

H1602



0056950

Analytical Report

Client: TNU HANFORD B02-002
LVL#: 0111L389
SDG/SAF#: H1602/B02-002

W.O.#: 11343-606-001-9999-00
Date Received: 11-17-01

RECEIVED
APR 19 2002

PESTICIDE

The set of samples consisted of ten (10) soil samples collected on 11-12,13-01.

EDMC

The samples and their associated QC samples were extracted on 11-20-01 and analyzed according to Lionville Laboratory OPs based on SW846, 3rd Edition procedures on 12-01,04,06-01. The extraction procedure was based on method 3540 and the extracts were analyzed based on method 8081.

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 method blank was below the reporting limits for all target compounds.
4. Five (5) of twenty (20) obtainable surrogate recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
5. The blank spike recovery was within acceptance criteria.
6. All matrix spike recoveries were within acceptance criteria.
7. Most samples required instrument dilutions due to the high concentrations of target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.
8. All initial calibrations associated with this data set were within acceptance criteria.

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 15 pages.

9. Several continuing calibration standards analyzed prior to sample extracts were outside acceptance criteria:

Standards	Analysis Date	Analysis Time	Column
4,4'-DDD	12-01-01	05:30	Both
4,4'-DDD	12-04-01	02:15	Confirmation
4,4'-DDE	12-04-01	03:04	Confirmation
4,4'-DDE	12-04-01	15:22	Confirmation
4,4'-DDT	12-05-01	23:22	Primary
4,4'-DDE	12-06-01	00:12	Primary

A copy of the Sample Discrepancy Report (SDR) has been enclosed.

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.


Yain Daniels
Deputy Laboratory Manager
Lionville Laboratory Incorporated

12/7/01
Date

pefr:\group\data\pest\11L-389.pes

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 016C524

Initiator: M. Kobel Batch: 01112389 Parameter: 0608X
 Date: 12/6/01 Samples: all Matrix: Soil
 Client: TNU Method: SW846/MCAWW/CLP/ Prep Batch: 01LE1401

1. Reason for SDR

a. COC Discrepancy Tech Profile Error Client Request Sampler Error on C-O-C
 Transcription Error Wrong Test Code Other _____

b. General Discrepancy

Missing Sample/Extract* Container Broken Wrong Sample Pulled Label ID's Illegible
 Hold Time Exceeded Insufficient Sample* Preservation Wrong Received Past Hold
 Improper Bottle Type Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

① high surrogates in the following: sample 008 TCX @ 120%, PCB @ 125% *GL limits TCX = 118%, PCB = 122%
 sample 010 TCX @ 120%, PCB @ 124%

② PDD increased on both columns before samples 4, 7, 8, 10, 10-MS, 10-MSD (all straight runs) clean of PDD.

2. Known or Probable Causes(s)

③ PDD increased on confirmation column only before samples 8, 10-MS, 10-MSD, BS, DDT reported from primary column. (in calibration)
 ④ PDD and PDE increased on confirmation column only before samples 2, 3, 4, 7, 8, 10. All hits reported from primary column. (in calibration)

3. Discussion and Proposed Action

Other Description:

- Re-log
- Entire Batch
- Following Samples: _____
- Re-leach
- Re-extract
- Re-digest
- Revise EDD
- Change Test Code to _____
- Place On/Take Off Hold (circle)

⑤ PDE and PDT decreased on primary column only before samples 1, 4, 5, and 9. All hits reported from confirmation column (in calibration)

Report and Narrative

4. Project Manager Instructions...signature/date: [Signature] 12/6/01

- Concur with Proposed Action
- Disagree with Proposed Action; See Instruction
- Include in Case Narrative
- Client Contacted:
- Date/Person _____
- Add
- Cancel

5. Final Action...signature/date: Michelle Kolud 12/6/01

Other Explanation:

- Verified re-[log][leach][extract][digest][analysis] (circle)
- Included in Case Narrative
- Hard Copy COC Revised
- Electronic COC Revised
- EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
<input checked="" type="checkbox"/>	X Initiator	<input type="checkbox"/>	Metals: Beegle
<input checked="" type="checkbox"/>	X Lab General Manager: M. Taylor	<input type="checkbox"/>	Inorganic: Perrone
<input type="checkbox"/>	X Project Mgr: Stone/Johnson/Daslett	<input type="checkbox"/>	GC/LC: Kiger
<input type="checkbox"/>	X Technical Mgr: Wesson/Daniels	<input type="checkbox"/>	MS: Rychlak/Layman
<input type="checkbox"/>	X QA (file): Alberts	<input type="checkbox"/>	Log-in: Keppel
<input type="checkbox"/>	Data Management: Feldman	<input type="checkbox"/>	Admin: Soos
<input type="checkbox"/>	Sample Prep: Beegle/Kiger	<input type="checkbox"/>	Other: _____



GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

- U** = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- J** = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I** = Interference.

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- SP** = Indicates Spiked Compound.



GLOSSARY OF PESTICIDE/PCB DATA

- P = This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form 1 and flagged with a "P".
- D = This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C = This flag applies to a compound that has been confirmed by GC/MS.

Sample Information	RFW#:	Matrix:	D.F.:	Units:	Cust ID:	RFW#:	Matrix:	D.F.:	Units:	Cust ID:	RFW#:	Matrix:	D.F.:	Units:	Cust ID:	RFW#:	Matrix:	D.F.:	Units:	Cust ID:	RFW#:	Matrix:	D.F.:	Units:
	001	SOIL	50.0	ug/Kg	B13905	001 DL	SOIL	500	ug/Kg	B13905	002	SOIL	1.00	ug/Kg	B13900	002 DL	SOIL	20.0	ug/Kg	B13900	003	SOIL	1.00	ug/Kg

Surrogate:	Decachlorobiphenyl	Tetrachloro-m-xylene	4,4'-DDE	4,4'-DDD	4,4'-DDT
	D	D	E	180	820
	%	%	%	U	
	125	115	2600	29	140
	*	%	E	.I	NA
					120
	D	D	E	7.0	120
	%	%	%	U	U
	121	118	21	3.5	70
	%	%	.I	U	U

Sample Information	RFW#:	Matrix:	D.F.:	Units:	Cust ID:	RFW#:	Matrix:	D.F.:	Units:	Cust ID:	RFW#:	Matrix:	D.F.:	Units:	Cust ID:	RFW#:	Matrix:	D.F.:	Units:	Cust ID:	RFW#:	Matrix:	D.F.:	Units:
	004 DL	SOIL	200	ug/Kg	B138X9	005	SOIL	20.0	ug/Kg	B138Y2	005 DL	SOIL	400	ug/Kg	B138Y2	006	SOIL	1.00	ug/Kg	B138Y5	006 DL	SOIL	20.0	ug/Kg

Surrogate:	Decachlorobiphenyl	Tetrachloro-m-xylene	4,4'-DDE	4,4'-DDD	4,4'-DDT
	D	D	1000	NA	NA
	%	%	E	U	NA
			2400	70	120
	D	D	NA	NA	NA
	%	%	E	U	E
	115	112	480	3.5	210
	%	%	E	U	E

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

Handwritten signature/initials

Sample Information	RFW#:	Matrix:	D.F.:	Units:	Cust ID:
	007 DL	SOIL	10.0	ug/Kg	B138Y6
	008	SOIL	1.00	ug/Kg	B138Y7
	008 DL	SOIL	20.0	ug/Kg	B138Y7
	009	SOIL	50.0	ug/Kg	B138Y8
	009 DL	SOIL	500	ug/Kg	B138Y8
	010	SOIL	1.00	ug/Kg	B13914

Surrogate:	Decachlorobiphenyl	Tetrachloro-m-xylene	D	%	125 *	%	120 *	%	D	%	D	%	D	%	D	%	124 *	%
4,4'-DDE			370		E		210		NA		170		NA		2200		3.5	U
4,4'-DDD			NA		3.5	U	40		NA		760		NA				3.5	U
4,4'-DDT			53															

Sample Information	RFW#:	Matrix:	D.F.:	Units:	Cust ID:
	010 DL	SOIL	5.00	ug/Kg	B13914
	010 MS	SOIL	1.00	ug/Kg	B13914
	010 MSD	SOIL	1.00	ug/Kg	B13914
	01LE1401-MB1	SOIL	1.00	ug/Kg	PBLKYC
	01LE1401-MB1	SOIL	1.00	ug/Kg	PBLKYC BS

Surrogate:	Decachlorobiphenyl	Tetrachloro-m-xylene	D	%	73	%	72	%	118	%	112	%	122	%	115	%	119	%
4,4'-DDE			26		23		34		3.3	U								
4,4'-DDD			NA		3.5	U	70		100		3.3	U	118					
4,4'-DDT			NA															

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

JKL 12/6/01

01111384

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B02-002-04

Page 1 of 1

Collector
Fahberg/Watson
11/16/01

Company Contact
W Remsen
372-9086

Project Coordinator
TRENT, SJ

Price Code
8N

Data Turnaround
45 Days

Project Designation
Horseshoe Landfill Residual Pesticide Sampling - Soil

Sampling Location
Horseshoe Landfill Residual Pesticide - Soil

SAF No.
B02-002

Air Quality

Ice Chest No.
ERC-01-025

Field Logbook No.
EL 1517-2

COA
R601162000

Method of Shipment
Fed EX

Shipped To
TM/RECRA

Offsite Property No.
A020052

Bill of Lading/Invoice No.
42557954-9081

POSSIBLE SAMPLE HAZARDS/REMARKS
Samples did not originate in radiological controlled area. No total activity associated with sample/samples.
Special Handling and/or Storage
PT-11-16-01

SAMPLE ANALYSIS

Pesticides -
8081 (44-
DDD, 44-
DDE, 44-
DDT)

Sample No.	Matrix *	Sample Date	Sample Time	Received By/Stored In	Date/Time	Sign/Print Names	Date/Time	SPECIAL INSTRUCTIONS
B13904	SOIL	11-12-01	1300	Ref	11-12-01 1500			
B13905	SOIL	11-12-01	1303					
B13906	SOIL	11-12-01	1306					
B13907	SOIL	11-12-01	1309					
B13908	SOIL	11-12-01	1314					

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Ref	11-12-01 1500	Ref	11-12-01 1500
Ref	11-12-01 1500	Ref	11-12-01 1500
Ref	11-12-01 1500	Ref	11-12-01 1500
Ref	11-12-01 1500	Ref	11-12-01 1500
Ref	11-12-01 1500	Ref	11-12-01 1500

Samples stored in Ref at the 3728 Shipping Facility on 11/12/01. Collector not available to relinquish samples on 11/16/01 for shipment.
RT 11-16-01

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposed Method		Date/Time

Collector: Fahlberg/Watson Thawes Company Contact: W Rensen Telephone No.: 372-9086 Project Coordinator: TRENT, SJ Price Code: 8N Data Turnaround: 45 Days

Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil Sampling Location: Horseshoe Landfill Residual Pesticide - Soil SAF No.: B02-002 Air Quality:

Ice Chest No.: 22201025 Field Logbook No.: EL 1517-2 COA: R601162000 Method of Shipment: Fed EX

Shipped To: TMA/RECKA OFFSITE PROPERTY No. AP0200000 Bill of Lading # 42357954-908

POSSIBLE SAMPLE HAZARDS/REMARKS: Samples did not originate in radiological controlled area. No total activity associated with sample/samples. Special Handling and/or Storage

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Preservation	Cool AC	Type of Container	No. of Container(s)	Volume	Pesticides: 8081 (4,4'-DDD, 4,4'-DDE, 4,4'-DDT)
B138X9	SOIL	11.12.01	1110		X				
B138X0	SOIL	11.12.01	1118		X				
B138X4	SOIL	11.12.01	1129		X				
B138Y2	SOIL	11.12.01	1128		X				
B138V3	SOIL	11.12.01	1131		X				

CHAIN OF POSSESSION Sign/Print Names

Relinquished By/Removed From: R. Fahlberg Date/Time: 11.12.01 1500 Received By/Stored In: Raf Date/Time: 11.12.01 1500

Relinquished By/Removed From: R. Fahlberg Date/Time: 11.12.01 0900 Received By/Stored In: R. Thawes Date/Time: 11.12.01 0900

Relinquished By/Removed From: R. Fahlberg Date/Time: 11.12.01 0900 Received By/Stored In: R. Thawes Date/Time: 11.12.01 0900

Relinquished By/Removed From: R. Fahlberg Date/Time: 11.12.01 1030 Received By/Stored In: R. Thawes Date/Time: 11.12.01 1030

Relinquished By/Removed From: R. Fahlberg Date/Time: 11.12.01 1030 Received By/Stored In: R. Thawes Date/Time: 11.12.01 1030

LABORATORY SECTION: Received By: Raf Date/Time: 11.12.01 1500
 FINAL SAMPLE DISPOSITION: Disposed Method: RT 11-16-01 Disposed By: Raf Date/Time: 11.12.01 1500

SPECIAL INSTRUCTIONS: Samples stored in Ref.# 2 at the 3728 Shipping Facility on 11/12/01. Collector not available to relinquish samples on 11/16/01 for shipment. RT 11-16-01

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector: Fahlberg/Watson
 Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil

Company Contact: W Rensen
 Telephone No.: 372-9086

Project Coordinator: TRENT, SJ

Price Code: 8N

Data Turnaround: 45 Days

Ice Chest No.: ERC-01-025

Sampling Location: Horseshoe Landfill Residual Pesticide - Soil
 Field Logbook No.: EL 15172
 COA: R601162000

Method of Shipment: Fed EX

Shipped To: TMA/REORA

Offsite Property No.: A0200852

Bill of Lading/AT Bill No.: 42357954-9081

POSSIBLE SAMPLE HAZARDS/REMARKS
 Samples did not originate in radiological controlled area. No total activity associated with sample/samples. RT116-01 Special Handling and/or Storage

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Preservation	Type of Container	No. of Container(s)	Volume	Pesticides - 8081 (4,4'-DDD, 4,4'-DDE, 4,4'-DDT)
B138Y4	SOIL	11-12-01	1139	Cool 4C	4C	1	120mL	
B138Y5	SOIL	11-12-01	1148					
B138Y6	SOIL	11-12-01	1155					
B138Y7	SOIL	11-12-01	1158					
B138Y8	SOIL	11-12-01	1202					

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Sign/Print Names
<u>K. Fahlberg</u>	<u>11-12-01 1500</u>	<u>R. F. C.</u>	<u>11-12-01 1500</u>	
<u>Relinquished By/Removed From</u>	<u>Date/Time</u>	<u>Received By/Stored In</u>	<u>Date/Time</u>	
<u>3728</u>	<u>11-16-01</u>	<u>R. Trent</u>	<u>11-16-01</u>	
<u>Relinquished By/Removed From</u>	<u>Date/Time</u>	<u>Received By/Stored In</u>	<u>Date/Time</u>	
<u>3728</u>	<u>11-16-01</u>	<u>R. Trent</u>	<u>11-16-01</u>	
<u>Relinquished By/Removed From</u>	<u>Date/Time</u>	<u>Received By/Stored In</u>	<u>Date/Time</u>	
<u>3728</u>	<u>11-16-01</u>	<u>R. Trent</u>	<u>11-16-01</u>	
<u>Relinquished By/Removed From</u>	<u>Date/Time</u>	<u>Received By/Stored In</u>	<u>Date/Time</u>	
<u>3728</u>	<u>11-16-01</u>	<u>R. Trent</u>	<u>11-16-01</u>	
<u>Relinquished By/Removed From</u>	<u>Date/Time</u>	<u>Received By/Stored In</u>	<u>Date/Time</u>	
<u>3728</u>	<u>11-16-01</u>	<u>R. Trent</u>	<u>11-16-01</u>	

SPECIAL INSTRUCTIONS

Samples stored in Ref.# 2 at the 3728 Shipping Facility on 11-16-01. Collector not available to relinquish samples on 11-16-01 for shipment. RT 11-16-01

LABORATORY SECTION	Received By	Title
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By
Date/Time		Date/Time

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector: Falberg/Watson Telephone No.: 372-9086

Company Contact: W Rensen

Project Coordinator: TRENT, SJ

Price Code: **8N**

Data Turnaround: **45 Days**

Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil

Sampling Location: Horseshoe Landfill Residual Pesticide - Soil

SAF No.: B02-002

Air Quality:

Ice Chest No.: ERC-01-025

Field Logbook No.: EL 1517-2

COA: R601162000

Method of Shipment: Fed EX

Shipped To: TMA/RECHA

Offsite Property No.: 9020052

Bill of Lading/Air Bill #: 42357954-9081

POSSIBLE SAMPLE HAZARDS/REMARKS
 Samples did not originate in radiological controlled area. No total activity associated with sample/samples. RT 11-10-01
 Special Handling and/or Storage

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Pesticides - 8081 (4,4'-DDD, 4,4'-DDE, 4,4'-DDT)
B13914	SOIL	11-13-01	0907	✓
B13915	SOIL	11-13-01	0912	✓
B13916	SOIL	11-13-01	0915	✓
B13917	SOIL	11-13-01	0920	✓
B13918	SOIL	11-13-01	0924	✓

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Sign/Print Names
<u>RECHA</u>	<u>11-13-01 1400</u>	<u>RT</u>	<u>11-13-01 1400</u>	
<u>RECHA</u>	<u>11-13-01 0900</u>	<u>RT</u>	<u>11-13-01 0900</u>	
<u>RECHA</u>	<u>11-16-01 0800</u>	<u>RECHA</u>	<u>11-16-01 0800</u>	
<u>RECHA</u>	<u>11-16-01 1100</u>	<u>RECHA</u>	<u>11-16-01 1100</u>	
<u>RECHA</u>	<u>11-17-01 1030</u>	<u>RECHA</u>	<u>11-17-01 1030</u>	

SPECIAL INSTRUCTIONS

Samples stored in Ref # 21 at the 3728 Shipping Facility on 11/13/01.
 Collector not available to relinquish samples on 11/16/01 for shipment.
RT 11-16-01

LABORATORY SECTION

Received By: _____ Date/Time: _____

FINAL SAMPLE DISPOSITION

Disposed By: _____ Date/Time: _____

Figure 1. Sample Check-in List

Date/Time Received: 11/17/01 1030

SDG#: 0111L389

Work Order Number: ERC-01-025

SAF# B02-002

Shipping Container ID: _____

Chain of Custody # B02-002-04

1. Custody Seals on shipping container intact? Yes No

2. Custody Seals dated and signed? Yes No

3. Chain-of-Custody record present? Yes No

4. Cooler temperature _____ 2°

5. Vermiculite/packing materials is Wet Dry

6. Number of samples in shipping container: _____

7. Sample holding times exceeded? Yes No

8. Samples have: _____ tape <input checked="" type="checkbox"/> custody seals _____ hazard labels _____ appropriate sample labels
9. Samples are: <input checked="" type="checkbox"/> in good condition _____ broken _____ leaking _____ have air bubbles

10. Were any anomalies identified in sample receipt? Yes No

11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: Paul H. [Signature] Date: 11/17/01
Loville Laboratory Assoc.

Telephoned to: _____ On _____ By _____