID: BOHXX8
Lab Sample#: S96E000884
Sample Date:
Recv. Date: 07/23/96 18:51

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	21.2	%Uncertainty
Total Activity by LSC (Solid)	< 9.26e-6	uCi/g

Customer ID: BOHXX2
Lab Sample#: S96E000885
Sample Date:
Recv. Date: 07/23/96 18:51

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	7.31	%Uncertainty
Total Activity by LSC (Solid)	4.14e-5	uCi/g

Customer ID: BOHXX3
Lab Sample#: S96E000886
Sample Date:
Recv. Date: 07/23/96 18:51

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	20.31	%Uncertainty
Total Activity by LSC (Solid)	< 9.59e-6	uCi/g

Customer ID: BOHXX0
Lab Sample#: S96E000887
Sample Date:
Recv. Date: 07/23/96 18:51

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	7.62	%Uncertainty
Total Activity by LSC (Solid)	2.04e-4	uCi/g

0730596 0048

VALIDATED RESULTS SHORT REPORT 24 Jul 199

Customer ID: BOHXS9 Sample Date:
Lab Sample#: S96E000876 Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS

Customer ID: BOHXS9 Sample Date:
Lab Sample#: S96E000876 Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	11.53	%Uncertainty
Total Activity by LSC (Liquid)	< 9.73e-6	uCi/mL

Customer ID: BOHXT0 Sample Date:
Lab Sample#: S96E000877 Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	4.87	%Uncertainty
Total Activity by LSC (Liquid)	1.22e-4	uCi/mL

Customer ID: BOHXT1 Sample Date:
Lab Sample#: S96E000878 Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	5.39	%Uncertainty
Total Activity by LSC (Liquid)	1.47e-4	uCi/mL

Customer ID: BOHXW6 Sample Date:
Lab Sample#: S96E000879 Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	14.64	%Uncertainty
Total Activity by LSC (Liquid)	< 9.23e-6	uCi/mL

Customer ID: BOHXW7 Sample Date:
Lab Sample#: S96E000880 Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	n/a	%Uncertainty
Total Activity by LSC (Liquid)	qnch 2 hi	uCi/mL

UNABLE TO ANALYZE

0730596 D0049

VALIDATED RESULTS SHORT REPORT 24 Jul 199

Customer ID: BOHXW8 Sample Date:
Lab Sample#: S96E000881 Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS

Customer ID: BOHXW8 Sample Date:
Lab Sample#: S96E000881 Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	12.99	%Uncertainty
Total Activity by LSC (Liquid)	< 8.91e-6	uCi/mL

Customer ID: BOHXW9 Sample Date:
Lab Sample#: S96E000882 Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	11.9	%Uncertainty
Total Activity by LSC (Liquid)	< 9.34e-6	uCi/mL

0730596 D 0050

INTERIM RESULTS REPORT 23 Jul 199

Customer ID: BOHXV8
Lab Sample#: S96E000856

Sample Date:
Recv. Date: 07/22/96 16:45

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Activity by LSC (Solid)	< 9.89e-6	uCi/g
Total Act. by LSC: % Uncert.	13.07	%Uncertainty

Customer ID: BOHXV9
Lab Sample#: S96E000857

Sample Date:
Recv. Date: 07/22/96 16:45

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Activity by LSC (Solid)	< 1.18e-5	uCi/g
Total Act. by LSC: % Uncert.	14.64	%Uncertainty

~~Customer ID: BOHXV0~~ WRONG # BW 7-24-96
Lab Sample#: S96E000858

Sample Date:
Recv. Date: 07/22/96 16:45

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Activity by LSC (Solid)	1.78e-4	uCi/g
Total Act. by LSC: % Uncert.	4.8	%Uncertainty

Customer ID: BOHXW1
Lab Sample#: S96E000859

Sample Date:
Recv. Date: 07/22/96 16:45

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Activity by LSC (Solid)	< 9.05e-6	uCi/g
Total Act. by LSC: % Uncert.	11.68	%Uncertainty

Customer ID: BOHXW2
Lab Sample#: S96E000860

Sample Date:
Recv. Date: 07/22/96 16:45

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Activity by LSC (Solid)	3.1e-5	uCi/g
Total Act. by LSC: % Uncert.	8.71	%Uncertainty

Customer ID: BOHXW5
Lab Sample#: S96E000861

Sample Date:
Recv. Date: 07/22/96 16:45

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Activity by LSC (Solid)	< 7.96e-6	uCi/g
Total Act. by LSC: % Uncert.	13.6	%Uncertainty

0730596 A051

VALIDATED RESULTS SHORT REPORT 24 Jul 199

Customer ID: BOHXS3
Lab Sample#: S96E000870
Sample Date:
Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	11.27	%Uncertainty
Total Activity by LSC (Liquid)	< 8.78e-6	uCi/mL

Customer ID: BOHXS4
Lab Sample#: S96E000871
Sample Date:
Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	11.76	%Uncertainty
Total Activity by LSC (Liquid)	< 8.77e-6	uCi/mL

Customer ID: BOHXS5
Lab Sample#: S96E000872
Sample Date:
Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	19.41	%Uncertainty
Total Activity by LSC (Liquid)	< 9.82e-6	uCi/mL

Customer ID: BOHXS6
Lab Sample#: S96E000873
Sample Date:
Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	13.33	%Uncertainty
Total Activity by LSC (Liquid)	< 9.49e-6	uCi/mL

Customer ID: BOHXS7
Lab Sample#: S96E000874
Sample Date:
Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	12.39	%Uncertainty
Total Activity by LSC (Liquid)	< 9.76e-6	uCi/mL

Customer ID: BOHXS8
Lab Sample#: S96E000875
Sample Date:
Recv. Date: 07/23/96 18:35

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	11.49	%Uncertainty
Total Activity by LSC (Liquid)	< 8.66e-6	uCi/mL

0730596092

VALIDATED RESULTS SHORT REPORT 25 Jul 1996

Customer ID: BOHXW0
Lab Sample#: S96E000858

Sample Date:
Recv. Date: 07/22/96 16:45

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	4.8	%Uncertainty
Total Activity by LSC (Solid)	1.78e-4	uCi/g

0730596 0053

MESSAGE CONFIRMATION

07/31/96 15:54

SESSION NO.= 156

ID=LOCKHEED LAB SAMPLE RECEIVING

DATE	TIME	S.R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
07/31	15:40	13'55"	5093754238	G3 -S	15	OK	0000

0730596 D054

SAMPLE CHECK-IN LIST

Date/Time Received: 7-30-96/16:00 SDG#: n/A

Work Order Number: n/A SAF #: B96-142

Shipping Container ID: SML-483 Chain of Custody # B96-142-3

1. Custody Seals on shipping container intact? Yes [x] No [ ]
2. Custody Seals dated and signed? Yes [x] No [ ]
3. Sample temperature 15°C
4. Vermiculite/packing materials is Wet [ ] Dry [x]
5. Each sample is in a plastic bag? Yes [x] No [ ]
6. Sample holding times exceeded? Yes [x] No [ ]

7. Samples have:
   - ___ tape
   - x custody seals
   - ___ hazard labels
   - ___ appropriate sample labels

8. Samples are:
   - ✓ in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles

9. Is the information on the COC and Sample bottles in agreement?

   Yes[ ] No [ ]

Notes: Blue ice not Frozen

Sample Custodian/Laboratory: [signature] Date: 7-31-96

~~Telephoned~~ Faxed To: Kathleen Hall On 7-31-96 By [signature]

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LOCKHEED MARTIN

Sample Login
Login Review Checklist

Lot Number 62550

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 effective login review, at a minimum, five reports form the login process are required. These are the COC (or equivalent), the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT	YES	NO	N/A	Comment
1. Are all sample ID's correct?	X			
2. Are all samples present?	X			
3. Are all matrices indicated correctly?	X			
4. Are all analyses on the COC logged in for the appropriate samples?	X			
5. Are all analyses logged in for the correct container?	X			
6. Are samples logged in according to LAS batching procedures?	X			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	X			
2. Have all appropriate comments been indicated in the comment section?	X			

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?			X	

[signature] 7-31-96
primary review signature — date

[signature] 7-31-96
secondary review signature — date

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Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Bechtel - Hanford Job No. L7550 Cooler ID: N/A

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 15°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	Blue Ice not Frozen
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		N/A	
are samples bi-phasic (if so, indicate sample ID'S):		N/A	

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times		X	
samples to subcontract		N/A	

ADDITIONAL COMMENTS/DISCREPANCIES All Sample Except for BOHXX 2, & BOHXX 3 were Liquid waste. RCD 7-31-96

Completed by / date: [signature] 7-31-96

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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005 57

version 2.0 (11/11/94)

* Changed collect date month to July. all samples.

Revised

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 07 1996, 08:35 am

Login Number: L7561
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
L7561-1	B0HXX4	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: RFG01-43A					
SolidWaste 8 S SCREENING					
L7561-2	B0HXX5	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: RFG01-43A					
Liq. Waste 7 S SCREENING		Hold:25-JAN-97			
L7561-3	B0HXX1	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156-018					
SolidWaste 8 S SCREENING					
L7561-4	B0HXX6	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: RFG01-43A					
Liq. Waste 7 S SCREENING		Hold:25-JAN-97			
L7561-5	B0HYM6	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: RFG01-43A					
Liq. Waste 7 S SCREENING		Hold:25-JAN-97			
L7561-6	B0HYM7	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: RFG01-43A					
Liq. Waste 7 S SCREENING		Hold:25-JAN-97			
L7561-7	B0HYM8	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: RFG01-43A					
Liq. Waste 7 S SCREENING		Hold:25-JAN-97			
L7561-8	B0HXX4	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS ARE PRIORITIZED					
Location: EXPENDED					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:05-AUG-96			
L7561-9	B0HXX5	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS ARE PRIORITIZED					
Location: EXPENDED					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:05-AUG-96			

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 07 1996, 08:35 am

Login Number: L7561
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
L7561-10	B0HXX1	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: EXPENDED					
SolidWaste 8 S 1010	IGNITABILITY	Hold:05-AUG-96			
L7561-11	B0HXX6	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: EXPENDED					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-AUG-96			
L7561-12	B0HYM6	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: EXPENDED					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-AUG-96			
L7561-13	B0HYM7	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: EXPENDED					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-AUG-96			
L7561-14	B0HYM8	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: EXPENDED					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-AUG-96			
L7561-15	B0HXX4	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 170					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:12-AUG-96			
L7561-16	B0HXX5	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 170					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:12-AUG-96			
L7561-17	B0HXX1	29-JUL-96	01-AUG-96		16-AUG-
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 156					
SolidWaste 8 S 8080	PEST/PCBS	Hold:12-AUG-96			
L7561-18	B0HXX6	29-JUL-96	01-AUG-96		16-AUG-
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS PRIORITIZED				
Location: 170					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:12-AUG-96			

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 07 1996, 08:35 am

Login Number: L7561
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
L7561-19	B0HYM6	29-JUL-96	01-AUG-96		16-AUG-9

TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 170
Liq. Waste 7 S 8080 PEST/PCBS Hold:12-AUG-96

L7561-20	B0HYM7	29-JUL-96	01-AUG-96		16-AUG-9

TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 170
Liq. Waste 7 S 8080 PEST/PCBS Hold:12-AUG-96

L7561-21	B0HYM8	29-JUL-96	01-AUG-96		16-AUG-9

TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 170
Liq. Waste 7 S 8080 PEST/PCBS Hold:12-AUG-96

L7561-22	B0HXX4	29-JUL-96	01-AUG-96		16-AUG-9

TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: RFG01-07B
Liq. Waste 7 S 1311 TCLP REG. EXTR. Hold:12-AUG-96
TCLP Extr 13 S 6010A ICP METALS Hold:25-JAN-97
TCLP Extr 13 S 6010A ICP TRACE Hold:25-JAN-97
TCLP Extr 13 S 7470 MERCURY Hold:26-AUG-96
Liq. Waste 7 S 9040 PH Hold:05-AUG-96

L7561-23	B0HXX5	29-JUL-96	01-AUG-96		16-AUG-9

TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: RFG01-07B
Liq. Waste 7 S 1311 TCLP REG. EXTR. Hold:12-AUG-96
TCLP Extr 13 S 6010A ICP METALS Hold:25-JAN-97
TCLP Extr 13 S 6010A ICP TRACE Hold:25-JAN-97
TCLP Extr 13 S 7470 MERCURY Hold:26-AUG-96
Liq. Waste 7 S 9040 PH Hold:05-AUG-96

L7561-24	B0HXX1	29-JUL-96	01-AUG-96		16-AUG-9

TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 156RAD1-05
SolidWaste 8 S 1311 TCLP REG. EXTR. Hold:12-AUG-96
TCLP Extr 13 S 6010A ICP METALS Hold:25-JAN-97
TCLP Extr 13 S 6010A ICP TRACE Hold:25-JAN-97
TCLP Extr 13 S 7470 MERCURY Hold:26-AUG-96

L7561-25	B0HXX6	29-JUL-96	01-AUG-96		16-AUG-9

TEMP 2,3,4 LIMTED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: RFG01-07B

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 07 1996, 08:35 am

Login Number: L7561
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

```
Liq. Waste 7  S 1311 TCLP REG. EXTR. Hold:12-AUG-96
TCLP Extr  13 S 6010A ICP METALS     Hold:25-JAN-97
TCLP Extr  13 S 6010A ICP TRACE      Hold:25-JAN-97
TCLP Extr  13 S 7470 MERCURY         Hold:26-AUG-96
Liq. Waste 7  S 9040 PH              Hold:05-AUG-96

L7561-26             B0HYM6                29-JUL-96 01-AUG-96    16-AUG-96
TEMP 2,3,4   LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: RFG01-07B
Liq. Waste 7  S 1311 TCLP REG. EXTR. Hold:12-AUG-96
TCLP Extr  13 S 6010A ICP METALS     Hold:25-JAN-97
TCLP Extr  13 S 6010A ICP TRACE      Hold:25-JAN-97
TCLP Extr  13 S 7470 MERCURY         Hold:26-AUG-96
Liq. Waste 7  S 9040 PH              Hold:05-AUG-96

L7561-27             B0HYM7                29-JUL-96 01-AUG-96    16-AUG-96
TEMP 2,3,4   LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: RFG01-07B
Liq. Waste 7  S 1311 TCLP REG. EXTR. Hold:12-AUG-96
TCLP Extr  13 S 6010A ICP METALS     Hold:25-JAN-97
TCLP Extr  13 S 6010A ICP TRACE      Hold:25-JAN-97
TCLP Extr  13 S 7470 MERCURY         Hold:26-AUG-96
Liq. Waste 7  S 9040 PH              Hold:05-AUG-96

L7561-28             B0HYM8                29-JUL-96 01-AUG-96    16-AUG-96
TEMP 2,3,4   LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: RFG01-07B
Liq. Waste 7  S 1311 TCLP REG. EXTR. Hold:12-AUG-96
TCLP Extr  13 S 6010A ICP METALS     Hold:25-JAN-97
TCLP Extr  13 S 6010A ICP TRACE      Hold:25-JAN-97
TCLP Extr  13 S 7470 MERCURY         Hold:26-AUG-96
Liq. Waste 7  S 9040 PH              Hold:05-AUG-96

L7561-29             B0HXX4                29-JUL-96 01-AUG-96    16-AUG-9
TEMP 2,3,4   LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: RFG01-07B
Liq. Waste 7  S 335.2 CYANIDE TOTAL  Hold:12-AUG-96

L7561-30             B0HXX5                29-JUL-96 01-AUG-96    16-AUG-9
TEMP 2,3,4   LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: RFG01-07B
Liq. Waste 7  S 335.2 CYANIDE TOTAL  Hold:12-AUG-96
```

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 07 1996, 08:35 am

Login Number: L7561
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
L7561-31	B0HXX1	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
SolidWaste 8 S 335.2 CYANIDE TOTAL Hold:12-AUG-96					
SolidWaste 8 S 9045 PH Hold:05-AUG-96					
L7561-32	B0HXX6	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: RFG01-07B					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-AUG-96					
L7561-33	B0HYM6	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: RFG01-07B					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-AUG-96					
L7561-34	B0HYM7	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: RFG01-07B					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-AUG-96					
L7561-35	B0HYM8	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: RFG01-07B					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-AUG-96					
L7561-36	B0HXX4	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: RFG01-07B					
Liq. Waste 7 S 9030 SULFIDE Hold:05-AUG-96					
L7561-37	B0HXX5	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORTIZED					
Location: RFG01-07B					
Liq. Waste 7 S 9030 SULFIDE Hold:05-AUG-96					
L7561-38	B0HXX1	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
SolidWaste 8 S 9030 SULFIDE Hold:05-AUG-96					
L7561-39	B0HXX6	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: RFG01-07B					

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 07 1996, 08:35 am

Login Number: L7561
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
Liq. Waste 7 S 9030 SULFIDE	Hold:05-AUG-96				
L7561-40	B0HYM6	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSISPRIORITIZED					
Location: RFG01-07B					
Liq. Waste 7 S 9030 SULFIDE	Hold:05-AUG-96				
L7561-41	B0HYM7	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: RFG01-07B					
Liq. Waste 7 S 9030 SULFIDE	Hold:05-AUG-96				
L7561-42	B0HYM8	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: RFG01-07B					
Liq. Waste 7 S 9030 SULFIDE	Hold:05-AUG-96				
L7561-43	B0HXX4	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-04					
Liq. Waste 7 S GAMMA SPEC LAL-0063	Hold:25-JAN-97				
Liq. Waste 7 S GR ALP/BETA LAL-0060	Hold:25-JAN-97				
L7561-44	B0HXX4	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-04					
L7561-45	B0HXX4	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156-23A					
L7561-46	B0HXX5	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: 156CART-04					
Liq. Waste 7 S GAMMA SPEC LAL-0063	Hold:25-JAN-97				
Liq. Waste 7 S GR ALP/BETA LAL-0060	Hold:25-JAN-97				
L7561-47	B0HXX5	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: 156-23A					
L7561-48	B0HXX5	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: 156CART-04					

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 07 1996, 08:35 am

Login Number: L7561
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
L7561-49	B0HXX6	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-04					
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-JAN-97					
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-JAN-97					
L7561-50	B0HXX6	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156-23A					
L7561-51	B0HXX6	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156-23A					
L7561-52	B0HYM6	29-JUL-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-04					
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-JAN-97					
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-JAN-97					
L7561-53	B0HYM6	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: 156CART-04					
L7561-54	B0HYM6	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: 156CART-04					
L7561-55	B0HYM7	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: 156-23A					
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-JAN-97					
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-JAN-97					
L7561-56	B0HYM7	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: 156-23A					
L7561-57	B0HYM7	29-JUL-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: 156CART-04					

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 07 1996, 08:35 am

Login Number: L7561
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
L7561-58	B0HYM8	29-JUL-96	01-AUG-96		16-AUG-96

TEMP 2,3,4
Location: 156-23A
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-JAN-97
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-JAN-97

L7561-59	B0HYM8	29-JUL-96	01-AUG-96		16-AUG-96

TEMP 2,3,4
Location: 156CART-04

L7561-60	B0HYM8	29-JUL-96	01-AUG-96		16-AUG-96

TEMP 2,3,4
Location: 156CART-04

L7561-61	REPORT TYPE	01-AUG-96	01-AUG-96		16-AUG-96

Location:
Water 1 S EDD - DISK DEL.
Water 1 S GC2
Water 1 S INORG TYPE 2 RPT
Water 1 S RAD RPT TYPE 2

Signature: Judith L Blewis
Date: 08-07-96

Revised

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 09:57 am

Login Number: L7561
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
L7561-1	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
SolidWaste 8 S SCREENING					
L7561-2	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
Liq. Waste 7 S SCREENING		Hold:25-FEB-97			
L7561-3	B0HXX1	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
SolidWaste 8 S SCREENING					
L7561-4	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
Liq. Waste 7 S SCREENING		Hold:25-FEB-97			
L7561-5	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
Liq. Waste 7 S SCREENING		Hold:25-FEB-97			
L7561-6	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
Liq. Waste 7 S SCREENING		Hold:25-FEB-97			
L7561-7	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
Liq. Waste 7 S SCREENING		Hold:25-FEB-97			
L7561-8	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS ARE PRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:05-SEP-96			
Liq. Waste 7 S 9040 PH		Hold:05-SEP-96			
L7561-9	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS ARE PRIORITIZED					
Location: 156RAD1-05					

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0066

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 09:57 am

Login Number: L7561
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
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-SEP-96			
Liq. Waste 7 S 9040	PH	Hold:05-SEP-96			
L7561-10	B0HXX1	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 156RAD1-05					
SolidWaste 8 S 1010	IGNITABILITY	Hold:05-SEP-96			
SolidWaste 8 S 9045	PH	Hold:05-SEP-96			
L7561-11	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 156RAD1-05					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-SEP-96			
Liq. Waste 7 S 9040	PH	Hold:05-SEP-96			
L7561-12	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 157					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-SEP-96			
Liq. Waste 7 S 9040	PH	Hold:05-SEP-96			
L7561-13	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 156RAD1-05					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-SEP-96			
Liq. Waste 7 S 9040	PH	Hold:05-SEP-96			
L7561-14	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 156RAD1-05					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-SEP-96			
Liq. Waste 7 S 9040	PH	Hold:05-SEP-96			
*L7561-15	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 156RAD1-05					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:12-SEP-96			
*L7561-16	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 156RAD1-05					
Liq. Waste 7 S 8080	PEST/PCBS	Hold:12-SEP-96			

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0067

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 09:57 am

Login Number: L7561
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
*L7561-17	B0HXX1	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED			
Location: 156RAD1-05				
SolidWaste 8 S 8080	PEST/PCBS	Hold:12-SEP-96		
*L7561-18	B0HXX6	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS PRIORITIZED			
Location: 156RAD1-05				
Liq. Waste 7 S 8080	PEST/PCBS	Hold:12-SEP-96		
*L7561-19	B0HYM6	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS PRIORITIZED			
Location: 156RAD1-05				
Liq. Waste 7 S 8080	PEST/PCBS	Hold:12-SEP-96		
*L7561-20	B0HYM7	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS PRIORITIZED			
Location: 156RAD1-05				
Liq. Waste 7 S 8080	PEST/PCBS	Hold:12-SEP-96		
*L7561-21	B0HYM8	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS PRIORITIZED			
Location: 156RAD1-05				
Liq. Waste 7 S 8080	PEST/PCBS	Hold:12-SEP-96		
L7561-22	B0HXX4	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS PRIORITIZED			
Location: 156RAD1-05				
Liq. Waste 7 S 1311	TCLP REG. EXTR.	Hold:12-SEP-96		
TCLP Extr 13 S 6010A	ICP METALS	Hold:25-FEB-97		
TCLP Extr 13 S 6010A	ICP TRACE	Hold:25-FEB-97		
TCLP Extr 13 S 7470	MERCURY	Hold:26-SEP-96		
L7561-23	B0HXX5	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS PRIORITIZED			
Location: 156RAD1-05				
Liq. Waste 7 S 1311	TCLP REG. EXTR.	Hold:12-SEP-96		
TCLP Extr 13 S 6010A	ICP METALS	Hold:25-FEB-97		
TCLP Extr 13 S 6010A	ICP TRACE	Hold:25-FEB-97		
TCLP Extr 13 S 7470	MERCURY	Hold:26-SEP-96		
L7561-24	B0HXX1	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS PRIORITIZED			
Location: 156RAD1-05				

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0068

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 09:57 am

Login Number: L7561
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

SolidWaste 8 S 1311 TCLP REG. EXTR. Hold:12-SEP-96
TCLP Extr 13 S 6010A ICP METALS Hold:25-FEB-97
TCLP Extr 13 S 6010A ICP TRACE Hold:25-FEB-97
TCLP Extr 13 S 7470 MERCURY Hold:26-SEP-96

L7561-25 B0HXX6 29-AUG-96 01-AUG-96 16-AUG-96
TEMP 2,3,4 LIMTED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 156RAD1-05
Liq. Waste 7 S 1311 TCLP REG. EXTR. Hold:12-SEP-96
TCLP Extr 13 S 6010A ICP METALS Hold:25-FEB-97
TCLP Extr 13 S 6010A ICP TRACE Hold:25-FEB-97
TCLP Extr 13 S 7470 MERCURY Hold:26-SEP-96

L7561-26 B0HYM6 29-AUG-96 01-AUG-96 16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 156RAD1-05
Liq. Waste 7 S 1311 TCLP REG. EXTR. Hold:12-SEP-96
TCLP Extr 13 S 6010A ICP METALS Hold:25-FEB-97
TCLP Extr 13 S 6010A ICP TRACE Hold:25-FEB-97
TCLP Extr 13 S 7470 MERCURY Hold:26-SEP-96

L7561-27 B0HYM7 29-AUG-96 01-AUG-96 16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 156RAD1-05
Liq. Waste 7 S 1311 TCLP REG. EXTR. Hold:12-SEP-96
TCLP Extr 13 S 6010A ICP METALS Hold:25-FEB-97
TCLP Extr 13 S 6010A ICP TRACE Hold:25-FEB-97
TCLP Extr 13 S 7470 MERCURY Hold:26-SEP-96

L7561-28 B0HYM8 29-AUG-96 01-AUG-96 16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 156RAD1-05
Liq. Waste 7 S 1311 TCLP REG. EXTR. Hold:12-SEP-96
TCLP Extr 13 S 6010A ICP METALS Hold:25-FEB-97
TCLP Extr 13 S 6010A ICP TRACE Hold:25-FEB-97
TCLP Extr 13 S 7470 MERCURY Hold:26-SEP-96

