

0046756

CASE NARRATIVE

WEYERHAEUSER (WEYER)
ANALYTICAL AND TESTING SERVICES

Case Number: 3020
SDG Number: B009D5
Contract Number: 68-D9-0080



Samples from this case (3020) were received on 6/22/90. This case was comprised of foliage for metals analysis only. The requested analyses were as follows:

<u>Sample ID</u>	<u>Analysis Requested</u>
B009D5	B009N5 METALS
B00BK6	B00BN6 METALS
B00BK7	B00BN7 METALS
B00BK7D	B00BN7D METALS
B00BK7S	B00BN7S METALS



Several anomalies existed with this sample set that are listed below.

1. The duplicate sample analysis was outside the control limit for lead.
2. The spike recovery was outside the control limit for arsenic, barium, lead and selenium. A post-digestion spike was performed for barium and recovery was inside the control limit.
3. The ICP serial dilution was outside the control limit for barium and zinc.
4. Method of Standard Additions was performed for samples B00BK7 and B00BK7D for arsenic.
5. The analytical spike for several of the samples analyzed for arsenic, selenium and thallium was outside the control limit; however, the sample absorbances were less than 50 percent of the spike and consequently MSAs were not performed. These samples are flagged with a W.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy

diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Kari Doxsee

Kari H. Doxsee, Manager
Analytical Chemistry Laboratories

Date

9-12-90

Please feel free to contact me with any questions concerning this data report. I can be reached at (206) 924-6148.

Sincerely,

Kari Doxsee

Kari H. Doxsee, Manager
Analytical Chemistry Laboratories
Weyerhaeuser Analytical & Testing Services

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: WEYERHAEUSER COMPANY

Contract: 68-D9-0080

Lab Code: WEYER

Case No.:

SAS No.:

SDG No.: B009D5

SOW No.: 7/88

EPA Sample No.

Lab Sample ID.

B009D5

52175

B00BK6

52182

B00BK7

52183

B00BK7D

52183D

B00BK7S

52183S

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

If yes, were raw data generated before application of background corrections?

Yes/No NO

Comments:

I certify that this data package is in compliance with the terms, and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Kari Daxsee

Name: Kari Daxsee

Date: 9-12-90

Title: Lab Mgr

1 A
INORGANIC ANALYSIS DATA SHEET

B009D5

Lab Name: WEYERHAEUSER COMPANY

Contract: 68-D9-0080

Lab Code: WEYER

Case No.:

SAS No.:

SDG No.: B009D5

Matrix (soil/water): SOIL

Lab Sample ID: 52175

Level (low/med): LOW

Date Received: 06/22/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	35.6	B		P
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	0.38	U	NW	F
7440-39-3	Barium	13.1	B	EN	P
7440-41-7	Beryllium	0.18	U		P
7440-43-9	Cadmium	0.92	U		P
7440-70-2	Calcium	6080			P
7440-47-3	Chromium	0.92	U		P
7440-48-4	Cobalt	0.37	U		P
7440-50-8	Copper	15.4			P
7439-89-6	Iron	78.7			P
7439-92-1	Lead	0.19	U	N*	F
7439-95-4	Magnesium	1880			P
7439-96-5	Manganese	22.6			P
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	14900			P
7782-49-2	Selenium	0.80	B	NW	F
7440-22-4	Silver	0.55	U		P
7440-23-5	Sodium	134	B		P
7440-28-0	Thallium	0.38	B		F
7440-62-2	Vanadium	0.37	U		P
7440-66-6	Zinc	23.6		E	P
	Cyanide				NR

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: WHITE

Clarity After:

Artifacts:

Comments:



ANALYTICAL LABORATORY SERVICES REQUEST

Request Number: 03020

Weyerhaeuser Research and Development - Analysis and Testing

Title: WESTINGHOUSE VEGETATION STUDY 300-FF-1 RI/FS		
Number of Samples: 11	Project Number: 046-5751	Groups: 3,6
Date Received: 06/22/90	Date Desired: 07/24/90	Estimated Completion Date: 07/24/90
Submitted By: BECHTOLD, BECKY	Location: WTC 2F25	Telephone: (509) 373-3448
Reviewed By: DOXSEE, Kari	Location: 2F 25	Telephone: 924-6148
Copy To:		

Sample Description and History:

Group	Series	Test Code	Test Description
			Report Range Report Basis Lower Limit of Sensitivity

3 A CLPINOR3 Westinghouse - TO INCL PB Group 3 CLP Deliverables

Note all samples w/ "N" are for Hg only

Sample Number	Series to Be Evaluated	Submitter's Designation
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52175	A		B009D5 **SDG**
52176	A	Hg	B009N0
52177	A		B009N1
52178	A		B009N2
52179	A		B009N4
52180	A		B009N5
52181	A		B009N6
52182	A		B00BK6
52183	A		B00BK7 -Ge
52184	A	Hg	B00BN6
52185	A		B00BN7

Interim Report Desired?	Hazardous Samples? Yes	No	Record Book:
Reference:	Date:	Signature applies to attached pages	Page Number:

710

 Battelle Pacific Northwest Laboratories Richland, Washington	CHAIN OF CUSTODY	CAB 017
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Company Contact: Charles A. Brandt Telephone: (509) 376-5345

Samples Collected by: R. J. Fellows Date: 6/4/90 Time: 9:48

Sample Location: 300-FF-1

Ice Chest No.: DSM-1 CAB 6/4/90 #16 Field Logbook Page No.: 52960-Pg 31

Remarks: Asparagus samples - Hg analytical splits - see COC # CAB004, CAB005, CAB006, CAB007, CAB008, CAB009, CAB010, CAB011 for master #s

Method of Shipment: Fed Express

Sample Identification

<u>B009D6</u>	<u>✓ B009G0</u>	<u>✓ B009F9</u>	<u>✓ B009J2</u>
<u>B009D7</u>	<u>✓ B009G1</u>	<u>B009H2</u>	<u>✓ B009J3</u>
<u>✓ B009D8</u>	<u>✓ B009G2</u>	<u>✓ B009H3</u>	<u>✓ B009J4</u>
<u>✓ B009D9</u>	<u>✓ B009G3</u>	<u>✓ B009H3</u> CAB 6/1/90	<u>✓ B009J5</u>
<u>✓ B009E0</u>	<u>✓ B009G4</u>	<u>✓ B009H4</u>	<u>✓ B009J6</u>
<u>B009E1</u>	<u>✓ B009G5</u>	<u>✓ B009H5</u>	<u>✓ B009J7</u>
<u>B009E2</u>	<u>✓ B009G6</u>	<u>✓ B009H6</u>	<u>✓ B009J8</u>
<u>B009E3</u>	<u>✓ B009G7</u>	<u>✓ B009H7</u>	<u>✓ B009J9</u>
<u>B009E4</u>	<u>✓ B009G8</u>	<u>✓ B009H8</u>	<u>✓ B009K0</u>
<u>B009E5</u>	<u>✓ B009G9</u>	<u>✓ B009H9</u>	<u>✓ B009K1</u>
<u>B009E6</u>	<u>✓ B009H0</u>	<u>✓ B00950</u>	<u>✓ B009K2</u>
<u>B009E7</u>	<u>✓ B009H1</u>	<u>✓ B00951</u>	<u>X</u>
<u>B009E8</u>			

Chain of Possession

Relinquished by: Robert J. Fellows

Received by: [Signature]

Date/Time: 6/4/90 10:05 AM.

Relinquished by: _____

Received by: B. Chappel

Date/Time: 6-5-90 1100

Relinquished by: _____

Received by: _____

Date/Time: _____

Relinquished by: _____

Received by: _____

Date/Time: _____



CHAIN OF CUSTODY

CABØ18

Company Contact: Charles A. Brandt Telephone: (509) 376-5345
 Samples Collected by: R.J. Fellous Date: 6/4/90 Time: 9:48
 Sample Location: 300-FR-1
 Ice Chest No.: ØSM-2 CAB 6/4/90 #2/6 Field Logbook Page No.: 52960-Pg 31
 Remarks: asparagus stems & leaves. Hg splits of samples shown on COC #'s CABØ12, CABØ13, CABØ14, CABØ15
 Method of Shipment: Fed Express

Sample Identification

✓ BØØ9K3	BØØ9L5 ✓	BØØ9m7
✓ BØØ9K4	BØØ9L6 ✓	BØØ9m8
✓ BØØ9K5	BØØ9L7 ✓	BØØ9m9
✓ BØØ9K6	BØØ9L8 ✓	
✓ BØØ9K7	BØØ9L9 ✓	
✓ BØØ9K8	BØØ9mØ ✓	
✓ BØØ9K9	BØØ9m1 ✓	
✓ BØØ9LØ	BØØ9m2 ✓	
✓ BØØ9L1	BØØ9m3 ✓	
✓ BØØ9L2	BØØ9m4 ✓	
BØØ9L3	BØØ9m5 ✓	
BØØ9L4	BØØ9m6 ✓	

Chain of Possession

Relinquished by: <u>R. J. Fellous</u>	Received by: <u>S. L. Dossitt</u>	Date/Time: <u>6/4/90 10:05 AM</u>
Relinquished by:	Received by: <u>B. Chappel</u>	Date/Time: <u>6.5.90 1100</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

RECEIPT OF WESTINGHOUSE SAMPLES
JEANETTE DUNCAN - (509) 373-4718

	<u>DATE</u>	<u>TIME</u>
WEYCO SHIPPING/RECEIVING	<u>6.5</u>	<u>8:50</u>
WEYCO SAMPLE MANAGEMENT	<u>6.5</u>	<u>1100</u>

OPENING OF COOLER: 1120 _____

TEMPERATURE: 17.7 _____

SAMPLES RECEIVED:	<u>B009D6</u>	<u>B009F5</u>	<u>B009G4</u>	<u>B009H3</u>
	9D7	9F6	9G5	9H4
	9D8	9F7	9G6	9H5
	9D9	9F8	9G7	9H6
	9F0	9F9	9G8	9H7
	9F1	9G0	9G9	9H8
	9F2	9G1	9H0	9H9
	9F3	9G2	9H1	9J0
	9F4	9G3	9H2	9J1
				9J2
				9J3
				9J4
				9J5

COMMENTS:	<u>B009J6</u>	<u>B009J6</u>	<u>B009L0</u>
	J97	9J7	9L1
	J98	9J8	9L2
	J99	9J9	9L3
		9K0	9L4
		9K1	9L5
		9K2	9L6
		9K3	9L7
		9K4	9L8
		9K5	9L9
		9K6	9M0
		9K7	9M1
		9K8	9M2
		9K9	9M3
			9M4
			9M5
			9M6
			9M7
			9M8
			9M9
			9N3

CONFIRMATION:

CALLED WESTINGHOUSE: _____

MAILED TALLY RECORD: _____

MAILED PAPER WORK: _____

ALL PAGES SIGNED: _____



ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

REQUEST NUMBER

TITLE # 300-FF-1 RI/FS		PROJECT NUMBER 060642		GROUPS	
NUMBER OF SAMPLES 26		DATE RECEIVED		DATE DESIRED	
DATE RECEIVED		DATE DESIRED		ESTIMATED COMPLETION DATE	
SUBMITTED BY RA (Becky) Bechtold			LOCATION WMC - Richland, WA		TELEPHONE (509) 373-3448
REVIEWED BY			LOCATION		TELEPHONE
COPY TO					

NAME OF TEST OR METHOD	Expected Report Range			REPORT BASIS	LOWER LIMIT SENSITIVITY	SPECIAL HANDLING			
	%	PPM	PPB			<input type="checkbox"/> Keep Chilled	<input type="checkbox"/> Keep Frozen		
Hg - CLP via CVAA	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Detection Limits as specified in CLP-504		<input type="checkbox"/> Other			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			PRESERVATIVE ADDED			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Kind			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Amount			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Does submitter want non-hazardous samples returned?			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		

*Indicate volume or weight basis on O.D. or as received sample, etc.

