

START

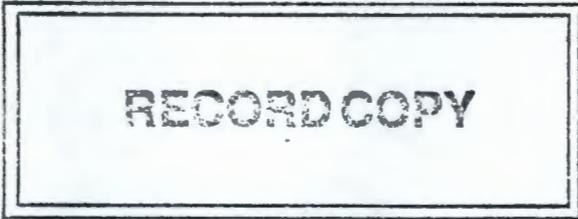
9613495.29236

W0100-ITC-117

pm



INTERNATIONAL
TECHNOLOGY
CORPORATION



0045460



Analytical Data Package Prepared For

Westinghouse Hanford

Radiochemical Analysis By

IT Analytical Services

Richland Laboratory

Sample Delivery Group Number: W0100

CLIENT IDENTIFICATION NUMBER

ITAS RICHLAND ID NUMBER

B0C2W4	40643801
B0C2W5	40643802
B0C2W6	40643803
B0C2W7	40643804



Regional Office

2800 George Washington Way • Richland, Washington 99352-1613 • 509-375-3131 • FAX: 509-375-5590

IT Corporation is a wholly owned subsidiary of International Technology Corporation

0001



CERTIFICATE OF ANALYSIS

Westinghouse Hanford Company
 P.O. Box 1970
 Richland, WA 99352

August 9, 1994

Attention: J.A.Lerch

SAF Number	:	94-207
Date SDG Closed	:	June 29, 1994
Number of Samples	:	Four (4)
Sample Type	:	Soil
SDG Number	:	W0100
Data Deliverable	:	Stand Alone

I. Introduction

On June 17, 1994, four soil matrix samples were received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the WHC specific IDs:

<u>QTESRL ID</u>	<u>WHC ID</u>	<u>Matrix</u>	<u>Date of Receipt</u>
406438-01A	B0C2W4	Soil	6/17/94
406438-02A	B0C2W5	Soil	6/17/94
406438-03A	B0C2W6	Soil	6/17/94
406438-04A	B0C2W7	Soil	6/17/94

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

Regional Office

2800 George Washington Way • Richland, Washington 99352-1613 • 509-375-3131 • FAX: 509-375-5590

Westinghouse Hanford Company
August 9, 1994
Page 2

The requested analyses were:

- Alpha Spectroscopy**
 - Thorium-230/232 by method ITAS-RD-3210
 - Uranium-234, -235, -238 by method ITAS-RD-3234
- Gamma Spectroscopy**
 - Gamma Scan by method ITAS-RD-3219

III. Quality Control

The analytical results for each analysis performed under SDG W0100 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

Results from the initial radioactivity screening of these samples classified them as Category I.

The samples were received without instruction as to which analyses were requested. The samples were logged for analyses listed in SAF 94-207 per WHC ROD 94-0159 received June 17, 1994.

Alpha Spectroscopy

Thorium-230/232 by method ITAS-RD-3210

The thorium RDL was not achieved on the initial 200 minute count of the batch. The batch was recounted for 500 minutes and the recount results are accepted and reported. The LCS, batch blank, sample and sample duplicate (duplicate of sample B0C2W7) results are within contractual limits.

Uranium-234, -235, -238 by method ITAS-RD-3234

The U-235 recovery of the LCS is lower than acceptable limits. The LCS is accepted based on acceptable U-234 and U-238 recoveries. The batch blank, sample and sample duplicate (duplicate of sample B0C2W7) results are within contractual limits.

Westinghouse Hanford Company
August 11, 1994
Page 3

Gamma Spectroscopy

Gamma Scan by method ITAS-RD-3219

Cd-109 was detected in the LCS, B0C2W4, B0C2W5, B0C2W6, and B0C2W7, however, the results are not reported because they are suspected false positive results caused by x-ray lines produced by energy reflection from the detector shielding. Due to insufficient sample size, sample B0C2W4 and the duplicate of B0C2W4 have achieved detection limits greater than the contractual detection limits for Co-60, Eu-152, Eu-154, Eu-155, and Ra-226. Due to the age of the sample and the limited sample mass that was received, Co-58 and Fe-59 could not be detected in sample B0C2W4 and the duplicate of B0C2W4. The batch blank met the detection limit criteria for all of the requested isotopes, therefore, the sample data are accepted. The LCS and batch blank results are within contractual limits. The sample and sample duplicate (duplicate of sample B0C2W4) results are within the three sigma control limit.