L7561-29 B0HXX4 29-AUG-96 01-AUG-96 16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 156RAD1-05
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 09:57 am

Login Number: L7561
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
L7561-30	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-31	B0HXX1	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
SolidWaste 8 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-32	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-33	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-34	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-35	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-36	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-37	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORTIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-38	B0HXX1	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
SolidWaste 8 S 9030 SULFIDE Hold:05-SEP-96					

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 09:57 am

Login Number: L7561
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
L7561-39	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-40	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSISPRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-41	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-42	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 156RAD1-05					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-43	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-FEB-97					
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-FEB-97					
L7561-44	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
L7561-45	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
L7561-46	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: 157					
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-FEB-97					
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-FEB-97					
L7561-47	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-9
TEMP 2,3,4					
Location: 156CART-8					

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 09:57 am

Login Number: L7561
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
L7561-48	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
L7561-49	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-FEB-97					
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-FEB-97					
L7561-50	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
L7561-51	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
L7561-52	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-FEB-97					
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-FEB-97					
L7561-53	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
L7561-54	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
L7561-55	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-FEB-97					
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-FEB-97					
L7561-56	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 156CART-8					

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0072

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 02 1996, 09:57 am

Login Number: L7561
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
L7561-57	B0HYM7	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4				
Location: 157				
L7561-58	B0HYM8	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4				
Location: 156CART-8				
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-FEB-97				
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-FEB-97				
L7561-59	B0HYM8	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4				
Location: 156CART-8				
L7561-60	B0HYM8	29-AUG-96	01-AUG-96	16-AUG-96
TEMP 2,3,4				
Location: 156CART-8				
L7561-61	REPORT TYPE	01-AUG-96	01-AUG-96	16-AUG-96
Location:				
Water 1 S EDD - DISK DEL.				
Water 1 S GC2				
Water 1 S INORG TYPE 2 RPT				
Water 1 S RAD RPT TYPE 2				

* Change 8080 PCB's to Pest/PCB's

Signature: [illegible]
Date: 8-02-96 0073
0801596

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 01 1996, 05:58 pm

Login Number: L7561
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
L7561-1	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
SolidWaste 8 S SCREENING					
L7561-2	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7 S SCREENING		Hold:	25-FEB-97		
L7561-3	B0HXX1	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
SolidWaste 8 S SCREENING					
L7561-4	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7 S SCREENING		Hold:	25-FEB-97		
L7561-5	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7 S SCREENING		Hold:	25-FEB-97		
L7561-6	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7 S SCREENING		Hold:	25-FEB-97		
L7561-7	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7 S SCREENING		Hold:	25-FEB-97		
L7561-8	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS ARE PRIORITIZED					
Location: 157					
Liq. Waste 7 S 1010 IGNITABILITY		Hold:	05-SEP-96		
Liq. Waste 7 S 9040 PH		Hold:	05-SEP-96		
L7561-9	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS ARE PRIORITIZED					
Location: 157					

0801596

0074

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 01 1996, 05:58 pm

Login Number: L7561
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
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-SEP-96			
Liq. Waste 7 S 9040	PH	Hold:05-SEP-96			
L7561-10	B0HXX1	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 157					
SolidWaste 8 S 1010	IGNITABILITY	Hold:05-SEP-96			
SolidWaste 8 S 9045	PH	Hold:05-SEP-96			
L7561-11	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 157					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-SEP-96			
Liq. Waste 7 S 9040	PH	Hold:05-SEP-96			
L7561-12	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 157					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-SEP-96			
Liq. Waste 7 S 9040	PH	Hold:05-SEP-96			
L7561-13	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 157					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-SEP-96			
Liq. Waste 7 S 9040	PH	Hold:05-SEP-96			
L7561-14	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 157					
Liq. Waste 7 S 1010	IGNITABILITY	Hold:05-SEP-96			
Liq. Waste 7 S 9040	PH	Hold:05-SEP-96			
L7561-15	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 157					
Liq. Waste 7 S 8080	PCBS ONLY	Hold:12-SEP-96			
L7561-16	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED	SAMPLE VOLUME ANALYSIS ARE PRIORITIZED				
Location: 157					
Liq. Waste 7 S 8080	PCBS ONLY	Hold:12-SEP-96			

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 01 1996, 05:58 pm

Login Number: L7561
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
L7561-17	B0HXX1	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS ARE PRIORITIZED					
Location: 157					
SolidWaste 8 S 8080 PEST ONLY Hold:12-SEP-96					
L7561-18	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 8080 PCBS ONLY Hold:12-SEP-96					
L7561-19	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 8080 PCBS ONLY Hold:12-SEP-96					
L7561-20	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 8080 PCBS ONLY Hold:12-SEP-96					
L7561-21	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 8080 PCBS ONLY Hold:12-SEP-96					
L7561-22	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 1311 TCLP REG. EXTR. Hold:12-SEP-96					
TCLP Extr 13 S 6010A ICP METALS Hold:25-FEB-97					
TCLP Extr 13 S 6010A ICP TRACE Hold:25-FEB-97					
TCLP Extr 13 S 7470 MERCURY Hold:26-SEP-96					
L7561-23	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 1311 TCLP REG. EXTR. Hold:12-SEP-96					
TCLP Extr 13 S 6010A ICP METALS Hold:25-FEB-97					
TCLP Extr 13 S 6010A ICP TRACE Hold:25-FEB-97					
TCLP Extr 13 S 7470 MERCURY Hold:26-SEP-96					
L7561-24	B0HXX1	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					

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0076

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 01 1996, 05:58 pm

Login Number: L7561
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

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SolidWaste 8  S 1311 TCLP REG. EXTR. Hold:12-SEP-96
TCLP Extr  13 S 6010A ICP METALS     Hold:25-FEB-97
TCLP Extr  13 S 6010A ICP TRACE      Hold:25-FEB-97
TCLP Extr  13 S 7470 MERCURY         Hold:26-SEP-96

L7561-25            B0HXX6                29-AUG-96 01-AUG-96    16-AUG-96
TEMP 2,3,4   LIMTED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 157
Liq. Waste 7  S 1311 TCLP REG. EXTR. Hold:12-SEP-96
TCLP Extr  13 S 6010A ICP METALS     Hold:25-FEB-97
TCLP Extr  13 S 6010A ICP TRACE      Hold:25-FEB-97
TCLP Extr  13 S 7470 MERCURY         Hold:26-SEP-96

L7561-26            B0HYM6                29-AUG-96 01-AUG-96    16-AUG-96
TEMP 2,3,4   LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 157
Liq. Waste 7  S 1311 TCLP REG. EXTR. Hold:12-SEP-96
TCLP Extr  13 S 6010A ICP METALS     Hold:25-FEB-97
TCLP Extr  13 S 6010A ICP TRACE      Hold:25-FEB-97
TCLP Extr  13 S 7470 MERCURY         Hold:26-SEP-96

L7561-27            B0HYM7                29-AUG-96 01-AUG-96    16-AUG-96
TEMP 2,3,4   LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 157
Liq. Waste 7  S 1311 TCLP REG. EXTR. Hold:12-SEP-96
TCLP Extr  13 S 6010A ICP METALS     Hold:25-FEB-97
TCLP Extr  13 S 6010A ICP TRACE      Hold:25-FEB-97
TCLP Extr  13 S 7470 MERCURY         Hold:26-SEP-96

L7561-28            B0HYM8                29-AUG-96 01-AUG-96    16-AUG-96
TEMP 2,3,4   LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 157
Liq. Waste 7  S 1311 TCLP REG. EXTR. Hold:12-SEP-96
TCLP Extr  13 S 6010A ICP METALS     Hold:25-FEB-97
TCLP Fxtr  13 S 6010A ICP TRACE      Hold:25-FEB-97
TCLP Extr  13 S 7470 MERCURY         Hold:26-SEP-96

L7561-29            B0HXX4                29-AUG-96 01-AUG-96    16-AUG-96
TEMP 2,3,4   LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED
Location: 157
Liq. Waste 7  S 335.2 CYANIDE TOTAL  Hold:12-SEP-96
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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 01 1996, 05:58 pm

Login Number: L7561
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
L7561-30	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-31	B0HXX1	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
SolidWaste 8 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-32	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-33	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-34	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-35	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 335.2 CYANIDE TOTAL Hold:12-SEP-96					
L7561-36	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-37	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORTIZED					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-38	B0HXX1	29-AUG-96	01-AUG-96		16-AUG-9
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
SolidWaste 8 S 9030 SULFIDE Hold:05-SEP-96					

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 01 1996, 05:58 pm

Login Number: L7561
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
L7561-39	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-40	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSISPRIORITIZED					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-41	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-42	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4 LIMITED SAMPLE VOLUME ANALYSIS PRIORITIZED					
Location: 157					
Liq. Waste 7 S 9030 SULFIDE Hold:05-SEP-96					
L7561-43	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-FEB-97					
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-FEB-97					
L7561-44	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
L7561-45	B0HXX4	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
L7561-46	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7 S GAMMA SPEC LAL-0063 Hold:25-FEB-97					
Liq. Waste 7 S GR ALP/BETA LAL-0060 Hold:25-FEB-97					
L7561-47	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 01 1996, 05:58 pm

Login Number: L7561
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
L7561-48	B0HXX5	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
L7561-49	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7	S GAMMA SPEC LAL-0063	Hold:25-FEB-97			
Liq. Waste 7	S GR ALP/BETA LAL-0060	Hold:25-FEB-97			
L7561-50	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
L7561-51	B0HXX6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
L7561-52	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7	S GAMMA SPEC LAL-0063	Hold:25-FEB-97			
Liq. Waste 7	S GR ALP/BETA LAL-0060	Hold:25-FEB-97			
L7561-53	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
L7561-54	B0HYM6	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
L7561-55	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7	S GAMMA SPEC LAL-0063	Hold:25-FEB-97			
Liq. Waste 7	S GR ALP/BETA LAL-0060	Hold:25-FEB-97			
L7561-56	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					

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LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Aug 01 1996, 05:58 pm

Login Number: L7561
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
L7561-57	B0HYM7	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
L7561-58	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
Liq. Waste 7	S GAMMA SPEC LAL-0063	Hold:25-FEB-97			
Liq. Waste 7	S GR ALP/BETA LAL-0060	Hold:25-FEB-97			
L7561-59	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
L7561-60	B0HYM8	29-AUG-96	01-AUG-96		16-AUG-96
TEMP 2,3,4					
Location: 157					
L7561-61	REPORT TYPE	01-AUG-96	01-AUG-96		16-AUG-96
Location:					
Water 1	S EDD - DISK DEL.				
Water 1	S GC2				
Water 1	S INORG TYPE 2 RPT				
Water 1	S RAD RPT TYPE 2				

Signature: Paul Jones

Date: 8-01-96

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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
BOHXX1	L7561-3		SolidWaste	SCREENING
	L7561-10		SolidWaste	1010 IGNITABILI
	L7561-10		SolidWaste	9045 PH
	L7561-17		SolidWaste	8080 PEST ONLY
	L7561-24		SolidWaste	1311 TCLP REG.
	L7561-24		TCLP Extr	6010A ICP METAL
	L7561-24		TCLP Extr	6010A ICP TRACE
	L7561-24		TCLP Extr	7470 MERCURY
	L7561-31		SolidWaste	335.2 CYANIDE T
	L7561-38		SolidWaste	9030 SULFIDE
BOHXX4	L7561-1		SolidWaste	SCREENING
	L7561-8		Liq. Waste	1010 IGNITABILI
	L7561-8		Liq. Waste	9040 PH
	L7561-15		Liq. Waste	8080 PCBS ONLY
	L7561-22		Liq. Waste	1311 TCLP REG.
	L7561-22		TCLP Extr	6010A ICP METAL
	L7561-22		TCLP Extr	6010A ICP TRACE
	L7561-22		TCLP Extr	7470 MERCURY
	L7561-29		Liq. Waste	335.2 CYANIDE T
	L7561-36		Liq. Waste	9030 SULFIDE
	L7561-43		Liq. Waste	GAMMA SPEC LAL-
	L7561-43		Liq. Waste	GR ALP/BETA LAL
BOHXX5	L7561-2		Liq. Waste	SCREENING
	L7561-9		Liq. Waste	1010 IGNITABILI
	L7561-9		Liq. Waste	9040 PH
	L7561-16		Liq. Waste	8080 PCBS ONLY
	L7561-23		Liq. Waste	1311 TCLP REG.
	L7561-23		TCLP Extr	6010A ICP METAL
	L7561-23		TCLP Extr	6010A ICP TRACE
	L7561-23		TCLP Extr	7470 MERCURY
	L7561-30		Liq. Waste	335.2 CYANIDE T
	L7561-37		Liq. Waste	9030 SULFIDE
	L7561-46		Liq. Waste	GAMMA SPEC LAL-
	L7561-46		Liq. Waste	GR ALP/BETA LAL
BOHXX6	L7561-4		Liq. Waste	SCREENING
	L7561-11		Liq. Waste	1010 IGNITABILI
	L7561-11		Liq. Waste	9040 PH
	L7561-18		Liq. Waste	8080 PCBS ONLY
	L7561-25		Liq. Waste	1311 TCLP REG.
	L7561-25		TCLP Extr	6010A ICP METAL
	L7561-25		TCLP Extr	6010A ICP TRACE
	L7561-25		TCLP Extr	7470 MERCURY
	L7561-32		Liq. Waste	335.2 CYANIDE T
	L7561-39		Liq. Waste	9030 SULFIDE
	L7561-49		Liq. Waste	GAMMA SPEC LAL-
	L7561-49		Liq. Waste	GR ALP/BETA LAL
BOHYM6	L7561-5		Liq. Waste	SCREENING
	L7561-12		Liq. Waste	1010 IGNITABILI
	L7561-12		Liq. Waste	9040 PH
	L7561-19		Liq. Waste	8080 PCBS ONLY

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

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
	L7561-26		Liq. Waste	1311 TCLP REG.
	L7561-26		TCLP Extr	6010A ICP METAL
	L7561-26		TCLP Extr	6010A ICP TRACE
	L7561-26		TCLP Extr	7470 MERCURY
	L7561-33		Liq. Waste	335.2 CYANIDE T
	L7561-40		Liq. Waste	9030 SULFIDE
	L7561-52		Liq. Waste	GAMMA SPEC LAL-
	L7561-52		Liq. Waste	GR ALP/BETA LAL
BOHYM7	L7561-6		Liq. Waste	SCREENING
	L7561-13		Liq. Waste	1010 IGNITABILI
	L7561-13		Liq. Waste	9040 PH
	L7561-20		Liq. Waste	8080 PCBS ONLY
	L7561-27		Liq. Waste	1311 TCLP REG.
	L7561-27		TCLP Extr	6010A ICP METAL
	L7561-27		TCLP Extr	6010A ICP TRACE
	L7561-27		TCLP Extr	7470 MERCURY
	L7561-34		Liq. Waste	335.2 CYANIDE T
	L7561-41		Liq. Waste	9030 SULFIDE
	L7561-55		Liq. Waste	GAMMA SPEC LAL-
	L7561-55		Liq. Waste	GR ALP/BETA LAL
BOHYM8	L7561-7		Liq. Waste	SCREENING
	L7561-14		Liq. Waste	1010 IGNITABILI
	L7561-14		Liq. Waste	9040 PH
	L7561-21		Liq. Waste	8080 PCBS ONLY
	L7561-28		Liq. Waste	1311 TCLP REG.
	L7561-28		TCLP Extr	6010A ICP METAL
	L7561-28		TCLP Extr	6010A ICP TRACE
	L7561-28		TCLP Extr	7470 MERCURY
	L7561-35		Liq. Waste	335.2 CYANIDE T
	L7561-42		Liq. Waste	9030 SULFIDE
	L7561-58		Liq. Waste	GAMMA SPEC LAL-
	L7561-58		Liq. Waste	GR ALP/BETA LAL
REPORT TYPE	L7561-61		Water	EDD - DISK DEL.
	L7561-61		Water	GC2
	L7561-61		Water	INORG TYPE 2 RP
	L7561-61		Water	RAD RPT TYPE 2

0801596

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST L7561	B96-142-5	Page 1 of 2

Data Turnaround: ☐ Priority ☐ Normal

Collector: Doug Bowers	Company Contact: Don Eckert	Telephone No.: 373-4955
Project Designation: 100-N 90-Day Pad Waste Container Characterization	Sampling Location: 109N (100N)	SAF No.: B96-142
Ice Chest No.: SML-587	Field Logbook No.: EFL-1133-1	Method of Shipment: Commercial Freight (truck)
Shipped To: Lockheed	Offsite Property No.	Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS: Unknown

Special Handling and/or Storage: Cool to 4C

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	P	G	aG	aG	aG	G	aG	G/P	aG	G
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	125ml	60ml	125ml	60ml	300ml	250ml	125ml	60ml	125ml
SAMPLE ANALYSIS	Activity Scan	Ignitability - 1010, pH (Soil) - 9045	Ignitability - 1010, pH (Soil) - 9045	Pest/PCBs - 8080 (TCL)	Pest/PCBs - 8080 (TCL)	See item (1) in Special Instructions	See item (2) in Special Instructions	Cyanide (Total) - 335.2	Cyanide (Total) - 335.2	Sulfides - 9030

Sample No.	Matrix *	Sample Date	Sample Time										
B0HXX4	Other Solid	7-29-96	0927	X		X		X		X		X	
B0HXX5	Other Solid	7-29-96	~~0927~~ 0955	X		X		X		X		X	
B0HXX1	other solid	7-29-96	0857	X		X		X		X		X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Doug Bowers	Date/Time: 7-30-96/0800	Received By: Bill Whitten	Date/Time: 0800 7-30-96
Relinquished By: Bill Whitten	Date/Time: 1030 7-30-96	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR. Turnaround time - 15 days. Due to shipping requirements, the ERC Contractor acknowledges the holding time for Sulfides by EPA9030 may not be met.

(1) Metals by ICP (TCLP) - 1311/6010A, Mercury (TCLP) - 1311/7470
(2) Metals by ICP (TCLP) - 1311/6010A, Mercury (TCLP) - 1311/7470

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: Paul Davis	Title: Sample Custodian	Date/Time: 8-01-96/15:30
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

0801596

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B96-142-5	Page 2 of 2

Data Turnaround: ☐ Priority ☐ Normal

Collector: Doug Bowers	Company Contact: Don Eckert	Telephone No.: 373-4955
Project Designation: 100-N 90-Day Pad Waste Container Characterization	Sampling Location: 109N (100N)	SAF No.: B96-142
Ice Chest No.	Field Logbook No.: EFL-1133-1	Method of Shipment: Commercial Freight (truck)
Shipped To: Lockheed	Offsite Property No.	Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS: Unknown

Special Handling and/or Storage: Cool to 4C

SAMPLE ANALYSIS													
Preservation			None	None									
Type of Container			aG	aG									
No. of Container(s)			1	3									
Volume			60ml	500ml									
			Sulfides - 9030	Gross Alpha, Gamma Spectroscopy; G-055 B-74									
Sample No.	Matrix *	Sample Date	Sample Time										
B0HXX4	Other Solid	7-29-96	0927	X	X								
B0HXX5	Other Solid	7-29-96	0955	X	X								
B0HXX1	Other Solid	7-29-96	0857	X	X								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	7-30-96/0800	B. Whitten	0800 7-30-96
Relinquished By	Date/Time	Received By	Date/Time
B. Whitten	1030 7-30-96		
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR. Turnaround time - 15 days. Due to shipping requirements, the ERC Contractor acknowledges the holding time for Sulfides by EPA9030 may not be met.

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
	Paula Nova	Sample Custodian	8-01-96/15:30
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

96_S_1080

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B96-142-6	Page 1 of 2

Data Turnaround: ☐ Priority ☐ Normal

Collector: Doug Bowers	Company Contact: Don Eckert	Telephone No.: 373-4955
Project Designation: 100-N 90-Day Pad Waste Container Characterization	Sampling Location: 109N (100N)	SAF No.: B96-142
Ice Chest No.: RM 136 / SML-135	Field Logbook No.: EFL-1133-1	Method of Shipment: Commercial Freight (truck)
Shipped To: Lockheed	Offsite Property No.:	Bill of Lading/Air Bill No.:

POSSIBLE SAMPLE HAZARDS/REMARKS: Unknown

Special Handling and/or Storage: Cool to 4C

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	P	G	aG	aG	aG	G	aG	G/P	aG	G
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	125ml	60ml	125ml	60ml	300ml	250ml	125ml	60ml	125ml
SAMPLE ANALYSIS	Activity Scan	Ignitability - 1010; pH (Soil) - 9045	Ignitability - 1010; pH (Soil) - 9045	Pest/PCBs - 8080 (TCL)	Pest/PCBs - 8080 (TCL)	See item (1) in Special Instructions	See item (2) in Special Instructions	Cyanide (Total) - 335.2	Cyanide (Total) - 335.2	Sulfides - 9030

Sample No.	Matrix *	Sample Date	Sample Time										
B0HXX6	Other Solid	7-29-96	1012	X		X		X		X		X	
B0HYM6	Other Solid	7-29-96	1025	X		X		X		X		X	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Doug Bowers	Date/Time: 7-30-96/0800	Received By: ERC B Whitten	Date/Time: 0800 7-30-96
Relinquished By: ERC B Whitten	Date/Time: 1030 7-30-96	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS

Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR. Turnaround time - 15 days. Due to shipping requirements, the ERC Contractor acknowledges the holding time for Sulfides by EPA9030 may not be met.

(1) Metals by ICP (TCLP) - 1311/6010A; Mercury (TCLP) - 1311/7470
(2) Metals by ICP (TCLP) - 1311/6010A; Mercury (TCLP) - 1311/7470

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: [signature]	Title: Sample Custodian	Date/Time: 8-4-96/15:30
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

0801596

96 4 10/81

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B96-142-6	Page 2 of 2

Data Turnaround
☐ Priority
☐ Normal

Collector Doug Bowers	Company Contact Don Eckert	Telephone No. 373-4955
Project Designation 100-N 90-Day Pad Waste Container Characterization	Sampling Location 109N (100N)	SAF No. B96-142
Ice Chest No.	Field Logbook No. EFL-1133-1	Method of Shipment Commercial Freight (truck)
Shipped To Lockheed	Offsite Property No.	Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS
Unknown

Special Handling and/or Storage
Cool to 4C

Preservation	None	None										
Type of Container	aG	aG										
No. of Container(s)	1	3										
Volume	60ml	500ml										
SAMPLE ANALYSIS	Sulfides - 9030	Gross Alpha, Gamma Spectroscopy; Gross Beta										

Sample No.	Matrix *	Sample Date	Sample Time										
B0HXX6	Other Solid	7-29-96	1012	X	X								
B0HYM6	Other Solid	7-29-96	1025	X	X								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: Doug Bowers	Date/Time: 7-30-96/0800	Received By: Lee Whitten EFL B.Whitten	Date/Time: 0800 7-30-96
Relinquished By: Lee Whitten EFL B.Whitten	Date/Time: 1030 7-30-96	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR. Turnaround time - 15 days. Due to shipping requirements, the ERC Contractor acknowledges the holding time for Sulfides by EPA9030 may not be met.

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	8-01-96/15:30
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

96 1080

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B96-142-7 | Page 1 of 2

Data Turnaround
☐ Priority
☐ Normal

Collector Doug Bowers	**Company Contact** Don Eckert	**Telephone No.** 373-4955
Project Designation 100-N 90-Day Pad Waste Container Characterization	**Sampling Location** 109N (100N)	**SAF No.** B96-142
Ice Chest No. Rm# 111	**Field Logbook No.** EFL-1133-1	**Method of Shipment** Commercial Freight (truck)
Shipped To Lockheed	**Offsite Property No.**	**Bill of Lading/Air Bill No.**

POSSIBLE SAMPLE HAZARDS/REMARKS
Unknown

Special Handling and/or Storage
Cool to 4C

Preservation	None	None	None	None	None	None	None	None	None	None
Type of Container	P	G	aG	aG	aG	G	aG	G/P	aG	G
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	20ml	125ml	60ml	125ml	60ml	300ml	250ml	125ml	60ml	125ml
SAMPLE ANALYSIS	Activity Scan	Ignitability - 1010, pH (Soil) - 9045	Ignitability - 1010, pH (Soil) - 9045	Pest/PCBs - 8080 (TCL)	Pest/PCBs - 8080 (TCL)	See item (1) in Special Instructions	See item (2) in Special Instructions	Cyanide (Total) - 335.2	Cyanide (Total) - 335.2	Sulfides - 9030

Sample No.	Matrix *	Sample Date	Sample Time									
B0HYM7	Other Solid	7-29-96	1040	X		X		X		X		X	
B0HYM8	Other Solid	7-29-96	1235	X		X		X		X		X	

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	7-30-96/0800	Paul Baltitza	7-30-96 0800
Paul Baltitza	7-30-96 1030		

SPECIAL INSTRUCTIONS
Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR. Turnaround time - 15 days. Due to shipping requirements, the ERC Contractor acknowledges the holding time for Sulfides by EPA9030 may not be met.