SAMPLE DESCRIPTION AND HISTORY
(include potential hazards)

Vegetation samples - no constituents hazardous

SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED	SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED
B00906	Hg - CLP	B009F9	Hg - CLP
B00907	"	B009G0	"
B00908	"	B009G1	"
B00909	"	B009G2	"
B009F0	"	B009G3	"
B009F1	"	B009G4	"
B009F2	"	B009G5	"
B009F3	"	B009G6	"
B009F4	"	B009G7	"
B009F5	"	B009G8	"
B009F6	"	B009G9	"
B009F7	"	B009H0	"
B009F8	"	B009H1	"

INTERIM REPORT DESIRED		HAZARDOUS SAMPLES	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
REFERENCE		RECORD BOOK	
RESULTS APPROVED	DATE	SIGNATURE APPLIES TO	PAGE NUMBER
		_____ attached pages	



ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

REQUEST NUMBER

TITLE 300-FF-1 RLFS		PROJECT NUMBER 060642		GROUPS	
NUMBER OF SAMPLES 26 22		DATE RECEIVED 06/1/90		DATE DESIRED	
DATE RECEIVED 06/1/90		DATE DESIRED		ESTIMATED COMPLETION DATE	
SUBMITTED BY RA Bechtold			LOCATION WHC - Richland, WA		TELEPHONE (509) 373-3448
REVIEWED BY			LOCATION		TELEPHONE
COPY TO					

NAME OF TEST OR METHOD	Expected Report Range			REPORT BASIS	LOWER LIMIT SENSITIVITY	SPECIAL HANDLING	
	%	PPM	PPB			<input type="checkbox"/> Keep Chilled	<input type="checkbox"/> Keep Frozen
Hg-CLP via CVAA	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Detection limits as specified on CLP-SOW		<input type="checkbox"/> Other	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			PRESERVATIVE ADDED	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Kind	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Amount	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Does submitter want non-hazardous samples returned?	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

*Indicate volume or weight basis on O.D. or as received sample, etc.

SAMPLE DESCRIPTION AND HISTORY (Include potential hazards)
vegetation samples - no constituents hazardous

SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED	SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED
B009H2	Hg - CLP	B009J4	Hg - CLP
B009H3	"	B009J5	"
B009N3	"	B009J6	"
B009H4	"	B009J7	"
B009H5	"	B009J8	"
B009H6	"	B009J9	"
B009H7	"	B009K0	"
B009H8	"	B009K1	"
B009H9	"	B009K2	"
B009J0	"	B009K3	COB (with arrows pointing to CAB, COB, COB)
B009J1	"	B009K4	COB
B009J2	"	B009K5	COB
B009J3	"	B009K6	COB

INTERIM REPORT DESIRED <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		HAZARDOUS SAMPLES <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
REFERENCE	DATE	SIGNATURE APPLIES TO	RECORD BOOK
RESULTS APPROVED		attached pages	PAGE NUMBER



ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

REQUEST NUMBER _____

TITLE 300-FF-1 R1/FS			
NUMBER OF SAMPLES 232L	PROJECT NUMBER 060642	GROUPS	
DATE RECEIVED 08/14/00	DATE DESIRED	ESTIMATED COMPLETION DATE	
SUBMITTED BY RA Bechtold		LOCATION WHC - Richland, WA	TELEPHONE (509) 373-3448
REVIEWED BY		LOCATION	TELEPHONE
COPY TO			

NAME OF TEST OR METHOD	Expected Report Range	REPORT BASIS	LOWER LIMIT SENSITIVITY	SPECIAL HANDLING
Hg-CLP via CVA	% PPM PPB <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Detection limit as specified in CLP-509		<input type="checkbox"/> Keep Chilled <input type="checkbox"/> Keep Frozen <input type="checkbox"/> Other _____ PRESERVATIVE ADDED <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Kind _____ Amount _____ Does submitter want non-hazardous samples returned? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
*Indicate volume or weight basis on O.D. or as received sample, etc.				
SAMPLE DESCRIPTION AND HISTORY (include potential hazards) Vegetation samples - no constituents hazardous				

SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED	SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED
B009K7	Hg-CLP	B009M0	Hg-CLP
B009K8	"	B009M1	"
B009K9	"	B009M2	"
B009L0	"	B009M3	"
B009L1	"	B009M4	"
B009L2	"	B009M5	"
B009L3	"	B009M6	"
B009L4	"	B009M7	"
B009L5	"	B009M8	"
B009L6	"	B009M9	"
B009L7	"	B009K3	"
B009L8	"	B009K4	"
B009L9	"	B009K5	"

INTERIM REPORT DESIRED <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	HAZARDOUS SAMPLES <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
REFERENCE	RECORD BOOK		
RESULTS APPROVED	DATE	SIGNATURE APPLIES TO _____ attached pages	PAGE NUMBER

 Westinghouse Hanford Company Westinghouse Hanford Company A subsidiary of Westinghouse Electric Corporation P.O. Box 1970 Richland, Wa. 99352	RELEASE TO SHIP	38236
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DAY 1 YR 90	DATE SHIPPED MO. 6 DAY 1 YR 90	VENDOR CODE 57650	PURCHASE ORDER REF. MDR-SYV-060642
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SHIP TO MEYERHAUSER ANALYTICAL & TESTING SERVICES-MEYERHAUSER TECH CENTER 32901 MEYERHAUSER WAY FEDERAL WAY WA 98003	FOR ACCOUNT OF WESTINGHOUSE HANFORD COMPANY P.O. BOX 1970 RICHLAND WA 99352
---	--

F.O.B. FEDERAL WAY, WA	CAR INITIALS AND NO.	FRT. CHGS. VENDOR 1 WESTINGHOUSE 2 HANFORD	BUYER CODE DK	BUYER NAME D. A. Raap	PHONE 376-3747
B/L <i>RAA-0984</i>		G/W WEIGHT <i>1 lb</i>		ROUTING Federal Express	
					REQUISITION NO. 060642

P/O ITEM	QUANTITY	U/M	DESCRIPTION	AMOUNT
1	1	EA	Chest of Samples	\$5,000.00

REDISTRIBUTE COST YES NO SPECIAL PACKAGING REQUIRED YES NO

REASON FOR SHIPMENT <input checked="" type="checkbox"/> N	A. RETURN FOR CREDIT B. RETURN FOR REPLACEMENT C. RETURN FOR REPAIR D. RETURN VENDOR OWNED RETURNABLE CONTAINER	E. RETURN OVERSHIPMENTS F. RETURN SAMPLE G. RETURN VENDOR OWNED MATERIAL OR EQUIPMENT H. SHIP GOVERNMENT-OWNED TOOLS, JIGS, AND FIXTURES I. SHIP EXCHANGE UNITS (CORE)	J. SHIP MATERIAL OR EQUIPMENT FOR REPAIR OR REBUILD K. SHIP MATERIAL OR EQUIPMENT FOR REPAIR ESTIMATE L. SHIP GOVERNMENT-OWNED RETURNABLE CONTAINER M. SHIP GOVERNMENT-OWNED MATERIAL FOR USE IN FABRICATION N. MISCELLANEOUS.
--	--	--	--

HAZARDOUS MATERIAL YES NO: IF YES, HAZARDOUS MATERIAL FORM IS REQUIRED TO ACCOMPANY MATERIAL.

LOCATION OF MATERIAL	RM CLEARANCE FOR PUBLIC SALE <i>H. Martin</i>	SURVEY NO. RPT-304984 DATE: 6-4-90
----------------------	--	---

CUSTODIAN Becky Bechtold	PHONE 3-3448
---------------------------------	---------------------

ITEM	CO ID*	COST CENTER	MC	COST ELEMENT	CHARGE CODE	% OF COST	AUTHORIZED BY	DATE
1	TW	81222		210	EC324	100	D. A. Raap FOR DOE	6/1/90
							FOR SHIPPING OPERATION	6/4/90

FEDERAL EXPRESS QUESTIONS? CALL 800-238-5355 TOLL FREE		AIRBILL PACKAGE TRACKING NUMBER 7342240684	
1014 7342240684		RECIPIENT'S COPY	
From (Name) Please Print WESTINGHOUSE SHIPPING		To (Recipient's Name) Please Print WEYERHAUSER ANALYTICAL & TESTING	
Company WESTINGHOUSE MANFORD		Company SERVICES- WEYERHAUSER TECH CENTER	
Street Address 1100 AREA 1169 BLDG.		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes) 32901 WEYERHAUSER WAY	
City RICHLAND WA		City FEDERAL WAY WA	
State WA		State WA	
ZIP Required 99352		ZIP Required 98003	
YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.) TW81222 210 EC324 100 RW38236 PO#-MOR-SVY-060642			
PAYMENT <input checked="" type="checkbox"/> Bill Sender <input type="checkbox"/> Bill Recipient's FedEx Acct. No. <input type="checkbox"/> Bill 3rd Party FedEx Acct. No. <input type="checkbox"/> Bill Credit Card		IF HOLD FOR PICK-UP, Print FEDEX Address Here Street Address City State ZIP Required	
SERVICES (Check only one box) Priority Overnight Service (Delivery by next business morning!) Standard Overnight Service (Delivery by next business afternoon!) 11 <input checked="" type="checkbox"/> YOUR PACKAGING 51 <input type="checkbox"/> 18 <input type="checkbox"/> FEDEX LETTER 56 <input type="checkbox"/> FEDEX LETTER * 12 <input type="checkbox"/> FEDEX PAK 52 <input type="checkbox"/> FEDEX PAK ** 13 <input type="checkbox"/> FEDEX BOX 53 <input type="checkbox"/> FEDEX BOX *** 14 <input type="checkbox"/> FEDEX TUBE 54 <input type="checkbox"/> FEDEX TUBE **** Economy Service (Formerly Standard Air) (Delivery by second business day!) Heavyweight Service (For Extra Large or any package over 150 lbs.) 30 <input type="checkbox"/> ECONOMY SERVICE 70 <input type="checkbox"/> HEAVYWEIGHT ** 80 <input type="checkbox"/> DEFERRED HEAVYWEIGHT **		DELIVERY AND SPECIAL HANDLING 1 <input type="checkbox"/> HOLD FOR PICK-UP (if it is then 18) 2 <input checked="" type="checkbox"/> DELIVER WEEKDAY 3 <input type="checkbox"/> DELIVER SATURDAY (if not charged, then available in all locations) 4 <input type="checkbox"/> DANGEROUS GOODS (if not charged, then not available for Dangerous Goods Shipment) 5 <input checked="" type="checkbox"/> CONSTANT SURVEILLANCE SVC (CSS) (if it is charged, Release Signature Not Applicable) 6 <input type="checkbox"/> DRY ICE 7 <input checked="" type="checkbox"/> OTHER SPECIAL SERVICE S.S.S. 8 <input type="checkbox"/> NITE DELIVERY 9 <input type="checkbox"/> SATURDAY PICK-UP (if not charged) 10 <input type="checkbox"/> DESCRIBED 11 <input type="checkbox"/> HOUDAY DELIVERY (if not charged) 12 <input type="checkbox"/> HOUDAY DELIVERY (if not charged)	
DIM SHIPMENT (Heavyweight Services Only) 1 <input type="checkbox"/> Regular Ship 2 <input type="checkbox"/> Ekop Box 3 <input type="checkbox"/> On-Cat Ship 4 <input type="checkbox"/> BSC 5 <input type="checkbox"/> Station		Emp No _____ Date _____ <input type="checkbox"/> Cash Received <input type="checkbox"/> Return Shipment <input type="checkbox"/> Third Party <input type="checkbox"/> Chg To Del <input type="checkbox"/> Chg To Hold Street Address _____ City _____ State _____ Zip _____ Received By: X.M. S... Date/Time Received: 6-5-90 FedEx Employee ID: 605 1100 Release Signature: _____ Date/Time: 6/5/90	
Federal Express Use Only Base Charges Declared Value Charge Other 1 Other 2 Total Charge 014 © 1991 L.C. INTERNATIONAL USA		014	



**CONSTANT SURVEILLANCE SERVICE/SIGNATURE SECURITY SERVICE 1071314
PACKAGE RECORD**

INSTRUCTIONS: This record provides continuous accountability from pick up to ultimate delivery of packages noted below. Each person whose signature appears in Section A acknowledges acceptance and responsibility for the packages noted.

In all instances, the person to whom the shipment is delivered (or transferred to) must acknowledge receipt of and responsibility for the shipment (Federal Express Corp. flight crew members are excluded).

When delivery is completed, the recipient signature (in Section B) will be the final signature and a fully completed copy of the Federal Express Constant Surveillance Service form will be provided to the recipient. A copy will also be attached to the appropriate delivery record & sent to MEMTRACE each day.

ORIGIN STA. I.D. PSC	AIRBILL NUMBER 7342240684	NO. OF PIECES 1	TOTAL WEIGHT 48 LBS	DESTINATION STA. I.D. 04 TCM
SHIPPER'S NAME WESTINGHOUSE SHIPPING		ACCOUNT NO. 0981-0127-6		PHONE NUMBER
WESTINGHOUSE HANFORD COMPANY		ACCOUNT NO.		PHONE NUMBER (509) 376-6665
CONSIGNEE'S NAME WEYERHAUSER ANALYTICAL & TESTING				PHONE NUMBER

SECTION A: MUST BE COMPLETED BY EACH PERSON RECEIVING THIS SHIPMENT.

