

Date: 19 February 2001
 To: Bechtel Hanford Inc. (technical representative)
 From: TechLaw, Inc.
 Project: 100H Areas - Full Protocol - Waste Site 100-H-24
 Subject: PCB - Data Package No. H1196-RLN (SDG No. H1196)

INTRODUCTION

This memo presents the results of data validation on Summary Data Package No. H1196-RLN prepared by Recra LabNet (RLN). A list of the samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analysis
B11496	12/19/00	Soil	C	PCBs by 8082
B11497	12/19/00	Soil	C	PCBs by 8082

Data validation was conducted in accordance with the Bechtel Hanford Incorporated (BHI) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, September 2000). Appendices 1 through 6 provide the following information as indicated below:

- Appendix 1. Glossary of Data Reporting Qualifiers
- Appendix 2. Summary of Data Qualification
- Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
- Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
- Appendix 5. Data Validation Supporting Documentation

DATA QUALITY PARAMETERS

- **Holding Times**

Sample data were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Soil samples must be extracted within 14 days of the date of sample collection and analyzed within 40 days from the date of extraction.

If holding times are exceeded by less than two times the limit, all associated sample results are qualified as estimates and flagged "J" for detects and "UJ" for non-detects. If holding times are exceeded by greater than two times the limit, all associated

RECEIVED
 OCT 30 2001

EDMC

00000001

detected sample results are qualified as estimates and flagged "J" and all non-detects are rejected and flagged "UR".

All holding times were acceptable.

- **Method Blank**

Method blank analyses are performed to determine the extent of laboratory contamination introduced through sampling, sample preparation or analysis. At least one method blank analysis must be conducted for every 20 samples. Method blanks should not contain target compounds at a concentration greater than target detection limit (TDL). If target compounds are present, sample results less than five times the blank concentration are qualified as undetected and flagged "U". If the sample result is less than five times the blank concentration and less than TDL, the result is qualified as undetected and elevated to the TDL.

All method blank target compound results were acceptable.

Field Blanks

No field blanks were submitted for analysis, therefore, no field blank data was available for review.

- **Accuracy**

Matrix Spike

Matrix spike analyses are used to assess the analytical accuracy of the reported data and the effect of the matrix on the ability to accurately quantify sample concentrations. Matrix spike analyses are performed in duplicate and must be within control limits of 70% to 130%. If spike recoveries are outside control limits, detected sample results less than five times the spike concentration are qualified as estimates and flagged "J". Non-detected sample results with spike recoveries outside control limits are qualified as estimates and flagged "UJ". Sample results greater than five times the spike concentration require no qualification.

All matrix spike results were acceptable.

Surrogate Recovery

The analysis of surrogate compounds provides a measure of performance for individual samples. Matrix-specific surrogate compound recovery control windows have been established by the laboratory. When a surrogate compound recovery is outside the

0000002

control window, all positively identified target compounds associated with the unacceptable surrogate recoveries are qualified as estimates and flagged "J". Non-detected compounds with surrogate recoveries less than the lower control limit are qualified as having an estimated detection limit and flagged "UJ". Non-detected compounds with surrogate recoveries above the upper control limit require no qualification.

All surrogate recovery results were acceptable.

- **Precision**

Matrix Spike/Matrix Spike Duplicate Samples

Matrix spike/matrix spike duplicate results provide matrix-specific information on the precision of the method for specific target compound classes. Precision is expressed as the relative percent difference (RPD) between the recoveries of duplicate matrix spike analyses performed on a sample. For soil samples, results must be within RPD limits of plus/minus 30%. If RPD values are out of specification and the sample concentration is less than five times the spike concentration, all associated detected sample results are qualified as estimates and flagged "J". If RPD values are out of specification and the sample concentration is greater than five times the spike concentration, no qualification is required.

All matrix spike/matrix spike duplicate precision results were acceptable.

Field Duplicate Samples

No field duplicates were submitted for analysis, therefore, no field duplicate data was available for review.

- **Analytical Detection Levels**

Reported analytical detection levels are compared against the 100 Area TDIs to ensure that laboratory detection levels meet the required criteria. The reported detection limit was exceeded for all undetected arochlor-1221 results. Under the BHI statement of work, no qualification is required.