(1) Metals by ICP (TCLP) - 1311/6010A; Mercury (TCLP) - 1311/7470
(2) Metals by ICP (TCLP) - 1311/6010A; Mercury (TCLP) - 1311/7470

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: Paul Jones	Title: Sample Custodian	Date/Time: 8-01-96/15:20
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

080 5 96 88 4/04/96

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B96-142-7	Page 2 of 2

Data Turnaround: ☐ Priority ☐ Normal

Collector: Doug Bowers	Company Contact: Don Eckert	Telephone No.: 373-4955
Project Designation: 100-N 90-Day Pad Waste Container Characterization	Sampling Location: 109N (100N)	SAF No.: B96-142
Ice Chest No.	Field Logbook No.: EFL-1133-1	Method of Shipment: Commercial Freight (truck)
Shipped To: Lockheed	Offsite Property No.	Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS: Unknown

Special Handling and/or Storage: Cool to 4C

Preservation	None	None										
Type of Container	aG	aG										
No. of Container(s)	1	3										
Volume	60ml	500ml										
SAMPLE ANALYSIS	Sulfides - 9030	Gross Alpha, Gamma Spectroscopy; Gross Beta										

Sample No.	Matrix *	Sample Date	Sample Time										
B0HYM7	Other Solid	7-29-96	1040	X	X								
B0HYM8	Other Solid	7-29-96	1235	X	X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Doug Bowers	7-30-96/0800	Bakotta	0800 7-30-96
Bakotta	1030 7-30-96		

SPECIAL INSTRUCTIONS
Due to limited volumes of some waste containers, perform sampling and analysis in order listed on FSR. Turnaround time - 15 days. Due to shipping requirements, the ERC Contractor acknowledges the holding time for Sulfides by EPA9030 may not be met

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
	Paul Davis	Sample Custodian	8-2-96/15:30
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

96-51080

VALIDATED RESULTS SHORT REPORT 30 Jul 199

Customer ID: BOHXX1
Lab Sample#: S96E000923
Sample Date:
Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS

Customer ID: BOHXX1
Lab Sample#: S96E000923
Sample Date:
Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	3.29	%Uncertainty
Total Activity by LSC (Solid)	5.20e-4	uCi/g

Customer ID: BOHXX4
Lab Sample#: S96E000924
Sample Date:
Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	3.35	%Uncertainty
Total Activity by LSC (Solid)	3.49e-4	uCi/g

Customer ID: BOHXX5
Lab Sample#: S96E000925
Sample Date:
Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	12.6	%Uncertainty
Total Activity by LSC (Solid)	< 1.14e-5	uCi/g

Customer ID: BOHXX6
Lab Sample#: S96E000926
Sample Date:
Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	6.08	%Uncertainty
Total Activity by LSC (Solid)	8.81e-5	uCi/g

Customer ID: BOHXM6
Lab Sample#: S96E000927
Sample Date:
Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	13.0	%Uncertainty
Total Activity by LSC (Solid)	< 1.22e-5	uCi/g

0801596 0000

VALIDATED RESULTS SHORT REPORT 30 Jul 199

Customer ID: BOHYM7 Sample Date:
Lab Sample#: S96E000928 Recv. Date: 07/29/96 16:53

PARAMETER-	RESULTS	UNITS

Customer ID: BOHYM7 Sample Date:
Lab Sample#: S96E000928 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	14.7	%Uncertainty
Total Activity by LSC (Solid)	< 1.27e-5	uCi/g

Customer ID: BOHYM8 Sample Date:
Lab Sample#: S96E000929 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	13.8	%Uncertainty
Total Activity by LSC (Solid)	< 1.16e-5	uCi/g

080 1596 0091

VALIDATED RESULTS SHORT REPORT 30 Jul 19

Customer ID: BOHXT7 Sample Date:
Lab Sample#: S96E000918 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS

Customer ID: BOHXT7 Sample Date:
Lab Sample#: S96E000918 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	10.96	%Uncertainty
Total Activity by LSC (Solid)	< 9.38e-6	uCi/g

Customer ID: BOHXT8 Sample Date:
Lab Sample#: S96E000919 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	19.9	%Uncertainty
Total Activity by LSC (Solid)	< 9.82e-6	uCi/g

Customer ID: BOHXV0 Sample Date:
Lab Sample#: S96E000920 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	11.4	%Uncertainty
Total Activity by LSC (Solid)	< 9.29e-6	uCi/g

Customer ID: BOHXT9 Sample Date:
Lab Sample#: S96E000921 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	10.8	%Uncertainty
Total Activity by LSC (Solid)	< 9.86e-6	uCi/g

Customer ID: BOHXV1 Sample Date:
Lab Sample#: S96E000922 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	10.9	%Uncertainty
Total Activity by LSC (Solid)	< 1.02e-5	uCi/g

080159 6092

VALIDATED RESULTS SHORT REPORT 30 Jul 19

Customer ID: BOHXT3 Sample Date:
Lab Sample#: S96E000912 Recv. Date: 07/29/96 16:47

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	11.8	%Uncertainty
Total Activity by LSC (Solid)	< 1.05e-5	uCi/g

Customer ID: BOHXT2 Sample Date:
Lab Sample#: S96E000913 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	10.7	%Uncertainty
Total Activity by LSC (Solid)	< 8.99e-6	uCi/g

Customer ID: BOHXV3 Sample Date:
Lab Sample#: S96E000914 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	12.4	%Uncertainty
Total Activity by LSC (Solid)	< 7.77e-6	uCi/g

Customer ID: BOHXT4 Sample Date:
Lab Sample#: S96E000915 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	12.0	%Uncertainty
Total Activity by LSC (Solid)	< 1.31e-5	uCi/g

Customer ID: BOHXT5 Sample Date:
Lab Sample#: S96E000916 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	11.3	%Uncertainty
Total Activity by LSC (Solid)	< 1.07e-5	uCi/g

Customer ID: BOHXT6 Sample Date:
Lab Sample#: S96E000917 Recv. Date: 07/29/96 16:53

PARAMETER	RESULTS	UNITS
Total Activity by LSC		
Total Act. by LSC: % Uncert.	11.4	%Uncertainty
Total Activity by LSC (Solid)	< 1.02e-5	uCi/g

0801596093

MESSAGE CONFIRMATION

08/01/96 17:22
SESSION NO.= 160 ID=LOCKHEED LAB SAMPLE RECEIVING

DATE	TIME	S.R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
08/01	17:06	15'23"	5093754238	G3 -S	17	OK	0000

0801598094

SAMPLE CHECK-IN LIST

Date/Time Received: 8-01-96 / 15:30 SDG#: N/A

Work Order Number: N/A SAF #: B96-142

Shipping Container ID: Smi-587 Chain of Custody # B96-142-5

1. Custody Seals on shipping container intact? Yes [x] No [ ]
2. Custody Seals dated and signed? Yes [x] No [ ]
3. Sample temperature 2°C
4. Vermiculite/packing materials is Wet [ ] Dry [x]
5. Each sample is in a plastic bag? Yes [x] No [ ]
6. Sample holding times exceeded? Yes [x] No [ ]

7. Samples have:
   - ___ tape
   - x custody seals
   - ___ hazard labels
   - ___ appropriate sample labels

8. Samples are:
   - x in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles

9. Is the information on the COC and Sample bottles in agreement?

Yes[ ] No [ ]

Notes:

Sample Custodian/Laboratory: [illegible] Date: 8-01-96

~~Telephoned~~ Faxed To: Kathleen Hall On 8-01-96 By [illegible]
KCW 8-01-96

0801596095

SAMPLE CHECK-IN LIST

Date/Time Received: 8-01-96 / 15:30 SDG#: 1-1-A

Work Order Number: n.a SAF #: B96-142-6 PCO 8-01-96

Shipping Container ID: Em136/Sml-135 Chain of Custody # B96-142-6

1. Custody Seals on shipping container intact? Yes [x] No [ ]
2. Custody Seals dated and signed? Yes [x] No [ ]
3. Sample temperature 3°C
4. Vermiculite/packing materials is Wet [ ] Dry [x]
5. Each sample is in a plastic bag? Yes [x] No [ ]
6. Sample holding times exceeded? Yes [ ] No [x]

7. Samples have:
   - ___ tape
   - x custody seals
   - ___ hazard labels
   - ___ appropriate sample labels

8. Samples are:
   - x in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles

9. Is the information on the COC and Sample bottles in agreement?

   Yes[ ] No [ ]

Notes: _____

Sample Custodian/Laboratory: Paul Davis / CAS Date: 8-01-96

~~Telephoned~~ Faxed To: Kathleen Hall On 8-01-96 By Paul Davis
8-01-96 PCO

0801596 0096

SAMPLE CHECK-IN LIST

Date/Time Received: 8-01-96 / 15:30 SDG#: [illegible]

Work Order Number: [illegible] SAF #: B96-142

Shipping Container ID: ~~Rm# 111~~ Rm#111 PCD 8-01-96 Chain of Custody # B96-142-7

1. Custody Seals on shipping container intact? Yes [x] No [ ]
2. Custody Seals dated and signed? Yes [x] No [ ]
3. Sample temperature 4°C
4. Vermiculite/packing materials is Wet [ ] Dry [x]
5. Each sample is in a plastic bag? Yes [x] No [ ]
6. Sample holding times exceeded? Yes [ ] No [x]

7. Samples have:
   - ___ tape
   - X custody seals
   - ___ hazard labels
   - ___ appropriate sample labels

8. Samples are:
   - X in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles

9. Is the information on the COC and Sample bottles in agreement?

   Yes[ ] No [ ]

Notes: _____

Sample Custodian/Laboratory: [signature] Date: 8-01-96

~~Telephoned~~ Faxed To: Kathleen Hall On 8-01-96 By [signature]

PCD 8-01-96

0801590697

LOCKHEED MARTIN

Sample Login
Login Review Checklist

Lot Number L7561

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 effective login review, at a minimum, five reports form the login process are required. These are the COC (or equivalent), the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT	YES	NO	N/A	Comment
1. Are all sample ID's correct?	X			
2. Are all samples present?	X			
3. Are all matrices indicated correctly?	X			
4. Are all analyses on the COC logged in for the appropriate samples?	X			
5. Are all analyses logged in for the correct container?	X			
6. Are samples logged in according to LAS batching procedures?	X			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	X			
2. Have all appropriate comments been indicated in the comment section?	X			

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?			X	

Paula Wass — 8-01-96
primary review signature — date

Paula Wass — 8-01-96
secondary review signature — date

0098

08015 96

Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Battelle-Hanford Job No. L7561 Cooler ID: N/A

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 2°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		N/A	
are samples bi-phasic (if so, indicate sample ID'S):		N/A	

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times		X	
samples to subcontract		N/A	

ADDITIONAL COMMENTS/DISCREPANCIES All Sample Except BOHXX1, we did not receive any Sample for GC-Alpha/Beta + Gamma Spec for BOHXX1. pcd 8-01-96

Completed by / date: [illegible] 8-01-96

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*

9651080

version 2.0 (11/11/94)

Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Rechtel - Hanford Job No. L7561 Cooler ID: N/A

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 3°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		N/A	
are samples bi-phasic (if so, indicate sample ID'S):		N/A	

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times		X	
samples to subcontract		N/A	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: Paula Dawe 8-01-96

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*

9651080

version 2.0 (11/11/94)

Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Bechtel - Hanford Job No. L7561 Cooler ID: [illegible]

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 4°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		N/A	
are samples bi-phasic (if so, indicate sample ID'S):		N/A	

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times		X	
samples to subcontract		N/A	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: Paula Davis 8-01-96

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*

96 51080

version 2.0 (11/11/94)

Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Bechtel - Hanford Job No. Cooler ID: n/a

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 4°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		n/a	
are samples bi-phasic (if so, indicate sample ID'S):		n/a	

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times		X	
samples to subcontract		n/a	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: [illegible] 8-01-96

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*

version 2.0 (11/11/94)

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXW5	Date Collected: 22-JUL-96
Matrix: Liq. Waste	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39654	L7550-9
Cyanide	mg/kg	335.2	< 0.25	0.50	HU	09-AUG-96	39873	L7550-27
Sulfide	mg/kg	9030	< 12.	60.	HU	21-AUG-96	40375	L7550-33
pH - Test Paper	pH Units	9041	2.0	N/A	H	13-AUG-96	40676	L7550-21

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXW6	Date Collected: 23-JUL-96
Matrix: Liq. Waste	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39654	L7550-10
Cyanide	mg/kg	335.2	< 0.25	0.50	HU	09-AUG-96	39873	L7550-28
Sulfide	mg/kg	9030	23.	60.	HB	21-AUG-96	40375	L7550-34
pH - Test Paper	pH Units	9041	6.0	N/A	H	13-AUG-96	40676	L7550-22

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXW7	Date Collected: 23-JUL-96
Matrix: Liq. Waste	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch|ID	LAS Sample|ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39654	L7550-11
Cyanide	mg/kg	335.2	< 0.25	0.50	HU	09-AUG-96	39873	L7550-29
Sulfide	mg/kg	9030	< 12.	60.	HU	21-AUG-96	40375	L7550-35
pH - Test Paper	pH Units	9041	6.0	N/A	H	13-AUG-96	40676	L7550-23

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXW8	Date Collected: 23-JUL-96
Matrix: Liq. Waste	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39654	L7550-13
Cyanide	mg/kg	335.2	< 0.25	0.50	HU	09-AUG-96	39873	L7550-30
Sulfide	mg/kg	9030	< 12.	60.	HU	21-AUG-96	40375	L7550-36
pH - Test Paper	pH Units	9041	5.5	N/A	H	13-AUG-96	40676	L7550-24

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXW9	Date Collected: 23-JUL-96
Matrix: Liq. Waste	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39654	L7550-12
Cyanide	mg/kg	335.2	< 0.25	0.50	HU	09-AUG-96	39873	L7550-31
Sulfide	mg/kg	9030	< 12.	60.	HU	21-AUG-96	40375	L7550-37
pH - Test Paper	pH Units	9041	9.0	N/A	H	13-AUG-96	40676	L7550-25

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX0	Date Collected: 23-JUL-96
Matrix: Liq. Waste	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39654	L7550-14
Cyanide	mg/kg	335.2	< 0.25	0.50	HU	09-AUG-96	39873	L7550-32
Sulfide	mg/kg	9030	< 12.	60.	HU	21-AUG-96	40375	L7550-38
pH - Test Paper	pH Units	9041	5.0	N/A	H	13-AUG-96	40676	L7550-26

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX2	Date Collected: 23-JUL-96
Matrix: SolidWaste	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39655	L7550-1

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX3	Date Collected: 23-JUL-96
Matrix: SolidWaste	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch|ID	LAS Sample|ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39655	L7550-2
Cyanide	mg/kg	335.2	< 0.25	0.50	HU	08-AUG-96	39874	L7550-2
pH	pH Units	9045	7.1	0.10	H	20-AUG-96	39852	L7550-2

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX4	Date Collected: 29-JUL-96
Matrix: Liq. Waste	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch|ID	LAS Sample|ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39656	L7561-8
Cyanide	mg/kg	335.2	< 0.25	0.50	U	09-AUG-96	39980	L7561-29
Sulfide	mg/kg	9030	< 12.	60.	HU	23-AUG-96	40514	L7561-36
pH - Test Paper	pH Units	9041	4.5	N/A	H	13-AUG-96	40676	L7561-22

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX5	Date Collected: 29-JUL-96
Matrix: Liq. Waste	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39656	L7561-9
Cyanide	mg/kg	335.2	< 0.25	0.50	U	09-AUG-96	39980	L7561-30
Sulfide	mg/kg	9030	< 12.	60.	HU	23-AUG-96	40514	L7561-37
pH - Test Paper	pH Units	9041	6.0	N/A	H	13-AUG-96	40676	L7561-23

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX6	Date Collected: 29-JUL-96
Matrix: Liq. Waste	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch|ID	LAS Sample|ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39656	L7561-11
Cyanide	mg/kg	335.2	< 0.25	0.50	U	09-AUG-96	39980	L7561-32
Sulfide	mg/kg	9030	< 12.	60.	HU	23-AUG-96	40514	L7561-39
pH - Test Paper	pH Units	9041	5.5	N/A	H	13-AUG-96	40676	L7561-25

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HYM6	Date Collected: 29-JUL-96
Matrix: Liq. Waste	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch|ID	LAS Sample|ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39656	L7561-12
Cyanide	mg/kg	335.2	< 0.25	0.50	U	09-AUG-96	39980	L7561-33
Sulfide	mg/kg	9030	< 12.	60.	HU	23-AUG-96	40514	L7561-40
pH - Test Paper	pH Units	9041	5.0	N/A	H	13-AUG-96	40676	L7561-26

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HYM7	Date Collected: 29-JUL-96
Matrix: Liq. Waste	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch|ID	LAS Sample|ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39656	L7561-13
Cyanide	mg/kg	335.2	< 0.25	0.50	U	09-AUG-96	39980	L7561-34
Sulfide	mg/kg	9030	< 12.	60.	HU	23-AUG-96	40514	L7561-41
pH - Test Paper	pH Units	9041	6.0	N/A	H	13-AUG-96	40676	L7561-27

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HYM8	Date Collected: 29-JUL-96
Matrix: Liq. Waste	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch|ID	LAS Sample|ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39656	L7561-14
Cyanide	mg/kg	335.2	< 0.25	0.50	U	09-AUG-96	39980	L7561-35
Sulfide	mg/kg	9030	< 12.	60.	HU	23-AUG-96	40514	L7561-42
pH - Test Paper	pH Units	9041	6.5	N/A	H	13-AUG-96	40676	L7561-28

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX1	Date Collected: 29-JUL-96
Matrix: SolidWaste	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch|ID	LAS Sample|ID
Ignitability	deg F	1010	0.00	N/A	NO FLASH	02-AUG-96	39657	L7561-10
Cyanide	mg/kg	335.2	2.3	0.50		08-AUG-96	39874	L7561-31
Sulfide	mg/kg	9030	< 12.	60.	NHU	22-AUG-96	40588	L7561-38
pH	pH Units	9045	6.8	0.10	H	20-AUG-96	39852	L7561-31

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXW5	Date Collected: 22-JUL-96
Matrix: TCLP Extr	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	1.7	0.91	3.0	B	1	19-SEP-96	40964	L7550-21
Barium, TCLP	mg/L	6010	< 2.4	2.4	61.	U	1	19-SEP-96	40964	L7550-21
Cadmium, TCLP	mg/L	6010	< 0.91	0.91	1.5	U	1	19-SEP-96	40964	L7550-21
Chromium, TCLP	mg/L	6010	7.2	1.8	3.0		1	19-SEP-96	40964	L7550-21
Lead, TCLP	mg/L	6010	< 0.61	0.61	0.91	U	1	19-SEP-96	40964	L7550-21
Selenium, TCLP	mg/L	6010	2.0	1.2	1.5		1	19-SEP-96	40964	L7550-21
Silver, TCLP	mg/L	6010	< 1.2	1.2	3.0	U	1	19-SEP-96	40964	L7550-21
Mercury, TCLP	mg/l	7470	< 0.12	0.12	0.12	U	1	06-SEP-96	40965	L7550-21

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXW6	Date Collected: 23-JUL-96
Matrix: TCLP Extr	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.59	0.59	2.0	U	1	19-SEP-96	40964	L7550-22
Barium, TCLP	mg/L	6010	< 1.6	1.6	39.	U	1	19-SEP-96	40964	L7550-22
Cadmium, TCLP	mg/L	6010	< 0.59	0.59	0.98	U	1	19-SEP-96	40964	L7550-22
Chromium, TCLP	mg/L	6010	1.2	1.2	2.0	B	1	19-SEP-96	40964	L7550-22
Lead, TCLP	mg/L	6010	12.	0.39	0.59		1	19-SEP-96	40964	L7550-22
Selenium, TCLP	mg/L	6010	< 0.78	0.78	0.98	U	1	19-SEP-96	40964	L7550-22
Silver, TCLP	mg/L	6010	< 0.78	0.78	2.0	U	1	19-SEP-96	40964	L7550-22
Mercury, TCLP	mg/l	7470	< 0.094	0.094	0.094	U	1	06-SEP-96	40965	L7550-22

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXW7	Date Collected: 23-JUL-96
Matrix: TCLP Extr	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.59	0.59	2.0	U	1	19-SEP-96	40964	L7550-23
Barium, TCLP	mg/L	6010	< 1.6	1.6	39.	U	1	19-SEP-96	40964	L7550-23
Cadmium, TCLP	mg/L	6010	< 0.59	0.59	0.98	U	1	19-SEP-96	40964	L7550-23
Chromium, TCLP	mg/L	6010	< 1.2	1.2	2.0	U	1	19-SEP-96	40964	L7550-23
Lead, TCLP	mg/L	6010	4800	2.0	3.0		5	19-SEP-96	40964	L7550-23
Selenium, TCLP	mg/L	6010	< 0.78	0.78	0.98	U	1	19-SEP-96	40964	L7550-23
Silver, TCLP	mg/L	6010	< 0.78	0.78	2.0	U	1	19-SEP-96	40964	L7550-23
Mercury, TCLP	mg/L	7470	< 0.095	0.095	0.095	U	1	06-SEP-96	40965	L7550-23

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXW8	Date Collected: 23-JUL-96
Matrix: TCLP Extr	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.53	0.53	1.8	U	1	19-SEP-96	40964	L7550-24
Barium, TCLP	mg/L	6010	< 1.4	1.4	35.	U	1	19-SEP-96	40964	L7550-24
Cadmium, TCLP	mg/L	6010	< 0.53	0.53	0.88	U	1	19-SEP-96	40964	L7550-24
Chromium, TCLP	mg/L	6010	< 1.1	1.1	1.8	U	1	19-SEP-96	40964	L7550-24
Lead, TCLP	mg/L	6010	0.67	0.35	0.53		1	19-SEP-96	40964	L7550-24
Selenium, TCLP	mg/L	6010	< 0.71	0.71	0.88	U	1	19-SEP-96	40964	L7550-24
Silver, TCLP	mg/L	6010	< 0.71	0.71	1.8	U	1	19-SEP-96	40964	L7550-24
Mercury, TCLP	mg/l	7470	< 0.096	0.096	0.096	U	1	06-SEP-96	40965	L7550-24

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXW9	Date Collected: 23-JUL-96
Matrix: TCLP Extr	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.55	0.55	1.8	U	1	19-SEP-96	40964	L7550-25
Barium, TCLP	mg/L	6010	< 1.5	1.5	37.	U	1	19-SEP-96	40964	L7550-25
Cadmium, TCLP	mg/L	6010	< 0.55	0.55	0.91	U	1	19-SEP-96	40964	L7550-25
Chromium, TCLP	mg/L	6010	< 1.0	1.0	1.8	U	1	19-SEP-96	40964	L7550-25
Lead, TCLP	mg/L	6010	0.69	0.34	0.55		1	19-SEP-96	40964	L7550-25
Selenium, TCLP	mg/L	6010	< 0.73	0.73	0.91	U	1	19-SEP-96	40964	L7550-25
Silver, TCLP	mg/L	6010	< 0.73	0.73	1.8	U	1	19-SEP-96	40964	L7550-25
Mercury, TCLP	mg/l	7470	< 0.094	0.094	0.094	U	1	06-SEP-96	40965	L7550-25

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX0	Date Collected: 23-JUL-96
Matrix: TCLP Extr	Date Received: 30-JUL-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.55	0.55	1.8	U	1	19-SEP-96	40964	L7550-26
Barium, TCLP	mg/L	6010	450	1.5	37.		1	19-SEP-96	40964	L7550-26
Cadmium, TCLP	mg/L	6010	0.76	0.55	0.92	B	1	19-SEP-96	40964	L7550-26
Chromium, TCLP	mg/L	6010	< 1.1	1.1	1.8	U	1	19-SEP-96	40964	L7550-26
Lead, TCLP	mg/L	6010	0.78	0.37	0.55		1	19-SEP-96	40964	L7550-26
Selenium, TCLP	mg/L	6010	< 0.74	0.74	0.92	U	1	19-SEP-96	40964	L7550-26
Silver, TCLP	mg/L	6010	< 0.74	0.74	1.8	U	1	19-SEP-96	40964	L7550-26
Mercury, TCLP	mg/L	7470	< 0.089	0.089	0.089	U	1	06-SEP-96	40965	L7550-26

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX4	Date Collected: 29-JUL-96
Matrix: TCLP Extr	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.74	0.74	2.5	U	1	19-SEP-96	40964	L7561-22
Barium, TCLP	mg/L	6010	< 2.0	2.0	50.	U	1	19-SEP-96	40964	L7561-22
Cadmium, TCLP	mg/L	6010	2.6	0.74	1.2		1	19-SEP-96	40964	L7561-22
Chromium, TCLP	mg/L	6010	< 1.5	1.5	2.5	U	1	19-SEP-96	40964	L7561-22
Lead, TCLP	mg/L	6010	2.5	0.50	0.74		1	19-SEP-96	40964	L7561-22
Selenium, TCLP	mg/L	6010	< 0.99	0.99	1.2	U	1	19-SEP-96	40964	L7561-22
Silver, TCLP	mg/L	6010	< 0.99	0.99	2.5	U	1	19-SEP-96	40964	L7561-22
Mercury, TCLP	mg/l	7470	< 0.12	0.12	0.12	U	1	06-SEP-96	40965	L7561-22