PRINT NAME/TITLE/EMP. NO.	SIGNATURE	RECEIVING POINT	TIME AND DATE
1 SUSAN DOSSETT	<i>Susan Dossett</i>	RICHLAND WA	14:51 ^{PM} 6-04-90
2 <i>Handman 56763</i>	<i>Handman</i>	" "	1451 6/4
3 <i>M. Callender 32377</i>	<i>M. Callender</i>	PSCR	1656 6/4
4 <i>Maureen #44211 Ramp Agent</i>	<i>Maureen</i>	GEGR	1800 06-04-90
5 <i>Rutherford CK 40451</i>	<i>Rutherford</i>	(SS/MPM)	07:34 6-4
6			
7			
8			
9			
10			

SECTION B: MUST BE COMPLETED BY EACH INDIVIDUAL DELIVERING THIS SHIPMENT.

PRINT NAME/TITLE/EMP. NO.	SIGNATURE	DELIVERY POINT	TIME AND DATE
1 <i>Blaine C. ...</i>	<i>Blaine C.</i>	SC1487	0615 6/5
2 <i>C. HAYNES</i>	<i>C. Haynes</i>	TRMTH	0647 6/5
3 <i>A. HANMAN 76538</i>	<i>A. Hanman</i>	R-4117	0715
4 <i>S. Anderson</i>	<i>S. Anderson</i>	Weyco	6:15 8:00
5 <i>B. CHAPPEL</i>	<i>B. Chappel</i>	Weyco	6:5 1100
6			
7	PLEASE SIGN AND RETURN A COPY TO: WESTINGHOUSE HANFORD COMPANY		
8	ATTN: SHIPPING DEPARTMENT		
9	PO BOX 1970 62-06		
10	RICHLAND WA 99352		
10	RO# 38236 PO#-MDR-SVY-060642		

ORIGIN — Courier/agent accepting package must insure sender and recipient information is complete and correct; acknowledge receipt and responsibility for acceptance of package in Section A.

INTERMEDIATE transfer — person(s) responsible for movement of packages from origin location to outbound aircraft or vehicle must acknowledge receipt and responsibility for continuing movement of package by signing in Section A. Person(s) responsible for movement of packages at destination location from inbound aircraft or vehicle must acknowledge receipt and responsibility of acceptance and continuing movement of package by signing in Section B.

DESTINATION — Courier/agent accepting package at destination location for delivery will acknowledge receipt of package and responsibility by also signing in Section B. Recipient who ultimately accepts delivery of package will sign in Section B to complete the written record of the package movement.

NOTE: ANY EXCEPTIONS DURING PICKUP/TRANSFER/DELIVERY, MUST BE CALLED TO LOCAL DISPATCH, WHO WILL NOTIFY SHIPPER AND RECIPIENT OF EXCEPTION.

tem 21.6



CHAIN OF CUSTODY

CAB021

Company Contact: Charles A Brandt Telephone: (509) 376-5345

Samples Collected by: RJ Felton Date: 6/21/90 Time: 11:00

Sample Location: 300-FF-1

Ice Chest No.: #9 Field Logbook Page No.: 52960-93415

Remarks: Asparagus stems+leaves - samples for ECAP Analysis Shannon Coc-CABS 04, 05
06, 07, 08, 09, 010, 011

Method of Shipment: Fed Express

Sample Identification

ASPG-019	ASPG-031	ASPG-043	B00981
ASPG-020	ASPG-022	ASPG-044	B00982
ASPG-021	ASPG-033	ASPG-045	B00983
ASPG-022	ASPG-034	ASPG-046	B00984
ASPG-023	ASPG-035	ASPG-047	B00985
ASPG-024	ASPG-036	ASPG-048	B00986
ASPG-025	ASPG-037	^{RIF} ASPG-049 B00975	B00987
ASPG-026	ASPG-038	^{RIF} ASPG-050 B00976	B00988
ASPG-027	ASPG-039	^{RIF} ASPG-0 B00977	B00989
ASPG-028	ASPG-040	B00978	B00990
ASPG-029	ASPG-041	B00979	B00991
ASPG-030	ASPG-042	B00980	B00992

Chain of Possession

Relinquished by: RJ Felton Received by: C. Russell Date/Time: 6-21-90 1300

Relinquished by: C. Russell Received by: Messett Date/Time: 6/21/90 1:30 PM

Relinquished by: _____ Received by: Karen Kiler Date/Time: 6/22/90 10:20AM

Relinquished by: _____ Received by: _____ Date/Time: _____

Temp 21.5



CHAIN OF CUSTODY

CAB 022

Company Contact: Charles A Brandt Telephone: (509) 376-5345

Samples Collected by: RJ Fellows Date: 6/21/90 Time: 11:00

Sample Location: 300-FF-1

Ice Chest No.: 20 Field Logbook Page No.: 52960-934-35

Remarks: Asparagus Stems + leaves - Samples for ICAP Analysis shown in CAC's CAB-04, 05, 06, 07, 08, 09, 10, 11, B00BK6 - Pine Nucleated B00BK7 - Citrus LF. Std

Method of Shipment: Fed Express

Sample Identification

B00993	B009B5	B009C7
B00994	B009B6	B009C8
B00994 ^{RI 4/1/90}	B009B7	B009C9
B00996	B009B8	B009D0
B00997	B009B9	B009D1
B00998	B009C0	B009D2
B00999	B009C1	B009D3
B009B0	B009C2	B009D4
B009B1	B009C3	B009D5
B009B2	B009C4	B00BK6
B009B3	B009C5	B00BK7
B009B4	B009C6	

Chain of Possession

Relinquished by: RJ Fellows Received by: C. Russell Date/Time: 6-21-90 1:30

Relinquished by: C. Russell Received by: [Signature] Date/Time: 6/21/90 1:30pm

Relinquished by: _____ Received by: Karen Wilson Date/Time: 6/22/90 10:20 AM

Relinquished by: _____ Received by: _____ Date/Time: _____



CHAIN OF CUSTODY

CAB-023

Company Contact: Charles A Brant Telephone: (509) 375-5345
Samples Collected by: RJ Fellows Date: 6/21/90 Time: 11:00
Sample Location: 300 FF-1
Ice Chest No.: 20 Field Logbook Page No.: 52960p
Remarks: Asparagus Stems + Leaves Ng Split of Sample Shown in Coc CAB 016

Method of Shipment: Fed Express

Sample Identification

<u>B009N0</u>	
<u>B009N1</u>	
<u>B009N2</u>	
<u>B009N3</u> ^{6 COC 6/21/90}	
<u>B009N4</u>	
<u>B009N5</u>	
<u>B009N6</u>	
<u>B009N7</u>	

Chain of Possession

Relinquished by: <u>RJ Fellows</u>	Received by: <u>C. Russell</u>	Date/Time: <u>6-21-90 1300</u>
Relinquished by: <u>C. Russell</u>	Received by: <u>S Russell</u>	Date/Time: <u>6/21/90 1:30 pm.</u>
Relinquished by:	Received by: <u>Karen Stiller</u>	Date/Time: <u>6/22/90 10:20 AM</u>
Relinquished by:	Received by:	Date/Time:

RECEIPT OF WESTINGHOUSE SAMPLES
JEANETTE DUNCAN - (509) 373-4718

	DATE	TIME		
WEYCO SHIPPING/RECEIVING	<u>6.22.90</u>	<u>0920</u>		
WEYCO SAMPLE MANAGEMENT	<u>6.22.90</u>	<u>1020</u>		
OPENING OF COOLER:	<u>1100</u>	<u>1100</u>		
TEMPERATURE:	<u>21.6</u>	<u>21.5</u>		
SAMPLES RECEIVED:	ASPG19	ASPG43	B00993	B009C7
	20	44	94	C8
	21	45	95	C9
	22	46	96	D0
	23	47	97	D1
	24	48	98	D2
	25	B00975	99	D3
	26	76	B0	D4
	27	77	B1	↓ D5
	28	78	B2	B00BK6
	29	79	B3	↓ K7
COMMENTS:	30	80	B4	B009N0
	31	81	B5	N1
	32	82	B6	N2
	33	83	B7	N6
	34	84	B8	N4
	35	85	B9	↓ N5
	36	86	C0	B00BN6
	37	87	C1	↓ N7
	38	88	C2	
	39	89	C3	
	40	90	C4	
	41	91	C5	
	↓ 42	↓ 92	↓ C6	

CONFIRMATION:

CALLED WESTINGHOUSE: _____

MAILED TALLY RECORD: _____

MAILED PAPER WORK:

ALL PAGES SIGNED:

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ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

REQUEST NUMBER

TITLE <i>300-FF-1 R1/ES</i>		PROJECT NUMBER <i>15753</i>		GROUPS
NUMBER OF SAMPLES <i>83</i>	<i>(P51-4)</i> <i>(P51-2)</i>	DATE RECEIVED	DATE DESIRED	ESTIMATED COMPLETION DATE
SUBMITTED BY <i>R. Beckbold</i>		LOCATION <i>WHO Richland WA- 99352</i>	TELEPHONE <i>(509) 323-1035</i>	
REVIEWED BY		LOCATION	TELEPHONE	
COPY TO				

NAME OF TEST OR METHOD	Expected Report Range			REPORT BASIS	LOWER LIMIT SENSITIVITY	SPECIAL HANDLING	
	%	PPM	PPB			<input type="checkbox"/> Keep Chilled	<input type="checkbox"/> Keep Frozen
<i>ICP metals</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>as specified in</i>		<input type="checkbox"/> Other _____	
<i># Pb</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/> Other _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			PRESERVATIVE ADDED	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Kind _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Amount _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Does submitter want non-hazardous samples returned?	
						<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

*Indicate volume or weight basis on O.D. or as received sample, etc.

SAMPLE DESCRIPTION AND HISTORY (include potential hazards)
Vegetation samples - environmental

SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED	SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED
<i>A396 019</i>	<i>ICP, Pb</i>	<i>A396 032</i>	<i>ICP, Pb</i>
<i>A396 020</i>	<i>"</i>	<i>" 033</i>	<i>"</i>
<i>A396 021</i>	<i>"</i>	<i>" 034</i>	<i>"</i>
<i>" 022</i>	<i>"</i>	<i>" 035</i>	<i>"</i>
<i>" 023</i>	<i>"</i>	<i>" 036</i>	<i>"</i>
<i>" 024</i>	<i>"</i>	<i>" 037</i>	<i>"</i>
<i>" 025</i>	<i>"</i>	<i>" 038</i>	<i>"</i>
<i>" 026</i>	<i>"</i>	<i>" 039</i>	<i>"</i>
<i>" 027</i>	<i>"</i>	<i>" 040</i>	<i>"</i>
<i>" 028</i>	<i>"</i>	<i>" 041</i>	<i>"</i>
<i>" 029</i>	<i>"</i>	<i>" 042</i>	<i>"</i>
<i>" 030</i>	<i>"</i>	<i>" 043</i>	<i>"</i>
<i>" 031</i>	<i>"</i>	<i>" 044</i>	<i>"</i>

INTERIM REPORT DESIRED <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	HAZARDOUS SAMPLES <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
REFERENCE	RECORD BOOK
RESULTS APPROVED	DATE
SIGNATURE APPLIES TO _____ attached pages	PAGE NUMBER

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ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

REQUEST NUMBER _____

TITLE <i>300-FF-1 R, / E S</i>		
NUMBER OF SAMPLES <i>83</i>	PROJECT NUMBER <i>15453</i>	GROUPS
DATE RECEIVED	DATE DESIRED	ESTIMATED COMPLETION DATE
SUBMITTED BY <i>R. Bechtold</i>		LOCATION <i>WHO, Richland WA 99352</i>
REVIEWED BY		TELEPHONE <i>(509) 373-1035</i>
COPY TO		

NAME OF TEST OR METHOD	Expected Report Range			REPORT BASIS	LOWER LIMIT SENSITIVITY	SPECIAL HANDLING	
	%	PPM	PPB			<input type="checkbox"/> Keep Chilled	<input type="checkbox"/> Keep Frozen
<i>ICP metals</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>as specified in</i>		<input type="checkbox"/>	<input type="checkbox"/>
<i>Pb</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>CLP 5000</i>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			PRESERVATIVE ADDED	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Kind _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Amount _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Does submitter want non-hazardous samples returned?	
						<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

*Indicate volume or weight basis on O.D. or as received sample, etc.