I certify that this Certificate of Analysis 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.

Reviewed and approved:



for
Suzanne Gaines
Project Manager

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: W0100
 LAB SAMPLE ID: 40643801 MATRIX: SOIL
 CLIENT ID: B0C2W4 DATE RECEIVED: 6/17/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TH228	1.33E+00	1.56E-01	2.06E-01	3.76E-02	pCi/g	81.60%	RD3210
TH230	4.26E-01	5.63E-02	7.07E-02	8.88E-03	pCi/g	81.60%	RD3210
TH232	4.82E-01	5.98E-02	7.70E-02	8.88E-03	pCi/g	81.60%	RD3210
U-234	4.00E-01	1.10E-01	1.23E-01	4.21E-02	pCi/g	55.70%	RD3234
U-235	2.06E-02	2.59E-02	2.61E-02	3.72E-02	pCi/g	55.70%	RD3234
U-238DA	4.64E-01	1.18E-01	1.36E-01	4.96E-02	pCi/g	55.70%	RD3234
CO-60	-7.90E-02	1.08E-01	1.08E-01	1.79E-01	pCi/g	N/A	RD3219
CS-137DA	3.12E-01	1.08E-01	1.13E-01	N/A	pCi/g	N/A	RD3219
EU-152	-1.68E-01	1.92E-01	1.93E-01	3.00E-01	pCi/g	N/A	RD3219
EU-154	3.79E-01	2.50E-01	2.53E-01	5.39E-01	pCi/g	N/A	RD3219
EU-155	6.93E-02	1.81E-01	1.81E-01	2.95E-01	pCi/g	N/A	RD3219
K-40	1.02E+01	2.11E+00	2.35E+00	N/A	pCi/g	N/A	RD3219
RA-226DA	4.91E-01	1.59E-01	1.66E-01	3.28E-01	pCi/g	N/A	RD3219

Number of Results: 13

0006

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: W0100
 LAB SAMPLE ID: 40643802 MATRIX: SOIL
 CLIENT ID: B0C2W5 DATE RECEIVED: 6/17/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TH228	4.88E+00	4.16E-01	6.55E-01	6.52E-02	pCi/g	69.30%	RD3210
TH230	8.98E-01	8.94E-02	1.29E-01	6.03E-03	pCi/g	69.30%	RD3210
TH232	1.09E+00	9.86E-02	1.50E-01	1.07E-02	pCi/g	69.30%	RD3210
U-234	7.06E-01	1.35E-01	1.65E-01	4.86E-02	pCi/g	65.50%	RD3234
U-235	4.94E-02	3.60E-02	3.66E-02	3.17E-02	pCi/g	65.50%	RD3234
U-238DA	7.63E-01	1.39E-01	1.73E-01	2.91E-02	pCi/g	65.50%	RD3234
CO-60	-1.45E-03	3.31E-02	3.31E-02	5.69E-02	pCi/g	N/A	RD3219
CS-137DA	1.35E-02	1.90E-02	1.91E-02	3.47E-02	pCi/g	N/A	RD3219
EU-152	2.87E-02	5.74E-02	5.74E-02	9.69E-02	pCi/g	N/A	RD3219
EU-154	1.05E-01	8.43E-02	8.49E-02	1.61E-01	pCi/g	N/A	RD3219
EU-155	8.52E-02	8.34E-02	8.38E-02	1.47E-01	pCi/g	N/A	RD3219
K-40	1.62E+01	9.01E-01	1.85E+00	N/A	pCi/g	N/A	RD3219
RA-224DA	2.23E+00	2.06E-01	3.03E-01	N/A	pCi/g	N/A	RD3219
RA-226DA	3.92E-01	8.01E-02	8.92E-02	N/A	pCi/g	N/A	RD3219
RA-228DA	8.72E-01	1.88E-01	2.07E-01	N/A	pCi/g	N/A	RD3219

Number of Results: 15

0007

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: W0100
 LAB SAMPLE ID: 40643803 MATRIX: SOIL
 CLIENT ID: B0C2W6 DATE RECEIVED: 6/17/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TH228	3.36E+00	3.12E-01	4.59E-01	5.94E-02	pCi/g	82.80%	RD3210
TH230	6.97E-01	7.13E-02	9.98E-02	1.03E-02	pCi/g	82.80%	RD3210
TH232	8.71E-01	7.96E-02	1.18E-01	8.70E-03	pCi/g	82.80%	RD3210
U-234	7.53E-01	1.48E-01	1.82E-01	4.31E-02	pCi/g	57.30%	RD3234
U-235	3.58E-02	3.25E-02	3.29E-02	2.92E-02	pCi/g	57.30%	RD3234
U-238DA	5.51E-01	1.27E-01	1.49E-01	3.62E-02	pCi/g	57.30%	RD3234
CO-60	1.29E-02	3.45E-02	3.45E-02	6.28E-02	pCi/g	N/A	RD3219
CS-137DA	3.94E-03	1.92E-02	1.92E-02	3.40E-02	pCi/g	N/A	RD3219
EU-152	3.52E-03	5.92E-02	5.92E-02	9.61E-02	pCi/g	N/A	RD3219
EU-154	-6.84E-02	8.80E-02	8.83E-02	1.44E-01	pCi/g	N/A	RD3219
EU-155	9.06E-02	9.46E-02	9.50E-02	1.56E-01	pCi/g	N/A	RD3219
K-40	1.49E+01	9.19E-01	1.75E+00	N/A	pCi/g	N/A	RD3219
RA-224DA	1.94E+00	2.01E-01	2.80E-01	N/A	pCi/g	N/A	RD3219
RA-226DA	3.51E-01	7.96E-02	8.70E-02	N/A	pCi/g	N/A	RD3219
RA-228DA	1.04E+00	2.27E-01	2.49E-01	N/A	pCi/g	N/A	RD3219

Number of Results: 15

0008

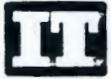
SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG: W0100
 LAB SAMPLE ID: 40643804 MATRIX: SOIL
 CLIENT ID: B0C2W7 DATE RECEIVED: 6/17/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
TH228	5.71E+00	4.37E-01	7.31E-01	5.73E-02	pCi/g	71.90%	RD3210
TH230	8.76E-01	8.61E-02	1.25E-01	1.01E-02	pCi/g	71.90%	RD3210
TH232	1.30E+00	1.05E-01	1.69E-01	5.72E-03	pCi/g	71.90%	RD3210
U-234	8.05E-01	2.06E-01	2.49E-01	7.76E-02	pCi/g	31.80%	RD3234
U-235	1.10E-02	2.63E-02	2.64E-02	5.97E-02	pCi/g	31.80%	RD3234
U-238DA	7.03E-01	1.92E-01	2.28E-01	6.52E-02	pCi/g	31.80%	RD3234
CO-60	1.66E-02	2.68E-02	2.68E-02	5.17E-02	pCi/g	N/A	RD3219
CS-137DA	-1.30E-02	2.04E-02	2.04E-02	3.38E-02	pCi/g	N/A	RD3219
EU-152	1.96E-02	4.89E-02	4.89E-02	8.48E-02	pCi/g	N/A	RD3219
EU-154	-9.73E-03	8.89E-02	8.89E-02	1.54E-01	pCi/g	N/A	RD3219
EU-155	7.47E-02	7.52E-02	7.55E-02	1.25E-01	pCi/g	N/A	RD3219
K-40	1.54E+01	8.57E-01	1.76E+00	N/A	pCi/g	N/A	RD3219
RA-224DA	2.08E+00	1.95E-01	2.85E-01	N/A	pCi/g	N/A	RD3219
RA-226DA	4.14E-01	5.47E-02	6.85E-02	1.19E-01	pCi/g	N/A	RD3219
RA-228DA	8.55E-01	2.17E-01	2.33E-01	N/A	pCi/g	N/A	RD3219

Number of Results: 15

0009



0654

PROJECT ID (Name/Number): WHL WJICO

NGM INITIATED BY (Name/Date): MUM 7-21-94

PARAMETER(S): U15

SAMPLE NUMBER(S) AFFECTED: L06438LS

MATRIX: Soil

AREA: SHIP/REC RADIOCHEM COUNTING BIOASSAY
 DATA VERIF REPORTING OTHER:

NONCONFORMANCE [check appropriate item(s)]:

1. Not enough sample received for proper analysis.

2. Holding time exceeded by _____ days due to:

2.1. CATEGORY I: Out of Laboratory Control
 Holding time expired at receipt.

2.2. CATEGORY II: Laboratory Dependent
 work backlog instrument failure
 communication other (see #10)

2.3. CATEGORY III: Laboratory Reruns

2.3.1. QA/QC:
 surrogates internal standards
 spike recoveries blank contamination

2.3.2. CONFIRMATION:
 second column contamination check
 other (see #10)

2.3.3. DILUTION:
 over calibration under calibration
 other (see #10)

2.3.4. OTHER: (see #10)

3. Sample lost during extraction/analysis; no re-prep or re-analysis possible.

4. QC data reported to client outside of:
 method limits internal limits
 QAPP limits contract limits
 regulatory limits blank criteria

5. Incorrect procedure(s) used. (See #10)

6. Invalid instrument calibration. (See #10)

7. Incorrect/incomplete data reported to client. (See #10)

8. Reported detection limit(s) higher than:
 method limits QAPP limits
 contract limits other (see #10)

Due to:
 sample matrix insufficient sample
 instrumentation other (see #10)

9. Other (specify): U235 outside $\pm 25\%$

10. Comments/Explanation:

NOTIFICATION [check appropriate item(s)]:

1. Client notified by (name and date): _____

in writing by FAX
 by phone Other (explain)

2. Client's name _____ and response:
 process "as is" resample
 on hold til _____ Other (explain)

PROJECT MANAGER (signature & date): Suey Santos 7/25/94

0654

IT CORPORATION

CORRECTIVE ACTION

ROOT CAUSE:

INITIALS/DATE mmh 7-21-94

U235 < - 25% spike recovery

CORRECTIVE ACTION:

INITIALS/DATE mmh 7-21-94

U234 + U238 are acceptable

RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO: _____

ACTIONS TO PREVENT RECURRENCE:

INITIALS/DATE _____

FIRST LEVEL SUPERVISOR:

m Kellon

DATE: 7-21-94

RESPONSIBLE MANAGER:

w Mackella

DATE: 7/28/94

QC REVIEW

NONCONFORMANCE

DEFICIENCY

RERUN

FURTHER ACTION REQUIRED:

ASSIGNED TO: _____

QC COORDINATOR:

Jodie Cor

DATE:

8/1/94

CORRECTIVE ACTION VERIFICATION

VERIFIED

CANNOT VERIFY (specify reason)

REASON: _____

NCM CLOSURE

QC COORDINATOR:

Jodie Cor

DATE:

8/1/94



0658

PROJECT ID (Name/Number):

WHC

WOOD

NCM INITIATED BY (Name/Date):

Joel T Kempema

PARAMETER(S):

Gamma

SAMPLE NUMBER(S) AFFECTED:

40643801, 02, 03, 04, F0643801

MATRIX:

Soil

- AREA:
- SHIP/REC
 - RADIOCHEM
 - COUNTING
 - BIOASSAY
 - DATA VERIF
 - REPORTING
 - OTHER:

NONCONFORMANCE [check appropriate item(s)]:

1. Not enough sample received for proper analysis.
 2. Holding time exceeded by _____ days due to:
 - 2.1. CATEGORY I: Out of Laboratory Control
 - Holding time expired at receipt.
 - 2.2. CATEGORY II: Laboratory Dependent
 - work backlog
 - instrument failure
 - communication
 - other (see #10)
 - 2.3. CATEGORY III: Laboratory Reruns
 - 2.3.1. QA/QC:
 - surrogates
 - internal standards
 - spike recoveries
 - blank contamination
 - 2.3.2. CONFIRMATION:
 - second column
 - contamination check
 - other (see #10)
 - 2.3.3. DILUTION:
 - over calibration
 - under calibration
 - other (see #10)
 - 2.3.4. OTHER: (see #10)
3. Sample lost during extraction/analysis; no re-prep or re-analysis possible.
4. QC data reported to client outside of:
 - method limits
 - internal limits
 - QAPP limits
 - contract limits
 - regulatory limits
 - blank criteria
5. Incorrect procedure(s) used. (See #10)
6. Invalid instrument calibration. (See #10)
7. Incorrect/incomplete data reported to client. (See #10)
8. Reported detection limit(s) higher than:
 - method limits
 - QAPP limits
 - contract limits
 - other (see #10)

Due to:

 - sample matrix
 - insufficient sample
 - instrumentation
 - other (see #10)

9. Other (specify): ① Cd 109 - false detect
② MDA for 1 or more isotopes > CRDL due to sample volume
③ Co 58, Fe 59 - half life too short for analysis

10. Comments/Explanation: Item #2 & #3 - Age of sample prevents detection of Co 58, Fe 59. Volume of sample analyzed prevents achieving MDAs with routine count times

(received)

NOTIFICATION [check appropriate item(s)]:

1. Client notified by (name and date): _____
 - in writing
 - by phone
 - by FAX
 - Other (explain)
2. Client's name _____ and response:
 - process "as is"
 - on hold til _____
 - resample
 - Other (explain)

PROJECT MANAGER (signature & date): Sam Jarvis 7/25/94

0658
IT CORPORATION

CORRECTIVE ACTION

ROOT CAUSE: INITIALS/DATE JKZ-22-94

- Cd 109 false defect caused by X-rays reflected from cave line

- Co 58 + Fe 59 short half lives

CORRECTIVE ACTION: INITIALS/DATE JKZ-22-94

* data accepted - Blank Ottawa and in some geometry limited - commitments achieved requested MDA

* Co 58 - Fe 59 not transferred - discuss case narrative

RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

ACTIONS TO PREVENT RECURRENCE: INITIALS/DATE _____

FIRST LEVEL SUPERVISOR:

Joel T Kempema

DATE:

8-7-94

RESPONSIBLE MANAGER:

W Mackell

DATE:

7/28/94

QC REVIEW

NONCONFORMANCE

DEFICIENCY

RERUN

FURTHER ACTION REQUIRED:

ASSIGNED TO:

QC COORDINATOR:

Joelle Co

DATE:

8/1/94

CORRECTIVE ACTION VERIFICATION

VERIFIED

CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR:

Joelle Co

DATE:

8/1/94

9613495.2935

Custody Form Initiator S.W. Petersen
 Company Contact S.W. Petersen Telephone 376-1273
 Project Designation/Sampling Locations Sitewide background Collection Date 10/9/90
for natural rad. in soils
 Ice Chest No. N/A Field Logbook No. NA
 Bill of Lading/Airbill No. NA Offsite Property No. _____
 Method of Shipment Automobile
 Shipped to IT Labs, Richland, WA
 Possible Sample Hazards/Remarks Uncontaminated, background soil samples

466438		SDG	Sample Identification
01	BOC2W4	W0100	10/27/92 soils
2	BOC2W5		10/2/90
3	BOC2W6		10/2/90
4	BOC2W7		10/9/90

Field Transfer of Custody CHAIN OF POSSESSION (Sign and Print Names)

Relinquished by: <u>[Signature]</u> 6/17/94	Received by: <u>Crenshaw IT</u>	Date/Time: <u>6-17-94 1330</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
------------------	--------------	------------

Comments:

9613495.2936

Contractor <i>Westinghouse Houford Co.</i>	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT) <i>W94-0-0573 #46</i>
---	--------------------------------------	--

PART I - TO BE COMPLETED BY ORIGINATOR

Department <i>RCRA Permitting</i>	Section	Unit
-----------------------------------	---------	------

The following items are to be shipped from	<input checked="" type="checkbox"/> Contractor	<input type="checkbox"/> Vendor
Routing	<input checked="" type="checkbox"/> Contractor	<input type="checkbox"/> Vendor

Shipped to <i>IT Analytical Services 2800 George Washington Way Richland, WA 99352</i>	Off-site Custodian <i>Tammy Heidelberg</i>
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
4	<i>Jars of soil</i>	

- Classified
 Unclassified
 Shipped Under DOE Contract
 Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Samples require analyses not presently available on site.

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

RM Clearance for Public Release <i>[Signature]</i>	RM Survey No <i>63U</i>	Date <i>6-17-94</i>
Location of Property (Area & Bldg.) <i>2440 Stevens</i>	Contact <i>S.W. Petersen</i>	Phone
Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
Originated By <i>S.W. Petersen</i>	Date <i>6/17/94</i>	Authorized By <i>[Signature]</i>
Signature and Name of Property Control	Custodian Date	Property Management Approval <i>[Signature]</i>
		Date <i>6/17/94</i>

PART II - TO BE COMPLETED BY SHIPPING

Signature of Recipient <i>C Kenton IT</i>	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date <i>6-17-94 1330</i>				

DISTRIBUTION

0023

By Originator White, Green, Yellow, Pink - Property Management Goldenrod - Retain	Shipping Operation - Sign all Copies and Forward to: White - Property Management Green - Property Control Custodian (Issuing Office) Yellow - Retain Pink - Originator
---	--

9613495.2937



Regional Office
2800 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 6-17-94 13:30 Client Name WHC

Project/Client # 94-207 Batch or Case # _____

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

1. Condition of shipping container? CAME IN A OPEN white bucket
2. Custody Seals on cooler intact? Yes No
3. Custody Seals dated and signed? Yes No
4. Chain of Custody record is taped on inside of cooler lid? Yes No
5. Vermiculite/packing material is: Wet Dry
6. Each sample is in a plastic bag? Yes No
7. Number of sample containers in cooler: 4
8. Samples have: tape hazard labels
 custody seals appropriate sample labels
9. Samples are: in good condition leaking
 broken have air bubbles
 other
10. Coolant present? Yes No
Sample temperature Room Temp
11. The following paperwork should be accounted for (N/A if not applicable):
Chain of Custody #'(s) N/A
Request for analysis #(s) N/A
Airbill # N/A Carrier 17-94 N/A
12. Have any anomalies been identified above? Yes No
13. Memos have been initiated for all anomalies identified above? Yes

Printed Name/Signature KAREN ACHTENBERG Date/Time 6-17-94 15:30
Karen Achtenberg

FORM NO. LS-042, Rev.0, 2/94

SAMPLE RECEIPT VARIANCE REPORT
ITAS-RICHLAND LABORATORY

WORK ORDER NUMBER: 466438 DATE INITIATED: 6-17-94

INITIATED BY: Karin Stattenberg

DATE/TIME OF SAMPLE (AND/OR RFA & COC) RECEIPT: _____

CLIENT SAMPLE NUMBER	RFA/COC NUMBERS	ANALYSIS REQUESTED
<u>BOC2W4</u>		
<u>BOC2W5</u>		
<u>BOC2W6</u>		
<u>BOC2W7</u>		

Samples were received with the following deficiencies:

- 1. Not enough sample received for proper analysis.
- 2. Sample received without proper preservative.
- 3. No sample received in container.
- 4. Sample received without a RFA/COC form.
- 5. No sample ID on container.
- 6. Sample received broken or leaking.
- 7. Holding time exceeded at receipt.
- 8. Custody tape broken.
- 9. COC not relinquished by client.
- 10. Sample information on container does not match sample information on the paper work (Explain below).
- 11. All shipping containers (coolers) on waybill not received with shipment.
 - RFA/COC received
 - RFA/COC not received
- 12. Other (Explain below).

NOTES: no Request for Analysis on coc.
no SAF number on coc

SUPERVISOR REVIEW: Jami Heideberg

PROJECT MANAGER REVIEW: Suz Davis

TELEPHONED TO: _____ ON _____ BY _____

TELEFAXED TO: _____ ON _____ BY _____

SIGNED ORIGINAL MUST BE RETAINED IN WORK ORDER FILE

HANFORD ANALYTICAL SERVICES MANAGEMENT

RECORD OF DISPOSITION

ROD-94-0159

Record of Disposition No.

DATE: June 17, 1994

LABORATORY: IT

PROJECT TITLE/NO.: Sitewide Background Rad / 94-207

NCR NO.: N7A

SAMPLE IDENTIFICATION NUMBERS:

BOC2W4, BOC2W5, BOC2W6, BOC2W7

DESCRIPTION OF EVENT:

A list of the required analyses did not accompany the COC documentation.

DISPOSITION OF SAMPLES:

With consent from the customer, IT was instructed to perform all the analyses listed on SAF 94-207 for the four samples listed above.

APPROVAL SIGNATURES:

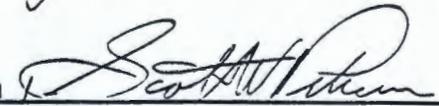
Jon W. Ball /

HASM Project Coordinator (Print/Sign Name)

6/17/94
Date

Scott W. Petersen /

Technical Representative (Print/Sign Name)

6/23/94
Date

N/A

Quality Assurance (Print/Sign Name)

Date

STX 0100

TENNELEC #2

SCREENING CALCULATION SPREADSHEET

Correct. *[Signature]*
21 June 94

Cust Code	Received Date	Screening Prep Date	Count Date	Mnts. Cntd	BACKGROUND		
WHC	6-17-94	6-20-94	6-20	120	Alpha	Beta	Mnts
					5	209	240

Customer ID	pH <2 Rcvd/Relq	Residue Wght mG	Vol. Anal. mG mL	Sample Size Gm L	SMPL CNT DATA			Net Sample Counts/Minute		DPM / Aliquot		uCi per Sample		2 Sigma Error uCi per Sample		pCi/(Gm or L)		Category 1 Yes/No	Aliquot to Cat 1 Gm or L											
					Hldr Num.	Total Alpha	Counts Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta		Alpha	Beta										
01 BOC2W4		28.8	29	161.0	11	20	228	0.15	1.03	6.25E-01	2.15E+00	1.8E-03	5.4E-03	9.7E-07	1.2E-06	9.8E+00	3.4E+01	Yes	1.0E+03	3.0E+03										
02 BOC2W5		46.4	46	663.0	12	25	257	0.19	1.27	9.35E-01	2.72E+00	8.0E-03	1.8E-02	3.3E-06	3.5E-06	9.1E+00	2.8E+01	Yes	1.1E+03	3.8E+03										
03 BOC2W6		97.4	97	661.0	13	41	412	0.32	2.58	2.21E+00	5.94E+00	6.8E-03	1.8E-02	3.0E-06	8.3E-06	1.0E+01	2.7E-01	Yes	9.8E+02	3.6E+03										
04 BOC2W7		83.8	84	658.0	14	25	393	0.19	2.40	1.12E+00	5.56E+00	4.0E-03	2.0E-02	2.3E-06	1.2E-05	8.0E+00	3.0E+01	Yes	1.7E+03	3.3E+03										
TOTAL uCi																														
												1.8E-02	6.1E-02																	

4-06-438

9613495.2940

0027

7/22/94
94-207

9613495.2941 *** THISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

21-Jun-1994
Page 1

CUSTOMER: WHC
MATRIX : SOIL

SAMPLE DELIVERY GROUP W0100
BATCH NUMBER 6-438

ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
LO643818	ES42429			
LO643815	EQ41053			
1) 40643801	ES42430	WHC	BOC2W4	
2) 40643802	2431	WHC	BOC2W5	
3) 40643803	2432	WHC	BOC2W6	
4) 40643804	2433	WHC	BOC2W7	
F0643804	2434			

ACTIONS (Initial & Date)

- 1) INITIATED @6/21/94
- 2) PREP LAB RECEIVED 7/7/94 JMS
- 3) SAMPLE REMAINDER STORED NA
- 4) SEPARATION LAB RECEIVED 7.9.94 AC
- 5) COUNTING/MEASUREMENT LAB 7-14-94
- 6) DATA REVIEWED AND ANALYTICAL PREP STORED 7-20-94

Copied 7.12.94



REANALYSIS / RECOUNT
CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

ANALYSIS th
CUSTOMER WHC
MATRIX Soil

NAME/DATE mmn / 7-22
SAMPLE DELIVERY GROUP _____
BATCH NUMBER _____

ITAS ID	CUSTOMER ID	COMMENTS
1) 40643801		Rec 500 min
2) 02		
3) 03		
4) 04		
5) 1= 04		
6)		
7)		
8)		
9)		
10)		

REANALYSIS

RECOUNT

REFERENCED QC

ACTIONS (Initial & Date)

ITAS ID - BLANK 1B
ITAS ID - SPIKE LS
CLIENT CODE _____

COUNTING/MEASUREMENT AS 7-23-9
DATA REVIEWED mmn 7-27-94
ANALYTICAL PREP STORED mmn 7-28

ACTIONS (Initial & Date)

ADDITIONAL COMMENTS:

PREP LAB RECEIVED _____
SAMPLE REMAINDER
RETURNED TO SCG (CHECK ONE)
NO SAMPLE REMAINING
SEPARATION LAB _____
COUNTING/MEASUREMENT SK FOR A.S. 7-23-94
DATA REVIEWED _____
ANALYTICAL PREP STORED _____

7/22/94
94-207

9613495.2943

*** UISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

21-Jun-1994
Page 1

CUSTOMER: WHC
MATRIX : SOIL

SAMPLE DELIVERY GROUP W0100
BATCH NUMBER 6-438

ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
=====				
✓ L064381B	ESZ16640			
✓ L064381S	EQIE 077			
1) ✓ 40643801	ESZ16641	WHC	BOC2W4	
2) ✓ 40643802	16642	WHC	BOC2W5	
3) 40643803	16643	WHC	BOC2W6	
4) 40643804	16644	WHC	BOC2W7	
	F0643804	16645		
=====				

ACTIONS (Initial & Date)

- 1) INITIATED ② 6/21/94
- 2) PREF LAB RECEIVED 7/7/94 Bm
- 3) SAMPLE REMAINDER STORED N/A
- 4) SEPARATION LAB RECEIVED 7/10/94 Eue
- 5) COUNTING/MEASUREMENT LAB P 7/15/94
- 6) DATA REVIEWED AND ANALYTICAL PREP STORED mmmm 7-19-94

7/22/94
94-207

9513495.2944

*** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

21-Jun-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0100

MATRIX : SOIL

BATCH NUMBER 6-438

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	LC643818 ✓				OSBK
	LC643815 ✓				CAL 491
1)	40643801 ✓		WHC	BOC2W4	
	FC643801 ✓				Duplicate
2)	40643802 ✓		WHC	BOC2W5	
3)	40643803 ✓		WHC	BOC2W6	
4)	40643804 ✓		WHC	BOC2W7	

ACTIONS (Initial & Date)

- 1) INITIATED GC/21/94
- 2) PREP LAB RECEIVED 6-22-94 AS
- 3) SAMPLE REMAINDER STORED 7-7-94 AS
- 4) SEPARATION LAB RECEIVED N/A
- 5) COUNTING/MEASUREMENT LAB HC 7-7-94
- 6) DATA REVIEWED AND ANALYTICAL PREP STORED PK 7-21-94