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX5	Date Collected: 29-JUL-96
Matrix: TCLP Extr	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.49	0.49	1.6	U	1	19-SEP-96	40964	L7561-23
Barium, TCLP	mg/L	6010	< 1.3	1.3	32.	U	1	19-SEP-96	40964	L7561-23
Cadmium, TCLP	mg/L	6010	2.6	0.49	0.81		1	19-SEP-96	40964	L7561-23
Chromium, TCLP	mg/L	6010	< 0.97	0.97	1.6	U	1	19-SEP-96	40964	L7561-23
Lead, TCLP	mg/L	6010	< 0.32	0.32	0.49	U	1	19-SEP-96	40964	L7561-23
Selenium, TCLP	mg/L	6010	< 0.65	0.65	0.81	U	1	19-SEP-96	40964	L7561-23
Silver, TCLP	mg/L	6010	< 0.65	0.65	1.6	U	1	19-SEP-96	40964	L7561-23
Mercury, TCLP	mg/l	7470	< 0.064	0.064	0.064	U	1	06-SEP-96	40965	L7561-23

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX6	Date Collected: 29-JUL-96
Matrix: TCLP Extr	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.52	0.52	1.7	U	1	19-SEP-96	40964	L7561-25
Barium, TCLP	mg/L	6010	< 1.4	1.4	35.	U	1	19-SEP-96	40964	L7561-25
Cadmium, TCLP	mg/L	6010	3.9	0.52	0.86		1	19-SEP-96	40964	L7561-25
Chromium, TCLP	mg/L	6010	< 1.0	1.0	1.7	U	1	19-SEP-96	40964	L7561-25
Lead, TCLP	mg/L	6010	1.1	0.35	0.52		1	19-SEP-96	40964	L7561-25
Selenium, TCLP	mg/L	6010	< 0.69	0.69	0.86	U	1	19-SEP-96	40964	L7561-25
Silver, TCLP	mg/L	6010	< 0.69	0.69	1.7	U	1	19-SEP-96	40964	L7561-25
Mercury, TCLP	mg/l	7470	< 0.098	0.098	0.098	U	1	06-SEP-96	40965	L7561-25

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HYM6	Date Collected: 29-JUL-96
Matrix: TCLP Extr	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.41	0.41	1.4	U	1	19-SEP-96	40964	L7561-26
Barium, TCLP	mg/L	6010	< 1.1	1.1	27.	U	1	19-SEP-96	40964	L7561-26
Cadmium, TCLP	mg/L	6010	8.2	0.41	0.68		1	19-SEP-96	40964	L7561-26
Chromium, TCLP	mg/L	6010	< 0.82	0.82	1.4	U	1	19-SEP-96	40964	L7561-26
Lead, TCLP	mg/L	6010	1.9	0.27	0.41		1	19-SEP-96	40964	L7561-26
Selenium, TCLP	mg/L	6010	< 0.54	0.54	0.68	U	1	19-SEP-96	40964	L7561-26
Silver, TCLP	mg/L	6010	< 0.54	0.54	1.4	U	1	19-SEP-96	40964	L7561-26
Mercury, TCLP	mg/L	7470	< 0.056	0.056	0.056	U	1	06-SEP-96	40965	L7561-26

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HYM7	Date Collected: 29-JUL-96
Matrix: TCLP Extr	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.57	0.57	1.9	U	1	19-SEP-96	40964	L7561-27
Barium, TCLP	mg/L	6010	< 1.5	1.5	38.	U	1	19-SEP-96	40964	L7561-27
Cadmium, TCLP	mg/L	6010	< 0.57	0.57	0.95	U	1	19-SEP-96	40964	L7561-27
Chromium, TCLP	mg/L	6010	< 1.1	1.1	1.9	U	1	19-SEP-96	40964	L7561-27
Lead, TCLP	mg/L	6010	< 0.38	0.38	0.57	U	1	19-SEP-96	40964	L7561-27
Selenium, TCLP	mg/L	6010	< 0.76	0.76	0.95	U	1	19-SEP-96	40964	L7561-27
Silver, TCLP	mg/L	6010	< 0.76	0.76	1.9	U	1	19-SEP-96	40964	L7561-27
Mercury, TCLP	mg/l	7470	< 0.098	0.098	0.098	U	1	06-SEP-96	40965	L7561-27

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HYM8	Date Collected: 29-JUL-96
Matrix: TCLP Extr	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.56	0.56	1.9	U	1	19-SEP-96	40964	L7561-28
Barium, TCLP	mg/L	6010	< 1.5	1.5	37.	U	1	19-SEP-96	40964	L7561-28
Cadmium, TCLP	mg/L	6010	1.1	0.56	0.93		1	19-SEP-96	40964	L7561-28
Chromium, TCLP	mg/L	6010	< 1.1	1.1	1.9	U	1	19-SEP-96	40964	L7561-28
Lead, TCLP	mg/L	6010	0.95	0.37	0.56		1	19-SEP-96	40964	L7561-28
Selenium, TCLP	mg/L	6010	< 0.75	0.75	0.93	U	1	19-SEP-96	40964	L7561-28
Silver, TCLP	mg/L	6010	< 0.75	0.75	1.9	U	1	19-SEP-96	40964	L7561-28
Mercury, TCLP	mg/l	7470	< 0.095	0.095	0.095	U	1	06-SEP-96	40965	L7561-28

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0HXX1	Date Collected: 29-JUL-96
Matrix: TCLP Extr	Date Received: 01-AUG-96
Percent Solids: N/A	

Constituent	Units	Method	Result	MDL	RDL	Data Qual	Dilution	Date Analyzed	LAS Batch ID	LAS Sample ID
Arsenic, TCLP	mg/L	6010	< 0.030	0.030	0.10	U	1	05-SEP-96	40948	L7561-24
Barium, TCLP	mg/L	6010	2.0	0.010	2.0		1	04-SEP-96	40948	L7561-24
Cadmium, TCLP	mg/L	6010	0.17	0.030	0.050		1	04-SEP-96	40948	L7561-24
Chromium, TCLP	mg/L	6010	< 0.040	0.040	0.10	U	1	04-SEP-96	40948	L7561-24
Lead, TCLP	mg/L	6010	2.0	0.020	0.030		1	04-SEP-96	40948	L7561-24
Selenium, TCLP	mg/L	6010	< 0.040	0.040	0.10	U	1	04-SEP-96	40948	L7561-24
Silver, TCLP	mg/L	6010	< 0.040	0.040	0.10	U	1	26-SEP-96	40948	L7561-24
Mercury, TCLP	mg/l	7470	< 0.0020	0.0020	0.020	U	1	10-SEP-96	40949	L7561-24

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXW5	LAL Sample ID:	L7550-15
Date Collected:	22-JUL-96	Date Received:	30-JUL-96
Date Analyzed:	08-AUG-96	Analytical Batch ID:	080596-8080-E-4
Date Extracted:	05-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	100
		QC Group:	8080 PEST/PCBS_39818

SURROGATE	RECOVERY	QC Limits
TCMX	30%	21-110
DCB	26% *	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<5.0	5.0	
B-BHC	319-85-7	<5.0	5.0	
G-BHC	58-89-9	<5.0	5.0	
D-BHC	319-86-8	<5.0	5.0	
Heptachlor	76-44-8	<5.0	5.0	
Aldrin	309-00-2	<5.0	5.0	
Heptachlor Epoxide	1024-57-3	<5.0	5.0	
G-Chlordane	5103-74-2	<5.0	5.0	
Endosulfan I	959-98-8	<5.0	5.0	
A-Chlordane	5103-71-9	<5.0	5.0	
4,4'-DDE	72-55-9	<10.	10.	
4,4'-DDT	50-29-3	<10.	10.	
Dieldrin	60-57-1	<10.	10.	
Endrin	72-20-8	<10.	10.	
Endosulfan II	33213-65-9	<10.	10.	
4,4'-DDD	72-54-8	<10.	10.	
Endrin Aldehyde	7421-93-4	<10.	10.	
Endosulfan Sulfate	1031-07-8	<10.	10.	
Methoxychlor	72-43-5	<50.	50.	
Toxaphene	8001-35-2	<500	500	
PCB-1016	12674-11-2	<100	100	
PCB-1221	11104-28-2	<200	200	
PCB-1232	11141-16-5	<100	100	
PCB-1242	53469-21-9	<100	100	
PCB-1248	12672-29-6	<100	100	
PCB-1254	11097-69-1	<100	100	
PCB-1260	11096-82-5	<100	100	
Chlordane (Technical)	57-74-9	<100	100	

0170

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXW6	LAL Sample ID:	L7550-16
Date Collected:	23-JUL-96	Date Received:	30-JUL-96
Date Analyzed:	17-AUG-96	Analytical Batch ID:	081696-8080-C-1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	54%	21-110
DCB	66%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXW7	LAL Sample ID:	L7550-17
Date Collected:	23-JUL-96	Date Received:	30-JUL-96
Date Analyzed:	17-AUG-96	Analytical Batch ID:	081696-8080-C-1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	66%	21-110
DCB	61%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXW9	LAL Sample ID:	L7550-18
Date Collected:	23-JUL-96	Date Received:	30-JUL-96
Date Analyzed:	17-AUG-96	Analytical Batch ID:	081696-8080-C 1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	65%	21-110
DCB	62%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXW8	LAL Sample ID:	L7550-19
Date Collected:	23-JUL-96	Date Received:	30-JUL-96
Date Analyzed:	17-AUG-96	Analytical Batch ID:	081696-8080-C-1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	58%	21-110
DCB	73%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXX0	LAL Sample ID:	L7550-20
Date Collected:	23-JUL-96	Date Received:	30-JUL-96
Date Analyzed:	17-AUG-96	Analytical Batch ID:	081696-8080-C-1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	49%	21-110
DCB	47%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXX4	LAL Sample ID:	L7561-15
Date Collected:	29-JUL-96	Date Received:	01-AUG-96
Date Analyzed:	21-AUG-96	Analytical Batch ID:	082096-8080-C-1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	119% *	21-110
DCB	104%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXX5	LAL Sample ID:	L7561-16
Date Collected:	29-JUL-96	Date Received:	01-AUG-96
Date Analyzed:	17-AUG-96	Analytical Batch ID:	081696-8080-C-1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	61%	21-110
DCB	52%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXX6	LAL Sample ID:	L7561-18
Date Collected:	29-JUL-96	Date Received:	01-AUG-96
Date Analyzed:	18-AUG-96	Analytical Batch ID:	081696-8080-C-1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	63%	21-110
DCB	43%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HYM6	LAL Sample ID:	L7561-19
Date Collected:	29-JUL-96	Date Received:	01-AUG-96
Date Analyzed:	21-AUG-96	Analytical Batch ID:	082096-8080-C-1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	87%	21-110
DCB	87%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HYM7	LAL Sample ID:	L7561-20
Date Collected:	29-JUL-96	Date Received:	01-AUG-96
Date Analyzed:	21-AUG-96	Analytical Batch ID:	082096-8080-C-1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	105%	21-110
DCB	100%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HYM8	LAL Sample ID:	L7561-21
Date Collected:	29-JUL-96	Date Received:	01-AUG-96
Date Analyzed:	21-AUG-96	Analytical Batch ID:	082096-8080-C-1
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	Liq. Waste	Preparation Dilution:	1000
		QC Group:	8080 PEST/PCBS_39875

SURROGATE	RECOVERY	QC Limits
TCMX	93%	21-110
DCB	93%	36-126

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
A-BHC	319-84-6	<50.	50.	
B-BHC	319-85-7	<50.	50.	
G-BHC	58-89-9	<50.	50.	
D-BHC	319-86-8	<50.	50.	
Heptachlor	76-44-8	<50.	50.	
Aldrin	309-00-2	<50.	50.	
Heptachlor Epoxide	1024-57-3	<50.	50.	
G-Chlordane	5103-74-2	<50.	50.	
Endosulfan I	959-98-8	<50.	50.	
A-Chlordane	5103-71-9	<50.	50.	
4,4'-DDE	72-55-9	<100	100	
4,4'-DDT	50-29-3	<100	100	
Dieldrin	60-57-1	<100	100	
Endrin	72-20-8	<100	100	
Endosulfan II	33213-65-9	<100	100	
4,4'-DDD	72-54-8	<100	100	
Endrin Aldehyde	7421-93-4	<100	100	
Endosulfan Sulfate	1031-07-8	<100	100	
Methoxychlor	72-43-5	<500	500	
Toxaphene	8001-35-2	<5000	5000	
PCB-1016	12674-11-2	<1000	1000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<1000	1000	
PCB-1242	53469-21-9	<1000	1000	
PCB-1248	12672-29-6	<1000	1000	
PCB-1254	11097-69-1	<1000	1000	
PCB-1260	11096-82-5	<1000	1000	
Chlordane (Technical)	57-74-9	<1000	1000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXX3	LAL Sample ID:	L7550-2
Date Collected:	23-JUL-96	Date Received:	30-JUL-96
Date Analyzed:	15-AUG-96	Analytical Batch ID:	081196-8080-E-5
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	SolidWaste	Preparation Dilution:	150
Percent Moisture:	N/A	QC Group:	8080 PEST/PCBS_39838

SURROGATE	RECOVERY	QC Limits
TCMX	73%	39-117
DCB	88%	66-128

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s)
A-BHC	319-84-6	<260	260	
B-BHC	319-85-7	<260	260	
G-BHC	58-89-9	<260	260	
D-BHC	319-86-8	<260	260	
Heptachlor	76-44-8	<260	260	
Aldrin	309-00-2	<260	260	
Heptachlor Epoxide	1024-57-3	<260	260	
G-Chlordane	5103-74-2	<260	260	
Endosulfan I	959-98-8	<260	260	
A-Chlordane	5103-71-9	<260	260	
4,4'-DDE	72-55-9	<500	500	
4,4'-DDT	50-29-3	<500	500	
Dieldrin	60-57-1	<500	500	
Endrin	72-20-8	<500	500	
Endosulfan II	33213-65-9	<500	500	
4,4'-DDD	72-54-8	<500	500	
Endrin Aldehyde	7421-93-4	<500	500	
Endosulfan Sulfate	1031-07-8	<500	500	
Methoxychlor	72-43-5	<2600	2600	
Toxaphene	8001-35-2	<26000	26000	
PCB-1016	12674-11-2	<2000	2000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<2000	2000	
PCB-1242	53469-21-9	<2000	2000	
PCB-1248	12672-29-6	<2000	2000	
PCB-1254	11097-69-1	<2000	2000	
PCB-1260	11096-82-5	<2000	2000	
Chlordane (Technical)	57-74-9	<6000	6000	

LOCKHEED ANALYTICAL SERVICES

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

Client Sample ID:	B0HXX1	LAL Sample ID:	L7561-17
Date Collected:	29-JUL-96	Date Received:	01-AUG-96
Date Analyzed:	15-AUG-96	Analytical Batch ID:	081196-8080-E-5
Date Extracted:	06-AUG-96	Analytical Dilution:	1
Matrix:	SolidWaste	Preparation Dilution:	150
Percent Moisture:	N/A	QC Group:	8080 PEST/PCBS_39838

SURROGATE	RECOVERY	QC Limits
TCMX	89%	39-117
DCB	61% *	66-128

CONSTITUENT	CAS NO.	RESULT ug/Kg	PRACTICAL QUANTITATION LIMIT ug/Kg	DATA QUALIFIER(s)
A-BHC	319-84-6	<260	260	
B-BHC	319-85-7	<260	260	
G-BHC	58-89-9	<260	260	
D-BHC	319-86-8	<260	260	
Heptachlor	76-44-8	<260	260	
Aldrin	309-00-2	<260	260	
Heptachlor Epoxide	1024-57-3	<260	260	
G-Chlordane	5103-74-2	<260	260	
Endosulfan I	959-98-8	<260	260	
A-Chlordane	5103-71-9	<260	260	
4,4'-DDE	72-55-9	<500	500	
4,4'-DDT	50-29-3	<500	500	
Dieldrin	60-57-1	<500	500	
Endrin	72-20-8	<500	500	
Endosulfan II	33213-65-9	<500	500	
4,4'-DDD	72-54-8	<500	500	
Endrin Aldehyde	7421-93-4	<500	500	
Endosulfan Sulfate	1031-07-8	<500	500	
Methoxychlor	72-43-5	<2600	2600	
Toxaphene	8001-35-2	<26000	26000	
PCB-1016	12674-11-2	<2000	2000	
PCB-1221	11104-28-2	<2000	2000	
PCB-1232	11141-16-5	<2000	2000	
PCB-1242	53469-21-9	<2000	2000	
PCB-1248	12672-29-6	<2000	2000	
PCB-1254	11097-69-1	<2000	2000	
PCB-1260	11096-82-5	<2000	2000	
Chlordane (Technical)	57-74-9	<6000	6000	

LOCKHEED ANALYTICAL SERVICES

RADIOCHEMISTRY DATA REPORT
Account Name: Bechtel Hanford, Inc. * Richland, WA
Project Name: BECHTEL-HANFORD
Project Desc: Bechtel Hanford Project

Client Sample ID: B0HXX4
Date Collected: 29-JUL-96
Matrix: Liq. Waste

Login Number: L7561
Date Received: 01-AUG-96

Constituent	Method	Batch	Activity	Error	MDA	Qualifier	Units	Analyzed	Lab ID
Ac-228	LAL-0063	39711	-40	130	230		pCi/L	12-AUG-96	L7561-43
Co-58	LAL-0063	39711	-3.	28.	48.		pCi/L	12-AUG-96	L7561-43
Co-60	LAL-0063	39711	-9.	14.	29.		pCi/L	12-AUG-96	L7561-43
Cs-137	LAL-0063	39711	-29.	17.	59.		pCi/L	12-AUG-96	L7561-43
Eu-152	LAL-0063	39711	32.	57.	160		pCi/L	12-AUG-96	L7561-43
Eu-154	LAL-0063	39711	-47.	45.	210		pCi/L	12-AUG-96	L7561-43
Eu-155	LAL-0063	39711	20.	48.	77.		pCi/L	12-AUG-96	L7561-43
Fe-59	LAL-0063	39711	-40.	30.	95.		pCi/L	12-AUG-96	L7561-43
Pb-212	LAL-0063	39711	-1	55.	74.		pCi/L	12-AUG-96	L7561-43
Pb-214	LAL-0063	39711	17.	61.	89.		pCi/L	12-AUG-96	L7561-43
Ra-226(GAMMA)	LAL-0063	39711	280	680	970		pCi/L	12-AUG-96	L7561-43
Ru-106	LAL-0063	39711	-60	140	460		pCi/L	12-AUG-96	L7561-43
U-235(GAMMA)	LAL-0063	39711	-10	110	210	B	pCi/L	12-AUG-96	L7561-43
Gross Alpha	LAL-0060	40473	0.1	2.5	5.4		pCi/L	24-AUG-96	L7561-43
Gross Beta	LAL-0060	40473	2.7	6.2	11.		pCi/L	24-AUG-96	L7561-43

LOCKHEED ANALYTICAL SERVICES

RADIOCHEMISTRY DATA REPORT
Account Name: Bechtel Hanford, Inc. * Richland, WA
Project Name: BECHTEL-HANFORD
Project Desc: Bechtel Hanford Project

Client Sample ID: B0HXX5
Date Collected: 29-JUL-96
Matrix: Liq. Waste

Login Number: L7561
Date Received: 01-AUG-96

Constituent	Method	Batch	Activity	Error	MDA	Qualifier	Units	Analyzed	Lab ID
Ac-228	LAL-0063	39711	-105.	83.	200		pCi/L	12-AUG-96	L7561-46
Co-58	LAL-0063	39711	-3.	27.	50.		pCi/L	12-AUG-96	L7561-46
Co-60	LAL-0063	39711	-15.	15.	44.		pCi/L	12-AUG-96	L7561-46
Cs-137	LAL-0063	39711	-4.	30.	54.		pCi/L	12-AUG-96	L7561-46
Eu-152	LAL-0063	39711	18.	57.	160		pCi/L	12-AUG-96	L7561-46
Eu-154	LAL-0063	39711	-29.	66.	220		pCi/L	12-AUG-96	L7561-46
Eu-155	LAL-0063	39711	12.	67.	82.		pCi/L	12-AUG-96	L7561-46
Fe-59	LAL-0063	39711	-18.	47.	110		pCi/L	12-AUG-96	L7561-46
Pb-212	LAL-0063	39711	24.	53.	72.		pCi/L	12-AUG-96	L7561-46
Pb-214	LAL-0063	39711	1	60.	92.		pCi/L	12-AUG-96	L7561-46
Ra-226(GAMMA)	LAL-0063	39711	-40	650	950		pCi/L	12-AUG-96	L7561-46
Ru-106	LAL-0063	39711	-10	240	430		pCi/L	12-AUG-96	L7561-46
U-235(GAMMA)	LAL-0063	39711	90	150	190	B	pCi/L	12-AUG-96	L7561-46
Gross Alpha	LAL-0060	40473	12.5	5.5	5.8		pCi/L	24-AUG-96	L7561-46
Gross Beta	LAL-0060	40473	10.3	6.8	11.		pCi/L	24-AUG-96	L7561-46

LOCKHEED ANALYTICAL SERVICES

RADIOCHEMISTRY DATA REPORT
Account Name: Bechtel Hanford, Inc. * Richland, WA
Project Name: BECHTEL-HANFORD
Project Desc: Bechtel Hanford Project

Client Sample ID: B0HXX6
Date Collected: 29-JUL-96
Matrix: Liq. Waste

Login Number: L7561
Date Received: 01-AUG-96

Constituent	Method	Batch	Activity	Error	MDA	Qualifier	Units	Analyzed	Lab ID
Ac-228	LAL-0063	39711	30	140	220		pCi/L	12-AUG-96	L7561-49
Co-58	LAL-0063	39711	-2.	25.	42.		pCi/L	12-AUG-96	L7561-49
Co-60	LAL-0063	39711	5.	24.	47.		pCi/L	12-AUG-96	L7561-49
Cs-137	LAL-0063	39711	-10	12.	48.		pCi/L	12-AUG-96	L7561-49
Eu-152	LAL-0063	39711	-17.	64.	240		pCi/L	12-AUG-96	L7561-49
Eu-154	LAL-0063	39711	-44.	42.	260		pCi/L	12-AUG-96	L7561-49
Eu-155	LAL-0063	39711	14.	50.	82.		pCi/L	12-AUG-96	L7561-49
Fe-59	LAL-0063	39711	-26.	33.	100		pCi/L	12-AUG-96	L7561-49
Pb-212	LAL-0063	39711	15.	56.	74.		pCi/L	12-AUG-96	L7561-49
Pb-214	LAL-0063	39711	8.	63.	95.		pCi/L	12-AUG-96	L7561-49
Ra-226(GAMMA)	LAL-0063	39711	-610	640	940		pCi/L	12-AUG-96	L7561-49
Ru-106	LAL-0063	39711	140	330	410		pCi/L	12-AUG-96	L7561-49
U-235(GAMMA)	LAL-0063	39711	0	140	200	B	pCi/L	12-AUG-96	L7561-49
Gross Alpha	LAL-0060	40473	0.2	2.5	5.4		pCi/L	24-AUG-96	L7561-49
Gross Beta	LAL-0060	40473	2.1	6.0	10.		pCi/L	24-AUG-96	L7561-49

LOCKHEED ANALYTICAL SERVICES

RADIOCHEMISTRY DATA REPORT
Account Name: Bechtel Hanford, Inc. * Richland, WA
Project Name: BECHTEL-HANFORD
Project Desc: Bechtel Hanford Project

Client Sample ID: B0HYM6
Date Collected: 29-JUL-96
Matrix: Liq. Waste

Login Number: L7561
Date Received: 01-AUG-96

Constituent	Method	Batch	Activity	Error	MDA	Qualifier	Units	Analyzed	Lab ID
Ac-228	LAL-0063	39711	20	140	220		pCi/L	12-AUG-96	L7561-52
Co-58	LAL-0063	39711	2.	30.	53.		pCi/L	12-AUG-96	L7561-52
Co-60	LAL-0063	39711	-9.	21.	54.		pCi/L	12-AUG-96	L7561-52
Cs-137	LAL-0063	39711	44.	31.	45.		pCi/L	12-AUG-96	L7561-52
Eu-152	LAL-0063	39711	26.	62.	220		pCi/L	12-AUG-96	L7561-52
Eu-154	LAL-0063	39711	-43.	62.	230		pCi/L	12-AUG-96	L7561-52
Eu-155	LAL-0063	39711	-12.	28.	86.		pCi/L	12-AUG-96	L7561-52
Fe-59	LAL-0063	39711	-15.	29.	110		pCi/L	12-AUG-96	L7561-52
Pb-212	LAL-0063	39711	14.	54.	75.		pCi/L	12-AUG-96	L7561-52
Pb-214	LAL-0063	39711	23.	60.	92.		pCi/L	12-AUG-96	L7561-52
Ra-226(GAMMA)	LAL-0063	39711	-50	640	940		pCi/L	12-AUG-96	L7561-52
Ru-106	LAL-0063	39711	140	240	410		pCi/L	12-AUG-96	L7561-52
U-235(GAMMA)	LAL-0063	39711	30	140	190	B	pCi/L	12-AUG-96	L7561-52
Gross Alpha	LAL-0060	40473	3.3	3.8	6.1		pCi/L	24-AUG-96	L7561-52
Gross Beta	LAL-0060	40473	7.8	6.5	11.		pCi/L	24-AUG-96	L7561-52