SAMPLE DESCRIPTION AND HISTORY (include potential hazards)
Vegetation samples - environmental

SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED	SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED
<i>ASPG 045</i>	<i>ICP, Pb</i>	<i>B00984</i>	<i>ICP, Pb</i>
<i>" 046</i>	<i>"</i>	<i>B00985</i>	<i>"</i>
<i>" 047</i>	<i>"</i>	<i>B00986</i>	<i>"</i>
<i>" 048</i>	<i>"</i>	<i>B00987</i>	<i>"</i>
<i>B00975</i>	<i>"</i>	<i>B00988</i>	<i>"</i>
<i>B00976</i>	<i>"</i>	<i>B00989</i>	<i>"</i>
<i>B00977</i>	<i>"</i>	<i>B00990</i>	<i>"</i>
<i>B00978</i>	<i>"</i>	<i>B00991</i>	<i>"</i>
<i>B00979</i>	<i>"</i>	<i>B00992</i>	<i>"</i>
<i>B00980</i>	<i>"</i>	<i>B00993</i>	<i>"</i>
<i>B00981</i>	<i>"</i>	<i>B00994</i>	<i>"</i>
<i>B00982</i>	<i>"</i>	<i>B00995</i>	<i>"</i>
<i>B00983</i>	<i>"</i>	<i>B00996</i>	<i>"</i>

INTERIM REPORT DESIRED <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	HAZARDOUS SAMPLES <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
REFERENCE	RECORD BOOK
RESULTS APPROVED	DATE
SIGNATURE APPLIES TO _____ attached pages	PAGE NUMBER

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ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

REQUEST NUMBER

TITLE <i>300-FF-1 R1/F5</i>		
NUMBER OF SAMPLES <i>83</i>	PROJECT NUMBER <i>15453</i>	GROUPS
DATE RECEIVED	DATE DESIRED	ESTIMATED COMPLETION DATE
SUBMITTED BY <i>R. Bechtold</i>		LOCATION <i>W.H.D. Richland WA 99353</i>
REVIEWED BY		TELEPHONE <i>373-1035 (509)</i>
COPY TO		

NAME OF TEST OR METHOD	Expected Report Range			REPORT BASIS	LOWER LIMIT SENSITIVITY	SPECIAL HANDLING	
	%	PPM	PPB			<input type="checkbox"/> Keep Chilled	<input type="checkbox"/> Keep Frozen
<i>ICP metals</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>as specified in</i>		<input type="checkbox"/> Other	
<i>Pb</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>CLP form</i>			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			PRESERVATIVE ADDED	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Kind	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Amount	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Does submitter want non-hazardous samples returned?	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

*Indicate volume or weight basis on O.D. or as received sample, etc.

SAMPLE DESCRIPTION AND HISTORY (include potential hazards)
Vegetation samples - environmental

SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED	SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED
<i>200 FA110 B00997</i>	<i>ICP, Pb</i>	<i>B009C0</i>	<i>ICP, Pb</i>
<i>B00998</i>	<i>"</i>	<i>B009C1</i>	<i>"</i>
<i>B00999</i>	<i>"</i>	<i>B009C2</i>	<i>"</i>
<i>B00980</i>	<i>"</i>	<i>B009C3</i>	<i>"</i>
<i>B009B1</i>	<i>"</i>	<i>B009C4</i>	<i>"</i>
<i>B009B2</i>	<i>"</i>	<i>B009C5</i>	<i>"</i>
<i>B009D3</i>	<i>"</i>	<i>B009C6</i>	<i>"</i>
<i>B009B4</i>	<i>"</i>	<i>B009C7</i>	<i>"</i>
<i>B009B5</i>	<i>"</i>	<i>B009C8</i>	<i>"</i>
<i>B009B6</i>	<i>"</i>	<i>B009C9</i>	<i>"</i>
<i>B009B7</i>	<i>"</i>	<i>B009D0</i>	<i>"</i>
<i>B009B8</i>	<i>"</i>	<i>B009D1</i>	<i>"</i>
<i>B009B9</i>	<i>"</i>	<i>B009D2</i>	<i>"</i>

INTERIM REPORT DESIRED	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	HAZARDOUS SAMPLES	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
REFERENCE				RECORD BOOK	
RESULTS APPROVED	DATE	SIGNATURE APPLIES TO		PAGE NUMBER	
		_____ attached pages			

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ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

REQUEST NUMBER

TITLE <i>300-PF-1 R/F/S</i>		
NUMBER OF SAMPLES <i>83</i>	PROJECT NUMBER <i>15853</i>	GROUPS
DATE RECEIVED	DATE DESIRED	ESTIMATED COMPLETION DATE
SUBMITTED BY <i>R. Bechtold</i>	LOCATION <i>W.H.D. Oakland WA 98352</i>	TELEPHONE <i>(509) 323-1035</i>
REVIEWED BY	LOCATION	TELEPHONE
COPY TO		

NAME OF TEST OR METHOD	Expected Report Range			REPORT BASIS	LOWER LIMIT SENSITIVITY	SPECIAL HANDLING	
	%	PPM	PPB			<input type="checkbox"/> Keep Chilled	<input type="checkbox"/> Keep Frozen
<i>ICP metals</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>as specified in CLP SW</i>		<input type="checkbox"/> Other	
<i>Pb</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			PRESERVATIVE ADDED	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Kind	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Amount	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Does submitter want non-hazardous samples returned?	
						<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
*Indicate volume or weight basis on O.D. or as received sample, etc.							
SAMPLE DESCRIPTION AND HISTORY (include potential hazards) <i>environmental samples - vegetation</i>							

SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED	SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED
<i>B009D3</i>	<i>ICP, Pb</i>		
<i>B009D4</i>	<i>"</i>		
<i>B009D5</i>	<i>"</i>		
<i>B00BR6</i>	<i>"</i>		
<i>B00BR7</i>	<i>"</i>		

INTERIM REPORT DESIRED <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	HAZARDOUS SAMPLES <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
REFERENCE	RECORD BOOK		
RESULTS APPROVED	DATE	SIGNATURE APPLIES TO <i>attached pages</i>	PAGE NUMBER



ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

REQUEST NUMBER

TITLE <i>300-FF-1 RL/F 5</i>		
NUMBER OF SAMPLES <i>8</i>	PROJECT NUMBER <i>15453</i>	GROUPS
DATE RECEIVED	DATE DESIRED	ESTIMATED COMPLETION DATE
SUBMITTED BY <i>R. Bechtold</i>		LOCATION <i>W.H.O., Richland WA 99357</i>
REVIEWED BY		TELEPHONE <i>(509) 373-1035</i>
COPY TO		

NAME OF TEST OR METHOD	Expected Report Range			REPORT BASIS	LOWER LIMIT SENSITIVITY	SPECIAL HANDLING	
	%	PPM	PPB			<input type="checkbox"/> Keep Chilled	<input type="checkbox"/> Keep Frozen
<i>Hg, as specified in CLP soil.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>as specified in CLP soil</i>		<input type="checkbox"/> Other	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			PRESERVATIVE ADDED	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Kind	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Amount	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Does submitter want non-hazardous samples returned?	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

*Indicate volume or weight basis on O.D. or as received sample, etc.

SAMPLE DESCRIPTION AND HISTORY (include potential hazards)

SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED	SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED
<i>B009N0</i>	<i>Hg</i>		
<i>B009N1</i>	<i>"</i>		
<i>B009N2</i>	<i>"</i>		
<i>B009N3 CAB 6/20/90</i>	<i>"</i>		
<i>B009N4</i>	<i>"</i>		
<i>B009N5</i>	<i>"</i>		
<i>B009N6</i>	<i>"</i>		
<i>B009N7</i>	<i>"</i>		

INTERIM REPORT DESIRED	<input type="checkbox"/> Yes <input type="checkbox"/> No	HAZARDOUS SAMPLES	<input type="checkbox"/> Yes <input type="checkbox"/> No
REFERENCE		SIGNATURE APPLIES TO	RECORD BOOK
RESULTS APPROVED	DATE	<i>_____</i> attached pages	PAGE NUMBER

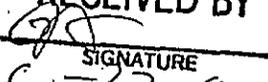
 Westinghouse Hanford Company	Westinghouse Hanford Company A subsidiary of Westinghouse Electric Corporation P.O. Box 1970 Richland, Wa. 99352	RELEASE TO SHIP	38235
---	--	------------------------	--------------

DAY 21 YR 90	DATE SHIPPED 6 21 90	VENDOR CODE 57650	PURCHASE ORDER REF MDR-SVV-060642
-----------------	-------------------------	----------------------	--------------------------------------

SHIP TO WEYERHAUSER ANALYTICAL & TESTING SERVICES-WEYERHAUSER TECH CENTER 32901 WEYERHAUSER WAY FEDERAL WAY WA 98003	FOR ACCOUNT OF WESTINGHOUSE HANFORD COMPANY P. O. BOX 1970 RICHLAND WA 99352
--	--

F.O.B. Federal Way, WA	CAR INITIALS AND NO. 54#	FRT. CHGS. VENDOR WESTINGHOUSE HANFORD	BUYER CODE DR	BUYER NAME D.A. Raap	PHONE 376-3747
B/L RPT -301099	WEIGHT 64#	ROUTING Federal Express	REQUISITION NO. 060642		

P/O ITEM	QUANTITY	U/M	DESCRIPTION	AMOUNT
1	2	EA	Chests of samples	\$10,000

RECEIVED BY

 SIGNATURE
 6-21-90
 DATE

REDISTRIBUTE COST YES NO SPECIAL PACKAGING REQUIRED YES NO

REASON FOR SHIPMENT <input checked="" type="checkbox"/> N	A. RETURN FOR CREDIT B. RETURN FOR REPLACEMENT C. RETURN FOR REPAIR D. RETURN VENDOR-OWNED RETURNABLE CONTAINER	E. RETURN OVERSHIPMENTS F. RETURN SAMPLE G. RETURN VENDOR-OWNED MATERIAL OR EQUIPMENT H. SHIP GOVERNMENT-OWNED TOOLS, JIGS, AND FIXTURES I. SHIP EXCHANGE UNITS (CORE)	J. SHIP MATERIAL OR EQUIPMENT FOR REPAIR OR REBUILD K. SHIP MATERIAL OR EQUIPMENT FOR REPAIR ESTIMATE L. SHIP GOVERNMENT-OWNED RETURNABLE CONTAINER M. SHIP GOVERNMENT-OWNED MATERIAL FOR USE IN FABRICATION N. MISCELLANEOUS
--	--	--	---

HAZARDOUS MATERIAL YES NO: IF YES, HAZARDOUS MATERIAL FORM IS REQUIRED TO ACCOMPANY MATERIAL.