- **Completeness**

Data Package No. H1196-RLN (SDG No. H1196) was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

00000003

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

The reported detection limit was exceeded for all undetected aroclor-1221 results. Under the BHI statement of work, no qualification is required.

REFERENCES

BHI, MRB-SBB-A23665, *Validation Statement of Work*, Bechtel Hanford Incorporated, September 5, 1997.

DOE/RL-96-22, Rev. 1, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2000.

00000004

Appendix 1

Glossary of Data Reporting Qualifiers

00000005

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows:

- U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.
- UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.
- J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.
- R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.
- UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.
- NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).
- N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

00000006

Appendix 2
Summary of Data Qualification

00000007

DATA QUALIFICATION SUMMARY

SDG: H1196	REVIEWER: TLI	DATE: 2/19/01	PAGE <u>1</u> OF <u>1</u>
COMMENTS: No qualifiers assigned			

00000008

Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

00000009

Recre LabNet - Lionville Laboratory

PCBs by GC

Report Date: 01/01/01 15:14 10

RFW Batch Number: 0012L636

Client: TMU HANFORD B99-042

Work Order: 10985001001 Page: 1

Sample Information	Cust ID:	B11496	B11496	B11496	B11497	PBLKLG	PBLKLG BS
	RFW#:	001	001 MS	001 MSD	002	00LE1681-MB1	00LE1681-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	112 %	110 %	112 %	110 %	102 %	108 %
	Decachlorobiphenyl	107 %	104 %	106 %	104 %	98 %	101 %
		-----fl-----	-----fl-----	-----fl-----	-----fl-----	-----fl-----	-----fl-----
Aroclor-1016		33 U	33 U	32 U	33 U	33 U	33 U
Aroclor-1221		66 U	66 U	65 U	65 U	67 U	67 U
Aroclor-1232		33 U	33 U	32 U	33 U	33 U	33 U
Aroclor-1242		33 U	33 U	32 U	33 U	33 U	33 U
Aroclor-1248		33 U	33 U	32 U	33 U	33 U	33 U
Aroclor-1254		33 U	108 %	107 %	33 U	33 U	92 %
Aroclor-1260		33 U	33 U	32 U	33 U	33 U	33 U

00000011

Handwritten signature and date: 1/2/01

Handwritten note: 01/23/01

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked. % = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

00000012



Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: TNU HANFORD B99-042
RFW#: 0012L636
SDG/SAF#: H1196/B99-042

W.O.#: 10985-001-001-9999-00
Date Received: 12-21-00

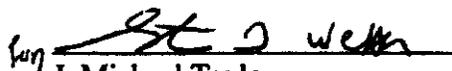
PCB

The set of samples consisted of two (2) soil samples collected on 12-19-00.

The samples and their associated QC samples were extracted on 12-21-00 and analyzed according to Recra OPs based on SW846, 3rd Edition procedures on 12-23-00. The extraction procedure was based on method 3550 and the extracts were analyzed based on method 8082 for Aroclors only.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature has been recorded on the chain-of-custody.
2. All required holding times for extraction and analysis have been met.
3. The samples and their associated QC samples received a sulfuric acid and sulfur cleanup.
4. The method blank was below the reporting limits for all target compounds.
5. All surrogate recoveries were within acceptance criteria.
6. The blank spike recovery was within acceptance criteria.
7. All matrix spike recoveries were within acceptance criteria.
8. All initial calibrations associated with this data set were within acceptance criteria.
9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, 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.


J. Michael Taylor
VP, Laboratory General Manager
Lionville Laboratory

01-05-01
Date

pefr:\group\data\pest\12L-636.pcb

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 8 pages.

00000013

Appendix 5

Data Validation Supporting Documentation

00000015

PESTICIDE/PCB DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT:	100H FP	100H24	DATA PACKAGE: H119C		
VALIDATOR:	JL	LAB: Recra	DATE: 2/7/01		
CASE:			SDG: H119C		
ANALYSES PERFORMED					
<input type="checkbox"/> CLP3/90	<input type="checkbox"/> SW-846 8080	<input type="checkbox"/> SW-846 8081	<input checked="" type="checkbox"/> 8082	<input type="checkbox"/>	<input type="checkbox"/>
SAMPLES/MATRIX	B11496	B11497			
Soil					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Is technical verification documentation present? Yes No **N/A**
 Is a case narrative present? **Yes** No **N/A**
 Comments: _____