LOCKHEED ANALYTICAL SERVICES

RADIOCHEMISTRY DATA REPORT
Account Name: Bechtel Hanford, Inc. * Richland, WA
Project Name: BECHTEL-HANFORD
Project Desc: Bechtel Hanford Project

Client Sample ID: B0HYM7
Date Collected: 29-JUL-96
Matrix: Liq. Waste

Login Number: L7561
Date Received: 01-AUG-96

Constituent	Method	Batch	Activity	Error	MDA	Qualifier	Units	Analyzed	Lab ID
Ac-228	LAL-0063	39711	-50	130	220		pCi/L	12-AUG-96	L7561-55
Co-58	LAL-0063	39711	9.	25.	42.		pCi/L	12-AUG-96	L7561-55
Co-60	LAL-0063	39711	10.	21.	41.		pCi/L	12-AUG-96	L7561-55
Cs-137	LAL-0063	39711	29.	28.	42.		pCi/L	12-AUG-96	L7561-55
Eu-152	LAL-0063	39711	12.	59.	180		pCi/L	12-AUG-96	L7561-55
Eu-154	LAL-0063	39711	-1.	71.	210		pCi/L	12-AUG-96	L7561-55
Eu-155	LAL-0063	39711	-38.	27.	86.		pCi/L	12-AUG-96	L7561-55
Fe-59	LAL-0063	39711	4.	47.	96.		pCi/L	12-AUG-96	L7561-55
Pb-212	LAL-0063	39711	-16.	52.	75.		pCi/L	12-AUG-96	L7561-55
Pb-214	LAL-0063	39711	10	61.	90.		pCi/L	12-AUG-96	L7561-55
Ra-226(GAMMA)	LAL-0063	39711	-390	640	940		pCi/L	12-AUG-96	L7561-55
Ru-106	LAL-0063	39711	-160	190	390		pCi/L	12-AUG-96	L7561-55
U-235(GAMMA)	LAL-0063	39711	30	150	200	B	pCi/L	12-AUG-96	L7561-55
Gross Alpha	LAL-0060	40473	2.8	3.6	5.9		pCi/L	24-AUG-96	L7561-55
Gross Beta	LAL-0060	40473	0.8	6.0	11.		pCi/L	24-AUG-96	L7561-55

LOCKHEED ANALYTICAL SERVICES

RADIOCHEMISTRY DATA REPORT
Account Name: Bechtel Hanford, Inc. * Richland, WA
Project Name: BECHTEL-HANFORD
Project Desc: Bechtel Hanford Project

Client Sample ID: B0HYM8
Date Collected: 29-JUL-96
Matrix: Liq. Waste

Login Number: L7561
Date Received: 01-AUG-96

Constituent	Method	Batch	Activity	Error	MDA	Qualifier	Units	Analyzed	Lab ID
Ac-228	LAL-0063	39711	47.	72.	120		pCi/L	12-AUG-96	L7561-58
Co-58	LAL-0063	39711	0	14.	25.		pCi/L	12-AUG-96	L7561-58
Co-60	LAL-0063	39711	-0.8	8.4	27.		pCi/L	12-AUG-96	L7561-58
Cs-137	LAL-0063	39711	11.	15.	23.		pCi/L	12-AUG-96	L7561-58
Eu-152	LAL-0063	39711	-11.	18.	110		pCi/L	12-AUG-96	L7561-58
Eu-154	LAL-0063	39711	-6.	15.	120		pCi/L	12-AUG-96	L7561-58
Eu-155	LAL-0063	39711	2.	58.	70.		pCi/L	12-AUG-96	L7561-58
Fe-59	LAL-0063	39711	7.	22.	45.		pCi/L	12-AUG-96	L7561-58
Pb-212	LAL-0063	39711	1	38.	53.		pCi/L	12-AUG-96	L7561-58
Pb-214	LAL-0063	39711	-12.	39.	63.		pCi/L	12-AUG-96	L7561-58
Ra-226(GAMMA)	LAL-0063	39711	20	440	620		pCi/L	12-AUG-96	L7561-58
Ru-106	LAL-0063	39711	0	120	200		pCi/L	12-AUG-96	L7561-58
U-235(GAMMA)	LAL-0063	39711	30	110	160	B	pCi/L	12-AUG-96	L7561-58
Gross Alpha	LAL-0060	40473	2.6	4.9	8.6		pCi/L	24-AUG-96	L7561-58
Gross Beta	LAL-0060	40473	98.	12.	11.		pCi/L	24-AUG-96	L7561-58

Client	Bechtel	
Client ID	B0HXX4	
Filename	397111.CHN	
LAL parent ID	39711DUP1	
Batch	6339711	
Live Time	10800	
Detector	2	LAS Detector 2, GMX-30200-P, Ser. No. 30-TN10348
Geometry	I	
Aliquot (gms/L)	0.1	
Count date	8/12/96 8:58	
Collection Date	8/29/96	
delta T to midpoint of count	-16.6	days
Efficiency data file	I294	
Background, Library files	WBKG2222	whc V96119

Nuclide	keV	halflife (days)	chnl	GROSS	BKG	NET	Hand Calc NET	Sample cnts/sec	1 sig % err
Ra-226	186.1	5.84E+05	372	214	70	144		0.0133333	11.7
U-235	185.7	2.57E+11	372	214	70	144		0.0133333	11.7
	143.8	2.57E+11	288	124	94	30		0.0027778	49.2
	163.3	2.57E+11	327	118	91	27		0.0025	53.5
Pb-214(Ra-226)	351.9	5.84E+05	704	81	49	32		0.002963	35.6
	295.1	5.84E+05	591	87	81	7		0.0006019	199.1
Fe-59	1099.2	4.51E+01	2198	22	14	8		0.0007407	75.0
	1291.6	4.51E+01	2583	16	13	3		0.0002932	169.6
Co-58	810.8	7.08E+01	1622	29	15	14		0.0012809	48.0
Ac-228(Ra-228)	911.2	2.10E+03	1822	47	15	32		0.0029977	24.2
	969	2.10E+03	1938	33	24	9		0.0008333	83.9
Pb-212	238.6	5.11E+12	478	153	84	69		0.0063889	22.3
	300.1	5.11E+12	600	58	70	-12		-0.001111	94.3
Co-60	1332.5	1924	2665	9	26	-17		-0.001528	35.6
	1173.3	1924	2347	29	17	13		0.0011574	54.0
Cs-137	661.7	10950	1324	44	36	8		0.0007407	111.8
Eu-155	105.3	1810	211	90	100	-10		-0.000926	137.8
Eu-152	1408.1	4.64E+03	2816	10	5	5		0.0004938	71.8
	344.3	4.64E+03	689	69	70	-1		-9.26E-05	1179.0
Eu-154	723.3	3.11E+03	1447	35	44	-9		-0.000864	95.4
	1004.8	3.11E+03	2009	19	20	-1		-7.72E-05	747.8
	1274.5	3.11E+03	2549	14	11	4		0.0003241	141.4
Ru-106	621.8	368.2	1244	41	36	5		0.0004475	181.7
	1050.1	368.2	2100	20	15	5		0.0004475	122.7

Client	Bechtel
Client ID	B0HXX4
Filename	397111.CHN
LAL parent ID	39711DUP1
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 8:58
Collection Date	8/29/96
delta T to midpoint of count	-16.6
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	WBKG cnts/sec	1 sig % err	NET Sample cnts/sec	NET 1 sig % err	Efficiency	1 sigma % Eff err	Branch
Ra-226	186.1	0.013194	5.1	0.00014	1610.68	0.054078	5	0.035
U-235	185.7	0.013194	5.1	0.00014	1610.68	0.054153	5	0.575
	143.8	0.00155	38.0	0.00123	159.32	0.062013	5	0.109
	163.3	0.000867	65.0	0.00163	116.44	0.058391	5	0.05
Pb-214(Ra-226)	351.9	0.00245	18.0	0.00051	291.95	0.031812	5	0.358
	295.1	0.001219	40.6	-0.00062	274.22	0.037446	5	0.185
Fe-59	1099.2	-4.2E-05	525.4	0.00074	75.00	0.011437	5	0.565
	1291.6	0.000258	82.2	0.00003	2034.75	0.00998	5	0.432
Co-58	810.8	-9.7E-05	282.6	0.00128	48.04	0.014814	5	0.9945
Ac-228(Ra-228)	911.2	0.000952	32.4	0.00205	50.62	0.013404	5	0.266
	969	0.000983	25.3	-0.00015	631.96	0.012722	5	0.1617
Pb-212	238.6	0.006608	8.6	-0.00022	909.08	0.045029	5	0.4365
	300.1	1.67E-05	2662.7	-0.00113	53.54	0.036878	5	0.03344
Co-60	1332.5	-0.0001	191.5	-0.00153	35.60	0.009719	5	0.999
	1173.3	0.0002	115.5	0.00096	89.36	0.010825	5	0.999
Cs-137	661.7	-0.00011	320.6	0.00074	111.80	0.017701	5	0.8521
Eu-155	105.3	0.000558	98.5	-0.00148	48.94	0.068383	5	0.218
Eu-152	1408.1	0.000119	150.8	0.00037	142.84	0.009271	5	0.212
	344.3	-0.00058	76.7	-0.00009	1178.98	0.03247	5	0.27
Eu-154	723.3	-0.00013	234.7	-0.00086	95.43	0.016361	5	0.197
	1004.8	-0.00029	77.8	-0.00008	747.80	0.012337	5	0.176
	1274.5	0.000428	46.5	-0.00010	633.68	0.010094	5	0.355
Ru-106	621.8	-5.8E-05	558.1	0.00045	181.75	0.018715	5	0.0981
	1050.1	0.000175	129.7	0.00027	284.77	0.011886	5	0.0146

0239

Client	Bechtel
Client ID	B0HXX4
Filename	397111.CHN
LAL parent ID	39711DUP1
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 8:58
Collection Date	8/29/96
delta T to midpoint of count	-16.6
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	Bq	pCi/L	MDA pCi/L	Decay factor	Corrected pCi/L	error 1 sigma	Corrected MDA pCi/L
Ra-226	186.1	0.07338	19.81259	931.12	0.99998	19.81	319.11	931.10
U-235	185.7	0.00446	1.204317	56.60	1	1.204	19.40	56.60
	143.8	0.181639	49.04244	191.00	1	49.042	78.17	191.00
	163.3	0.559443	151.0496	422.10	1	151.050	176.04	422.10
Pb-214(Ra-226)	351.9	0.045042	12.16135	94.62	0.99998	12.161	35.51	94.62
	295.1	-0.089151	-24.07064	172.19	0.99998	-24.070	66.02	172.19
Fe-59	1099.2	0.11463	30.95015	76.71	0.775248	23.994	18.04	59.47
	1291.6	0.008089	2.184141	122.29	0.775248	1.693	34.45	94.81
Co-58	810.8	0.086944	23.47475	34.25	0.850263	19.960	9.64	29.12
Ac-228(Ra-228)	911.2	0.57374	154.9099	181.73	0.994548	154.065	78.37	180.74
	969	-0.072918	-19.68777	365.44	0.994548	-19.580	123.74	363.45
Pb-212	238.6	-0.011165	-3.014468	77.17	1	-3.014	27.40	77.17
	300.1	-0.914508	-246.9171	844.64	1	-246.917	132.77	844.64
Co-60	1332.5	-0.157354	-42.48556	66.15	0.99405	-42.2328	15.18	65.75
	1173.3	0.088532	23.90373	52.70	0.99405	23.7615	21.27	52.39
Cs-137	661.7	0.04911	13.25982	50.00	0.998952	13.2459	14.82	49.94
Eu-155	105.3	-0.099564	-26.88227	84.84	0.993677	-26.712	13.142	84.305
Eu-152	1408.1	0.190483	51.43048	178.83	0.997528	51.30	73.32	178.38
	344.3	-0.010561	-2.851595	113.63	0.997528	-2.84	33.54	113.35
Eu-154	723.3	-0.26812	-72.39238	257.40	0.996309	-72.13	68.92	256.45
	1004.8	-0.035535	-9.59458	249.88	0.996309	-9.56	71.48	248.96
	1274.5	-0.028942	-7.814206	145.06	0.996309	-7.79	49.34	144.52
Ru-106	621.8	2.44E-01	6.58E+01	4.14E+02	0.969299	63.7946	115.99	401.64
	1050.1	1.57E+00	4.24E+02	3.16E+03	0.969299	410.9909	1170.56	3060.00

0240

397111.XLS

Client	Bechtel
Client ID	B0HXX4
Filename	397111.CHN
LAL parent ID	39711DUP1
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 8:58
Collection Date	8/29/96
delta T to midpoint of count ,	-16.6
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	Counting Error pCi/L	FINAL RESULT pCi/L	Total Error 2 sigma	MDA pCi/L
Ra-226	186.1	638.22	19.81	638.23	931.10
U-235	185.7	38.80	1.20	38.80	56.60
	143.8	123.80	65.84	142.89	191.00
	163.3				422.10
Pb-214(Ra-226)	351.9	16.11	4.03	62.55	94.62
	295.1				172.19
Fe-59	1099.2	28.78	19.20	31.96	59.47
	1291.6				94.81
Co-58	810.8	19.18	19.96	19.28	29.12
Ac-228(Ra-228)	911.2	105.31	104.36	132.41	180.74
	969				363.45
Pb-212	238.6	3.22	-3.01	54.81	77.17
	300.1		-246.92	265.54	844.64
Co-60	1332.5	13.20	-19.95	24.71	65.75
	1173.3				52.39
Cs-137	661.7	29.62	13.25	29.65	49.94
Eu-155	105.3	26.15	-26.71	26.28	84.31
Eu-152	1408.1	18.50	6.52	61.00	178.38
	344.3				113.35
Eu-154	723.3	46.41	-24.79	69.97	256.45
	1004.8				248.96
	1274.5				144.52
Ru-106	621.8	205.82	67.170	230.847	401.64
	1050.1				3060.00

Duplicate Results

Ac-228 RER = 0.55

Cs-137 RER = 0.90

Pb-214 RER = 0.10

LS 8/13/96

0241

Client	Bechtel_Hanford	
Client ID	BOHXX4	
Filename	397114.CHN	
LAL parent ID	L7561-43	
Batch	6339711	
Live Time	10800	
Detector	1	LAS Detector 1, GMX-30200-P, Ser. No. 30-TN10223A
Geometry	I	
Aliquot (gms/L)	0.1	
Count date	8/12/96 20:59	
Collection Date	7/29/96	
delta T to midpoint of count	14.9	days
Efficiency data file	I194	
Background, Library files	WBKG1222	whc V96119

Nuclide	keV	halflife (days)	chnl	GROSS	BKG	NET	Hand Calc NET	Sample cnts/sec	1 sig % err
Ra-226	186.1	5.84E+05	372	249	88	161		0.0148765	11.4
U-235	185.7	2.57E+11	372	249	88	161		0.0148765	11.4
	143.8	2.57E+11	288	136	114	22		0.002037	71.9
	163.3	2.57E+11	327	102	103	-1		-9.26E-05	1431.8
Pb-214(Ra-226)	351.9	5.84E+05	704	73	42	31		0.0028704	34.6
	295.1	5.84E+05	591	80	74	7		0.0006019	190.6
Fe-59	1099.2	4.51E+01	2198	4	15	-11		-0.001034	39.2
	1291.6	4.51E+01	2583	11	13	-2		-0.00017	266.3
Co-58	810.8	7.08E+01	1622	24	26	-2		-0.000154	422.8
Ac-228(Ra-228)	911.2	2.10E+03	1822	36	27	9		0.0008333	88.2
	969	2.10E+03	1938	23	18	5		0.000463	128.1
Pb-212	238.6	5.11E+12	478	138	89	50		0.0045833	30.4
	300.1	5.11E+12	600	62	72	-10		-0.000926	115.8
Co-60	1332.5	1924	2665	15	8	8		0.0006944	63.2
	1173.3	1924	2347	16	21	-5		-0.000463	121.7
Cs-137	661.7	10950	1324	32	44	-12		-0.001111	72.6
Eu-155	105.3	1810	211	106	94	12		0.0010957	119.6
Eu-152	1408.1	4.64E+03	2816	5	5	0		3.086E-05	932.7
	344.3	4.64E+03	689	66	53	14		0.00125	80.6
Eu-154	723.3	3.11E+03	1447	19	30	-11		-0.001049	62.0
	1004.8	3.11E+03	2009	15	25	-10		-0.00088	66.2
	1274.5	3.11E+03	2549	15	18	-3		-0.000231	228.0
Ru-106	621.8	368.2	1244	36	37	-1		-0.000123	642.3
	1050.1	368.2	2100	20	19	1		0.0001235	466.4

0250

Client	Bechtel_Hanford
Client ID	BOHXX4
Filename	397114.CHN
LAL parent ID	L7561-43
Batch	6339711
Live Time	10800
Detector	1
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 20:59
Collection Date	7/29/96
delta T to midpoint of count	14.9
Efficiency data file	I194
Background, Library files	WBKG1222

Nuclide	keV	WBKG cnts/sec	1 sig % err	NET Sample cnts/sec	NET 1 sig % err	Efficiency	1 sigma % Eff err	Branch
Ra-226	186.1	0.012953	5.3	0.00192	123.79	0.05376	5	0.035
U-235	185.7	0.012953	5.3	0.00192	123.79	0.053839	5	0.575
	143.8	0.0019	31.5	0.00014	1505.50	0.062197	5	0.109
	163.3	0.00005	1136.8	-0.00014	531.12	0.058317	5	0.05
Pb-214(Ra-226)	351.9	0.002017	22.3	0.00085	168.88	0.031359	5	0.358
	295.1	0.000522	90.1	0.00008	2031.40	0.036899	5	0.185
Fe-59	1099.2	-0.00021	110.4	-0.00103	39.21	0.011408	5	0.565
	1291.6	0.000158	119.3	-0.00033	80.19	0.009941	5	0.432
Co-58	810.8	-0.00038	68.0	-0.00015	422.85	0.014764	5	0.9945
Ac-228(Ra-228)	911.2	0.00119	26.3	-0.00036	294.15	0.013369	5	0.266
	969	0.000967	28.5	-0.00050	172.48	0.012691	5	0.1617
Pb-212	238.6	0.004633	12.3	-0.00005	3931.09	0.044469	5	0.4365
	300.1	-0.00018	246.8	-0.00093	115.76	0.036338	5	0.03344
Co-60	1332.5	-0.00038	56.5	0.00069	63.25	0.009677	5	0.999
	1173.3	0.000433	51.0	-0.00090	38.17	0.010793	5	0.999
Cs-137	661.7	0.000517	63.8	-0.00163	29.34	0.017602	5	0.8521
Eu-155	105.3	-0.00075	70.8	0.00110	119.56	0.068632	5	0.218
Eu-152	1408.1	2.78E-06	6676.8	0.00003	1685.33	0.009222	5	0.212
	344.3	-0.0003	146.2	0.00125	80.64	0.032004	5	0.27
Eu-154	723.3	-0.00018	156.7	-0.00105	61.97	0.016288	5	0.197
	1004.8	-0.00047	51.7	-0.00088	66.16	0.012308	5	0.176
	1274.5	0.000164	113.3	-0.00040	86.54	0.010056	5	0.355
Ru-106	621.8	0.000294	109.2	-0.00042	112.78	0.018594	5	0.0981
	1050.1	-2.8E-05	826.3	0.00012	466.37	0.011858	5	0.0146

Client	Bechtel_Hanford
Client ID	BOHXX4
Filename	397114.CHN
LAL parent ID	L7561-43
Batch	6339711
Live Time	10800
Detector	1
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 20:59
Collection Date	7/29/96
delta T to midpoint of count	14.9
Efficiency data file	I194
Background, Library files	WBKG1222

Nuclide	keV	Bq	pCi/L	MDA pCi/L	Decay factor	Corrected pCi/L	error 1 sigma	Corrected MDA pCi/L
Ra-226	186.1	1.022402	276.0485	969.35	1.000018	276.05	342.01	969.37
U-235	185.7	0.062143	16.77852	58.92	1	16.779	20.79	58.92
	143.8	0.020214	5.457657	208.87	1	5.458	82.17	208.87
	163.3	-0.048903	-13.20381	428.92	1	-13.204	70.13	428.92
Pb-214(Ra-226)	351.9	0.076043	20.53158	88.73	1.000018	20.532	34.69	88.73
	295.1	0.011665	3.149558	161.42	1.000018	3.150	63.98	161.42
Fe-59	1099.2	-0.160417	-43.31268	75.33	1.258065	-54.490	21.54	94.77
	1291.6	-0.076397	-20.62728	119.01	1.258065	-25.950	20.85	149.72
Co-58	810.8	-0.01051	-2.837715	41.37	1.157522	-3.285	13.89	47.89
Ac-228(Ra-228)	911.2	-0.100179	-27.04825	225.41	1.004943	-27.182	79.97	226.52
	969	-0.245452	-66.272	335.11	1.004943	-66.600	114.92	336.77
Pb-212	238.6	-0.002576	-0.695485	73.98	1	-0.695	27.34	73.98
	300.1	-0.761986	-205.7363	856.28	1	-205.736	238.38	856.28
Co-60	1332.5	0.071837	19.3959	29.05	1.005396	19.5006	12.37	29.21
	1173.3	-0.083127	-22.44426	60.92	1.005396	-22.5654	8.69	61.25
Cs-137	661.7	-0.108529	-29.30275	59.09	1.000946	-29.3305	8.73	59.15
Eu-155	105.3	0.073232	19.77269	76.61	1.005737	19.886	23.797	77.050
Eu-152	1408.1	0.014365	3.878645	163.51	1.002234	3.89	65.51	163.87
	344.3	0.144656	39.05721	102.29	1.002234	39.14	31.62	102.52
Eu-154	723.3	-0.327038	-88.30018	214.03	1.00334	-88.60	55.08	214.74
	1004.8	-0.406073	-109.6398	267.65	1.00334	-110.01	72.98	268.54
	1274.5	-0.110756	-29.90402	161.93	1.00334	-30.00	26.01	162.47
Ru-106	621.8	-2.29E-01	-6.19E+01	4.43E+02	1.028519	-63.6234	71.83	455.43
	1050.1	7.13E-01	1.93E+02	3.27E+03	1.028519	198.0354	923.63	3362.37

0252

Client	Bechtel_Hanford
Client ID	BOHXX4
Filename	397114.CHN
LAL parent ID	L7561-43
Batch	6339711
Live Time	10800
Detector	1
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 20:59
Collection Date	7/29/96
delta T to midpoint of count'	14.9
Efficiency data file	I194
Background, Library files	WBKG1222

Nuclide	keV	Counting Error pCi/L	FINAL RESULT pCi/L	Total Error 2 sigma	MDA pCi/L
Ra-226	186.1	683.46	276.05	684.02	969.37
U-235	185.7	41.54	16.78	41.57	58.92
	143.8	53.48	-5.34	106.69	208.87
	163.3				428.92
Pb-214(Ra-226)	351.9	55.82	16.58	60.99	88.73
	295.1				161.42
Fe-59	1099.2	28.01	-39.76	29.96	94.77
	1291.6				149.72
Co-58	810.8	27.78	-3.28	27.78	47.89
Ac-228(Ra-228)	911.2	119.15	-40.04	131.28	226.52
	969				336.77
Pb-212	238.6	1.61	-0.70	54.68	73.98
	300.1		-205.74	476.76	856.28
Co-60	1332.5	5.67	-8.67	14.22	29.21
	1173.3				61.25
Cs-137	661.7	17.21	-29.33	17.46	59.15
Eu-155	105.3	47.55	19.89	47.59	77.05
Eu-152	1408.1	52.32	32.48	56.96	163.87
	344.3				102.52
Eu-154	723.3	37.84	-47.21	44.77	214.74
	1004.8				268.54
	1274.5				162.47
Ru-106	621.8	136.04	-62.051	143.220	455.43
	1050.1				3362.37

LS 8/13/96

0253

397115.XLS

Client	Bechtel	
Client ID	B0HXX5	
Filename	397115.CHN	
LAL parent ID	L7561-46	
Batch	6339711	
Live Time	10800	
Detector	2	LAS Detector 2, GMX-30200-P, Ser. No. 30-TN10348
Geometry	I	
Aliquot (gms/L)	0.1	
Count date	8/12/96 21:00	
Collection Date	7/29/96	
delta T to midpoint of count	14.9	days
Efficiency data file	I294	
Background, Library files	WBKG2222	whc