LOCATION OF MATERIAL	RM CLEARANCE FOR PUBLIC SALE	SURVEY NO. 301099						
L54/1311	Fred DeCoria	DATE 6-21-90						
CUSTODIAN	PHONE	DATE AVAILABLE FOR SHIPMENT						
Becky Bechtold	3-3448							
ITEM	CO ID	COST CENTER	MC	COST ELEMENT	CHARGE CODE	% OF COST	AUTHORIZED BY	DATE
1	TW	81222		210	EC324	100	D. A. Raap	6/21/90
							FOR DOE	DATE
							FOR SHIPPING OPERATION	DATE
								6-21-90

FEDERAL EXPRESS		QUESTIONS? CALL 800-238-5355 TOLL FREE		AIRBILL PACKAGE TRACKING NUMBER		7342240743																
7342240743		Date: 06/21/90		RECIPIENT'S COPY																		
From (Your Name) Please Print WESTINGHOUSE SHIPPING		Your Phone Number (Very Important) 509 376-6665		To (Recipient's Name) Please Print WEYERHAUSER ANALYTICAL & TESTING		Recipient's Phone Number (Very Important)																
Company WESTINGHOUSE HANFORD		Department/Floor No.		Company SERVICES-WEYERHAUSER TECH CENTER		Department/Floor No.																
Street Address 2200 AREA 116N BLDG		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Codes)		32901 WEYERHAUSER WAY																		
City RICHLAND		State VA		City FEDERAL WAY		State WA																
ZIP Required 9 2 2 2		ZIP Required 9 8 0 0 3																				
YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice) TWB1222 210 EC324 100 RW38235 PO#MDR-SVY-060642				IF HOLD FOR PICK-UP, Print FEDEX Address Here																		
PAYMENT: <input type="checkbox"/> On Sender <input type="checkbox"/> Bill Recipient's FEDEX Acct. No. <input type="checkbox"/> Bill 3rd Party FEDEX Acct. No. <input type="checkbox"/> Bill Other Case				City _____ State _____ ZIP Required _____																		
SERVICES (Check only one box) Priority Overnight Service (Delivery by next business morning) <input type="checkbox"/> FOUR PACKAGING <input type="checkbox"/> FEDEX LETTER <input type="checkbox"/> FEDEX PAK <input type="checkbox"/> FEDEX BOX <input type="checkbox"/> FEDEX TUBE Economy Service (for Extra Large & any package over 150 lbs.) <input type="checkbox"/> HEAVYWEIGHT <input type="checkbox"/> DEFERRED HEAVYWEIGHT		DELIVERY AND SPECIAL HANDLING <input type="checkbox"/> HOLD FOR PICK-UP if in business <input checked="" type="checkbox"/> DELIVER WEEKDAY <input type="checkbox"/> DELIVER SATURDAY (also charge) <input type="checkbox"/> DANGEROUS GOODS (also charge) <input type="checkbox"/> INSTANT SURVEILLANCE SVC (ISS) (also charge) (Premises sign must also be attached) <input type="checkbox"/> DRY ICE <input checked="" type="checkbox"/> OTHER SPECIAL SERVICE S.S.S. <input checked="" type="checkbox"/> O'NITE DELIVERY <input type="checkbox"/> SATURDAY PICK-UP (also charge) <input type="checkbox"/> HOLIDAY DELIVERY (also charge)		<table border="1"> <thead> <tr> <th>QUANTITY</th> <th>WEIGHT (Lbs)</th> <th>YOUR DECLARED VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>54</td> <td></td> </tr> <tr> <td>1</td> <td>64</td> <td></td> </tr> <tr> <td colspan="3">Total</td> </tr> <tr> <td>2</td> <td>118</td> <td></td> </tr> </tbody> </table>		QUANTITY	WEIGHT (Lbs)	YOUR DECLARED VALUE	1	54		1	64		Total			2	118		Emp. No. _____ Date _____ <input type="checkbox"/> Cash Received <input type="checkbox"/> Return Signature <input type="checkbox"/> Third Party <input type="checkbox"/> Orig To Del <input type="checkbox"/> Orig To Hold Street Address _____ City _____ State _____ Zip _____ Received By: <i>[Signature]</i> Date/Time Received: 6-22-90 9:20 AM FedEx Employee Number: 1044 Release Signature: <i>[Signature]</i> Date/Time: 6-22-90 10:40	
QUANTITY	WEIGHT (Lbs)	YOUR DECLARED VALUE																				
1	54																					
1	64																					
Total																						
2	118																					
Federal Express Use: Basic Charges Declared Value Charge Other 1 Other 2 Total Charges		REVISION DATE 11/89 FORMAT #014 014																				



**CONSTANT SURVEILLANCE SERVICE/SIGNATURE SECURITY SERVICE
PACKAGE RECORD**

1071315

INSTRUCTIONS: This record provides continuous accountability from pick up to ultimate delivery of packages noted below. Each person whose signature appears in Section A acknowledges acceptance and responsibility for the packages noted.
In all instances, the person to whom the shipment is delivered (or transferred to) must acknowledge receipt of and responsibility for the shipment (Federal-Express Corp. flight crew members are excluded).
When delivery is completed, the recipient signature (in Section B) will be the final signature and a fully completed copy of the Federal Express Constant Surveillance Service form will be provided to the recipient. A copy will also be attached to the appropriate delivery record & sent to MEM/TRACE each day.

ORIGIN STA. I.D. PSCA	AIRBILL NUMBER 7342240743	NO. OF PIECES 2	TOTAL WEIGHT 118 LB	DESTINATION STA. I.D. OTTCM
SHIPPER'S NAME WESTINGHOUSE SHIPPING WESTINGHOUSE HANFORD COMPANY		ACCOUNT NO. 0981-0127-6		PHONE NUMBER (509) 376-6665
CONSIGNEE'S NAME WEYERHAUSER ANALYTICAL & TESTING		ACCOUNT NO.		PHONE NUMBER

SECTION A: MUST BE COMPLETED BY EACH PERSON RECEIVING THIS SHIPMENT.

PRINT NAME/TITLE/EMP. NO.	SIGNATURE	RECEIVING POINT	TIME AND DATE
1 SUSAN DOSSETT	<i>Susan Dossett</i>	RICHLAND WA	3:10 ^{PM} 06/21/90
2 <i>Don Vance 56763</i>	<i>Don Vance</i>	Richland	5:15 6/21
3 <i>Terry J. Oldham 104952</i>	<i>Terry J. Oldham</i>	6-FLOR	10:40 6/21
4 <i>Blaine Letford</i>	<i>Blaine Letford</i>
5			
6			
7			
8			
9			
10			

SECTION B: MUST BE COMPLETED BY EACH INDIVIDUAL DELIVERING THIS SHIPMENT.

PRINT NAME/TITLE/EMP. NO.	SIGNATURE	DELIVERY POINT	TIME AND DATE
1 <i>Robert...</i>	<i>Robert...</i>	WYAT	2:00 6/22
2 <i>STAYNES 101410 13348</i>	<i>Staynes</i>	TCMA	2:52 6/22
3 <i>J. Hain...</i>	<i>J. Hain...</i>	TCMA	08:50 6/22
4 <i>M GOMEZ</i>	<i>M Gomez</i>	WTC	8:50 6-22
5 <i>B.C. HAPPEL</i>	<i>B.C. Happel</i>	WTC	10:40 6-22
6			
7	PLEASE SIGN AND RETURN A COPY TO: WESTINGHOUSE HANFORD COMPANY		
8	ATTENTION SHIPPING DEPARTMENT		G2-06
9	PO BOX 1970		
10	RICHLAND WA 99352		
10	RO#38235	PO#MDR-SVY-060642	

ORIGIN — Courier/agent accepting package must insure sender and recipient information is complete and correct; acknowledge receipt and responsibility for acceptance of package in Section A.

INTERMEDIATE transfer person(s) responsible for movement of packages from origin location to outbound aircraft or vehicle must acknowledge receipt and responsibility for continuing movement of package by signing in Section A. Person(s) responsible for movement of packages at destination location from inbound aircraft or vehicle must acknowledge receipt and responsibility of acceptance and continuing movement of package by signing in Section B.

DESTINATION — Courier/agent accepting package at destination location for delivery will acknowledge receipt of package and responsibility by also signing in Section B. Recipient who ultimately accepts delivery of package will sign in Section B to complete the written record of the package movement.

NOTE: ANY EXCEPTIONS DURING PICKUP/TRANSFER/DELIVERY, MUST BE CALLED TO LOCAL DISPATCH, WHO WILL NOTIFY SHIPPER AND RECIPIENT OF EXCEPTION.

 Battelle Pacific Northwest Laboratories Richland, Washington	CHAIN OF CUSTODY	CAB 028
---	-------------------------	---------

Company Contact: Charles A. Brandt Telephone: (509) 376-5345
 Samples Collected by: R.J. Fellows Date: 7/30/90 Time: 14:30
 Sample Location: 300 FF.1
 Ice Chest No.: RM #7 Field Logbook Page No.: 52960
 Remarks: Rabbitbrush and Grass samples found in CAB 019 and CAB 020
for Metals + Pb
 Method of Shipment: Fed Exp.

Sample Identification

<u>B009N7</u>	<u>B009P8</u>
<u>B009N8</u>	<u>B009Q0</u>
<u>B009N9</u>	<u>B009Q1</u>
<u>B009P0</u>	<u>B009Q2</u>
<u>B009P1</u>	
<u>B009P2</u>	
<u>B009P3</u>	
<u>B009P4</u>	
<u>B009P5</u>	
<u>B009P6</u>	
<u>B009P7</u>	
<u>B009P9</u>	

Chain of Possession

Relinquished by: <u>Robert J. Fellows</u>	Received by: <u>R.J. Fellows</u>	Date/Time: <u>7-30-90 14:57</u>
Relinquished by: <u>R.J. Fellows</u>	Received by: <u>D. Raymond</u>	Date/Time: <u>7-30-90 3:10 PM.</u>
Relinquished by: <u>[Signature]</u>	Received by: <u>Bonnie Chappel</u>	Date/Time: <u>8-1-90 1030</u>
Relinquished by:	Received by:	Date/Time:

 Battelle Pacific Northwest Laboratories Richland, Washington	CHAIN OF CUSTODY	CAB 029
---	-------------------------	---------

Company Contact: Charles A Brandt Telephone: 376-5345 (309)
 Samples Collected by: RJF/Hows Date: 7/30/90 Time: 14:30
 Sample Location: 300 EF-1
 Ice Chest No.: RM #7 Field Logbook Page No.: 52960
 Remarks: Veg Samples for Hg analysis as found in CAB 019 and CAB 020
 Method of Shipment: Fed Express

Sample Identification

<u>BφφBLφ</u>	<u>BφφBM2</u>
<u>BφφBL1</u>	<u>BφφBM3</u>
<u>BφφBL2</u>	<u>BφφBM4</u>
<u>BφφBL3</u>	<u>BφφBM5</u>
<u>BφφBL4</u>	
<u>BφφBL5</u>	
<u>BφφBL6</u>	
<u>BφφBL7</u>	
<u>BφφBL8</u>	
<u>BφφBL9</u>	
<u>BφφBMφ</u>	
<u>BφφBM1</u>	

Chain of Possession

Relinquished by: <u>RJF/Hows</u>	Received by: <u>R. J. Hays</u>	Date/Time: <u>7-30-90 1457</u>
Relinquished by: <u>R. J. Hays</u>	Received by: <u>J. K. Raymond</u>	Date/Time: <u>7/30/90 3:10 PM.</u>
Relinquished by: <u>[Signature]</u>	Received by: <u>Bonnie Chappel</u>	Date/Time: <u>8-01-90 1030</u>
Relinquished by:	Received by:	Date/Time:

RECEIPT OF WESTINGHOUSE SAMPLES
 JEANETTE DUNCAN - (509) 373-4718

	<u>DATE</u>	<u>TIME</u>																			
WEYCO SHIPPING/RECEIVING	<u>8.1.90</u>	<u>0900</u>																			
WEYCO SAMPLE MANAGEMENT	<u>8.1.90</u>	<u>1030</u>																			
OPENING OF COOLER:	<u>1145</u>	_____																			
TEMPERATURE:	<u>16</u>	_____																			
SAMPLES RECEIVED:	<table border="0" style="display: inline-table; vertical-align: top;"> <tr><td>B009N7</td></tr> <tr><td> N8</td></tr> <tr><td> N9</td></tr> <tr><td> P0</td></tr> <tr><td> P1</td></tr> <tr><td> P2</td></tr> <tr><td> P3</td></tr> <tr><td> P4</td></tr> <tr><td>✓ P5</td></tr> </table>	B009N7	N8	N9	P0	P1	P2	P3	P4	✓ P5	<table border="0" style="display: inline-table; vertical-align: top;"> <tr><td>B009P6</td></tr> <tr><td> P7</td></tr> <tr><td> P8</td></tr> <tr><td> P9</td></tr> <tr><td> Q0</td></tr> <tr><td> Q1</td></tr> <tr><td>✓ Q2</td></tr> <tr><td>_____</td></tr> <tr><td>_____</td></tr> <tr><td>_____</td></tr> </table>	B009P6	P7	P8	P9	Q0	Q1	✓ Q2	_____	_____	_____
B009N7																					
N8																					
N9																					
P0																					
P1																					
P2																					
P3																					
P4																					
✓ P5																					
B009P6																					
P7																					
P8																					
P9																					
Q0																					
Q1																					
✓ Q2																					

COMMENTS: _____

CONFIRMATION:

CALLED WESTINGHOUSE: _____
 MAILED TALLY RECORD: _____
 MAILED PAPER WORK: ✓
 ALL PAGES SIGNED: ✓



ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

REQUEST NUMBER

TITLE 300-FF-1		
NUMBER OF SAMPLES 16	PROJECT NUMBER 15453	GROUPS
DATE RECEIVED	DATE DESIRED	ESTIMATED COMPLETION DATE
SUBMITTED BY R. Bechtold		LOCATION WHO Richland WA 99352
REVIEWED BY	LOCATION	TELEPHONE (509) 373-1035
COPY TO		

NAME OF TEST OR METHOD	Expected Report Range			REPORT BASIS	LOWER LIMIT SENSITIVITY	SPECIAL HANDLING	
	%	PPM	PPB			<input type="checkbox"/> Keep Chilled	<input type="checkbox"/> Keep Frozen
Hg as specified in CLP SOW	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	As specified in CLP SOW		<input type="checkbox"/> Other _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			PRESERVATIVE ADDED	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Kind _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Amount _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Does submitter want non-hazardous samples returned?	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

*Indicate volume or weight basis on O.D. or as received sample, etc.

