START 9613403.0105 0000004 WESTON

Westinghouse Hanford Company

CHAIN OF CUSTODY

92084673-WES-825
002875
0043071 92084673

Custody Form Initiator KB Hulse

Company Contact Richard Roos / Nancy Seguin (OSM) Telephone 376-9218/373-3467

Project Designation/Sampling Locations SAF#92-185 100-D Ponds Collection Date 8-25-92

Ice Chest No. SML 127 ~~987 0209~~ RA 8-27-92 Field Logbook No. WHC-N-205 #15 pg52

Bill of Lading/Airbill No. 250 987 0209 Offsite Property No.

Method of Shipment Emery Air Express Overnight Air

Shipped to TMA/NORCAL 2030 Write Av Richmond, CA 94804

Possible Sample Hazards/Remarks None Known

Sample Identification

B06D51 ~~Seven (7)~~ Bottles

B06D52 ~~Seven (7)~~ Bottles

~~B06D53 three (3) Bottles~~

B06D57 ~~Seven (7)~~ Bottles

~~Total all Bottles~~

KBH 8-26-92

KBH 8-26-92

☐ Field Transfer of Custody

CHAIN OF POSSESSION

(Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
KB Hulse KB Hulse	Kermit Blum	8-28-92 1130
Kermit Blum 8-28-92		
[illegible]	[illegible]	8/29/92 09:50

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

FEB 1996 RECEIVED EDMC

A-6000-407 (12/90)

WESTON Analytics Use Only

9208L673

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse Hanford
Est. Final Proj. Sampling Date:
Work Order #: 6168-02-01-0000
Project Contact/Phone #:
AD Project Manager: Josie E.
QC: Clp Del: Clp TAT: 35 day
Date Rec'd: 8/29/92 Date Due: 10-3-92
Account #: WS-HANFORD

Refrigerator #								3							
#/Type Container	Liquid							1P							
	Solid														
Volume	Liquid							250							
	Solid														
Preservatives								HNO3							
ANALYSES REQUESTED		ORGANIC						INORG							
		VOA	BNA	Pest/PCB	Herb			Metal	CN						

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only														
															RCPATCH						
001	B06D51			W	8/26/92										✓						
002	52														✓						
003	57														✓						

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions: SAF #92-185 100-D Pond

metals = TCLP metals.

① MS/MSD Acquire

original rewritten

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ✓
Airbill # 2521034075
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES

Relinquished by	Received by	Date	Time
[signature]	[signature]	8/29/92	09:30
[signature] 8-31-92			

Relinquished by	Received by	Date	Time
	[signature] 8/31/92		

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

9613403 0106

0000005

ROY F. WESTON, INC.
LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

Client: WESTINGHOUSE HANFORD
RFW #: 9208L673

W.O. #: 6168-02-01
Date Received: 08-29-92

CLP METALS

The set of samples consisted of three (3) leachate samples collected on 08-26-92.

The samples were analyzed according to criteria set forth in CLP SOW 3/90.

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

1. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures Laboratory.

2. All ICV and CCV values were within control limits.

3. All ICB and CCB values were within control limits.

4. All preparation blank values were within control limits.

5. All LCS results were within the 80-120% control limits.

6. The laboratory performed one matrix spike analysis per twenty TCLP samples of a similar matrix. The Federal Register suggests that sample matrix spike recoveries be over 50%.

7. Duplicate analyses were performed on TCLP samples; however, they were not required.

Margaret M. Beaty for

J. Peter Hershey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

10/30/92
Date

mlj/clp-met.nar

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/28/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L673

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B06D51	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	200	u	UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/28/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L673

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	B06D52	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	200	u	UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/28/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L673

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-003	B06D57	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	200	u	UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

9613403.0111

Westinghouse Hanford Company

NONCONFORMANCE REPORT

1. Page 1 of 1

2. Preprinted No. 051932

QA Log No.

3. P. O., W. O., or Job Control No.	4. System/End Use	5. Item/Material	6. Dwg./Spec./Other No.	7. Rev.
N/A	RI/FS	SAMPLES	SEE DESCRIPTION	N/A

8. Program/Project/Other: (100-DR-1) 100-D-PONDS / 92-185

9. Safety Class: N/A

10. ASME Code Items: ☐ Yes ☒ No (If yes, notify authorized inspector)

11. Supplier Name/Address: ENVIRONMENTAL FIELD SAMPLING SERVICES

12. Notification of Potential Occurence Required: ☐ Yes ☒ No

13. Code: Lot/Heat/Serial	14. Lot Size	15. Sample	16. Qty. Acc.	17. Inspection Criteria
N/A	18	18	Ø	☐ Dwg. ☐ Spec. ☐ Insp. Plan ☒ Other WHC-CM-7-7, EII 5.10 REV 0, SEC 6.1

18. Item	19. Description of Nonconformence (list serial no. where applicable)	22. Disposition, Justification, and Instructions
1	AS STATED IN WHC-CM-7-7, EII 5.10, REV. 0, SEC. 6.1, THERE WILL BE ONLY ONE UNIQUE HEIS NUMBER PER SAMPLE TO ASSURE NO MUTIPLE USE OF A SAMPLE NUMBER(S). CONTRARY TO THE ABOVE, HEIS SAMPLE NUMBERS - B06D31, B06D32, B06D34, B06D38, B06D39, B06D40, B06D41, B06D42, B06D43, B06D44, B06D45, B06D46, B06D47, B06D48, B06D49, B06D51, B06D52, B06D57 WERE ASSIGNED TO TWO DISTINCT SAMPLES. EACH SAMPLE MUST BE ASSIGNED A UNIQUE HEIS NUMBER.	SDLA WILL ISSUE A NEW HEIS NUMBER TO ANY SAMPLE WHICH HAS BEEN GIVEN A PREVIOUSLY USED HEIS IDENTIFIER. THESE SAMPLE NUMBER CHANGES WILL BE ENTERED INTO THE SDLA DATA BASE. A MEMO WILL BE TRANSMITTED TO HEIS AND THE ANALYTICAL LABORATORY DATA PACKAGE, OUTLINING CORRECTIONS. SAMPLE NUMBERS WILL BE USED "AS IS" AND ~~REQUESTED~~ REFERENCED IN THE SDLA DATABASE TO MAINTAIN TRACEABILITY.

CHANGE 1/13/94 RMC

20. Originator's Signature	Date	23. Design Document Change Required?
R Clayton Smith	1/12/94	☐ Yes, Doc. No. _____ ☐ No
21. Cognizant QA Manager's Signature	Date	24. Corrective Action Required?
		☐ Yes, No. _____ ☐ No

Disp. App.

25. Cognizant Engineer	Date	26. Technical Rep.	Date	Signature/Org.	Date
N. M. Neikirk					
QA Engineer	Date	Signature/Org.	Date	Signature/Org.	Date
J. S. Corrigan					

Close

27. Accept _____ Reject _____ Follow on NCR _____

QA/C Personnel _____ Date

1/10/94

DUPLICATE HEIS NUMBERS

for Project 100-D-PONDS

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B06D31		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D31A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D32		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D32A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D34		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D34A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D38		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D38A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D39		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92

1/10/94

DUPLICATE HEIS NUMBERS

for Project 100-D-PONDS

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B06D39A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D40		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D40A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D41		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D41A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D42		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D42A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D43		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D43A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92

1/10/94

DUPLICATE HEIS NUMBERS

for Project 100-D-PONDS

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B06D44		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D44A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D45		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D45A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D46		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D46A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D47		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D47A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D48		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92

1/10/94

DUPLICATE HEIS NUMBERS

for Project 100-D-PONDS

HEIS Samp Number	Client Sample Number	Master DP File Number	DP Sequence Number	Laboratory	Y N	VOA	Y N	SEMI VOA	Y N	PEST/PCB	Y N	WETCHEM	Y N	METALS	COMMENTS	Y N	RADCHEM	Date OSM Rcvd DP
B06D48A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D49		9209L714	834	WESTON	N		N		N		N		Y	11/11/92	09/02/92	N		11/11/92
B06D49A		B06D25	275	TMA/NORCAL	Y	11/17/92	Y	11/17/92	Y	11/17/92	N		Y	11/17/92	08/28/92 - REVISED HG RCVD 8/30/93	N		11/17/92
B06D51		9208L673	825	WESTON	N		N		N		N		Y	11/04/92	08/29/92	N		11/04/92
B06D51A		B06D51	267	TMA/NORCAL	Y	11/02/92	Y	11/02/92	Y	11/02/92	N		Y	11/02/92	08/28/92	N		11/02/92
B06D52		9208L673	825	WESTON	N		N		N		N		Y	11/04/92	08/29/92	N		11/04/92
B06D52A		B06D51	267	TMA/NORCAL	Y	11/02/92	Y	11/02/92	Y	11/02/92	N		Y	11/02/92	08/28/92	N		11/02/92
B06D57		9208L673	825	WESTON	N		N		N		N		Y	11/04/92	08/29/92	N		11/04/92
B06D57A		B06D51	267	TMA/NORCAL	Y	11/02/92	Y	11/02/92	Y	11/02/92	N		Y	11/02/92	08/28/92	N		11/02/92

9613403.0116

VALIDATION SUMMARY

9613403.0117 0000010 9208L673WRS-825

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/28/92

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9208L673

WORK ORDER: 06168-002-001-0000-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B06D51	Silver, TCLP Leachate	10.0	u J	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	200	u	UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u J	UG/L	100

Ag [illegible] "J" [illegible] MS < 75%

9613403.0118 0000011

PMD 5/25/93

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/28/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L673

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	B06D52	Silver, TCLP Leachate	10.0	uJ	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	200	u	UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	uJ	UG/L	100

Ag + Se "J" due to MS < 75%

9613403.0119 0000012

PWS 6/25/93

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/28/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L673

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-003	B06D57	Silver, TCLP Leachate	10.0	uJ	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	200	u	UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	uJ	UG/L	100

Ag + Se "J" due to MS < 75%

9613403.0120 0000013

pcc 8/25/93

ROY F. WESTON INC.

INORGANIC METHOD BLANK DATA SUMMARY PAGE 10/28/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L673

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
BLANK1	92L2215-MB1	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	200	u	UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100
BLANK1	92C0296-MB1	Mercury, Total	0.2 ~~1.0~~	u	UG/L	0.2 ~~1.0~~
BLANK2	92C0296-MB2	Mercury, Total	0.2 ~~1.0~~	u	UG/L	0.2 ~~1.0~~

9613403.0121 0000014

✓ paid 8/20

ROY F. WESTON INC.

INORGANIC ACCURACY REPORT 10/28/92

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9208L673

WORK ORDER: 06168-002-001-0000-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV
-001	B06D51	Mercury, TCLP Leachate	1.1	0.20u	1.0	107 ✓

$$\frac{1.061 - 0}{1.0} \times 100 = 106.7 \cong 107 ✓$$

9614403.0122 0000015

ROY F. WESTON INC.

INORGANIC ACCURACY REPORT 10/28/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-0000-00

WESTON BATCH #: 9208L673

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT		SPIKED AMOUNT	%RECOV
-003	B06D57	Silver, TCLP Leachate	2610	10.0	u	5000	52.2
		Arsenic, TCLP Leachate	5130	100	u	5000	103
		Barium, TCLP Leachate	104000	200	u	100000	104
		Cadmium, TCLP Leachate	1020	5.0	u	1000	102
		Chromium, TCLP Leachate	5140	10.0	u	5000	103
		Lead, TCLP Leachate	5280	90.0	u	5000	106
		Selenium, TCLP Leachate	1370	100	u	2000	68.4

ROY F. WESTON INC.

INORGANIC PRECISION REPORT 10/28/92

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9208L673

WORK ORDER: 06168-002-001-0000-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	%RPD
-001REP	B06D51	Mercury, TCLP Leachate	0.20u	0.20u	NC

ROY F. WESTON INC.

INORGANIC LABORATORY CONTROL STANDARDS REPORT 10/28/92

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	92L2215-LC1	Silver, LCS	493	500	UG/L	98.5
		Arsenic, LCS	10300	10000	UG/L	103
		Barium, LCS	5220	5000	UG/L	104
		Cadmium, LCS	257	250	UG/L	103
		Chromium, LCS	516	500	UG/L	103
		Lead, LCS	2560	2500	UG/L	102
		Selenium, LCS	10400	10000	UG/L	104
LCS2	92L2215-LC2	Silver, LCS	488	500	UG/L	97.6
		Arsenic, LCS	10200	10000	UG/L	102
		Barium, LCS	5160	5000	UG/L	103
		Cadmium, LCS	246	250	UG/L	98.5
		Chromium, LCS	509	500	UG/L	102
		Lead, LCS	2550	2500	UG/L	102
		Selenium, LCS	10300	10000	UG/L	103
LCS1	92C0296-LC1	Mercury, LCS	4.9	5.0	UG/L	97.4
LCS2	92C0296-LC2	Mercury, LCS	5.0	5.0	UG/L	101

$$\frac{492.6}{500} \times 100 = 98.5$$

Form 2A not in 9613403.0125 so This had. I have form 4A had to be hand generated by the validator. RMS 8/25/93

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: _____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Initial Calibration Source: _____

Continuing Calibration Source: _____

✓ PMB 8/26/93

Concentration Units: ug/L

	Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
	Aluminum									
	Antimony									
X	Arsenic	10000.	10370.	103.7	10000	10380	103.8	10400.	104.0	
X	Barium	5000.	5148.	103.0	5000.	5123.	102.5	5225.	104.5	
	Beryllium									
X	Cadmium	250.0	252.2	100.9	250.0	255.2	102.1	246.4	98.6	
	Calcium									
X	Chromium	500.0	517.6	103.5	500.0	515.6	103.1	518.7	103.7	
	Cobalt									
	Copper									
	Iron									
X	Lead	2500.	2572.	102.9	2500.	2572.	102.9	2575.	103.0	
	Magnesium									
	Manganese									
X	Mercury	5.0	5.078	101.5	5.0	5.149	103.0	5.074	101.5	
	Nickel									
	Potassium									
X	Selenium	10000.	10130.	101.3	10000.	10160.	101.6	10340	103.4	
X	Silver	500.0	513.6	102.7	500.0	514.5	102.9	517.1	103.4	
	Sodium									
	Thallium									
	Vanadium									
	Zinc									
	Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