V96119

Nuclide	keV	halflife (days)	chnl	GROSS	BKG	NET	Hand Calc NET	Sample cnts/sec	1 sig % err
Ra-226	186.1	5.84E+05	372	219	79	140		0.0129475	12.3
U-235	185.7	2.57E+11	372	219	79	140		0.0129475	12.3
	143.8	2.57E+11	288	139	95	44		0.0040741	34.8
	163.3	2.57E+11	327	109	93	16		0.0014815	88.8
Pb-214(Ra-226)	351.9	5.84E+05	704	67	44	23		0.0021296	45.8
	295.1	5.84E+05	591	91	69	22		0.0020525	57.0
Fe-59	1099.2	4.51E+01	2198	12	18	-6		-0.000509	98.8
	1291.6	4.51E+01	2583	13	8	5		0.0004475	95.2
Co-58	810.8	7.08E+01	1622	23	25	-2		-0.000139	459.5
Ac-228(Ra-228)	911.2	2.10E+03	1822	43	20	23		0.0021065	35.0
	969	2.10E+03	1938	20	24	-4		-0.00037	165.8
Pb-212	238.6	5.11E+12	478	155	65	91		0.0083796	16.4
	300.1	5.11E+12	600	56	56	0		0	0.0
Co-60	1332.5	1924	2665	18	11	8		0.0006944	71.2
	1173.3	1924	2347	14	24	-10		-0.000926	61.6
Cs-137	661.7	10950	1324	40	43	-3		-0.000247	341.0
Eu-155	105.3	1810	211	104	91	13		0.0012191	106.0
Eu-152	1408.1	4.64E+03	2816	7	4	4		0.0003241	92.6
	344.3	4.64E+03	689	64	58	6		0.0005247	195.2
Eu-154	723.3	3.11E+03	1447	30	33	-3		-0.000247	296.9
	1004.8	3.11E+03	2009	14	23	-9		-0.000864	65.5
	1274.5	3.11E+03	2549	13	8	5		0.0004475	95.2
Ru-106	621.8	368.2	1244	36	37	-1		-0.000123	642.3
	1050.1	368.2	2100	20	15	5		0.0004475	122.7

0254

Client	Bechtel
Client ID	B0HXX5
Filename	397115.CHN
LAL parent ID	L7561-46
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 21:00
Collection Date	7/29/96
delta T to midpoint of count	14.9
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	WBKG cnts/sec	1 sig % err	NET Sample cnts/sec	NET 1 sig % err	Efficiency	1 sigma % Eff err	Branch
Ra-226	186.1	0.013194	5.1	-0.00025	921.58	0.054078	5	0.035
U-235	185.7	0.013194	5.1	-0.00025	921.58	0.054153	5	0.575
	143.8	0.00155	38.0	0.00252	79.45	0.062013	5	0.109
	163.3	0.000867	65.0	0.00061	305.66	0.058391	5	0.05
Pb-214(Ra-226)	351.9	0.00245	18.0	-0.00032	442.43	0.031812	5	0.358
	295.1	0.001219	40.6	0.00083	199.97	0.037446	5	0.185
Fe-59	1099.2	-4.2E-05	525.4	-0.00051	98.75	0.011437	5	0.565
	1291.6	0.000258	82.2	0.00019	337.45	0.00998	5	0.432
Co-58	810.8	-9.7E-05	282.6	-0.00014	459.47	0.014814	5	0.9945
Ac-228(Ra-228)	911.2	0.000952	32.4	0.00115	90.52	0.013404	5	0.266
	969	0.000983	25.3	-0.00135	26.99	0.012722	5	0.1617
Pb-212	238.6	0.006608	8.6	0.00177	109.60	0.045029	5	0.4365
	300.1	1.67E-05	2662.7	-0.00002	2662.71	0.036878	5	0.03344
Co-60	1332.5	-0.0001	191.5	0.00069	71.18	0.009719	5	0.999
	1173.3	0.0002	115.5	-0.00113	30.18	0.010825	5	0.999
Cs-137	661.7	-0.00011	320.6	-0.00025	340.95	0.017701	5	0.8521
Eu-155	105.3	0.000558	98.5	0.00066	278.80	0.068383	5	0.218
Eu-152	1408.1	0.000119	150.8	0.00020	234.66	0.009271	5	0.212
	344.3	-0.00058	76.7	0.00052	195.18	0.03247	5	0.27
Eu-154	723.3	-0.00013	234.7	-0.00025	296.86	0.016361	5	0.197
	1004.8	-0.00029	77.8	-0.00086	65.47	0.012337	5	0.176
	1274.5	0.000428	46.5	0.00002	3163.21	0.010094	5	0.355
Ru-106	621.8	-5.8E-05	558.1	-0.00012	642.26	0.018715	5	0.0981
	1050.1	0.000175	129.7	0.00027	284.77	0.011886	5	0.0146

Client	Bechtel
Client ID	B0HXX5
Filename	397115.CHN
LAL parent ID	L7561-46
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 21:00
Collection Date	7/29/96
delta T to midpoint of count,	14.9
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	Bq	pCi/L	MDA pCi/L	Decay factor	Corrected pCi/L	error 1 sigma	Corrected MDA pCi/L
Ra-226	186.1	-0.130453	-35.22238	950.23	1.000018	-35.22	324.61	950.25
U-235	185.7	-0.00793	-2.141009	57.76	1	-2.141	19.73	57.76
	143.8	0.373414	100.8218	191.82	1	100.822	80.26	191.82
	163.3	0.210584	56.85766	426.05	1	56.858	173.81	426.05
Pb-214(Ra-226)	351.9	-0.028131	-7.595357	91.63	1.000018	-7.595	33.61	91.63
	295.1	0.120249	32.4671	161.74	1.000018	32.468	64.95	161.74
Fe-59	1099.2	-0.078808	-21.27823	84.77	1.258072	-26.770	26.47	106.64
	1291.6	0.043883	11.84848	104.97	1.258072	14.906	50.31	132.05
Co-58	810.8	-0.009428	-2.545454	42.81	1.157527	-2.946	13.54	49.55
Ac-228(Ra-228)	911.2	0.32378	87.42057	199.17	1.004943	87.853	79.65	200.15
	969	-0.658059	-177.676	365.44	1.004943	-178.554	49.00	367.25
Pb-212	238.6	0.090118	24.33197	72.39	1	24.332	26.69	72.39
	300.1	-0.013515	-3.649021	761.50	1	-3.649	97.16	761.50
Co-60	1332.5	0.071525	19.31162	43.73	1.005396	19.4158	13.85	43.96
	1173.3	-0.104115	-28.11116	61.25	1.005396	-28.2628	8.65	61.58
Cs-137	661.7	-0.01637	-4.419939	54.16	1.000946	-4.4241	15.09	54.21
Eu-155	105.3	0.044327	11.96817	81.29	1.005737	12.037	33.564	81.759
Eu-152	1408.1	0.104114	28.11081	163.92	1.002234	28.17	66.13	164.29
	344.3	0.059848	16.15904	103.46	1.002234	16.20	31.62	103.69
Eu-154	723.3	-0.076606	-20.68354	222.76	1.00334	-20.75	61.61	223.50
	1004.8	-0.397997	-107.4593	271.72	1.00334	-107.82	70.79	272.63
	1274.5	0.005513	1.48842	134.92	1.00334	1.49	47.24	135.37
Ru-106	621.8	-6.72E-02	-1.82E+01	4.21E+02	1.02852	-18.6737	119.94	432.50
	1050.1	1.57E+00	4.24E+02	3.16E+03	1.02852	436.1010	1242.07	3246.96

0259

397115.XLS

Client	Bechtel
Client ID	B0HXX5
Filename	397115.CHN
LAL parent ID	L7561-46
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 21:00
Collection Date	7/29/96
delta T to midpoint of count,	14.9
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	Counting Error pCi/L	FINAL RESULT pCi/L	Total Error 2 sigma	MDA pCi/L
Ra-226	186.1	649.22	-35.22	649.23	950.25
U-235	185.7	39.46	-2.14	39.46	57.76
	143.8	143.17	93.09	145.74	191.82
	163.3				426.05
Pb-214(Ra-226)	351.9	3.16	0.87	59.70	91.63
	295.1				161.74
Fe-59	1099.2	33.61	-17.73	46.85	106.64
	1291.6				132.05
Co-58	810.8	27.08	-2.95	27.08	49.55
Ac-228(Ra-228)	911.2	54.52	-105.40	83.47	200.15
	969				367.25
Pb-212	238.6	53.29	24.33	53.39	72.39
	300.1		-3.65	194.33	761.50
Co-60	1332.5	8.28	-14.90	14.67	43.96
	1173.3				61.58
Cs-137	661.7	30.17	-4.42	30.17	54.21
Eu-155	105.3	67.12	12.04	67.13	81.76
Eu-152	1408.1	55.30	18.42	57.05	164.29
	344.3				103.69
Eu-154	723.3	36.92	-28.88	66.26	223.50
	1004.8				272.63
	1274.5				135.37
Ru-106	621.8	75.35	-14.472	238.765	432.50
	1050.1				3246.96

LS 8/13/96

0257

397116.XLS

Client	Bechtel_Hanford	
Client ID	BOHXX6	
Filename	397116.CHN	
LAL parent ID	L7561-49	
Batch	6339711	
Live Time	10800	
Detector	1	LAS Detector 1, GMX-30200-P, Ser. No. 30-TN10223A
Geometry	I	
Aliquot (gms/L)	0.1	
Count date	8/12/96 16:38	
Collection Date	7/29/96	
delta T to midpoint of count,	14.8	days
Efficiency data file	I194	
Background, Library files	WBKG1222	whc

V96119

Nuclide	keV	halflife (days)	chnl	GROSS	BKG	NET	Hand Calc NET	Sample cnts/sec	1 sig % err
Ra-226	186.1	5.84E+05	372	204	73	132		0.0121759	12.6
U-235	185.7	2.57E+11	372	204	73	132		0.0121759	12.6
	143.8	2.57E+11	288	120	105	15		0.0013889	100.0
	163.3	2.57E+11	327	109	99	10		0.0009259	144.2
Pb-214(Ra-226)	351.9	5.84E+05	704	72	52	20		0.0018519	55.7
	295.1	5.84E+05	591	91	72	19		0.0017284	68.5
Fe-59	1099.2	4.51E+01	2198	12	18	-6		-0.000509	98.8
	1291.6	4.51E+01	2583	11	13	-2		-0.00017	266.3
Co-58	810.8	7.08E+01	1622	19	20	-1		-7.72E-05	747.8
Ac-228(Ra-228)	911.2	2.10E+03	1822	50	26	24		0.0022338	36.1
	969	2.10E+03	1938	27	22	5		0.000463	140.0
Pb-212	238.6	5.11E+12	478	152	90	62		0.0057407	25.1
	300.1	5.11E+12	600	67	72	-5		-0.000463	235.8
Co-60	1332.5	1924	2665	17	15	2		0.0001852	282.8
	1173.3	1924	2347	28	21	7		0.0006481	100.0
Cs-137	661.7	10950	1324	25	25	0		-3.09E-05	2128.4
Eu-155	105.3	1810	211	116	108	9		0.000787	175.9
Eu-152	1408.1	4.64E+03	2816	13	12	1		0.0001235	372.5
	344.3	4.64E+03	689	66	74	-8		-0.000694	157.5
Eu-154	723.3	3.11E+03	1447	26	44	-18		-0.001698	45.7
	1004.8	3.11E+03	2009	19	27	-8		-0.000725	86.4
	1274.5	3.11E+03	2549	13	15	-2		-0.000201	244.9
Ru-106	621.8	368.2	1244	43	29	14		0.0012809	61.4
	1050.1	368.2	2100	17	19	-2		-0.000154	358.3

0258

Client	Bechtel_Hanford
Client ID	BOHXX6
Filename	397116.CHN
LAL parent ID	L7561-49
Batch	6339711
Live Time	10800
Detector	1
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 16:38
Collection Date	7/29/96
delta T to midpoint of count,	14.8
Efficiency data file	I194
Background, Library files	WBKG1222

Nuclide	keV	WBKG cnts/sec	1 sig % err	NET Sample cnts/sec	NET 1 sig % err	Efficiency	1 sigma % Eff err	Branch
Ra-226	186.1	0.012953	5.3	-0.00426	52.13	0.05376	5	0.035
U-235	185.7	0.012953	5.3	-0.00078	285.83	0.053839	5	0.575
	143.8	0.0019	31.5	-0.00051	388.95	0.062197	5	0.109
	163.3	0.00005	1136.8	0.00088	217.34	0.058317	5	0.05
Pb-214(Ra-226)	351.9	0.002017	22.3	-0.00016	897.88	0.031359	5	0.358
	295.1	0.000522	90.1	0.00121	137.11	0.036899	5	0.185
Fe-59	1099.2	-0.00021	110.4	-0.00051	98.75	0.011408	5	0.565
	1291.6	0.000158	119.3	-0.00033	80.19	0.009941	5	0.432
Co-58	810.8	-0.00038	68.0	-0.00008	747.80	0.014764	5	0.9945
Ac-228(Ra-228)	911.2	0.00119	26.3	0.00104	107.21	0.013369	5	0.266
	969	0.000967	28.5	-0.00050	183.45	0.012691	5	0.1617
Pb-212	238.6	0.004633	12.3	0.00111	181.73	0.044469	5	0.4365
	300.1	-0.00018	246.8	-0.00046	235.80	0.036338	5	0.03344
Co-60	1332.5	-0.00038	56.5	0.00019	282.84	0.009677	5	0.999
	1173.3	0.000433	51.0	0.00021	404.65	0.010793	5	0.999
Cs-137	661.7	0.000517	63.8	-0.00055	59.79	0.017602	5	0.8521
Eu-155	105.3	-0.00075	70.8	0.00079	175.88	0.068632	5	0.218
Eu-152	1408.1	2.78E-06	6676.8	0.00012	534.75	0.009222	5	0.212
	344.3	-0.0003	146.2	-0.00069	157.48	0.032004	5	0.27
Eu-154	723.3	-0.00018	156.7	-0.00170	45.74	0.016288	5	0.197
	1004.8	-0.00047	51.7	-0.00073	86.43	0.012308	5	0.176
	1274.5	0.000164	113.3	-0.00036	83.87	0.010056	5	0.355
Ru-106	621.8	0.000294	109.2	0.00099	112.34	0.018594	5	0.0981
	1050.1	-2.8E-05	826.3	-0.00015	358.33	0.011858	5	0.0146

Client	Bechtel_Hanford
Client ID	BOHXX6
Filename	397116.CHN
LAL parent ID	L7561-49
Batch	6339711
Live Time	10800
Detector	1
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 16:38
Collection Date	7/29/96
delta T to midpoint of count	14.8
Efficiency data file	I194
Background, Library files	WBKG1222

Nuclide	keV	Bq	pCi/L	MDA pCi/L	Decay factor	Corrected pCi/L	error 1 sigma	Corrected MDA pCi/L
Ra-226	186.1	-2.263878	-611.247	936.39	1.000018	-611.26	320.10	936.41
U-235	185.7	-0.025094	-6.775474	56.92	1	-6.775	19.37	56.92
	143.8	-0.075391	-20.35559	202.11	1	-20.356	79.18	202.11
	163.3	0.300404	81.10912	421.00	1	81.109	176.33	421.00
Pb-214(Ra-226)	351.9	-0.014681	-3.963798	94.98	1.000018	-3.964	35.59	94.98
	295.1	0.176694	47.70726	160.30	1.000018	47.708	65.46	160.30
Fe-59	1099.2	-0.079012	-21.33311	80.94	1.254568	-26.764	26.46	101.55
	1291.6	-0.076397	-20.62728	119.01	1.254568	-25.878	20.79	149.30
Co-58	810.8	-0.005255	-1.418858	36.01	1.155471	-1.639	12.26	41.61
Ac-228(Ra-228)	911.2	0.293636	79.28177	222.47	1.004882	79.669	85.51	223.56
	969	-0.245452	-66.272	355.66	1.004882	-66.596	122.21	357.40
Pb-212	238.6	0.057051	15.40371	74.36	1	15.404	28.00	74.36
	300.1	-0.380993	-102.8681	856.28	1	-102.868	242.61	856.28
Co-60	1332.5	0.019156	5.172241	46.64	1.00533	5.1998	14.71	46.89
	1173.3	0.019923	5.379204	60.92	1.00533	5.4079	21.88	61.24
Cs-137	661.7	-0.036505	-9.856481	47.61	1.000935	-9.8657	5.92	47.66
Eu-155	105.3	0.052603	14.20292	81.99	1.005667	14.283	25.132	82.458
Eu-152	1408.1	0.061724	16.66539	238.00	1.002207	16.70	89.32	238.53
	344.3	-0.080365	-21.69845	120.63	1.002207	-21.75	34.26	120.90
Eu-154	723.3	-0.529032	-142.8385	256.89	1.0033	-143.31	65.95	257.74
	1004.8	-0.334832	-90.40473	281.46	1.0033	-90.70	78.52	282.39
	1274.5	-0.10211	-27.5696	153.00	1.0033	-27.66	23.24	153.50
Ru-106	621.8	5.41E-01	1.46E+02	4.00E+02	1.028169	150.1263	168.82	410.87
	1050.1	-8.91E-01	-2.41E+02	3.27E+03	1.028169	-247.4599	886.81	3361.23

0260

397116.XLS

Client	Bechtel_Hanford
Client ID	BOHXX6
Filename	397116.CHN
LAL parent ID	L7561-49
Batch	6339711
Live Time	10800
Detector	1
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 16:38
Collection Date	7/29/96
delta T to midpoint of count,	14.8
Efficiency data file	I194
Background, Library files	WBKG1222

Nuclide	keV	Counting Error pCi/L	FINAL RESULT pCi/L	Total Error 2 sigma	MDA pCi/L
Ra-226	186.1	637.27	-611.26	640.20	936.41
U-235	185.7	38.73	-6.78	38.74	56.92
	143.8	12.64	-3.33	144.46	202.11
	163.3				421.00
Pb-214(Ra-226)	351.9	21.22	7.83	62.54	94.98
	295.1				160.30
Fe-59	1099.2	32.64	-26.22	32.70	101.55
	1291.6				149.30
Co-58	810.8	24.52	-1.64	24.52	41.61
Ac-228(Ra-228)	911.2	58.50	31.60	140.12	223.56
	969				357.40
Pb-212	238.6	44.34	15.40	56.01	74.36
	300.1		-102.87	485.23	856.28
Co-60	1332.5	24.41	5.26	24.42	46.89
	1173.3				61.24
Cs-137	661.7	11.80	-9.87	11.84	47.66
Eu-155	105.3	50.24	14.28	50.26	82.46
Eu-152	1408.1	50.80	-16.81	63.98	238.53
	344.3				120.90
Eu-154	723.3	32.10	-44.07	42.22	257.74
	1004.8				282.39
	1274.5				153.50
Ru-106	621.8	292.05	136.221	331.692	410.87
	1050.1				3361.23

CS 8/13/96

0261

397117.XLS

Client	Bechtel	
Client ID	B0HYM6	
Filename	397117.CHN	
LAL parent ID	L7561-52	
Batch	6339711	
Live Time	10800	
Detector	2	LAS Detector 2, GMX-30200-P, Ser. No. 30-TN10348
Geometry	I	
Aliquot (gms/L)	0.1	
Count date	8/12/96 16:39	
Collection Date	7/29/96	
delta T to midpoint of count'	14.8	days
Efficiency data file	I294	
Background, Library files	WBKG2222	whc

V96119

Nuclide	keV	halflife (days)	chnl	GROSS	BKG	NET	Hand Calc NET	Sample cnts/sec	1 sig % err
Ra-226	186.1	5.84E+05	372	216	73	144		0.013287	11.8
U-235	185.7	2.57E+11	372	216	73	144		0.013287	11.8
	143.8	2.57E+11	288	127	98	29		0.0026852	51.7
	163.3	2.57E+11	327	97	92	5		0.000463	275.0
Pb-214(Ra-226)	351.9	5.84E+05	704	75	45	30		0.0027778	36.5
	295.1	5.84E+05	591	84	51	33		0.0030247	35.6
Fe-59	1099.2	4.51E+01	2198	21	18	4		0.0003241	177.3
	1291.6	4.51E+01	2583	10	11	-1		-4.63E-05	905.5
Co-58	810.8	7.08E+01	1622	29	28	1		9.259E-05	755.0
Ac-228(Ra-228)	911.2	2.10E+03	1822	47	27	20		0.0018519	43.0
	969	2.10E+03	1938	27	22	5		0.000463	140.0
Pb-212	238.6	5.11E+12	478	157	75	82		0.0075926	18.6
	300.1	5.11E+12	600	72	54	18		0.0016667	62.4
Co-60	1332.5	1924	2665	10	17	-7		-0.000602	79.2
	1173.3	1924	2347	13	9	4		0.0003704	117.3
Cs-137	661.7	10950	1324	56	29	27		0.0024691	34.6
Eu-155	105.3	1810	211	100	101	-1		-7.72E-05	1700.6
Eu-152	1408.1	4.64E+03	2816	17	8	9		0.0008179	56.8
	344.3	4.64E+03	689	71	65	6		0.0005247	206.1
Eu-154	723.3	3.11E+03	1447	27	35	-8		-0.000741	98.4
	1004.8	3.11E+03	2009	13	22	-9		-0.000849	64.7
	1274.5	3.11E+03	2549	9	6	3		0.0002932	121.6
Ru-106	621.8	368.2	1244	43	34	9		0.0008488	95.6
	1050.1	368.2	2100	25	16	9		0.0008025	74.2

0262

Client	Bechtel
Client ID	B0HYM6
Filename	397117.CHN
LAL parent ID	L7561-52
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 16:39
Collection Date	7/29/96
delta T to midpoint of count,	14.8
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	WBKG cnts/sec	1 sig % err	NET Sample cnts/sec	NET 1 sig % err	Efficiency	1 sigma % Eff err	Branch
Ra-226	186.1	0.013194	5.1	-0.00037	609.14	0.054078	5	0.035
U-235	185.7	0.013194	5.1	0.00009	2429.32	0.054153	5	0.575
	143.8	0.00155	38.0	0.00114	174.24	0.062013	5	0.109
	163.3	0.000867	65.0	-0.00040	454.83	0.058391	5	0.05
Pb-214(Ra-226)	351.9	0.00245	18.0	0.00033	444.27	0.031812	5	0.358
	295.1	0.001219	40.6	0.00181	87.10	0.037446	5	0.185
Fe-59	1099.2	-4.2E-05	525.4	0.00032	177.28	0.011437	5	0.565
	1291.6	0.000258	82.2	-0.00030	67.88	0.00998	5	0.432
Co-58	810.8	-9.7E-05	282.6	0.00009	754.98	0.014814	5	0.9945
Ac-228(Ra-228)	911.2	0.000952	32.4	0.00090	122.82	0.013404	5	0.266
	969	0.000983	25.3	-0.00052	172.38	0.012722	5	0.1617
Pb-212	238.6	0.006608	8.6	0.00098	201.15	0.045029	5	0.4365
	300.1	1.67E-05	2662.7	0.00165	89.89	0.036878	5	0.03344
Co-60	1332.5	-0.0001	191.5	-0.00060	79.20	0.009719	5	0.999
	1173.3	0.0002	115.5	0.00017	390.47	0.010825	5	0.999
Cs-137	661.7	-0.00011	320.6	0.00247	34.64	0.017701	5	0.8521
Eu-155	105.3	0.000558	98.5	-0.00064	119.96	0.068383	5	0.218
Eu-152	1408.1	0.000119	150.8	0.00070	92.30	0.009271	5	0.212
	344.3	-0.00058	76.7	0.00052	206.05	0.03247	5	0.27
Eu-154	723.3	-0.00013	234.7	-0.00074	98.43	0.016361	5	0.197
	1004.8	-0.00029	77.8	-0.00085	64.69	0.012337	5	0.176
	1274.5	0.000428	46.5	-0.00013	412.77	0.010094	5	0.355
Ru-106	621.8	-5.8E-05	558.1	0.00085	95.62	0.018715	5	0.0981
	1050.1	0.000175	129.7	0.00063	131.05	0.011886	5	0.0146

0263

Client	Bechtel
Client ID	B0HYM6
Filename	397117.CHN
LAL parent ID	L7561-52
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 16:39
Collection Date	7/29/96
delta T to midpoint of count'	14.8
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	Bq	pCi/L	MDA pCi/L	Decay factor	Corrected pCi/L	error 1 sigma	Corrected MDA pCi/L
Ra-226	186.1	-0.195098	-52.67639	936.37	1.000018	-52.68	320.89	936.39
U-235	185.7	0.002974	0.802878	56.92	1	0.803	19.50	56.92
	143.8	0.16794	45.34392	194.24	1	45.344	79.04	194.24
	163.3	-0.138275	-37.33424	424.08	1	-37.334	169.82	424.08
Pb-214(Ra-226)	351.9	0.028781	7.770973	92.24	1.000018	7.771	34.53	92.24
	295.1	0.26059	70.35942	144.55	1.000018	70.361	61.38	144.56
Fe-59	1099.2	0.050151	13.54069	84.77	1.254575	16.988	30.13	106.35
	1291.6	-0.070657	-19.07741	114.01	1.254575	-23.934	16.29	143.04
Co-58	810.8	0.006285	1.69697	45.56	1.155475	1.961	14.80	52.65
Ac-228(Ra-228)	911.2	0.252363	68.13791	218.09	1.004883	68.471	84.17	219.15
	969	-0.252961	-68.29953	355.69	1.004883	-68.633	118.36	357.43
Pb-212	238.6	0.050076	13.52059	75.00	1	13.521	27.20	75.00
	300.1	1.337974	361.2531	748.81	1	361.253	325.22	748.81
Co-60	1332.5	-0.061988	-16.73674	53.99	1.00533	-16.8260	13.35	54.28
	1173.3	0.015754	4.253662	42.18	1.00533	4.2763	16.70	42.40
Cs-137	661.7	0.163701	44.19939	45.42	1.000935	44.2407	15.48	45.46
Eu-155	105.3	-0.042629	-11.50979	85.16	1.005667	-11.575	13.897	85.639
Eu-152	1408.1	0.35537	95.94986	216.36	1.002207	96.16	88.88	216.84
	344.3	0.059848	16.15904	109.69	1.002207	16.19	33.38	109.93
Eu-154	723.3	-0.229817	-62.05061	230.15	1.0033	-62.26	61.35	230.90
	1004.8	-0.39089	-105.5404	264.67	1.0033	-105.89	68.71	265.54
	1274.5	-0.037555	-10.13986	123.80	1.0033	-10.17	42.00	124.21
Ru-106	621.8	4.62E-01	1.25E+02	4.02E+02	1.028169	128.3380	122.89	413.08
	1050.1	3.62E+00	9.76E+02	3.25E+03	1.028169	1003.7273	1316.32	3341.52