SAMPLE DESCRIPTION AND HISTORY (include potential hazards)

SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED	SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED
BφφBLφ		BφφBM3	
BφφBL1		BφφBM4	
BφφBL2		BφφBM5	
BφφBL3			
BφφBL4			
BφφBL5			
BφφBL6			
BφφBL7			
BφφBL8			
BφφBL9			
BφφBMφ			
BφφBM1			
BφφBM2			

INTERIM REPORT DESIRED <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	HAZARDOUS SAMPLES <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
REFERENCE	RECORD BOOK
RESULTS APPROVED	DATE
SIGNATURE APPLIES TO _____ attached pages	PAGE NUMBER



ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

REQUEST NUMBER

TITLE <i>300-FF-1 RI/FS</i>		
NUMBER OF SAMPLES <i>16</i>	PROJECT NUMBER <i>15453</i>	GROUPS
DATE RECEIVED	DATE DESIRED	ESTIMATED COMPLETION DATE
SUBMITTED BY <i>R Bechtold</i>		LOCATION <i>WHO Richland WA 99352</i>
REVIEWED BY	LOCATION	TELEPHONE <i>(509) 373-1035</i>
COPY TO		

NAME OF TEST OR METHOD	Expected Report Range			REPORT BASIS	LOWER LIMIT SENSITIVITY	SPECIAL HANDLING	
	%	PPM	PPB			<input type="checkbox"/> Keep Chilled	<input type="checkbox"/> Keep Frozen
<i>ICP metals + Pb</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>As specified in LLP Sow</i>		<input type="checkbox"/> Other _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			PRESERVATIVE ADDED	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Kind _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Amount _____	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Does submitter want non-hazardous samples returned?	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

*Indicate volume or weight basis on O.D. or as received sample, etc.

SAMPLE DESCRIPTION AND HISTORY (include potential hazards) *Vegetation Samples - environmental*

SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED	SAMPLE DESIGNATION	PROPERTIES TO BE EVALUATED
<i>B009N7</i>		<i>B009Q2</i>	
<i>B009N8</i>		<i>B009T5/10</i>	
<i>B009N9</i>		<i>B009P9</i>	
<i>B009P0</i>		<i>B009Q0</i>	
<i>B009P1</i>			
<i>B009P2</i>			
<i>B009P3</i>			
<i>B009P4</i>			
<i>B009P5</i>			
<i>B009P6</i>			
<i>B009P7</i>			
<i>B009P8</i>			
<i>B009Q1</i>			

INTERIM REPORT DESIRED <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	HAZARDOUS SAMPLES <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
REFERENCE	RECORD BOOK
RESULTS APPROVED	DATE
SIGNATURE APPLIES TO _____ attached pages	PAGE NUMBER



Westinghouse Hanford Company

Westinghouse Hanford Company
A subsidiary of Westinghouse Electric Corporation
P.O. Box 1970 Richland, Wa. 99352

RELEASE TO SHIP

42773

MO	DAY	YR
7	30	90

DATE SHIPPED		
7	30	90

VENDOR CODE
57650

PURCHASE ORDER REF
MDR-SVV-060642

SHIP TO
MEYERHAUSER ANALYTICAL & TESTING SERVICES - MEYERHAUSER TECH CENTER
32901 MEYERHAUSER WAY
FEDERAL WAY WA 98003
RMA NO.

FOR ACCOUNT OF
WESTINGHOUSE HANFORD COMPANY
P. O. BOX 1970
RICHLAND WA 99352

F.O.B. Federal Way, WA	CAR INITIALS AND NO.	FRT. CHGS. VENDOR WESTINGHOUSE HANFORD	BUYER CODE DR	BUYER NAME D. A. Raap	PHONE 376-3747
---------------------------	----------------------	--	------------------	--------------------------	-------------------

BL RPT - 301318	BL WEIGHT 18.71 38#	ROUTING Fed Express	RETURN DUE DATE	REQUISITION NO. 060642
--------------------	---------------------------	------------------------	-----------------	---------------------------

P/O ITEM	QUANTITY	U/M	DESCRIPTION	AMOUNT
1	1	EA	Chests of samples	\$10,000

REDISTRIBUTE COST YES NO SPECIAL PACKAGING REQUIRED YES NO

REASON FOR SHIPMENT N	A. RETURN FOR CREDIT B. RETURN FOR REPLACEMENT C. RETURN FOR REPAIR D. RETURN VENDOR-OWNED RETURNABLE CONTAINER	E. RETURN OVERSHIPMENTS F. RETURN SAMPLE G. RETURN VENDOR-OWNED MATERIAL OR EQUIPMENT H. SHIP GOVERNMENT-OWNED TOOLS, JIGS, AND FIXTURES I. SHIP EXCHANGE UNITS (CORE)	J. SHIP MATERIAL OR EQUIPMENT FOR REPAIR OR REBUILD K. SHIP MATERIAL OR EQUIPMENT FOR REPAIR ESTIMATE L. SHIP GOVERNMENT-OWNED RETURNABLE CONTAINER M. SHIP GOVERNMENT-OWNED MATERIAL FOR USE IN FABRICATION N. MISCELLANEOUS-
---------------------------------	--	--	--

HAZARDOUS MATERIAL YES NO IF YES, HAZARDOUS MATERIAL FORM IS REQUIRED TO ACCOMPANY MATERIAL

LOCATION OF MATERIAL	TOTAL PIECES	RM CLEARANCE FOR PUBLIC SALE	SURVEY NO. 301318
CUSTODIAN	PHONE	DATE	DATE AVAILABLE FOR SHIPMENT

ITEM	CO ID*	COST CENTER	MC	COST ELEMENT	CHARGE CODE	% OF COST	AUTHORIZED BY D. A. Raap	DATE 7/30/90
1	TW	81222		210	EC324	100	FOR SHIPPING OPERATION	DATE 7/30/90

1-ACCOUNTS PAYABLE COPY
3-PROPERTY MANAGEMENT COPY
5-PACKING LIST COPY

2-BUYER'S COPY
4-SHIPPING COPY
6-CUSTODIAN COPY, 1-INSURANCE COPY

5

FEDERAL EXPRESS QUESTIONS? CALL 800-238-5355 TOLL FREE.		AIRBILL PACKAGE TRACKING NUMBER 7342241292	
101 7342241292		RECIPIENT'S COPY	
From (Your Name) Please Print WESTINGHOUSE SHIPPING		To (Recipient's Name) Please Print WEYERHAUSER ANALYTICAL & TESTING SERVICES	
Your Phone Number (Very Important) (509) 376-6665		Recipient's Phone Number (Very Important)	
Company WESTINGHOUSE HANFORD		Company WEYERHAUSER TECH CENTER	
Street Address 1100 ANNE ST BLDG		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes) 32901 WEYERHAUSER WAY	
City RICHLAND WA		City FEDERAL WAY WA	
State WA		State WA	
ZIP Required 99332		ZIP Required 98003	
YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice) CC: TW81222 EG324 RO#42773 PON-MDR-SVY-060642			
PAYMENT <input type="checkbox"/> Bill/Garble <input type="checkbox"/> Bill Recipient's FedEx Acct. No. <input type="checkbox"/> Bill 3rd Party FedEx Acct. No. <input type="checkbox"/> Bill Credit Card		IF HOLD FOR PICK-UP, Print FEDEX Address Here Street Address City State ZIP Required	
SERVICES (Check only one box) Priority Overnight Service (Delivery by next business morning!) <input type="checkbox"/> YOUR PACKAGING <input type="checkbox"/> FEDEX LETTER <input type="checkbox"/> FEDEX PAK <input type="checkbox"/> FEDEX BOX <input type="checkbox"/> FEDEX TUBE Economy Service (Formerly Standard Air) (Delivery by second business day) <input checked="" type="checkbox"/> ECONOMY SERVICE Standard Overnight Service (Delivery by next business afternoon!) <input checked="" type="checkbox"/> FEDEX LETTER <input type="checkbox"/> FEDEX PAK <input type="checkbox"/> FEDEX BOX <input type="checkbox"/> FEDEX TUBE Heavyweight Service (for Extra Large or any package over 150 lbs.) <input type="checkbox"/> HEAVYWEIGHT <input type="checkbox"/> DEFERRED HEAVYWEIGHT *Declared Value Limit \$100. **Call for delivery schedule.		DELIVERY AND SPECIAL HANDLING <input type="checkbox"/> HOLD FOR PICK-UP (if in Box 1) <input checked="" type="checkbox"/> DELIVER WEEKDAY <input type="checkbox"/> DELIVER SATURDAY (if no charge) <input type="checkbox"/> DANGEROUS GOODS (Extra charges) (ICB) see evidence for Dangerous Goods Requirements <input type="checkbox"/> CONSTANT SURVEILLANCE SVC. (CSS) (Extra charges) (Passport Signature Not Applicable) <input type="checkbox"/> DRY ICE (see label) <input type="checkbox"/> OTHER SPECIAL SERVICE <input checked="" type="checkbox"/> OVERNIGHT DEL. <input type="checkbox"/> SATURDAY PICK-UP (if no charge) <input type="checkbox"/> HOLIDAY DELIVERY (if no charge)	
PACKAGES 1 Total 1		WEIGHT 38 Total 38	
DIM SHIPMENT (Heavyweight Service Only) 1 Regular Size 2 On-Call Size		YOUR DECLARED VALUE \$0 \$5000 \$10000	
Emp. No. Date Received At: 1 Regular Size 2 On-Call Size		Federal Express # Basic Charges Declared Value Charge Other 1 Other 2 Total Charges REVISION DATE 11/98 PART #119-01 FORM 3.2 FORMAT 8014 014 © 1997 FE PRINTED IN USA	
Received By: X M Date/Time Received 8-1-90 9:00		FedEx Employee Number 1020 Release Signature: X M Date/Time 8-1-90	



From: Office of Sample Management
Phone: 3-3419 MO-346/200W T6-08
Date: November 14, 1990
Subject: INSPECTION OF 300-FF-1 DATA PACKAGES AT WEYERHAEUSER
ANALYTICAL AND TESTING SERVICES

16500-90-087

To: L. C. Hulstrom H4-55

cc: M. R. Adams H4-55*
R. A. Bechtold T6-08
W. L. Johnson H4-55*
J. H. Kessner T6-08*
E. J. Kosiancic R2-67*
Data Files
JAL File/LB
*w/o attachments

Representatives from the Westinghouse Company (WHC) Office of Sample Management (OSM) and Weyerhaeuser Analytical and Testing Services (Weyerhaeuser) met on-site at Weyerhaeuser on November 7, 1990, to discuss shipping and sample documentation inconsistencies identified in six data packages transmitted to the OSM for the 300-FF-1 Project. Attendees of the meeting included:

R. A. Bechtold (WHC-OSM)
J. A. Lerch (WHC-OSM)
B. L. Chappel (Weyerhaeuser)
K. H. Doxsee (Weyerhaeuser)
M. B. Lanza (Weyerhaeuser)

The main issues of concern were the appearance of multiple Chain-of-Custody (COC) records and incomplete shipping/sample documentation in the six data packages. Inspection and discussion of the data files at Weyerhaeuser concluded with adequate resolution of the issues.

A brief chronological history is necessary to better understand the observed inconsistencies. Field samples taken by Pacific Northwest Laboratories (PNL) were collected in separate containers for Hg and the remaining Contract Laboratory Program (CLP) Target Analyte List (TAL) metals. All samples underwent a drying process prior to off-site shipment. Weyerhaeuser received three shipments of vegetation samples for the 300-FF-1 project as follows (also see Table 1):

June 5, 1990:

One cooler containing samples for Hg analysis only (sent prior to below shipment because of Hg holding time considerations).

June 22, 1990:

Two coolers containing samples for remaining TAL metals analysis (corresponding to the Hg samples sent on June 5, 1990); eight samples for Hg analysis also included.

August 1, 1990:

One cooler containing samples for both Hg and TAL metals analysis.

Samples received on June 5, 1990, and June 22, 1990, were divided into five Sample Delivery Groups (SDG) according to EPA protocol, which defines a SDG as a group of twenty or fewer samples received over a period of up to fourteen calendar days. Weyerhaeuser was given a cross reference listing of TAL samples and Hg samples and was requested to combine the results in the same data package by R. A. Bechtold on June 29, 1990. Samples received on August 1, 1990, were placed in a stand-alone SDG.

