

H0090-T/W

0048987



**RECRA
LabNet**

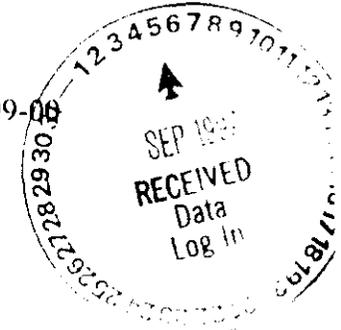
a division of Recra Environmental, Inc.

Virtual Laboratories Everywhere

**Recra LabNet Philadelphia
Analytical Report**

**Client : TNU-HANFORD
RFW# : 9707L657**

**W.O. #: 10985-001-001-9999-08
Date Received: 07-30-97**



PESTICIDE/PCB

1. One (1) soil sample was collected on 07-28-97.
2. The sample and its associated QC samples were extracted on 08-01-97 and analyzed based on SW846, 3rd Edition, procedures on 08-06.15-97. The extraction procedure used was based on Method 3540 and the extracts were analyzed based on Method 8081.
3. The cooler temperature upon receipt has been recorded on the chain-of-custody.
4. All required holding times for extraction and analysis were met.
5. The sample and its associated QC samples received a GPC cleanup.
6. The method blank was below the reporting limits for all target compounds.
7. All blank spike recoveries were within acceptance criteria.
8. All matrix spike recoveries were within acceptance criteria.
9. All initial calibrations associated with this data set were within acceptance criteria.
10. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.



h *James A. Taylor*
 J. Michael Taylor
 Vice President and Laboratory Manager
 Lionville Analytical Laboratory

8/25/97
 Date

lab\pcb-07-657.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.

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 a pesticide/Aroclor 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 I 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.

Recra LabNet - Lionville Laboratory

Pesticide/PCBs by GC, CLP List

Report Date: 08/31/97 10:30

RFW Batch Number: 9707L657

Client: TNU-HANFORD

Work Order: 1003470101 Page: 1

Sample Information	RFW#:	BOKON9	BOKON9	BOKON9	PBLKRK	PBLKRK BS
	Matrix:	001	001 MS	001 MSD	97LE1413-MB1	97LE1413-MB1
	D.F.:	SOIL	SOIL	SOIL	SOIL	SOIL
	Units:	1.00	1.00	1.00	1.00	1.00
		UG KG	UG KG	UG KG	UG KG	UG KG
Surrogate:	Decachlorobiphenyl	108 %	105 %	103 %	103 %	104 %
	Tetrachloro-m-xylene	98 %	92 %	100 %	95 %	92 %
Alpha-BHC		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Beta-BHC		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Delta-BHC		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
gamma-BHC (Lindane)		1.7 U	85 %	90 %	1.7 U	90 %
Heptachlor		1.7 U	85 %	90 %	1.7 U	85 %
Aldrin		1.7 U	80 %	80 %	1.7 U	85 %
Heptachlor epoxide		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Endosulfan I		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Dieldrin		3.3 U	88 %	88 %	3.3 U	94 %
4,4'-DDE		3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
Endrin		3.3 U	92 %	92 %	3.3 U	96 %
Endosulfan II		3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
4,4'-DDD		3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
Endosulfan sulfate		3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
4,4'-DDT		3.3 U	90 %	88 %	3.3 U	94 %
Methoxychlor		17 U	17 U	17 U	17 U	17 U
Endrin ketone		3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
Endrin aldehyde		3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
alpha-Chlordane		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
gamma-Chlordane		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Toxaphene		170 U	170 U	170 U	170 U	170 U
Aroclor-1016		33 U	33 U	33 U	33 U	33 U
Aroclor-1221		67 U	67 U	67 U	67 U	67 U
Aroclor-1232		33 U	33 U	33 U	33 U	33 U
Aroclor-1242		33 U	33 U	33 U	33 U	33 U
Aroclor-1248		33 U	33 U	33 U	33 U	33 U
Aroclor-1254		33 U	33 U	33 U	33 U	33 U
Aroclor-1260		33 U	33 U	33 U	33 U	33 U

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

004

8/28/97 8/22/97

Recra LabNet - Lionville Laboratory
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD

DATE RECEIVED: 07/30/97

RFW LOT # :9707L657

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BOKON9	001	S	97LE1413	07/28/97	08/01/97	08/15/97
BOKON9	001 MS	S	97LE1413	07/28/97	08/01/97	08/15/97
BOKON9	001 MSD	S	97LE1413	07/28/97	08/01/97	08/15/97

LAB QC:

PBLKRK	MB1	S	97LE1413	N/A	08/01/97	08/06/97
PBLKRK	MB1 BS	S	97LE1413	N/A	08/01/97	08/06/97

005
JTB
5-25-97

071

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B97-094-4		Page 1 of 1			
Collector Bryant D.L.			Company Contact Duane Jacques			Telephone No. 372-9400		Project Coordinator Koerner, CC		Data Turnaround 15 Days			
Project Designation 107-D-5 Trench - Confirmation			Sampling Location 100 DR-1			SAF No. B97-094							
Ice Chest No. ERC 96-007			Field Logbook No. EL-1301			Method of Shipment hand Deliver							
Shipped To TMA NORCAL			Offsite Property No. W97-0-0001-16			Bill of Lading/Air Bill No. 4235-7950-2039							
POSSIBLE SAMPLE HAZARDS/REMARKS			Preservation		None	None	None	Cool 4C	Cool 4C	None			
			Type of Container		P	G	G	G	KG	8P			
			No. of Container(s)		1	1	1	1	1	1			
Special Handling and/or Storage cool 4C			Volume		20ml	60ml	60ml	125ml	250ml	1000ml			
SAMPLE ANALYSIS SDG H0090			Activity Scan		Americium-241; Isotopic Uranium; Isotopic Plutonium	Sr	Chromium Hex - 7196	Pest/PC Ba - 8080 (TCL)	See item (1) in Special Instructions				
			Sample No.		Matrix *	Sample Date	Sample Time						
BOK089		Soil	7-28-97	1005	X	X	X	X	X				
CHAIN OF POSSESSION			Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *		
Relinquished By <i>Doug Bryant</i>		Date/Time 7-28-97		Received By <i>Duane Jacques</i>		Date/Time 7-29-97 10:30		(1) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Americium-241, Uranium-238)				S = Soil SE = Sediment SO = Sodd SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other	
Relinquished By <i>Fred</i>		Date/Time 7/30/97 10:00		Received By <i>Atessh</i>		Date/Time 7/30/97 10:00							
Relinquished By		Date/Time		Received By		Date/Time							
Relinquished By		Date/Time		Received By		Date/Time							
LABORATORY SECTION		Received By <i>Fred</i>		Title				Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time					

007

700

_____ _____ _____ _____ DATE	_____ _____ _____ _____ RECEIVED BY	_____ _____ _____ _____ DATE	_____ _____ _____ _____ TRANSPORTED TO	_____ _____ _____ _____ DATE	_____ _____ _____ _____ RELEASED BY
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7-29-97

WESTON

7-29-97

[Signature]

DATE	DESCRIPTION	INITIALS	TESTS
01A-S BOKON9	WESTON	WB074	WB185
01B-S BOKON9 MS	WESTON	WB074	WB185
01C-S BOKON9 DUP	WESTON	WB074	WB185

H0090-711



a division of Recra Environmental, Inc.
Virtual Laboratories Everywhere

**Recra LabNet Philadelphia
Analytical Report**

Client : TNU-HANFORD
RFW# : 9707L657
SDG# : H0090

W.O.# : 10985-001-001-999900
Date Received : 07-30-97



INORGANIC CASE NARRATIVE

As of May 24, 1997, WESTON Lionville Laboratory became Recra LabNet Philadelphia. Some forms may still reference WESTON Lionville Laboratory.

1. This narrative covers the analyses of 1 soil sample.
2. The sample was prepared and analyzed in accordance with the methods checked on the attached glossary.
3. Sample holding times as required by the method and/or contract were met.
4. The cooler temperature was recorded on the chain-of-custody.
5. The method blanks were within method criteria.
6. The Laboratory Control Samples (LCS) were within the laboratory control limits. The duplicate LCS were within the 20% Relative Percent Difference (RPD) control limit.
7. The matrix spike recoveries for Chromium VI were within the 75-125% control limits. The matrix spike duplicate was within the 20% RPD control limit.
8. The replicate analysis for Chromium VI was within the 20% RPD control limit.
9. Results for solid samples are reported on a dry weight basis.

J. Michael Taylor
J. Michael Taylor
Vice President and Laboratory Manager
Lionville Analytical Laboratory

08/01
Date

mpskl:07-657
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 12 pages



COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

SDG#: H0090

Laboratory Batch: 9707L657

W.O.#: 10985-001-001-9999-00

Collection Dates: 07-28-97

SAMPLE ID

BOKON9

LABORATORY ID

9707L657-001

WET CHEMISTRY METHODS GLOSSARY FOR ANALYSIS OF SOIL/SOLID SAMPLES

	<u>ASTM</u>	<u>SW846</u>	<u>OTHER</u>
%Ash	_ D2216-80		
%Moisture	_ D2216-80		_ ILMO4.0 (c)
%Solids			√ ILMO4.0 (c)
%Volatile Solids	_ D2216-80		
ASTM Extraction in Water	_ D3987-81/85		
BTU	_ D240-87		
CEC		_ 9081	_ c
Corrosivity __ by coupon __ by pH		_ 1110 (mod) __ 9045	
Cyanide, Total		_ 9010	_ ILMO4.0 (c)
Cyanide, Reactive		_ Sec 7.3	
Density			_ b
Halides, Extractable Organic			_ EPA 600/4/84-008 (mod)
Halides, Total			_ EPA 600/4/84-008 (mod)
EP-Toxicity		_ 1310A	
Flash Point		_ 1010	
Ignitability		_ 1010	
Carbon, Total Organic (by LOI)			_ c
Oil and Grease		_ 9071A	
Carbon, Total Organic		_ 9060	_ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	_ D240-87 (mod)	_ 5050	
Petroleum Hydrocarbons, Total Recoverable		_ 9071	_ EPA 418.1 (mod)
pH, Soil		_ 9045B	
Sulfide, Reactive		_ Sec 7.3	
Specific Gravity	_ D1429-76C		
Sulfur, Total		_ 9056	
TCLP		_ 1311	
TCLV		_ 1311	
Synthetic Precipitation Leach		_ 1312	
Chlorine, Total		_ 9056	
Paint Filter		_ 9095	

Other: Cadmium VI

Method: SW 3000, SW 7000

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.

MS = Matrix Spike.

MSD = Matrix Spike Duplicate.

REP = Sample Replicate

LC = Laboratory Control Sample.

NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.
2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).
3. Test Methods for Evaluating Solid Waste (USEPA SW-846).
 - a. Standard Methods for the Examination of Water and Waste, 16 ed., (1989).
 - b. Standard Methods for the Examination of Water and Waste, 17 ed., (1983)
 - c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd. Ed. (1986)
 - d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965)
 - e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.
 - f. Code of Federal Regulations.

RFW 21-21L-034/D-06/96

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 08/27/97

CLIENT: TNU-HANFORD
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 9707L657

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	BOKON9	% Solids	99.8	%	0.01	1.0
		Chromium VI	0.80 u	MG/KG	0.80	1.0

Recra LabNet - Lionville Laboratory
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD

DATE RECEIVED: 07/30/97

RFW LOT # :9707L657

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BOKON9						
% SOLIDS	001	S	97L&S146	07/28/97	08/01/97	08/04/97
CHROMIUM VI	001	S	97LVI030	07/28/97	08/08/97	08/08/97
CHROMIUM VI	001 REP	S	97LVI034	07/28/97	08/25/97	08/25/97
CHROMIUM VI	001 MS	S	97LVI034	07/28/97	08/25/97	08/25/97
CHROMIUM VI	001 MSD	S	97LVI034	07/28/97	08/25/97	08/25/97

LAB QC:

CHROMIUM VI	MB1	S	97LVI030	N/A	08/08/97	08/08/97
CHROMIUM VI	MB1 BS	S	97LVI030	N/A	08/08/97	08/08/97
CHROMIUM VI	MB1 BSD	S	97LVI030	N/A	08/08/97	08/08/97
CHROMIUM VI	MB1	S	97LVI034	N/A	08/25/97	08/25/97
CHROMIUM VI	MB1 BS	S	97LVI034	N/A	08/25/97	08/25/97
CHROMIUM VI	MB1 BSD	S	97LVI034	N/A	08/25/97	08/25/97

657

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B97-094-4	Page 1 of 1				
Collector Bryant D.L.		Company Contact Duane Jacques		Telephone No. 372-9400		Project Coordinator Koerner, CC		Data Turnaround 15 Days					
Project Designation 107-D-5 Trench - Confirmation		Sampling Location 100 DR-1		SAF No. B97-094									
Ice Chest No. ERC 96-007		Field Logbook No. EL-1301		Method of Shipment hand Deliver									
Shipped To TMA NORCAL		Offsite Property No. W97-0-0001-16		Bill of Lading/Air Bill No. 4235-7950-2039									
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation		None	None	None	Cool 4C	Cool 4C	None				
		Type of Container		P	G	G	G	aG	BP				
		No. of Container(s)		1	1	1	1	1	1				
Special Handling and/or Storage cool 4C		Volume		20ml	60ml	60ml	125ml	250ml	1000ml				
SAMPLE ANALYSIS SDG H0090				Activity Scan	Americium-241; Isotopic Uranium; Isotopic Plutonium	Sr	Chromium Hex - 7196	Pest/PCBs - 8080 (TCL)	See item (1) in Special Instructions				
Sample No.	Matrix *	Sample Date	Sample Time										
BOK09	Soil	7-28-97	1005	X	X	X	X	X	X				
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS				Matrix *	
Relinquished By <i>Doug Bryant</i>		Date/Time 7-28-97		Received By <i>Steve Jones</i>		Date/Time 7-29-97 10:30		(1) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155), Gamma Spec - Add-on (Americium-241, Uranium-238)				<ul style="list-style-type: none"> S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue W1 = Wipe L = Liquid V = Vegetation X = Other 	
Relinquished By <i>Fede</i>		Date/Time 7/30/97 1000		Received By <i>AFessh</i>		Date/Time 7/30/97 1000							
Relinquished By		Date/Time		Received By		Date/Time							
Relinquished By		Date/Time		Received By		Date/Time							
LABORATORY SECTION		Received By <i>Fede</i>		Title				Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time					

700

August 13, 1997

Ms. Doris Ayres
Bechtel Hanford Inc
1022 Lee Boulevard
Richland, WA 99352

Reference P O #TSH SBV-207925
Thermo NUtech N7 07 074-7443 SDG H0090



Dear Ms. Ayres

Enclosed is the data report for the single water sample designated as SAF No. B97 094 H0090 received at Thermo NUtech on July 29, 1997. Results are given for total strontium, americium-241, isotopic plutonium, isotopic uranium and gamma emitting nuclides.

This data package is paginated from 1 through 34.

Please call if you have any questions concerning this data.

Sincerely,

A handwritten signature in cursive script that reads 'N. Joseph Verville'.

N. Joseph Verville
Program Manager

NJV/dss

Enclosure: Data Package

Case Narrative

1.0 GENERAL

Thermo NUtech Sample Delivery Group H0090 is comprised of the single water sample designated as SAF B97-024 delivered under Project Designation 107-D-5 Trench Confirmation

The sample was received as stated on the Chain-of-Custody document

2.0 ANALYSIS NOTES

2.1 Total Strontium Analysis

No problems were encountered with the analyses.

2.2 Isotopic Uranium

No problems were encountered with the analyses.

2.3 Isotopic Plutonium

No problems were encountered with the analyses.

2.4 Gamma Scan

No problems were encountered with the analyses.

2.5 Americium-241

The MDA for the sample was greater than the RDL due to a low chemical yield of 16%. Americium-241 activity greater than MDA or RDL was not detected in the sample

THERMO NUTECH
SAMPLE DELIVERY GROUP H0090

N707074-01

BOK0N9

DATA SHEET

SDG <u>7443</u>	Client/Case no <u>Westinghouse Hanford SDG H0090</u>
Contact <u>N. Joseph Verville</u>	Case no <u>TSH-SBV-207925</u>
Lab sample id <u>N707074-01</u>	Client sample id <u>BOK0N9</u>
Dept sample id <u>7443-001</u>	Location/Matrix <u>100 DR-1</u> <u>SOLID</u>
Received <u>07/29/97</u>	Collected <u>07/28/97 10:05</u>
	Custody/SAF No <u>B97-094-4</u> <u>B97-094</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Uranium 233/234	U-233/234	0.40	0.063	0.029	0.30		U
Uranium 235	15117-36-1	0.026	0.016	0.020	0.30	J	U
Uranium 238	U-238	0.35	0.058	0.021	0.30		U
Plutonium 238	13981-16-3	-0.003	0.014	0.029	0.050	U	PU
Plutonium 239/240	15117-48-3	0.009	0.011	0.018	0.050	U	PU
Americium 241	14596-10-2	0.027	0.054	<u>0.092</u>	0.050	U	AM
Strontium-90	10098-97-2	-0.031	0.16	0.21		U	SR
GAMMA SCAN ANALYTES		U					
Potassium 40	13966-00-2	9.6	0.43				GAM
Cobalt 60	10198-40-0	U		0.022	0.050	U	GAM
Cesium 137	10045-97-3	U		0.020	0.050	U	GAM
Europium 152	14683-23-9	U		0.039	0.10	U	GAM
Europium 154	15585-10-1	U		0.025	0.10	U	GAM
Europium 155	14391-16-3	U		0.046	0.10	U	GAM
Radium 226	13982-63-3	0.35	0.038		0.10		GAM
Radium 228	15262-20-1	0.55	0.10		0.20		GAM
Thorium 228	14274-82-9	0.44	0.022				GAM
Thorium 232	7440-10-1	0.55	0.10				GAM
Americium 241	14596-10-2	U		0.074		U	GAM
Uranium 238	U-238	U		2.6		U	GAM

Lab id	<u>TMANC</u>
Protocol	<u>WHC-HASM-1</u>
Version	<u>Ver 1.0</u>
Form	<u>DVD-DS</u>
Version	<u>3.06</u>
Report date	<u>08/12/97</u>

Collector Bryant D.L.	Company Contact Duane Jacques	Telephone No. 372-9400	Project Coordinator Koerner, CC	Data Turnaround 15 Days
Project Designation 107-D-5 Trench - Confirmation	Sampling Location 100 DR-1	SAF No. B97-094		
Ice Chest No. <i>ERC 96-007</i>	Field Logbook No. <i>EL-1301</i>	Method of Shipment hand Deliver		
Shipped To TMA NORCAL	Offsite Property No. <i>W97-0-0001-16</i>	Bill of Lading/Air Bill No. <i>4235-7950-2039</i>		

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	None	None	None	Cool 4C	Cool 4C	None				
		Type of Container	P	G	G	G	aG	<i>GP</i>	<i>DL</i>		
		No. of Container(s)	1	1	1	1	1	1			
Special Handling and/or Storage cool 4C	Volume	20ml	60ml	60ml	125ml	250ml	1000ml				

SAMPLE ANALYSIS <i>SIC, HCC90</i>	Activity Scan	Americium-241; Isotopic Uranium, Isotopic Plutonium	Strontium-89,90 - Total Sr	Chromium Hex - 7196	Pest PCBs - 8080 (TCL)	See item (1) in Special Instructions			
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Sample No.	Matrix *	Sample Date	Sample Time							
BOK09	Soil	<i>7-28-97</i>	<i>1005</i>	<i>L</i>	<i>A</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
Relinquished By <i>Doug Bryant</i>	Date/Time <i>7-28-97</i>	Received By <i>Duane Jacques</i>	Date/Time <i>7-29-97 10:30</i>
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

(1) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155), Gamma Spec - Add-on (Americium-241, Uranium-238)

- 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
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 7-29-97/10:30 SDG #: _____
Work Order Number: _____ SAF#: B97-094
Shipping Container ID: ERC96-007 Chain-of-Custody #: EL-1301

- 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 0° C THERMO # 186
- 5. Vermiculite/packing materials is Wet [] Dry []
- 6. Number of samples in shipping container: 6 BOTS
- 7. Sample holding times exceeded? Yes [] No
- 8. Samples have: _____ tape _____ hazard labels
Yes custody seals appropriate sample labels
- 9. Samples are: in good condition _____ leaking
_____ broken _____ have air bubbles
- 10. Were any anomalies identified in sample receipt? Yes [] No
- 11. Description of anomalies (include sample numbers): _____

Sample Custodian [Signature] on 7-29-97/10:30

Telephoned To: _____ on _____ By _____

FE # 4235-7950-2039

D-5

Contractor BHI	OFF-SITE PROPERTY CONTROL	CONTROL NO. (To be obtained from PROPERTY MANAGEMENT) W97-0-0001-16
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PART I - TO BE COMPLETED BY ORIGINATOR

Department ER ENG Support	Section Field And Analytical	Unit ER Field Sampling
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The following items are to be shipped from Contractor Vendor

Routing Prepaid Collect

Shipped to TMA / NORCA	Off-site Custodian
Company 2030 Wright Ave.	On-site Custodian
Address Richmond State CA Zip Code 94804	Payroll No
Country	

Qty.	Property No.	Description (include Manufacture Name, Model, Serial No.)	Acquisition Cost
1	72.1bs	Cooler 10: ERC-96-007 Polycooler with Environmental Samples Packed in wet ice and vermiculite	N/A

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

Necessity for the off-site use of this property

Required for Project Work. List Project No. **100 DR-1 Remedial Action Project**

Business Trip

Off-site Assignment

Shipment to Subcontractor. List Subcontract No. _____

Other (Please specify) _____

Bill of Lading #
4235-7950-2039

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

RM Clearance for Public Release N/A Doug Bryant	RM Survey No.	Date
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Location of and Contact for Property (Name/Phone No./Bldg./Area)
Doug Bryant / (509) 376-8273 / 4706 Bldg / 40012 CA

Date Ready for Shipment 7-28-97	Cost Code to be Charged CAE-835	Approximate Date This Property will be Returned ROOD22-2900
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Originated By Doug Bryant	Date 7-28-97	Authorized By Doug Bryant	Date 7-28-97
Property Representative Signature	Date	Property Management Approval	Date 7-28-97

PART II - TO BE COMPLETED BY SHIPPING

Authorized Shipping Signature CR - Palmer	Date 7-28-97
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DISTRIBUTION (AFTER FINAL SIGNATURES)

- White - Property Management Yellow - Shipping Green - Accounts Payable Pink - Originator Goldenrod - Property Management

US DOE %
FLUOR DANIEL HANFORD CO. INC.
2355 STEVENS DRIVE/1163 BLDG
RICHLAND WA 99352
(509)376-5098

SHIP DATE: 28JUL97
ACC# 188280189
ACTUAL WGT: 72 LBS HAN-WT

TO: THA/NORCAL/DELORES SANCHEZ
THA/NORCAL
2030 WRIGHT AVENUE

RICHLAND CA 94804

4235 7950 2039

FedEx BILL THIRD PARTY

Form 0201

REF: R00022-2900 W97-0-0001*16

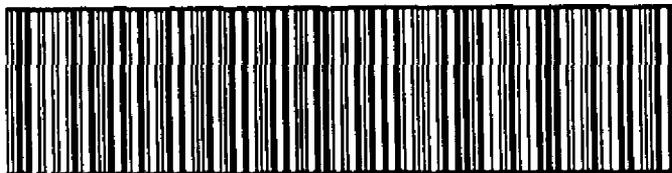
PRIORITY OVERNIGHT TUE

CAD# 0053292 28JUL97

TRK# 4235 7950 2039 Form 0201 Deliver by:
OAK 29JUL97

94804-CA-US

WA JEM



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