0264

Client	Bechtel
Client ID	B0HYM6
Filename	397117.CHN
LAL parent ID	L7561-52
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 16:39
Collection Date	7/29/96
delta T to midpoint of count	14.8
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	Counting Error pCi/L	FINAL RESULT pCi/L	Total Error 2 sigma	MDA pCi/L
Ra-226	186.1	641.76	-52.68	641.78	936.39
U-235	185.7	39.01	0.80	39.01	56.92
	143.8	99.65	30.62	143.31	194.24
	163.3				424.08
Pb-214(Ra-226)	351.9	39.00	22.81	60.19	92.24
	295.1				144.56
Fe-59	1099.2	18.61	-14.68	28.66	106.35
	1291.6				143.04
Co-58	810.8	29.61	1.96	29.61	52.65
Ac-228(Ra-228)	911.2	44.86	22.43	137.19	219.15
	969				357.43
Pb-212	238.6	22.19	13.52	54.41	75.00
	300.1		361.25	650.44	748.81
Co-60	1332.5	13.34	-8.60	20.86	54.28
	1173.3				42.40
Cs-137	661.7	30.65	44.24	30.97	45.46
Eu-155	105.3	27.77	-11.58	27.79	85.64
Eu-152	1408.1	43.93	26.08	62.50	216.84
	344.3				109.93
Eu-154	723.3	45.92	-42.83	61.88	230.90
	1004.8				265.54
	1274.5				124.21
Ru-106	621.8	209.96	135.902	244.713	413.08
	1050.1				3341.52

LS 8/13/96

0235

397118.XLS

Client	Bechtel	
Client ID	B0HYM7	
Filename	397118.CHN	
LAL parent ID	L7561-55	
Batch	6339711	
Live Time	10800	
Detector	2	LAS Detector 2, GMX-30200-P, Ser. No. 30-TN10348
Geometry	I	
Aliquot (gms/L)	0.1	
Count date	8/12/96 13:19	
Collection Date	7/29/96	
delta T to midpoint of count	14.6	days
Efficiency data file	I294	
Background, Library files	WBKG2222	whc

V96119

Nuclide	keV	halflife (days)	chnl	GROSS	BKG	NET	Hand Calc NET	Sample cnts/sec	1 sig % err
Ra-226	186.1	5.84E+05	372	209	73	136		0.0125617	12.4
U-235	185.7	2.57E+11	372	209	73	136		0.0125617	12.4
	143.8	2.57E+11	288	131	106	25		0.0023148	61.6
	163.3	2.57E+11	327	116	106	10		0.0009259	149.0
Pb-214(Ra-226)	351.9	5.84E+05	704	78	41	37		0.0034259	29.5
	295.1	5.84E+05	591	86	84	2		0.0001852	651.9
Fe-59	1099.2	4.51E+01	2198	16	14	2		0.0001852	273.9
	1291.6	4.51E+01	2583	12	12	0		3.086E-05	1459.5
Co-58	810.8	7.08E+01	1622	22	18	5		0.0004167	139.7
Ac-228(Ra-228)	911.2	2.10E+03	1822	31	28	3		0.0002662	267.5
	969	2.10E+03	1938	30	22	8		0.0007407	90.1
Pb-212	238.6	5.11E+12	478	132	74	59		0.0054167	24.5
	300.1	5.11E+12	600	64	78	-14		-0.001296	85.1
Co-60	1332.5	1924	2665	15	9	6		0.0005556	81.6
	1173.3	1924	2347	19	18	1		9.259E-05	608.3
Cs-137	661.7	10950	1324	43	25	18		0.0016358	46.8
Eu-155	105.3	1810	211	86	103	-17		-0.001528	83.2
Eu-152	1408.1	4.64E+03	2816	8	5	3		0.0003086	106.8
	344.3	4.64E+03	689	66	63	3		0.0002778	378.6
Eu-154	723.3	3.11E+03	1447	34	28	6		0.0005556	131.2
	1004.8	3.11E+03	2009	20	22	-2		-0.000201	299.7
	1274.5	3.11E+03	2549	16	15	1		7.716E-05	669.9
Ru-106	621.8	368.2	1244	20	29	-9		-0.000849	76.5
	1050.1	368.2	2100	15	21	-6		-0.000556	100.0

0236

Client	Bechtel
Client ID	B0HYM7
Filename	397118.CHN
LAL parent ID	L7561-55
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 13:19
Collection Date	7/29/96
delta T to midpoint of count	14.6
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	WBKG cnts/sec	1 sig % err	NET Sample cnts/sec	NET 1 sig % err	Efficiency	1 sigma % Eff err	Branch
Ra-226	186.1	0.013194	5.1	-0.00271	82.37	0.054078	5	0.035
U-235	185.7	0.013194	5.1	-0.00063	352.84	0.054153	5	0.575
	143.8	0.00155	38.0	0.00076	263.39	0.062013	5	0.109
	163.3	0.000867	65.0	0.00006	3278.51	0.058391	5	0.05
Pb-214(Ra-226)	351.9	0.00245	18.0	0.00098	148.78	0.031812	5	0.358
	295.1	0.001219	40.6	-0.00103	164.61	0.037446	5	0.185
Fe-59	1099.2	-4.2E-05	525.4	0.00019	273.86	0.011437	5	0.565
	1291.6	0.000258	82.2	-0.00023	291.43	0.00998	5	0.432
Co-58	810.8	-9.7E-05	282.6	0.00042	139.66	0.014814	5	0.9945
Ac-228(Ra-228)	911.2	0.000952	32.4	-0.00069	148.80	0.013404	5	0.266
	969	0.000983	25.3	-0.00024	377.83	0.012722	5	0.1617
Pb-212	238.6	0.006608	8.6	-0.00119	159.17	0.045029	5	0.4365
	300.1	1.67E-05	2662.7	-0.00131	50.24	0.036878	5	0.03344
Co-60	1332.5	-0.0001	191.5	0.00056	81.65	0.009719	5	0.999
	1173.3	0.0002	115.5	-0.00011	739.39	0.010825	5	0.999
Cs-137	661.7	-0.00011	320.6	0.00164	46.79	0.017701	5	0.8521
Eu-155	105.3	0.000558	98.5	-0.00209	34.58	0.068383	5	0.218
Eu-152	1408.1	0.000119	150.8	0.00019	269.39	0.009271	5	0.212
	344.3	-0.00058	76.7	0.00028	378.59	0.03247	5	0.27
Eu-154	723.3	-0.00013	234.7	0.00056	131.23	0.016361	5	0.197
	1004.8	-0.00029	77.8	-0.00020	299.70	0.012337	5	0.176
	1274.5	0.000428	46.5	-0.00035	204.14	0.010094	5	0.355
Ru-106	621.8	-5.8E-05	558.1	-0.00085	76.49	0.018715	5	0.0981
	1050.1	0.000175	129.7	-0.00073	44.97	0.011886	5	0.0146

Client	Bechtel
Client ID	B0HYM7
Filename	397118.CHN
LAL parent ID	L7561-55
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 13:19
Collection Date	7/29/96
delta T to midpoint of count	14.6
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	Bq	pCi/L	MDA pCi/L	Decay factor	Corrected pCi/L	error 1 sigma	Corrected MDA pCi/L
Ra-226	186.1	-1.431956	-386.6281	938.12	1.000017	-386.63	319.06	938.13
U-235	185.7	-0.02032	-5.486335	57.02	1	-5.486	19.36	57.02
	143.8	0.113147	30.54982	200.56	1	30.550	80.48	200.56
	163.3	0.020297	5.480256	450.87	1	5.480	179.67	450.87
Pb-214(Ra-226)	351.9	0.085694	23.1373	89.79	1.000017	23.138	34.44	89.79
	295.1	-0.149297	-40.31021	175.20	1.000017	-40.311	66.39	175.20
Fe-59	1099.2	0.028658	7.737538	76.71	1.251902	9.687	26.53	96.03
	1291.6	-0.05276	-14.24524	118.23	1.251902	-17.834	51.98	148.02
Co-58	810.8	0.028283	7.636363	36.60	1.153906	8.812	12.31	42.24
Ac-228(Ra-228)	911.2	-0.192372	-51.94047	221.07	1.004837	-52.192	77.70	222.14
	969	-0.117929	-31.84071	355.69	1.004837	-31.995	120.90	357.41
Pb-212	238.6	-0.060629	-16.3697	74.63	1	-16.370	26.07	74.63
	300.1	-1.064673	-287.4618	888.44	1	-287.462	145.12	888.44
Co-60	1332.5	0.05722	15.44929	40.67	1.00528	15.5309	12.70	40.89
	1173.3	-0.009932	-2.681656	54.53	1.00528	-2.6958	19.93	54.82
Cs-137	661.7	0.108452	29.2821	42.40	1.000926	29.3092	13.79	42.44
Eu-155	105.3	-0.139936	-37.78275	85.78	1.005614	-37.995	13.275	86.264
Eu-152	1408.1	0.096262	25.99084	178.83	1.002187	26.05	70.18	179.22
	344.3	0.031684	8.554786	107.65	1.002187	8.57	32.46	107.89
Eu-154	723.3	0.172363	46.53796	207.11	1.003269	46.69	61.32	207.78
	1004.8	-0.092392	-24.94591	264.67	1.003269	-25.03	75.02	265.53
	1274.5	-0.09785	-26.41946	163.22	1.003269	-26.51	54.13	163.75
Ru-106	621.8	-4.62E-01	-1.25E+02	3.75E+02	1.027901	-128.3045	98.35	385.62
	1050.1	-4.21E+00	-1.14E+03	3.60E+03	1.027901	-1168.3236	528.68	3695.58

397118.XLS

Client	Bechtel
Client ID	B0HYM7
Filename	397118.CHN
LAL parent ID	L7561-55
Batch	6339711
Live Time	10800
Detector	2
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 13:19
Collection Date	7/29/96
delta T to midpoint of count '	14.6
Efficiency data file	I294
Background, Library files	WBKG2222

Nuclide	keV	Counting Error pCi/L	FINAL RESULT pCi/L	Total Error 2 sigma	MDA pCi/L
Ra-226	186.1	636.94	-386.63	638.11	938.13
U-235	185.7	38.72	-5.49	38.72	57.02
	143.8	138.42	26.36	146.90	200.56
	163.3				450.87
Pb-214(Ra-226)	351.9	21.37	9.68	61.15	89.79
	295.1				175.20
Fe-59	1099.2	15.96	4.00	47.26	96.03
	1291.6				148.02
Co-58	810.8	24.61	8.81	24.63	42.24
Ac-228(Ra-228)	911.2	128.17	-46.29	130.73	222.14
	969				357.41
Pb-212	238.6	15.68	-16.37	52.14	74.63
	300.1		-287.46	290.25	888.44
Co-60	1332.5	16.66	10.27	21.43	40.89
	1173.3				54.82
Cs-137	661.7	27.43	29.31	27.58	42.44
Eu-155	105.3	26.28	-37.99	26.55	86.26
Eu-152	1408.1	51.16	11.65	58.93	179.22
	344.3				107.89
Eu-154	723.3	2.84	-1.37	71.38	207.78
	1004.8				265.53
	1274.5				163.75
Ru-106	621.8	126.46	-163.096	193.390	385.62
	1050.1				3695.58

LS 8/15/96

0263

Client	Bechtel	
Client ID	BOHYM8	
Filename	397119.CHN	
LAL parent ID	L7561-58	
Batch	6339711	
Live Time	10800	
Detector	3	LAS Detector 3, GEM-90210-P, Ser. No. 30-TP30546A
Geometry	1	
Aliquot (gms/L)	0.1	
Count date	8/12/96 13:19	
Collection Date	7/29/96	
delta T to midpoint of count,	14.6	days
Efficiency data file	I394	
Background, Library files	WBKG3215	whc

V96119

Nuclide	keV	halflife (days)	chnl	GROSS	BKG	NET	Hand Calc NET	Sample cnts/sec	1 sig % err
Ra-226	186.1	5.84E+05	372	237	105	132		0.0122222	14.0
U-235	185.7	2.57E+11	372	237	105	132		0.0122222	14.0
	143.8	2.57E+11	288	182	136	46		0.0042593	38.8
	163.3	2.57E+11	327	133	124	9		0.0008333	178.1
Pb-214(Ra-226)	351.9	5.84E+05	704	100	69	31		0.0028704	41.9
	295.1	5.84E+05	591	123	102	22		0.0019907	69.7
Fe-59	1099.2	4.51E+01	2198	23	19	4		0.0004012	149.0
	1291.6	4.51E+01	2583	18	18	1		4.63E-05	1191.6
Co-58	810.8	7.08E+01	1622	30	30	0		-3.09E-05	2330.2
Ac-228(Ra-228)	911.2	2.10E+03	1822	65	30	35		0.003206	28.2
	969	2.10E+03	1938	46	14	32		0.002963	24.2
Pb-212	238.6	5.11E+12	478	210	98	113		0.0104167	15.6
	300.1	5.11E+12	600	95	96	-1		-9.26E-05	1382.0
Co-60	1332.5	1924	2665	26	24	2		0.0001852	353.6
	1173.3	1924	2347	31	32	-1		-4.63E-05	1581.1
Cs-137	661.7	10950	1324	51	37	14		0.0012654	68.8
Eu-155	105.3	1810	211	117	113	4		0.0003395	413.9
Eu-152	1408.1	4.64E+03	2816	13	14	-1		-9.26E-05	519.6
	344.3	4.64E+03	689	77	82	-5		-0.000432	269.9
Eu-154	723.3	3.11E+03	1447	48	47	1		0.0001235	729.7
	1004.8	3.11E+03	2009	18	42	-24		-0.002222	32.3
	1274.5	3.11E+03	2549	11	12	-1		-6.17E-05	714.1
Ru-106	621.8	368.2	1244	41	35	6		0.0005556	145.3
	1050.1	368.2	2100	22	37	-15		-0.00142	50.2

0270

Client	Bechtel
Client ID	BOHYM8
Filename	397119.CHN
LAL parent ID	L7561-58
Batch	6339711
Live Time	10800
Detector	3
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 13:19
Collection Date	7/29/96
delta T to midpoint of count'	14.6
Efficiency data file	I394
Background, Library files	WBKG3215

Nuclide	keV	WBKG cnts/sec	1 sig % err	NET Sample cnts/sec	NET 1 sig % err	Efficiency	1 sigma % Eff err	Branch
Ra-226	186.1	0.012033	6.0	0.00019	1289.31	0.085263	5	0.035
U-235	185.7	0.012033	6.0	0.00019	1289.31	0.085325	5	0.575
	143.8	0.00285	23.4	0.00141	164.49	0.089756	5	0.109
	163.3	0.000567	111.8	0.00027	794.30	0.088309	5	0.05
Pb-214(Ra-226)	351.9	0.004633	11.1	-0.00176	97.35	0.059433	5	0.358
	295.1	0.000647	89.8	0.00134	146.54	0.067089	5	0.185
Fe-59	1099.2	-0.00028	85.0	0.00040	148.96	0.025708	5	0.565
	1291.6	-8.1E-05	262.4	0.00005	1191.64	0.022801	5	0.432
Co-58	810.8	-0.00023	134.5	-0.00003	2330.24	0.03211	5	0.9945
Ac-228(Ra-228)	911.2	0.002125	18.1	0.00108	119.23	0.029489	5	0.266
	969	0.001883	17.3	0.00108	96.56	0.028195	5	0.1617
Pb-212	238.6	0.010342	6.9	0.00007	3113.84	0.076311	5	0.4365
	300.1	-0.00015	349.1	-0.00009	1382.03	0.066347	5	0.03344
Co-60	1332.5	-0.00026	93.4	0.00019	353.55	0.02227	5	0.999
	1173.3	0.000133	217.2	-0.00018	246.27	0.024498	5	0.999
Cs-137	661.7	-0.00046	82.1	0.00127	68.77	0.037272	5	0.8521
Eu-155	105.3	0.000175	340.1	0.00016	1216.06	0.086492	5	0.218
Eu-152	1408.1	2.22E-05	920.6	-0.00011	240.86	0.021352	5	0.212
	344.3	0.000356	143.8	-0.00079	83.18	0.060362	5	0.27
Eu-154	723.3	-0.00026	136.4	0.00012	729.73	0.034909	5	0.197
	1004.8	-0.00051	53.9	-0.00222	32.27	0.027458	5	0.176
	1274.5	2.78E-06	7393.2	-0.00006	365.02	0.023031	5	0.355
Ru-106	621.8	-2.8E-05	1464.4	0.00056	145.30	0.039025	5	0.0981
	1050.1	0.000172	155.3	-0.00159	28.00	0.026585	5	0.0146

0274

Client	Bechtel
Client ID	BOHYM8
Filename	397119.CHN
LAL parent ID	L7561-58
Batch	6339711
Live Time	10800
Detector	3
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 13:19
Collection Date	7/29/96
delta T to midpoint of count	14.6
Efficiency data file	I394
Background, Library files	WBKG3215

Nuclide	keV	Bq	pCi/L	MDA pCi/L	Decay factor	Corrected pCi/L	error 1 sigma	Corrected MDA pCi/L
Ra-226	186.1	0.063296	17.08993	619.82	1.000017	17.09	220.35	619.83
U-235	185.7	0.00385	1.039508	37.70	1	1.040	13.40	37.70
	143.8	0.144046	38.89241	160.38	1	38.892	64.00	160.38
	163.3	0.060394	16.30645	315.67	1	16.306	129.53	315.67
Pb-214(Ra-226)	351.9	-0.082857	-22.37138	62.80	1.000017	-22.372	21.81	62.80
	295.1	0.108248	29.227	103.02	1.000017	29.228	42.86	103.02
Fe-59	1099.2	0.027624	7.458424	36.31	1.251897	9.337	13.92	45.46
	1291.6	0.0047	1.269011	55.01	1.251897	1.589	18.93	68.86
Co-58	810.8	-0.000967	-0.260962	21.35	1.153903	-0.301	7.02	24.64
Ac-228(Ra-228)	911.2	0.137814	37.20975	116.86	1.004837	37.390	44.62	117.42
	969	0.236804	63.93721	164.28	1.004837	64.246	62.12	165.07
Pb-212	238.6	0.002252	0.60793	52.51	1	0.608	18.93	52.51
	300.1	-0.041734	-11.2681	539.57	1	-11.268	155.73	539.57
Co-60	1332.5	0.008324	2.247395	27.11	1.00528	2.2593	7.99	27.25
	1173.3	-0.00734	-1.981707	30.03	1.00528	-1.9922	4.91	30.19
Cs-137	661.7	0.039845	10.75809	22.97	1.000926	10.7680	7.42	22.99
Eu-155	105.3	0.008725	2.355669	69.77	1.005614	2.369	28.807	70.166
Eu-152	1408.1	-0.025365	-6.848475	111.88	1.002187	-6.86	16.54	112.12
	344.3	-0.048329	-13.04876	70.11	1.002187	-13.08	10.90	70.27
Eu-154	723.3	0.017952	4.847056	121.86	1.003269	4.86	35.49	122.26
	1004.8	-0.459844	-124.1578	159.37	1.003269	-124.56	40.68	159.89
	1274.5	-0.00789	-2.130195	56.91	1.003269	-2.14	7.80	57.10
Ru-106	621.8	1.45E-01	3.92E+01	1.97E+02	1.0279	40.2748	58.55	202.06
	1050.1	-4.10E+00	-1.11E+03	2.05E+03	1.0279	-1138.2927	323.72	2106.73

0272

397119.XLS

Client	Bechtel
Client ID	BOHYM8
Filename	397119.CHN
LAL parent ID	L7561-58
Batch	6339711
Live Time	10800
Detector	3
Geometry	I
Aliquot (gms/L)	0.1
Count date	8/12/96 13:19
Collection Date	7/29/96
delta T to midpoint of count	14.6
Efficiency data file	I394
Background, Library files	WBKG3215

Nuclide	keV	Counting Error pCi/L	FINAL RESULT pCi/L	Total Error 2 sigma	MDA pCi/L
Ra-226	186.1	440.69	17.09	440.70	619.83
U-235	185.7	26.81	1.04	26.81	37.70
	143.8	111.01	34.46	114.76	160.38
	163.3				315.67
Pb-214(Ra-226)	351.9	19.07	-11.76	38.87	62.80
	295.1				103.02
Fe-59	1099.2	19.57	6.62	22.43	45.46
	1291.6				68.86
Co-58	810.8	14.03	-0.30	14.03	24.64
Ac-228(Ra-228)	911.2	69.83	46.53	72.48	117.42
	969				165.07
Pb-212	238.6	15.36	0.61	37.86	52.51
	300.1		-11.27	311.46	539.57
Co-60	1332.5	3.34	-0.83	8.36	27.25
	1173.3				30.19
Cs-137	661.7	14.81	10.77	14.85	22.99
Eu-155	105.3	57.61	2.37	57.61	70.17
Eu-152	1408.1	17.60	-11.20	18.20	112.12
	344.3				70.27
Eu-154	723.3	3.84	-5.97	14.98	122.26
	1004.8				159.89
	1274.5				57.10
Ru-106	621.8	1.62	2.939	115.235	202.06
	1050.1				2106.73

CS 8/13/96

0213

353

Project of Standards Cs-137 & Co-60

Agnes Wong 4-9-93

ISOTOPES DILUTION RECORD

16 oz PLASTIC JAR
100 uls AQUEOUS
GAMMA LCS

Secondary/Working Level Dilution

Date: 4/8/93 Preparer's Name: A. Wong

Pipet Check / Balance Wt. Check Done (✓)

Diluent used: 0.1 M HCl

I. Isotope #1: Cs-137 ⇒ 197.0 pCi 4-2-91

≡ 984.5 pCi/g ^{137}Cs 4-2-91

Diluted Source ID (log#): 91-225-24-3

A: Source activity: ~~940.831~~ 965.84 pCi/ml decay corrected from 4-1-91 → 975.1348 pCi/ml

B: Amount of source transferred: 0.2 ml

C: Total amount of dilution: 100 ml

D: Isotope activity (A*B/C): 1.8817 pCi/ml * 100 ml ≡ 197.0 pCi 4-2-91

= 188.17 pCi ^{137}Cs total

II. Isotope #2: Co-60 ⇒ ~~259.1~~ 218.2 pCi/ 4-2-91

Diluted Source ID (log#): 91-225-80-1

E: Source activity: ~~998.1087~~ 838.8 pCi/ml 4-9-93 decay corrected from 4-2-91 → 1091.1 pCi/ml

F: Amount of source transferred: 0.2 ml

G: Total amount of dilution: 100 ml

H: Isotope activity (E*F/G): ~~19962 pCi/ml~~ 1091.1 pCi/ml * 100 ml ≡ 259.1 pCi 4-2-91

= 199.62 pCi ^{60}Co

Dilution Log Book ID: 92-353-78

Reviewed by: [signature] Date: 4/9/93

Geometry I

Read and Understood:

Agnes Wong — Signed — 4-9-93 — Date

[signature] — Signed — 4/9/93 — Date

0293

CERTIFICATE OF CALIBRATION
GAMMA STANDARD SOLUTION

Radionuclide	Cs-137	Customer:	LOCKHEED ENGINEERING & SCIENCES Co.
Half Life:	30.0 ± 0.2 years	P.O.No.:	06LAB1036
Catalog No.:	7137	Reference Date:	September 1 1991 12:00 PST.
Source No.:	389-21-2	Contained Radioactivity:	1.002 µCi.

Description of Solution

a. Mass of solution: 4.9523 grams.

b. Chemical form: CsCl in 0.1N HCl

c. Carrier content: None added

d. Density: 0.9996 gram/ml @ 20°C.

Radioimpurities

None detected

Radioactive Daughters

None

Radionuclide Concentration

0.202 µCi/gram.

Method of Calibration

Weighed aliquots of the solution were assayed using gamma spectrometry:

Energy peak(s) integrated under: 662 KeV.

Branching ratio(s) used: 0.8521 gamma rays per decay.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration: ±1.0%

b. Random uncertainty in assay: ±1.1%

c. Random uncertainty in weighing(s): ±0.4%

d. Total uncertainty at the 99% confidence level: ±2.5%

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Notes

1. Nuclear data were taken from "Table of Isotopes", Seventh Edition, edited by Virginia S. Shirley.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay(and later NIST certification) of Standard Reference Materials. (As in NRC Regulatory Guide 4.15)

QUALITY CONTROL

ISOTOPE PRODUCTS LABORATORIES
1800 No. Keystone Street.,
Burbank, California 91504
(818) 843 - 7000

AA0025

Diluted to 100.

U.S. Environmental Protection Agency
Environmental Monitoring Systems Laboratory-Las Vegas
Nuclear Radiation Assessment Division

Calibration Certificate

Description

Principal radionuclide: Cobalt-60 Half-life: 5.271 years

Nominal activity: 110 nano curies

Nominal volume: 5 ml in ampoule/bottle number: 2506-2

Measurement Activity of principal radionuclide

Activity per gram of this solution

22.2 nano curies of Cobalt-60

at 0400 hours PST on April 2, 1991

Activity of daughter radionuclide

The principal activity was accompanied at the quoted time by

curies Per gram

of the daughter nuclide

Total mass of this solution

APPROX. 5.0 grams

Method of measurement

The activity of the primary solution was measured using an ionization chamber.

The activity of the dilution was measured using gamma spectroscopy.

Useful Life

This radionuclide has decayed through 0.6 half lives since it was obtained by EMSL-LV

We recommend that this solution should not be used after January 2000

Purity

The manufacturer states that activities other than that of the principal nuclide and of its daughter nuclides, if any were estimated/known to be

(1) none stated	less than equal to	%	of the principal activity
(2)	less than equal to	%	of the principal activity
(3)	less than equal to	%	of the principal activity

The activity of impurity (1) is not (2) is not (3) is not included in the quoted figures of the principal activity

Random Errors

The precision of this standard was such that the certified value of the radioactive concentration of the principal activity had a standard error (sm) not greater than ± 0.42 %

(The 99.7% confidence limits are given by t(sm) where t is obtained from the student t factor for the degree of freedom (n-1))

The maximum uncertainty due to the assessable systematic errors (dilution, counting, and known uncertainty of the standard) is obtained by the separate arithmetic summation of the positive and negative systematic error ($+\delta$ $-\delta'$). These have been estimated not to exceed

+2.1 % or -2.1 %

the overall uncertainty (often called accuracy) is an estimate of the possible divergence of the quoted result from the true value. It is a combination of random error [t(sm)] at the 99 7% confidence limits and the worst case estimate of the systematic errors ($+\delta$, $-\delta'$)
The overall uncertainty is therefore calculated on the basis of + [t(sm) $+\delta$], - [t(sm) $+\delta$]
and is +3.5 %, -3.5 % of the quoted radioactive concentration.

Decay Schemes

This standardization is based on the following assumptions of the principle nuclide, its daughter nuclides and impurities (no allowance for error in these assumptions or the assumption of quoted half-life have been included in the statement of accuracy above)

Cobalt-60 decays 100 percent by beta emission followed by prompt gamma transition.

Chemical Composition of Solution

Carrier content per gram of solution:	Other components:
30 micrograms cobalt	0.1 M HCl

Preservative:

Remarks

Date Certificate Prepared May 31, 1991

Approval Signature Paul B. Hahn

0360

Revised 1/84

LOCKHEED ANALYTICAL LABORATORY

SAMPLE PREPARATION LOG FOR GROSS ALPHA/BETA ANALYSIS

LAL-91-SOP-0060

Date Prep Started : 8/20/96 Matrix : Liq. Waste

Workgroup Number : GR ALP/BETA LAL-0060 40473 Prep Due Date : 08/16/96

Repeat

CLIENT SAMPLE ID	LAL ID		QC	CHILD LAL ID	pH <2	ALQT VOL (g/L/smp)	PLANCHET TARE WT (grams)	PLANCHET GROSS WT (grams)	* * *	SAMPLE WEIGHT (grams)	COMMENTS
L7561-49	40473DUP1	1	DUP1	40473-01	N	0.050	8.5528	8.5592			
Lab Ctrl Sample	40473LCS1	2	LCS1	40473-02		0.250	8.7315	8.8140			
Method Blank	40473MBB	3	MBB1	40473-03		0.250	8.5761	8.5762			
L7561-52	40473MS1	4	MS1	40473-04	N	0.050	8.6361	8.6428			
B0HXX4	L7561-43	5		40473-05	N	0.050	8.4970	8.5036			
B0HXX5	L7561-46	6		40473-06	N	0.050	8.6953	8.7010			
B0HXX6	L7561-49	7	SMP1	40473-07	N	0.050	8.6134	8.6194			
B0HYM6	L7561-52	8	MSS1	40473-08	N	0.050	8.6289	8.6355			
B0HYM7	L7561-55	9		40473-09	N	0.050	8.5600	8.5632			
B0HYM8	L7561-58	10		40473-10	N	0.050	8.6966	8.7076			
		11									
		12									
		13									
		14									
		15									
		16									
		17									
		18									
		19									
		20									
		21									
		22									
		23									
		24									

LCS Volume & RefDate	1.0mL	8/1/90	MS Volume & RefDate	1.0mL	1/5/96	Prep Anlst	RM
LCS Nuclide	Am-241	Sr-90	MS Nuclide	Am-241	Sr-90	Start Date	8/20/96
LCS Activity	9.81 pCi/mL	12.0 pCi/mL	MS Activity	8.40 pCi/mL	8.37 pCi/mL	Count Anlst	CS
LCS ID #	95-721-13-1		MS ID #	94-677-95-1			

Balance Number : 40020046 ( ) Pipette Number : 71008 ( ) LCS added by: RM 8/20/96

( ) ( ) Witnessed by : [illegible]

Comments :

0302

V96106

Analyst : [illegible] Checked by: CS Cnt Rm Custody\Date : CS 8/23/96

LOCKHEED ANALYTICAL LABORATORY

SAMPLE PREPARATION LOG FOR GROSS ALPHA/BETA ANALYSIS

LAL-91-SOP-0060

Date Prep Started : 8/20/96 Matrix : Liq. Waste

Workgroup Number : GR ALP/BETA LAL-0060 40473 Prep Due Date : 08/16/96

CLIENT SAMPLE ID	LAL ID		QC	CHILD LAL ID	pH <2	ALQT VOL (L)	PLANCHET TARE WT (grams)	PLANCHET GROSS WT (grams)	* * *	SAMPLE WEIGHT (grams)	COMMENTS
L7561-49	40473DUP1	1	DUP1	40473-01	N	0.050	8.5528	8.5592		0.0064	
Lab Ctrl Sample	40473LCS1	2	LCS1	40473-02		0.250	8.7315	8.8140		0.0825	
Method Blank	40473MBB	3	MBB1	40473-03		0.250	8.5761	8.5762		0.0001	
L7561-52	40473MS1	4	MS1	40473-04	N	0.050	8.6361	8.6428		0.0067	
B0HXX4	L7561-43	5		40473-05	N	0.050	8.4970	8.5036		0.0066	
B0HXX5	L7561-46	6		40473-06	N	0.050	8.6953	8.7010		0.0057	
B0HXX6	L7561-49	7	SMP1	40473-07	N	0.050	8.6134	8.6194		0.0060	
B0HYM6	L7561-52	8	MSS1	40473-08	N	0.050	8.6289	8.6355		0.0066	
B0HYM7	L7561-55	9		40473-09	N	0.050	8.5600	8.5632		0.0032	
B0HYM8	L7561-58	10		40473-10	N	0.050	8.6966	8.7076		0.0110	
		11									
		12									
		13									
		14									
		15									
		16									
		17									
		18									
		19									
		20									
		21									
		22									
		23									
		24									

LCS Volume & RefDate	1.0 mL; 08/01/90		MS Volume & RefDate	1.0 mL; 01/05/96		Prep Anlst	RM
LCS Nuclide	Am-241	Sr-90	MS Nuclide	Am-241	Sr-90	Start Date	8/20/96
LCS Activity	9.8 pCi/mL	12.0 pCi/mL	MS Activity	8.4 pCi/mL	8.4 pCi/mL	Count Anlst	
LCS ID #	95-721-13-1		MS ID #	94-677-93-1			

Balance Number : 40020046 ( ) Pipette Number : 71008 ( ) LCS added by: RM

( ) ( ) Witnessed by : TR

Comments :

0303

V96106

Analyst : Ryan Martin Checked by: LS

PROJECT Gross Alpha/Beta LCS

Continued From Page

SECONDARY/WORKING LEVEL STANDARD DILUTION RECORD

Dilution Source Information

Isotope:	Am-241 and Sr4-90
Parent Barcode Number	AA0030 AA0046
Vendor or Certificate I.D. # of Parent Standard:	Am-241 IPL 388-100-1 Sr4-90 NIST SRM 4919G
Diluted Source Logbook I.D. #:	Am-241 91-0225-60-1 Sr4-90 91-0225-30-2
Balance Verification?:	Yes
Diluent Used:	0.1 N HNO_3

Dilution

*Diluent:	0.1N HNO_3 + 42mg $Sr(NO_3)_2$/mL
*Density of diluent (g/ml):	NA
a: Parent Specific Activity:	Am-241 981 pCi/mL Sr-90 600 pCi/mL on 8/1/90
b: Amount of Source Transferred:	Am-241 0.5 mL Sr-90 0.5 ~~g~~ mL
c: Total amount of Dilution:	500 ~~g~~ mL
d: Total Volume of Dilution:	500 mL
e: Activity of Dilution (a * b / c):	NA
f: Activity of Dilution (a * b / d):	Am-241 9.81 pCi/mL Sr4-90 12 pCi/mL on 8/1/90
Dilution Logbook I.D. #:	95-721-13-1

Prepared By: Joe Hutchinson Preparation Date: 8/23/95

Reviewed By: [illegible] Review Date: 8/24/95

*If the diluent remains unchanged from the diluent used for the dilution source, then a weight dilution of a volume unit source can be performed without a density conversion. If the diluent changes, a weighted proportion density conversion is necessary.

Read and Understood By

0307

Signed	Date	Signed	Date

S/L. [illegible] 91-0225-60-1 AA0030.

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide	Am-241	Customer:	LOCKHEED ENGINEERING & SCIENCES Co.
Half Life:	432.7 ± 0.5 years	P.O.No.:	06LAB1245
Catalog No.:	7241	Reference Date:	November 1 1991 12:00 PST.
Source No.:	388-100-1	Contained Radioactivity:	0.997 µCi.

Description of Solution

a. Mass of solution:	5.0007	grams.
b. Chemical form:	AmCl3 in 0.5N HCl	
c. Carrier content:	None added	
d. Density:	1.0077	gram/ml @ 20°C.

Radioimpurities

None detected

Radioactive Daughters

None detected

Radionuclide Concentration

0.1994 µCi/gram.

Method of Calibration

Weighed aliquots of the solution were assayed using a liquid scintillation counter.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration:	±2.0%
b. Random uncertainty in assay:	±0.7%
c. Random uncertainty in weighing(s):	±0.0%
d. Total uncertainty at the 99% confidence level:	±2.7%

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Notes

1. Nuclear data were taken from "Table of Isotopes", Seventh Edition, edited by Virginia S. Shirley.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay(and later NIST certification) of Standard Reference Materials. (As in NRC Regulatory Guide 4.15)

Gary A. Gilmore
QUALITY CONTROL

ISOTOPE PRODUCTS LABORATORIES
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0308

PROJECT Preparation of Am-241 Std

Notebook No. 0225

Continued From Page

Cert # Parent Ref	Calib Cert. Date	Exp. Date	Ref #	Vendor	Prep In	Notes In
388-100-1	Nov 1, 1991	5/6/94	91-0225-64	IPL	JH	[illegible]

Item #	Preparation Date	Final Conc	Initial Conc	Bar Code
1	5/6/92	9,800 pCi/g	0.997 uCi in 5 g 0.1994 uCi/g	AA0030

The entire standard was transferred to a 100-mL volumetric V.F. and the ~~sample~~ Std AH was diluted to 100mL with 0.5N HCl.

68.4902
63.5665 g wt. VF
4.9237 g std

164.01 g std + dilution
63.57 g VF
100.44 g diluted Std

$$\text{Activity Std} = \frac{0.1994\ \mu Ci/g \times 4.9237\ g\ of\ std}{100.44\ g\ dilution}$$

Density 0.5N HCl = 1.003598 g/ml ⇒ 0.0097748 uCi/g × 1.003598 g/ml
= 0.0098 uCi/g = 0.009810 uCi/g ml
or = 9,800 pCi/g = 9810 pCi/ml

[illegible] 9/11/92

Continued on Page

0309

Read and Understood By

Joe Hutchinson — Signed — 5/11/92 — Date

[illegible] — Signed — 7/13/92 — Date

AA0046

THIS IS A PHOTOCOPY OF THE CERTIFICATE
WHICH IS BEING MAILED TO YOU UNDER
SEPARATE COVER.

National Institute of Standards & Technology

Certificate

Standard Reference Material 4919-G
Radioactivity Standard

Radionuclide	Strontium-90
Source identification	4919-G
Source description	Solution in NIST borosilicate-glass ampoule [1]*
Solution composition	Strontium-90 plus yttrium-90 plus approximately 95 μg each of non-radioactive strontium and yttrium per gram of 1-molar hydrochloric acid [2]
Mass	Approximately 5.0 grams
Radioactivity concentration	4.514×10^8 Bq g^{-1}
Reference time	1200 EST August 1, 1990
Overall uncertainty	1.05 percent [3]
Photon-emitting impurities	None observed [4]
Alpha-particle-emitting impurities	None observed [5]
Half life	28.5 ± 0.2 years [6]
Measuring instrument	$4\pi\beta$ liquid-scintillation counter

This standard reference material was prepared in the Center for Radiation Research, Ionizing Radiation Division, Radioactivity Group, Dale D. Hoppes, Group Leader.

Gaithersburg, MD 20899
[illegible]uary, 1991

William P. Reed, Acting Chief
Office of Standard Reference Materials

*Notes on back

Notebook No. LAL-91-600-0199

PROJECT SR-90 Radionuclide Standard Preparation

Continued From Page

CERT # Parent Ref #	Calibration cert date	Expiration Date	Reference #	VENDOR	PREP INITIALS	WITNESS INITIALS
SRM # 4919-G	1200 Aug 1, 1990	10-2-93	SRM #4919-6-A 91-0199-63	NIST	[illegible]	[illegible]

ITEM #	PREPARATION DATE	Final Concentration	INITIAL Concentration
1	10-2-91 ~~1200 EST~~ [illegible] ~~Aug 1, 1990~~	12-2-91 ~~600,068.5999~~ 6000.685 Pci/ml	4.514×10^3 Bq-1

9/10/91
Radionuclide = SR-90
SOURCE # 4919-G
Source description # Solution in NIST Borosilicate glass ampule
Composition # SR-90 + Y-90 plus approximately 95 ng of non radioactive SR and yttrium per gram of 1 molar HCL
mass approximately 5.0 grams
Radioactivity conc. 4.514×10^3 Bq^{-1}
Reference Time = 1200 EST Aug. 1, 1990
T1/2 = 28.5 ±0.2 years

10/2/91 Preparation

1/ weighing 100.0 ml V.F + standard of SR-90 in ampule = 65.2000
100.0 ml V.F (empty) (g) = 60.2814

Difference of mass (g) t.w. = 4.9186

2/ Calculations:

4.514×10^3 Bq/g $\times$ 4.9186 = 22,202.5604 Bq

22,202.5604 Bq $\times$ 27.027 Pci/Bq = 600,068.5999 Pci

(STD date Aug 1, 1990)

Continued on Page

Transfered 11-19-91 Paul [illegible]

(Referenced From LAL 600 0199 pg 63)

Read and Understood By

0311

[signature] Signed 11/19/91 Date [signature] Signed 12/4/91 Date

AA08030

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide	Am-241	Customer:	LOCKHEED ENGINEERING & SCIENCES Co.
Half Life:	432.7 ± 0.5 years	P.O.No.:	06LAB1245
Catalog No.:	7241	Reference Date:	November 1 1991 12:00 PST.
Source No.:	388-100-1	Contained Radioactivity:	0.997 µCi.

Description of Solution

a. Mass of solution: 5.0007 grams.

b. Chemical form: AmCl3 in 0.5N HCl

c. Carrier content: None added

d. Density: 1.0077 gram/ml @ 20°C.

Radioimpurities

None detected

Radioactive Daughters

None detected

Radionuclide Concentration

0.1994 µCi/gram.

Method of Calibration

Weighed aliquots of the solution were assayed using a liquid scintillation counter.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration:	±2.0%
b. Random uncertainty in assay:	±0.7%
c. Random uncertainty in weighing(s):	±0.0%
d. Total uncertainty at the 99% confidence level:	±2.7%

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Notes

1. Nuclear data were taken from "Table of Isotopes", Seventh Edition, edited by Virginia S. Shirley.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay(and later NIST certification) of Standard Reference Materials. (As in NRC Regulatory Guide 4.15)

Gary A. Gilmore
QUALITY CONTROL

ISOTOPE PRODUCTS LABORATORIES
1800 No. Keystone Street.,
Burbank, California 91504
(818) 843 - 7000

CERTIFICATE OF CALIBRATION
BETA STANDARD SOLUTION

Radionuclide	Sr-90	Customer:	LOCKHEED ENGINEERING & SCIENCES Co.
Half Life:	28.5 ± 0.2 years	P.O.No.:	06LAB1245
Catalog No.:	7090	Reference Date:	November 1 1991 12:00 PST.
Source No.:	388-99-2	Contained Radioactivity:	1.018 µCi.

Description of Solution

a. Mass of solution: 5.0012 grams.

b. Chemical form: SrCl2 in 0.1N HCl

c. Carrier content: None added

d. Density: 0.9996 gram/ml @ 20°C.

Radioimpurities

None (Y-90 daughter in equilibrium)

Radioactive Daughters

Y-90 daughter in equilibrium

Radionuclide Concentration

0.203 µCi/gram.

Method of Calibration

Weighed aliquots of the solution were assayed using a liquid scintillation counter.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration: ±1.5%

b. Random uncertainty in assay: ±0.5%

c. Random uncertainty in weighing(s): ±0.0%

d. Total uncertainty at the 99% confidence level: ±2.0%

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Notes

1. Nuclear data were taken from "Table of Isotopes", Seventh Edition, edited by Virginia S. Shirley.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay(and later NIST certification) of Standard Reference Materials. (As in NRC Regulatory Guide 4.15)

Gary A Gilmore
QUALITY CONTROL

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PROJECT Gross α / β MS

Continued From Page

SECONDARY/WORKING LEVEL STANDARD DILUTION RECORD

Dilution Source Information

Isotope:	(432.7 yr) Am-241	(29.1 yr) Sr/Y 90 MS
Parent ~~Barcode~~ Logbook Number	92-353-81-1	94-0677-92-1
Vendor or Certificate I.D. # of Parent Standard:		
Diluted Source Logbook I.D. #:	SEE ABOVE	
Balance Verification?:	Yes	
Diluent Used:	1 M HNO3	

Dilution

*Diluent:	1 M HNO3 + 10 ml Sr Carrier (10 mg/ml)		
*Density of diluent (g/ml):	1.0290		g/ml
a: Parent Specific Activity:	Am-241: 1002.4	Sr/Y-90 *: 1000.2	pCi/g @ 1/5/96
b: Amount of Source Transferred:	4.070	4.065	g
c: Total amount of Dilution:	500.01		g
d: Total Volume of Dilution:	514.5		ml
e: Activity of Dilution (a * b / c):	Am-241: 8.16	Sr/Y-90: 8.13	pCi/g @ 1/5/96
f: Activity of Dilution (a * b / d):	8.40	8.37	pCi/ml
Dilution Logbook I.D. #:	94-0677-93-1		

* Sr/Y-90 in equilibrium. Activity reported = known Sr 90 activity * 2.

Prepared By: [signature] Preparation Date: 1/5/96

Reviewed By: [signature] Review Date: 1/5/96

*If the diluent remains unchanged from the diluent used for the dilution source, then a weight dilution of a volume unit source can be performed without a density conversion. If the diluent changes, a weighted proportion density conversion is necessary.

Page

Read and Understood By

Signed	Date	Signed	Date

PROJECT Sr-90 Continued From Page

INITIAL STANDARD DILUTION RECORD

Standard Information:

Isotope:	Sr.90	Vendor:	IPL
Activity of Standard Received:	~~5.001~~ 1.018 uCi	Vendor I.D. #	—
Weight of Standard Received (g):	5.0012 g	LAL I.D. #:	AA00 49
Standard Activity (pCi/g):	2.036E5 pCi/g	NIST Traceable ?	Yes
Halflife in Years or Days:	29.1 yrs	Certificate #:	388-99-2
Reference Date:	11/1/91	Receiver's Name:	FREE
		Date Received:	12/91

Primary Dilution

Balance Verification?:	Yes	
Diluent Used:	1 M HNO_3	(1.0290 g/ml)
a: Decay Corrected Standard Activity (pCi/g):	1.844 E5	pCi/g @ 1/5/96
b: Weight of the Source Transferred (g):	4.949	g
c: Total diluted weight (g):	100.01	g
d: Total Diluted Volume (mL)	97.19	mL
e: Activity of Dilution by Weight (pCi/g) [a * b / c]:	9125.0	pCi/g @ 1/5/96
f: Calculated Density of Solution (g/ml) [c / d]:	~~9389.8~~ 1.0290	g/mL
g: Activity of Dilution by Volume (pCi/mL) [e * f]:	9389.8	pCi/mL
h. Dilution Logbook I.D. #:	94-0677-91-1	

Prepared By: [signature] Preparation Date: 1/5/96

Reviewed By: [signature] Review Date: 1/5/96

Purity/Cross Check Performed By: _____ Check Date: _____

Signed Date Signed Date

PROJECT _____ Continued From Page _____

SECONDARY/WORKING LEVEL STANDARD DILUTION RECORD

Dilution Source Information	
Isotope:	Sr-90
Parent Barcode Number	AA0049
Vendor or Certificate I.D. # of Parent Standard:	~~94-0677-91-1~~ 388-99-2
Diluted Source Logbook I.D. #:	94-0677-91-1
Balance Verification?:	Yes
Diluent Used:	1.0 M HNO_3

Dilution		
*Diluent:	1.0 M HNO_3	
*Density of diluent (g/ml):	1.0290	g/ml
a: Parent Specific Activity:	9125.0	pCi/g @ 1/5/96
b: Amount of Source Transferred:	6.012	g
c: Total amount of Dilution:	109.70	g
d: Total Volume of Dilution:	106.61	ml
e: Activity of Dilution [a * b / c]:	500.09	pCi/g 1/5/96
f: Activity of Dilution (a * b / d):	514.6	pCi/ml
Dilution Logbook I.D. #:	94-0677-92-1	

Prepared By: [signature] Preparation Date: 1/5/96

Reviewed By: [signature] Review Date: 1/5/96

*If the diluent remains unchanged from the diluent used for the dilution source, then a weight dilution of a volume unit source can be performed without a density conversion. If the diluent changes, a weighted proportion density conversion is necessary.

Read and Understood By

Signed	Date	Signed	Date

PROJECT Preparation of Am-241 Std

Notebook No. 0225

Continued From Page

Cert # / Parent Ref	Calib / Cert. Date	Exp. Date	Ref #	Vendor	Prep In	Notes In
388-100-1	Nov 1, 1991	5/6/94	91-0225-64	IPL	JH	JH

Item #	Preparation Date	Final Conc	Initial Conc	Bar Code
1	5/6/92	9,800 pCi/g	0.997 uCi in 5g 0.1994 uCi/g	AA0030

The entire standard was transferred to a 100-mL volumetric V.F. and the ~~sample~~ Std AH was diluted to 100mL with 0.5N HCl.

68.4902
63.5665 g wt. VF
4.9237 g std

164.01 g std + dilution
63.57 g VF
100.44 g diluted Std

Activity Std = $\frac{0.1994\ uCi/g \times 4.9237\ g\ of\ std}{100.44\ g\ dilution}$

Density 0.5N HCl = 1.003598 g/ml ⇒ 0.0097748 uCi/g × 1.003598 g/ml
= 0.0098 uCi/g = 0.009810 uCi/g ml
or = 9,800 pCi/g = 9810 pCi/ml

9/11/92

Continued on Page

0317

Read and Understood By

Signed 5/11/92 Date Signed 7/13/92 Date

PROJECT Am-241/ 1.6" dia. filter & LCS

Continued From Page

ISOTOPE DILUTION RECORD

Agnes Wo. 4-9-93

Isotope: Am-241

Secondary/Working Level Dilution

Date: 4-9-93 Preparer's Name: A. Wong

Pipet Check / Balance Wt. Check Done (✓)

Diluted Source ID (log#): 91-225-60-1

Diluent used: 0.5 N HCl

A: Source activity: 21700 dpm/g (9774.8 pCi/g)

B: Amount of source transferred: 10.3235 g

C: Total amount of dilution: 100.1029 g

D: Activity of dilution (A*B/C): 2237.90 dpm/g

E: Density of Diluent: 1.0010 g/ml

★ F: Activity by volume (D*E): 2240.14 dpm/ml

Dilution Log Book ID: ~~92-335~~ AW 92-353-81-1

Reviewed by: [signature] Date: 4/9/93

1.6" diameter filter LCS for Gamma Spec. (14 petri dish and sealed) JSS 5/18/93

Prepared by Nee Van Nuyen 5/10/93 — Cut Whatman Glass Microfibre filter paper (originally 3" dia.) to 1.6" dia. — Pipetted on filter:

^{137}Cs LAC-0199- 0.200 ml * 975.18 pCi/ml = 188.6 pCi (≡ 197.8 pCi 4-2-91)

^{60}Co LAC-0225-80-1 0.200 ml * 40.3 Bq/ml (998.11 pCi/ml) = 199.6 pCi (≡ 259.1 pCi 4-2-91)

(same pipette amounts as p. 80 ↖)

Continued on Page N/A

Read and Understood By

Signed	Date	Signed	Date
Agnes Wong	4-9-93	Jan M S Schuett	5-18-93