300-FF-1 sample data was received by OSM in the six SDG's listed in Table 1. Review of the transmitted data packages revealed that sample and shipping documentation was absent or incomplete in the packages and that some of the COC forms transmitted in SDG packages B009B5 and B009D5 were unsigned by Weyerhaeuser.

The 300-FF-1 data are bound in three files at Weyerhaeuser as described in Table 1 (arbitrarily file one, two, and three). Discrepancies noted with transmittal of shipping/sample documentation are a reflection of the location of original documentation in two of the three bound Weyerhaeuser files containing data transmitted in six SDG's. Original documents in the bound files were inspected and found to be complete for the three shipment dates. Receipt of the coolers at Weyerhaeuser receiving was verified by signature on the Federal Express shipping forms. All original COC forms were signed and dated by Weyerhaeuser personnel and no evidence of back-dating was apparent.

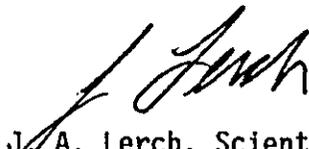
The appearance of unsigned COC forms in the transmitted data packages were the result of copies made from the original forms for use as "worksheets" as samples were pulled from the two coolers, logged-in, and divided into SDG's on June 22, 1990. The original "worksheets" are located in the bound data files and were included with transmission of some of the data packages by the package assembly group, as a mistake. Bonnie Chappel of the Weyerhaeuser Sample Management Office acknowledged that the COC forms should have been signed before any copies were made. No further action concerning the issue was taken as the WHC contract with Weyerhaeuser has expired since OSM received the 300-FF-1 data.

Necessary attention will be given in this area to ensure that such events do not occur during future analytical contracts. The OSM recommends that sample shipments of greater than twenty samples per cooler/shipping container be avoided whenever possible. This suggested up-front type of corrective action would eliminate many of the problems described above.

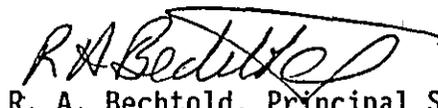
Copies of the shipping/sample documentation from the two Weyerhaeuser data files containing original documentation for each of the three shipment dates are Attachments one through three. Together with this Internal Memo, they will be placed with the 300-FF-1 data packages currently located at OSM. The documentation included in the attachments consists of:

- o Battelle Pacific Northwest Laboratories COC Forms (generated by PNL)
- o Receipt of Westinghouse Samples Form (Weyerhaeuser)
- o Analytical Laboratory Services Request Forms (PNL)
- o WHC Release to Ship Form
- o Federal Express Airbill
- o Federal Express Constant Surveillance Service/Signature Security Service Tally Record (service was discontinued by Federal Express on July 1, 1990)

If you have any questions, please contact J. A. Lerch at 3-3419 or R. A. Bechtold at 3-3448.



J. A. Lerch, Scientist
Office of Sample Management



R. A. Bechtold, Principal Scientist
Office of Sample Management

jmd

Attachments - 3

TABLE 1
300-FF-1 SAMPLE DELIVERY GROUPS

SAMPLE DELIVERY GROUP	Hg SAMPLES RECEIVED	TAL SAMPLES RECEIVED	WEYERHAEUSER FILE NUMBER	WEYERHAEUSER SHIPPING DOCUMENTATION FILE	ATTACHMENT NUMBER
ASPG19	06/05/90	06/22/90	1	1	1 & 2
ASPG39	06/05/90	06/22/90	1	1	1 & 2
B00985	06/05/90	06/22/90	1	1	1 & 2
B009B5	06/05/90	06/22/90	2	1	1 & 2
B009D5	06/22/90	06/22/90	2	1	1 & 2
B009N7	08/01/90	08/01/90	3	3	3

OSM INORGANIC DATA ASSESSMENT

DATE 09/17/90 SAMPLES/MATRIX B009D5
 REVIEWED BY JA Lerch B00BK6
 LABORATORY Weyerhaeuser B00BK7
 CASE # 3020 -all asparagus
 SDG # B009D5

DATA ASSESSMENT SUMMARY

	ICP	AA	Hg	CN
1. Calibrations (Form II)	<u>0</u>	<u>0</u>	<u>0</u>	<u>NR</u>
2. Blanks (III)	<u>X</u>	<u>X</u>	<u>0</u>	<u>NR</u>
3. ICS (IV)	<u>X</u>			
4. Matrix Spike (V)	<u>M</u>	<u>M</u>	<u>0</u>	<u>NR</u>
5. Duplicate Analysis (VI)	<u>0</u>	<u>X</u>	<u>0</u>	<u>NR</u>
6. LCS (VII)	<u>0</u>	<u>0</u>		
7. Serial Dilution (IX)	<u>X</u>			
8. GFAA		<u>X</u>		
9. Holding Times (XIV)	<u>0</u>	<u>0</u>	<u>0</u>	<u>NR</u>
10. Other QC <u>See attachment</u>				

0 = data had no problems
 X = data qualified due to minor problems
 M = data qualified due to major problems/some data may be unusable

OVERALL ASSESSMENT: Pb result for B009D5 unusable
because of very low spike recovery

NOTES: CN not requested (NR)

o Refer to the corresponding attachments for explanation of any problems.

INORGANIC QC - Calibrations

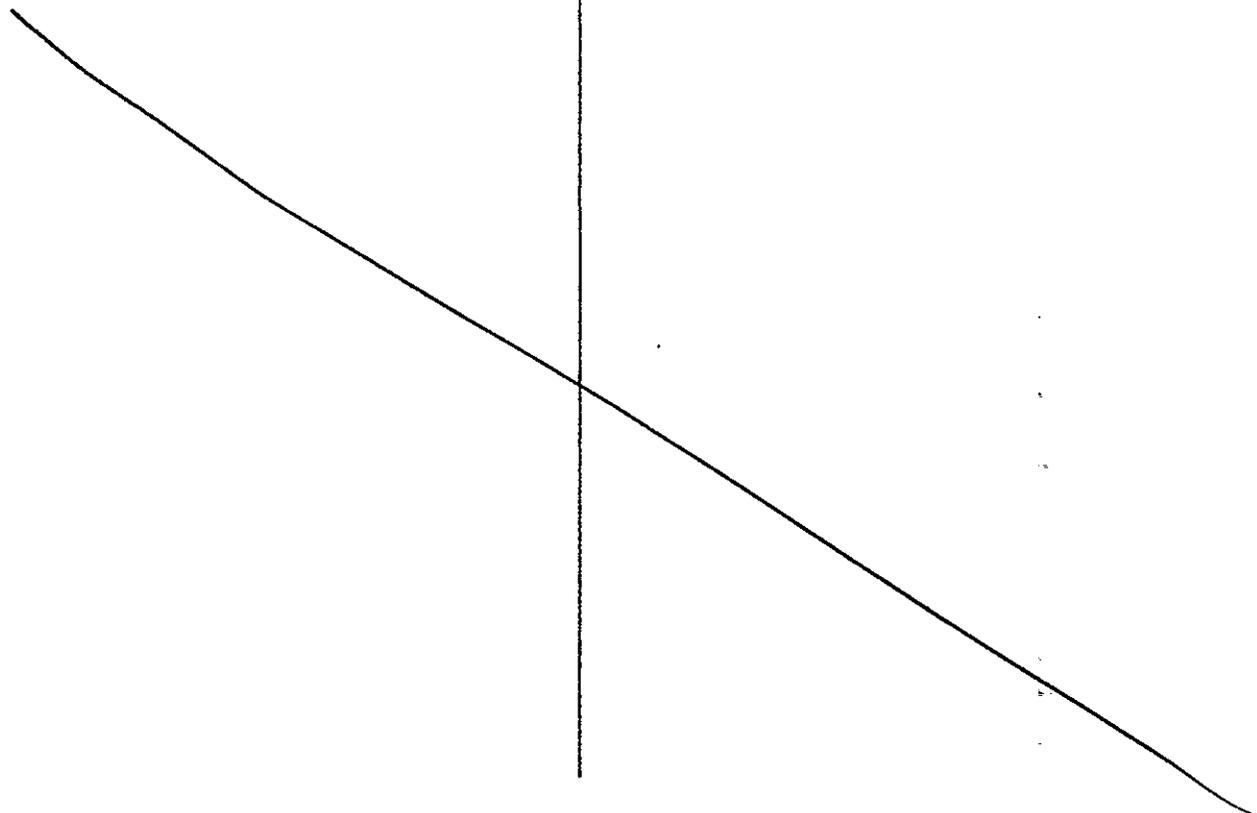
Name JA Lerch *JL* Date 09/17/90

COMMENTS: all ICV (initial Calibration Verification) + CCV
(continuing cal. verification) %R within control
limits

- Analysis Run log check ok; Hg correlation coefficient ok

ACTION: none

sample # constituent value/qual | sample # constituent value/qual



JL

INORGANIC QC - Blanks

Name JA Lerch *jd* Date 09/17/90

COMMENTS: possible trace contamination (<CRDL) for
As, Sb, Ba, Ca, K, Na, Tl, V,

ACTION: qualify associated sample results as
per OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
B009D5	Al	U			
	Tl Na	U			
B00BK6	Na	U			
	V	U			
B00BK7	As	U			
	Na	U			

INORGANIC QC - ICS

Name JA Kerch *JK* Date 09/17/90

COMMENTS: - All ICS solution % recoveries within control limits

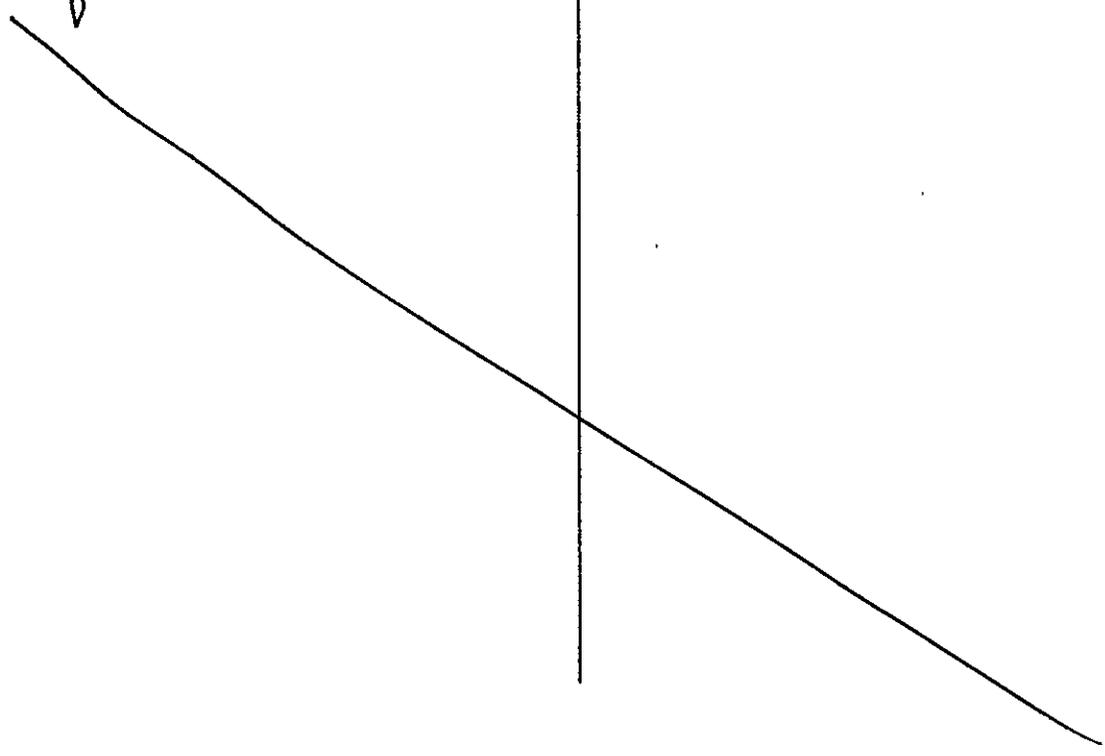
- possible interference exists for Sb, Na (positive) and K (negative)

ACTION: qualify associated sample results as per OSM guidelines

sample # constituent value/qual

sample # constituent value/qual

- no qualification required



INORGANIC QC - Matrix Spike

Name JA Lerch *JL* Date 09/17/90

COMMENTS: BOOBK7S - As, Se 7% recovery out of control limits (low); Ba, Pb recoveries out of control (very low; 8.8%, -38.4% respectively); Ba post-digest 2R ok