9613403.0126

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: _____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Initial Calibration Source: _____

Continuing Calibration Source: _____

V [illegible] 8/26/93

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									
Antimony									
Arsenic				10000	10660	106.6			
Barium				5000	5322	106.4			
Beryllium									
Cadmium				250.0	269.3	107.7			
Calcium									
Chromium				500.0	527.0	105.4			
Cobalt									
Copper									
Iron									
Lead				2500.	2623	104.9			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				10000	10530	105.3			
Silver				500.0	530.3	106.1			
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Form 2B was not generate This form 2B. 9613403.0127 b. The [illegible] to

U.S. EPA - CLP

[illegible] - 8/25/93

2B

CRDL STANDARD FOR AA AND ICP

Lab Name: _____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

AA CRDL Standard Source: _____

ICP CRDL Standard Source: _____

✓ [illegible] 8/2[illegible]/93

Concentration Units: ug/L

	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
Analyte	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
x Arsenic								
x Barium								
Beryllium								
x Cadmium				10.00	6.822	68.2	9.027	90.3
Calcium								
x Chromium				20.00	22.82	114.1	23.86	119.3
Cobalt								
Copper								
Iron								
x Lead								
Magnesium								
Manganese								
x Mercury	0.2	.1830	91.5					
Nickel								
Potassium								
x Selenium								
x Silver				20.00	21.12	105.6	23.75	118.8
Sodium								
Thallium								
Vanadium								
Zinc								

Form 3s were not generated by the lab. This form 3 had to be generated by the validator, except for the prep. blank info. Please see attached method blank report.

9613403.0128

U.S. EPA - CLP

PMS 8/25/93

3
BLANKS

Lab Name: _____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

✓ PMS 8/26/93

See attached method blank report.

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum											
Antimony											
x Arsenic	100.0	U	100.0	U	100.0	U	100.0	U			
x Barium	200.0	U	200.0	U	200.0	U	200.0	U			
Beryllium											
x Cadmium	5.0	U	5.0	U	5.0	U	5.0	U			
Calcium											
x Chromium	10.0	U	10.0	U	10.0	U	10.0	U			
Cobalt											
Copper											
Iron											
x Lead	90.0	U	90.0	U	90.0	U	90.0	U			
Magnesium											
Manganese											
x Mercury	0.2	U	0.2	U	0.2	U					
Nickel											
Potassium											
x Selenium	100.0	U	100.0	U	100.0	U	100.0	U			
x Silver	10.0	U	10.0	U	10.0	U	10.0	U			
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

9613403.0129

U.S. EPA - CLP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: _____ Contract: _____

Lab Code: _____ Case No: _____ SAS No.: _____ SDG No.: _____

ICP ID Number: _____ ICS Source: _____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum								
Antimony								
x Arsenic								
x Barium				492.2			500.8	
Beryllium								
x Cadmium				953.1			967.8	
Calcium								
x Chromium				457.5			463.7	
Cobalt								
Copper								
Iron								
x Lead				947.9			959.7	
Magnesium								
Manganese								
x Mercury								
Nickel								
Potassium								
x Selenium								
x Silver				886.9			905.9	
Sodium								
Thallium								
Vanadium								
Zinc								

ICP ICS AB True Values were not provided by the Lab. Therefore, the %R could not be validated.

FORM IV - IN

7/88

Form 9 was not [illegible] by the lab. The data validator had to generate this form 9. [illegible] 8/25/93

9615405.0130

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9

ICP SERIAL DILUTIONS

EPA SAMPLE NO.

Lab Name: _____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): _____ Level (low/med): _____

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum							
Antimony							
Arsenic	10.0	u	10.0	u			
Barium	200	u	200.0	u			
Beryllium							
Cadmium	5.0	u	5.0	u			
Calcium							
Chromium	10.0	u	10.0	u			
Cobalt							
Copper							
Iron							
Lead	90.0	u	90.0	u			
Magnesium							
Manganese							
Mercury							
Nickel							
Potassium							
Selenium	100	u	100	u			
Silver	10.0	u	10.0	u			
Sodium							
Thallium							
Vanadium							
Zinc							

Assumed sample labelled "L" in ICP data was SD sample.

FORM IX - IN

7/88