2. HOLDING TIMES

Are sample holding times acceptable? **Yes** No N/A
 Comments: _____

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS

3.1 INSTRUMENT PERFORMANCE (METHOD 8080 AND 8081)

Are DDT retention times acceptable Yes No **N/A**
 Are calibration standard retention times acceptable? Yes No **N/A**
 Are DDT and endrin breakdowns acceptable? Yes No **N/A**

00000016

JL

PESTICIDE/PCB DATA VALIDATION CHECKLIST

Are DBC retention times acceptable? Yes No N/A
Is the GC/MS tuning/performance check acceptable? Yes No N/A

Comments: _____

3.2 CALIBRATIONS (METHOD 8080 AND 8081)

Are EVAL standard calibration factors and %RSD values acceptable? Yes No N/A
Are quantitation column calibration factor %RSD values acceptable? Yes No N/A
Were the analytical sequence requirements met? Yes No N/A
Are continuing calibration %D values acceptable? Yes No N/A

Comments: _____

3.3 INSTRUMENT PERFORMANCE AND INITIAL CALIBRATION (3/90 SOW)

Was the initial calibration sequence performed? Yes No N/A
Was the resolution acceptable in the resolution check mix? . . . Yes No N/A
Is resolution acceptable in the PEM, INDA and INDB? Yes No N/A
Are DDT and Endrin breakdowns acceptable? Yes No N/A
Are retention times in PEMs and calibration mixes acceptable? . Yes No N/A
Are RPD values in the PEMs acceptable? Yes No N/A
Are %RSD values acceptable? Yes No N/A

Comments: _____

3.4 CALIBRATION VERIFICATION (3/90 SOW)

Were the analytical sequence requirements met? Yes No N/A
Is resolution acceptable in the PEMs? Yes No N/A
Are initial calibrations acceptable? Yes No N/A

00000017
A-EE

PESTICIDE/PCB DATA VALIDATION CHECKLIST

Are retention times acceptable in the PEMs, INDA and INDB mixes?	Yes	No	N/A
Are RPD values in the PEMs acceptable?	Yes	No	N/A
Are the DDT and endrin breakdowns acceptable?	Yes	No	N/A
Was GPC cleanup performed?	Yes	No	N/A
Is the GPC calibration check acceptable?	Yes	No	N/A
Was Florisil cleanup performed?	Yes	No	N/A
Is the Florisil performance check acceptable?	Yes	No	N/A

Comments: _____

4. BLANKS

Were laboratory blanks analyzed?	Yes	No	N/A
Are laboratory blank results acceptable?	Yes	No	N/A
Were field/trip blanks analyzed?	Yes	No	N/A
Are field/trip blank results acceptable?	Yes	No	N/A

Comments: No FB

5. ACCURACY

Were surrogates analyzed?	Yes	No	N/A
Are surrogate recoveries acceptable?	Yes	No	N/A
Were MS/MSD samples analyzed?	Yes	No	N/A
Are MS/MSD results acceptable?	Yes	No	N/A
Were LCS samples analyzed?	Yes	No	N/A
Are LCS results acceptable?	Yes	No	N/A

Comments: _____

00000018

AKC

PESTICIDE/PCB DATA VALIDATION CHECKLIST

6. PRECISION

- Are MS/MSD RPD values acceptable? Yes No N/A
- Are laboratory duplicate results acceptable? Yes No N/A
- Are field duplicate RPD values acceptable? Yes No N/A
- Are field split RPD values acceptable? Yes No N/A

Comments: _____

7. SYSTEM PERFORMANCE

- Is chromatographic performance acceptable? Yes No N/A
- Are positive results resolved acceptably? Yes No N/A

Comments: _____

8. COMPOUND IDENTIFICATION AND QUANTITATION

- Is compound identification acceptable? Yes No N/A
- Is compound quantitation acceptable? Yes No N/A

Comments: _____

9. REPORTED RESULTS AND QUANTITATION LIMITS

- Are results reported for all requested analyses? Yes No N/A
- Are all results supported in the raw data? Yes No N/A
- Do results meet the CRQLs? Yes No N/A

Comments: 1221 over

0000019

AS

Review Comment Record (RCR)	1. Date 2/22/01	2. Review No. BHI/QA1003
	3. Project 100H	4. Page Page 1 of 1

5. Document Number(s)/Title(s) SDG No.: H1196	6. Program/Project/ Building Number 100H Areas Full Protocol Waste Site 110-11-24	7. Reviewer Claude Stacey	8. Organization/Group BHI/QA	9. Location/Phone HQ-16/372-9208
--	---	------------------------------	---------------------------------	-------------------------------------

17. Comment Submittal Approval: Organization Manager (Optional)	18. Agreement with indicated comment disposition(s) Date	19. CLOSED Date: 03/06/01	20. Reviewer Point of Contact Signature: Claude Stacey Date: 03/06/01
--	---	----------------------------------	---

12. Item	13. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	14. Hold Point	15. Disposition (Provide justification if NOT accepted.)	16. Status
1	Page 001, Introduction, the sampling plan reference should be DOE/RL-96-22, September 2000.		Correct	
2	Page 004, References, the sample plan reference should be DOE/RL-96-22 not DOE/RL-99-35.		Correct	
3				
4				
5				
6				

Post-It® Fax Note 7671

Date: 03/06/01	# of pages: 1
To: Jeanette Duncan	From: C. Stacey
Co./Dept.	Co.
Phone #	Phone #
Fax # 372-9487	Fax #



FEB 26 '01 05:00PM BHI S&D MANAGEMENT 509 372 9487

P.2/3

Duncan, Jeanette M

From: Weiss, Richard L
Sent: Tuesday, February 20, 2001 2:42 PM
To: Duncan, Jeanette M
Subject: Review of Validation Package for SDG H1196

Jeanette,

Review of the validation package for SDG H1196 identified the following item:

Waste Site in header should be 100-H-24 (not 110-H-24)

A handwritten signature in black ink, appearing to read "Carr" with a flourish underneath.

Rich

FEB 26 '01 05:00PM BHI S&D MANAGEMENT 509 372 9487

P.3/3

Duncan, Jeanette M

From: Kious, Jessica J
Sent: Monday, February 26, 2001 6:18 AM
To: Duncan, Jeanette M
Subject: 100-H-24

Jeanette,

Friday, Tina Routt and I reviewed the validation report for the 100-H-24 and besides the comment that you already made regarding the incorrect Waste Site ID, I do not have any other comments to make.

The validation appears correct.

-Jessica Kious

Jessica Kious
Bechtel Hanford, Inc.
509-372-9524
jjkious@bhi-erc.com

Review Comment Record (RCR)

1. Date
2/22/01

2. Review No.
BHI/QA1003

3. Project
100H

4. Page
Page 1 of 1

5. Document Number(s)/Title(s) SDG No.: H1196	6. Program/Project/ Building Number 100H Areas Full Protocol Waste Site 110-H-24	7. Reviewer Claude Stacey	8. Organization/Group BHI/QA	9. Location/Phone H0-16/372-9208
--	--	----------------------------------	-------------------------------------	---

17. Comment Submittal Approval:

10. Agreement with indicated comment disposition(s)

11. CLOSED

Organization Manager (Optional)

Date

Reviewer/Point of Contact

Date

Reviewer/Point of Contact

Author/Originator

Author/Originator

12. Item	13. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	14. Hold Point	15. Disposition (Provide justification if NOT accepted.)	16. Status
1	Page 001, Introduction, the sampling plan reference should be DOE/RL-96-22, September 2000.			
2	Page 004, References, the sample plan reference should be DOE/RL 96-22 not DOE/RL-99-35.			
3				
4				
5				
6				

Duncan, Jeanette M

From: Weiss, Richard L
Sent: Tuesday, February 20, 2001 2:42 PM
To: Duncan, Jeanette M
Subject: Review of Validation Package for SDG H1196

Jeanette,

Review of the validation package for SDG H1196 identified the following item:

Waste Site in header should be 100-H-24 (not 110-H-24)

Rich

Duncan, Jeanette M

From: Kious, Jessica J
Sent: Monday, February 26, 2001 8:18 AM
To: Duncan, Jeanette M
Subject: 100-H-24

Jeanette,

Friday, Tina Routt and I reviewed the validation report for the 100-H-24 and besides the comment that you already made regarding the incorrect Waste Site ID, I do not have any other comments to make.

The validation appears correct.

-Jessica Kious

Jessica Kious
Bechtel Hanford, Inc.
509-372-9524
jjkious@bhi-erc.com