ACTION: qualify associated results as per OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
BOOBK5	As	UJ			
	Ba	J			
	Pb	R			
	Se	J			
BOOBK6	As	UJ			
	Ba	J			
	Pb	J			
	Se	UJ			
BOOBK7	As	J			
	Ba	J			
	Pb	J			
	Se	UJ			

INORGANIC QC - Duplicate Analysis

Name JA Lerch Date 09/17/90

COMMENTS: BOOBK7D - Pb duplicate RPD out of control limits; all other RPD's ok

ACTION: qualify associated results as per OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
BO09D5	Pb	-previously qualified as unusable(R) due to spike to R			
BOOBK6	Pb	J			
BOOBK7	Pb	J			

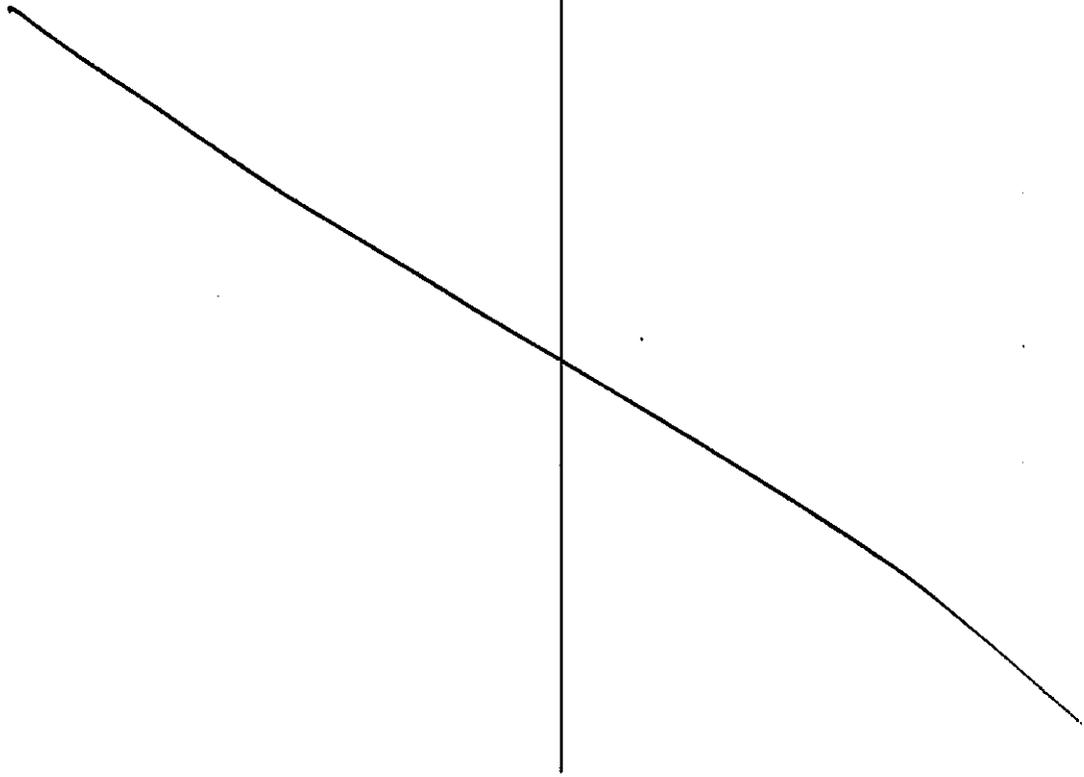
INORGANIC QC - LCS

Name JA Lerch JZ Date 09/17/90

COMMENTS: all solid LCS recoveries within control
limits

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------



INORGANIC QC - Serial Dilution

Name JA Lerch Date 09/17/90

COMMENTS: BOOBK7L-Zn, barium %D out of control
limits, all other Serial dilution results
ok

ACTION: qualify associated results as per
OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
BOOBK5	Ba, Zn	J			
BOOBK6	Ba, Zn	J			
BOOBK7	Ba, Zn	J			

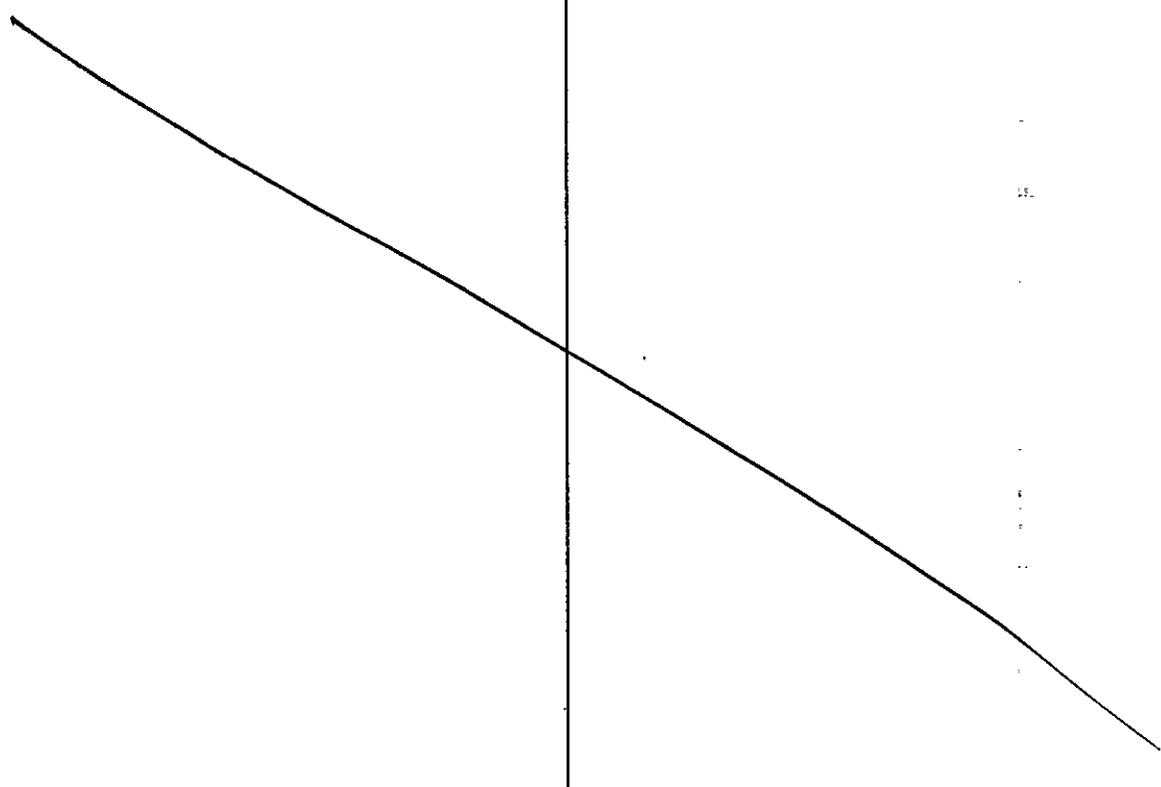
INORGANIC OC - Holding Times

Name JA Lerch Date 09/17/90

COMMENTS: all H.T. requirements met

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------



INORGANIC QC - GFAA

Name JA Lerch *JL* Date 09/17/90

COMMENTS: MSA performed on 300BK7 for As, correlation
coefficients low

Analytical spike recoveries out of control limits
for As, Se, TR on some samples (see below)

ACTION: qualify associated sample results as
per OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
300BK7	As	J			
3009D5	As	UJ			
	Se	J			
300BK6	Se	UJ			
300BK7	Se	UJ			
	TR	J			

INORGANIC QC - other

Name JA Lerch *JA* Date 09/17/90

COMMENTS: Hg samples submitted under separate
sample # (see below) - reported
with metals sample # of Form I

Cooler temp 21.6° when opened @ Weyerhaeuser - no req.
for inorganic

ACTION: _____

sample # constituent value/qual

sample # constituent value/qual

metals
Sample #

Hg sample #

B009D5
B00BK6
B00BK7

B009N5
B00BN6
B00BN7

1
INORGANIC ANALYSIS DATA SHEET

B009D5

Lab Name: WEYERHAEUSER COMPANY

Contract: 68-D9-0080

Lab Code: WEYER

Case No.:

SAS No.:

SDG No.: B009D5

Matrix (soil/water): SOIL

Lab Sample ID: 52175

Level (low/med): LOW

Date Received: 06/22/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	35.6	B	U	P
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	0.38	U	NW	F
7440-39-3	Barium	13.1	B	EN J	P
7440-41-7	Beryllium	0.18	U		P
7440-43-9	Cadmium	0.92	U		P
7440-70-2	Calcium	6080			P
7440-47-3	Chromium	0.92	U		P
7440-48-4	Cobalt	0.37	U		P
7440-50-8	Copper	15.4			P
7439-89-6	Iron	78.7			P
7439-92-1	Lead	0.19	B	N* R	F
7439-95-4	Magnesium	1880			P
7439-96-5	Manganese	22.6			P
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel	3.7	U		P
7440-09-7	Potassium	14900			P
7782-49-2	Selenium	0.80	B	NW J	F
7440-22-4	Silver	0.55	U		P
7440-23-5	Sodium	134	B	U	P
7440-28-0	Thallium	0.38	B		F
7440-62-2	Vanadium	0.37	U		P
7440-66-6	Zinc	23.6	B	E	P
	Cyanide				NR

JL
09/17/90

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: WHITE

Clarity After:

Artifacts:

Comments:

10

INORGANIC ANALYSIS DATA SHEET

B00BK6

Lab Name: WEYERHAEUSER COMPANY

Contract: 68-D9-0080

Lab Code: WEYER

Case No.:

SAS No.:

SDG No.: B009D5

Matrix (soil/water): SOIL

Lab Sample ID: 52182

Level (low/med): LOW

Date Received: 06/22/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	451			P
7440-36-0	Antimony	3.2	U		P
7440-38-2	Arsenic	0.37	UN		F
7440-39-3	Barium	6.3	RENJ		P
7440-41-7	Beryllium	0.16	U		P
7440-43-9	Cadmium	0.80	U		P
7440-70-2	Calcium	4030			P
7440-47-3	Chromium	0.96	B		P
7440-48-4	Cobalt	0.32	U		P
7440-50-8	Copper	3.7	B		P
7439-89-6	Iron	135			P
7439-92-1	Lead	10.3	JN*		F
7439-95-4	Magnesium	1150			P
7439-96-5	Manganese	636			P
7439-97-6	Mercury	0.18			CV
7440-02-0	Nickel	3.2	U		P
7440-09-7	Potassium	3600			P
7782-49-2	Selenium	0.18	UNW		F
7440-22-4	Silver	0.48	U		P
7440-23-5	Sodium	89.9	U		P
7440-28-0	Thallium	0.55	B		F
7440-62-2	Vanadium	0.53	U		P
7440-66-6	Zinc	58.0	JE		P
	Cyanide				NR

JJ
09/17/90

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: WHITE

Clarity After:

Artifacts:

Comments:

10
INORGANIC ANALYSIS DATA SHEET

B00BK7

Lab Name: WEYERHAEUSER COMPANY

Contract: 68-D9-0080

Lab Code: WEYER

Case No.:

SAS No.:

SDG No.: B009D5

Matrix (soil/water): SOIL

Lab Sample ID: 52183

Level (low/med): LOW

Date Received: 06/22/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	53.8	U		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	3.5	J	N+	F
7440-39-3	Barium	19.4	R	EN J	P
7440-41-7	Beryllium	0.16	U		P
7440-43-9	Cadmium	0.79	U		P
7440-70-2	Calcium	29700			P
7440-47-3	Chromium	0.79	U		P
7440-48-4	Cobalt	0.36	B		P
7440-50-8	Copper	15.4			P
7439-89-6	Iron	63.9			P
7439-92-1	Lead	13.4	J	N*	F
7439-95-4	Magnesium	5410			P
7439-96-5	Manganese	19.7			P
7439-97-6	Mercury	0.13			CV
7440-02-0	Nickel	3.1	U		P
7440-09-7	Potassium	17000			P
7782-49-2	Selenium	0.19	U	NW	F
7440-22-4	Silver	0.47	U		P
7440-23-5	Sodium	212	R	U	P
7440-28-0	Thallium	0.20	R	W J	F
7440-62-2	Vanadium	0.31	U		P
7440-66-6	Zinc	25.7	J	E	P
	Cyanide				NR

JL
09/19/90

Color Before: GREEN

Clarity Before:

Texture: FINE

Color After: WHITE

Clarity After:

Artifacts:

Comments: