START 9613402.2719 0000001 9209L008-WES-815 0043058

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLE(S) RECEIVED:** 09-24-92
RFW #: 9209L008
W.O. #: 06168-002-001-9999-00

INORGANIC NARRATIVE

The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

1. Sample holding times as required by 40CFR136 were met with the exception of Total Organic Halides (analyzed past hold).

2. All preparation blank results were below the required detection limit.

3. All laboratory control standards (blank spikes) were within the control limits of 70-130% for Total Organic Halides. All %RPD were within the 40% guidance limit for Total Organic Halides.

4. All calibration verification checks were within the required control limits of 90-110%. Calibration verification is performed using independent standards.

5. Matrix spike recoveries are summarized on the Inorganic Accuracy Report contained within this document. All recoveries were within the 75-125% (70-130% for Total Organic Halides) guidance limits. The %RPD was within the 20% guidance limit.

6. Replicate results are summarized on the Inorganic Precision Report contained within this document. All results were within the 20% (40% for Total Organic Halides) RPD guidance limit.

7. The analytical methods applied by the laboratory, unless otherwise requested, for all inorganic analyses are derived from the USEPA Method for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020) and Standard Methods for the Examination of Water and Wastewater 16 ed. Methods for the analysis of solid samples are derived from Test Methods for Evaluating Solid Waste (USEPA SW846).

FEB 1996 RECEIVED EDMC

10.29.92
J. Peter Hershey, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

NOV 1992 RECEIVED OSM DMO

pas/i09-008

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/21/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-9999-00

WESTON BATCH #: 9209L008

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-001	B076T9	Total Organic Carbon	1.3	MG/L	0.00
		Total Organic Halides	20.0 u	UG/L	20.0
-002	B076W4	Total Organic Carbon	0.98	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0
-003	B076V0	Total Organic Carbon	1.8	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0
-004	B076W0	Total Organic Carbon	0.87	MG/L	0.50
		Total Organic Halides	9.8	UG/L	5.0
-005	B076W8	Total Organic Carbon	0.50 u	MG/L	0.50
		Total Organic Halides	9.8	UG/L	5.0
-006	B076W7	Total Organic Carbon	0.98	MG/L	0.50
		Total Organic Halides	5.3	UG/L	5.0
-007	B076W6	Total Organic Carbon	0.76	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/21/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-9999-00

WESTON BATCH #: 9209L008

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-008	B076V9	Total Organic Carbon	0.50 u	MG/L	0.50
		Total Organic Halides	5.7	UG/L	5.0
-009	B076V8	Total Organic Carbon	0.53	MG/L	0.50
		Total Organic Halides	12.2	UG/L	5.0
-010	B076V2	Total Organic Carbon	0.87	MG/L	0.50
		Total Organic Halides	6.3	UG/L	5.0
-011	B076T7	Total Organic Carbon	0.64	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0
-012	B076T8	Total Organic Carbon	0.76	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0
-013	B076V1	Total Organic Carbon	0.98	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0
-014	B076W5	Total Organic Carbon	0.50 u	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0

WESTON Analytics Use Only
9209L008

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 2

Client: WESTinghouse-Hanford
Est. Final Proj. Sampling Date:
Work Order #: 6168-02-01-9999
Project Contact/Phone #: J. Edwards
AD Project Manager:
QC: CLP Del: CLP TAT: 35 Days
Date Rec'd: 9/24/92 Date Due: 10/29/92
Account #: WS-Hanford

Refrigerator #																							
#/Type Container	Liquid										1/G	1/G											
	Solid																						
Volume	Liquid										250	250											
	Solid																						
Preservatives																							
ANALYSES REQUESTED →		ORGANIC												INORG									
		VOA	BNA	Pest/PCB	Herb						TOC	TOX		Metal	CN								

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only																
											TOT	TOX											
1	B076T9			W	9/21/92						✓	✓											
2	B076W4										✓	✓											
3	B076V0										✓	✓											
4	B076W0										✓	✓											
5	B076W8										✓	✓											
6	B076W7										✓	✓											
7	B076W6										✓	✓											
8	B076V9										✓	✓											
9	B076V8										✓	✓											
10	B076V2										✓	✓											

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

300 FF-5

DATE/REVISIONS:

1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

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

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

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

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
FedX	Dstaygott	9/24/92	9:30 AM				

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

9613402.2722

0000024

WESTON Analytics Use Only

9209LOC8

Custody Transfer Record/Lab Work Request

WESTON

Page ___ of ___

Client WESTinghouse-Hanford

Est. Final Proj. Sampling Date

Work Order #

Project Contact/Phone #

AD Project Manager

QC CLP Del CLP TAT 35 Days

Date Rec'd 9/24/92 Date Due 10/29/92

Account #

Refrigerator #		
#/Type Container	Liquid	
	Solid	
Volume	Liquid	
	Solid	
Preservatives		

ANALYSES REQUESTED →

ORGANIC						INORG	
VOA	BNA	Pest/PCB	Herb	TOC	TOX	Metal	CN

WESTON Analytics Use Only

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	TOC	TOX	Metal	CN
11	B076T7			W	9/21/92						✓	✓		
12	B076T8										✓	✓		
13	B076V1										✓	✓		
14	B076W5			W	9/21/92						✓	✓		

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:

1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

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

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Fed X	D Hiydt	9/24/92	9:30 AM				

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

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

9613402.2723

0000025

FEDERAL EXPRESS

[redacted]

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 4482497784

4482497784

9209L008

RECIPIENT'S COPY

1 [redacted] Date 09/23/92

From (Your Name) Please Print: Larry Hulstrom
Your Phone Number (Very Important): (509) 376-4034
Company: Westinghouse
Department/Floor No.:
Street Address: 450 Hills St.
City: Richland State: WA
ZIP Required: 99352

2 To (Recipient's Name) Please Print: Josie Edwards
Recipient's Phone Number (Very Important): (215) 524-7360
Company: Roy F. Weston, Inc
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 208 Welsh Pool Road
City: Lionville State: PA
ZIP Required: 19341-1313

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): D7D83 M64269

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [ ] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No 3 [ ] Bill 3rd Party FedEx Acct. No 4 [ ] Bill Credit Card 5 [ ] Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [ ] YOUR PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon No Saturday delivery†)
51 [ ] YOUR PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two Day (Delivery by second business day†)
30 [ ] ECONOMY

Government Overnight (Restricted for authorized users only)
46 [ ] GOV'T LETTER
41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**

† Delivery commitment may be later in some areas
*Declared Value Limit $500
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [X] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [ ]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Lbs
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP
10 [ ]
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE
Total Total Total
DIM
x x

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X Ke. Hayt 9/24/92
Date/Time Received FedEx Employee Number

7 Release Signature:

REVISION DATE 2/92
FORMAT #126
126

9613402.2724 0000025

Surveyed : Yes ✓ No ___ ? Less than 200 counts/minute: Yes ✓ No ___ ? By (initials) [illegible]

9815402.2725 0 1 0 0 0 2 7

Battelle
Pacific Northwest Laboratories
Battelle Boulevard
Richland, Washington 99352

CHAIN OF CUSTODY

Test User ID: n.a.

C-of-C: 48262

Company Contact: B.E. Innis 300 FF5 Telephone: (509) 372-3670

Samples Collected by: MACKLIET - HARRISON Date: 9-21-92 Time: 0730

ID/Sample No.: B07603, B07604, B07606 9-19-92

Ice Chest No.: ___ Field Logbook Page No.: 29/n.a.

Remarks: RIVER SAMPLE ABOVE SPRING NO. 6 - SAMPLE #3 SPLIT

Possible Sample Hazard Identification: ___ Contract No.: ___

Destination: WESTON INC. Carrier/Waybill No.: ___

~~XXXXXX~~ Water X Soil ___ Other ___

Shipping container internal temperature when samples sealed in it ___.

Shipping container internal temperature when opened in laboratory ___.

Sample Identification

B07603 - (2) 40 ML GAS - VOA
" " - ~~1000~~ 500 ML P - Anions (IC), PO4, pH 9-20-92 91
" " - ~~1000~~ 500 ML P - TSS, TDS 9-20-92 91
" " - 250 ML P - NO3 - NO2
" " - 500 ML G - Ammonia, Chemical Oxygen Demand
" " - 1000 ML P - ICP metals/AA for Pb, Hg
" " - (5) 1000 ML P - Gross Alpha/Beta, Gamma & Alpha Spec, U235, U238, Sr90
" " - 1000 ML P - Tc99
" " - 1000 ML GAS - Tritium
" " - 250 ML GAS - TOC
" " - 250 ML GAS - TOX
B07604 - 1000 ML P - ICP metals/AA for Pb, Hg (FILTERED)
B07606 - (2) 40 ML GAS - VOA (T.B.) 9-19-92 50

Chain of Possession

Relinquished by:	Received by:	Date/Time:
[signature]	S Frank	9/21/92 10:30 Am
S Frank	MA Frank	9/21/92 14:50
MA Frank	P S Henry, PNL	9/21/92 1520
P S Henry, PNL	For Fed Ex #4453497795	9/23/92 1055
	D. Hayat	9/24/92 2:20 Am

PNL-MA-567, AD2 BD-1200-345 (10/91)

9613402.2726 0000028

SAMPLE ANALYSIS ORDER
BATTELLE, PNL

WESTON INC.

SAMPLE RECEIVER INITIAL / DATE:
_____ / DATE_____

CHAIN OF CUSTODY #: 48262
SAMPLE ID(S): B076Q3 B076Q4 B076Q6
SAMPLE SCHEDULE DATE: 09/21/92

WATER X SOIL ___

INTERNAL TEMPERATURE OF SHIPPING CONTAINER
UPON OPENING IN LABORATORY_____

BOTT TYPE	BOTT SIZE	# of BOTT	PRESERVAT	NOTES	# of SAMP	ANALYSIS
GAS	40	2		no h	1	VOA
P	500	1			1	Anions (IC), PO4, pH
P	500	1			1	TSS, TDS
P	250	1	H2SO4		1	NO3 - NO2
G	500	1	H2SO4		1	Ammonia, Chemical Oxygen Demand
P	1000	1	HNO3		1	ICP metals/AA for Pb, Hg
P	1000	1	HNO3		1	ICP metals/AA for Pb, Hg (FILTERED)
P	1000	5	HNO3		1	Gross Alpha/Beta, Gamma & Alpha Spec, U235, U238, Sr90
P	1000	1	HCL		1	Tc99
GAS	1000	1			1	Tritium
GAS	250	1	H2SO4		1	TOC
GAS	250	1	H2SO4		1	TOX
GAS	40	2			1	VOA (T.B.)

VALIDATION SUMMARY

HCRL-WHC/93CG-T-93-141 9613402

E-93-06/2978-50

9209L008-WS-81S

WESTINGHOUSE HANFORD COMPANY
300-FF-5 RI DATA VALIDATION
DISTRIBUTION FORM

Document Title: Prelim. QA. Report - Weston 9209LCCS

Document Number: HCRL-WHC/93CG-L-93-083 Date: 3/24/93

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J. Hustrom (WHC)	X	A. Shen (HCSEA)			

Project Files (1=Adm; 2=Corres; 3=Source Information; 4=Technical Data & Products)

1.1	File Index	2.1	Incoming Correspondence	4.4.5	Biota/Small Mammals		
1.2	Distribution Lists	2.2	Outgoing Correspondence	4.4.6	Surface Water/Sediments	X	X
1.3	Project Procedures	2.3	Internal Correspondence	4.5	Data Val. & Qual. Summary Rpts		
1.4	Project Modifications			4.5.1	Round 1 Groundwater		
1.5.1	Staff Resumes	3.1	Task Order	4.5.1.1	Internal Drafts/Comments/Resol.		
1.5.2	Staff Training	3.2	Sample Lists	4.5.1.2	WHC Review Draft/Comments/Resol.		
1.5.3	Auth./Former Site Employee	3.3	Data Validation Procedures	4.5.1.3	Final Report		
1.6.1	QA Manual	3.4	Original Chemical Data	4.5.2	Round 2 Groundwater		
1.6.2	QA Implementation	3.5	Original Radiochem Data	4.5.2.1	Internal Drafts/Comments/Resol.		
1.6.3.1	QA Audits-Deliverables			4.5.2.2	WHC Review Draft/Comments/Resol.		
1.6.3.2	QA Audits-Files	4.1	Task Plan	4.5.2.3	Final Report		
1.6.4.1	Audit Resps-Deliverables	4.2	Data Pkg. Completeness Verif.	4.5.3	Round 3 Groundwater		
1.6.4.2	Audit Resps-Files	4.2.1	Checklists - Round 1 GW	4.5.3.1	Internal Drafts/Comments/Resol.		
1.6.5	Training	4.2.2	Checklists - Round 2 GW	4.5.3.2	WHC Review Draft/Comments/Resol.		
1.6.6.1	QA Manual Doc Log	4.2.3	Checklists - Round 3 GW	4.5.3.3	Final Report		
1.6.6.2	Procedures Doc Log	4.2.4	Checklists - Round 4 GW	4.5.4	Round 4 Groundwater		
1.6.6.3	Plans Document Log	4.2.5	Checklists - Biota/Small Mam.	4.5.4.1	Internal Drafts/Comments/Resol.		
1.6.6.4	Deliverables Doc Log	4.2.6	Checklists - Surface Wtr./Sed.	4.5.4.2	WHC Review Draft/Comments/Resol.		
1.7.1	Downloads	4.3	Data Val. Calcs./Annotated DP	4.5.4.3	Final Report		
1.7.2	M-113s	4.3.1	Round 1 Groundwater	4.5.5	Biota/Small Mammals		
1.7.3	A-208s	4.3.2	Round 2 Groundwater	4.5.5.1	Internal Drafts/Comments/Resol.		
1.7.4	Budget Status	4.3.3	Round 3 Groundwater	4.5.5.2	WHC Review Draft/Comments/Resol.		
1.7.5	Invoices	4.3.4	Round 4 Groundwater	4.5.5.3	Final Report		
1.8.1	Requisitions	4.3.5	Biota/Small Mammals	4.5.6	Surface Water/Sediments		
1.9	Meeting Minutes	4.3.6	Surface Water/Sediments	4.5.6.1	Internal Drafts/Comments/Resol.		
1.10	Record of Telecons	4.4	Preliminary QA Reports	4.5.6.2	WHC Review Draft/Comments/Resol.		
1.11	Progress Reports	4.4.1	Round 1 Groundwater	4.5.6.3	Final Report		
1.12	Subcontractor (HC)	4.4.2	Round 2 Groundwater	4.6	Weekly Status Reports		
		4.4.3	Round 3 Groundwater	4.7	Weekly Management Reports		
		4.4.4	Round 4 Groundwater				

9613402.2728

HARTCROWSER

Earth and Environmental Technologies

Hart Crowser
[illegible]
Richland, Washington [illegible]
FAX [illegible]
[illegible]

2978-50

March 24, 1993

Mr. Larry Hulstrom
Westinghouse Hanford Company
P.O. Box 1970
Richland, Washington 99352

Subject: WHC Order No. MLW-SVV-037106
Task Order No. E-93-06
Preliminary Quality Assurance Record - 300-FF-5 RI/FS
Weston Case Number 9209L008 - TOC/TOX

Dear Mr. Hulstrom:

Ebasco and Hart Crowser are pleased to provide you with the attached results of our review and validation of the subject data from the 300-FF-5 Operable Unit Remedial Investigation/ Feasibility Study (RI/FS). The attached results are provided to you in partial fulfillment of Subtask 03 of our task plan dated November 6, 1992. The subject data package consisted of fourteen low level surface water samples submitted for analysis for total organic carbon (TOC) and total organic halogens (TOX). Of these fourteen samples, five were fully validated. The samples were analyzed by Roy F. Weston using the U.S. Environmental Protection Agency (EPA) approved methods. All analytical results, together with the data qualifiers which we have tentatively assigned as a result of our review, are provided in Attachment 4.

DATA QUALITY OBJECTIVES SUMMARY

Data quality objectives (e.g. matrix spikes, duplicates, initial calibrations, continuing calibrations, and contract required detection limits) were met for this case with the exception of the following: 1) the TOX holding times were exceeded for all of the analyses; 2) there were no TOX laboratory control samples (LCS) analyzed, and the ICV/CCV samples were not obtained from a source independent of the calibration standards.

MAJOR DEFICIENCIES (REJECTED DATA)

There were no data rejected.

MINOR DEFICIENCIES (OTHER QUALIFIED DATA)

There are no TOC and TOX data quality objectives (DQOs) in the 300-FF-5 Work Plan. Therefore, the DQOs used to evaluate this data were taken from the Westinghouse Hanford Company validation guidelines. In contrast, the Roy F. Weston case narrative outlined DQOs which did not correspond to the validation guidelines. We have assumed that the Westinghouse Hanford Company validation guidelines were the appropriate source for the DQOs.

The following resulted in the qualification of the data as estimates (J or UJ): the TOX holding times were exceeded; and there were no TOX LCS or independent standards analyzed. All qualified data are discussed in Attachments 3 and 5.

The Westinghouse Hanford chain of custody (COC) forms were not found in the original data transmittal. The holding times were evaluated using dates obtained from Roy F. Weston COC forms. We would need to have the Westinghouse Hanford COC forms to further evaluate holding times.

A transcription error was made in reporting the TOX results for sample B076W0. A calculation error was made for the TOX results for sample B076W5 on the laboratory data sheet. This calculation error did not result in a change in the reported data for sample B076W5.

We trust that these preliminary results meet your needs. Our qualifier assignments will be finalized at the time the summary report for this sampling round is published. The final qualifiers may vary from those presented here, reflecting any trends in data quality or laboratory performance observed over the course of the 300-FF-5 RI/FS. Please contact me if you have any questions with regard to our activities.

Sincerely,
HART CROWSER, INC.

D. MARK GERBOTH, P.E.
Project Manager
HC#133:RL1702.DOC

Attachments

cc: Mark Gerboth (w/o attachments) Westinghouse EDMC
Jeff Grover (w/o attachments) Project File - HCRL-WHC/9306-L-93-083

9613402.2730

THIS APPENDIX CONSISTS OF FIVE ATTACHMENTS

Attachment 1 - Glossary of Data Qualifiers

This attachment provides a glossary explaining all data qualifiers applied as a result of the validation.

Attachment 2 - As Received Laboratory Sample Concentration Reports

This attachment provides copies of the as-received sample concentration reports.

Attachment 3 - Summary of Data Qualifications

This attachment provides a complete summary of all qualifications applied as a result of the validation.

Attachment 4 - As Qualified Data Summary

This attachment provides a tabular data summary or copies of the annotated sample concentration reports as qualified from the validation.

Attachment 5 - Data Review Supporting Documentation

This attachment provides copies of the data validation checklists, data summary forms, telephone contact memoranda and other documentation completed as a result of the data validation.

9613402.2731

ATTACHMENT 1

Glossary of Data Qualifiers

U - Indicates the compound or analyte was analyzed for and not detected. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected. Due to quality control deficiencies identified during data validation the value reported may not accurately reflect the sample quantitation limit.

J - Indicates the compound or analyte was analyzed for and detected. The associated value is estimated but the data are useable for decision making processes.

R - Indicates the compound or analyte was analyzed for and due to an identified quality control deficiency the data are unusable.

NJ - Indicates presumptive evidence of a compound at an estimated value.

N - Indicates presumptive evidence of a compound.

9613402.2732

ATTACHMENT 2

As Received Laboratory Sample Concentration Reports

9613402.2733 0 0 0 0 0 3

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/21/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-9999-00

WESTON BATCH #: 9209L008

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	B076T9	Total Organic Carbon	1.3		MG/L	0.00
		Total Organic Halides	20.0	u	UG/L	20.0
-002	B076W4	Total Organic Carbon	0.98		MG/L	0.50
		Total Organic Halides	5.0	u	UG/L	5.0
-003	B076V0	Total Organic Carbon	1.8		MG/L	0.50
		Total Organic Halides	5.0	u	UG/L	5.0
-004	B076W0	Total Organic Carbon	0.87		MG/L	0.50
		Total Organic Halides	9.8		UG/L	5.0
-005	B076W8	Total Organic Carbon	0.50	u	MG/L	0.50
		Total Organic Halides	9.8		UG/L	5.0
-006	B076W7	Total Organic Carbon	0.98		MG/L	0.50
		Total Organic Halides	5.3		UG/L	5.0
-007	B076W6	Total Organic Carbon	0.76		MG/L	0.50
		Total Organic Halides	5.0	u	UG/L	5.0

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/21/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-9999-00

WESTON BATCH #: 9209L008

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-008	B076V9	Total Organic Carbon	0.50 u	MG/L	0.50
		Total Organic Halides	5.7	UG/L	5.0
-009	B076V8	Total Organic Carbon	0.53	MG/L	0.50
		Total Organic Halides	12.2	UG/L	5.0
-010	B076V2	Total Organic Carbon	0.87	MG/L	0.50
		Total Organic Halides	6.3	UG/L	5.0
-011	B076T7	Total Organic Carbon	0.64	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0
-012	B076T8	Total Organic Carbon	0.76	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0
-013	B076V1	Total Organic Carbon	0.98	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0
-014	B076W5	Total Organic Carbon	0.50 u	MG/L	0.50
		Total Organic Halides	5.0 u	UG/L	5.0

9613402.2735

ATTACHMENT 3

Summary of Data Qualifications

DATA QUALIFICATION SUMMARY - FORM B-7

SDG: 92091008	REVIEWER: CMR	DATE: 3/16/93	PAGE 1 OF 1
COMMENTS:	TOC/TOX		
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
TOX	J(+), UJ(-)	B076T9	missed HT, NO LCS or independent check standard
		B076W4	
		B076V0	
		B076W0	
		B076W8	
		B076W7	
		B076W6	
		B076V9	
		B076V8	
		B076V2	
		B076T7	
		B076T8	
		B076V1	
		B076W5	

9613402.2737

ATTACHMENT 4

As Qualified Data Summary

9613402.2738 0000003

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/21/92

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 06168-002-001-9999-00

WESTON BATCH #: 9209L008

SAMPLE	SITE ID	ANALYTE		RESULT	UNITS	REPORTING LIMIT	Validat Quali
-001	B076T9	Total Organic Carbon	✓	1.3	MG/L	0.00	—
		Total Organic Halides	✓	20.0 u	UG/L	✓ 20.0	UJ
-002	B076W4	Total Organic Carbon	✓	0.98	MG/L	0.50	—
		Total Organic Halides	✓	5.0 u	UG/L	5.0	UJ
-003	B076V0	Total Organic Carbon	✓	1.8	MG/L	0.50	—
		Total Organic Halides	✓	5.0 u	UG/L	5.0	UJ
-004	B076W0	Total Organic Carbon	✓	0.87	MG/L	0.50	—
		Total Organic Halides	✓	5 ~~9.8~~ u	UG/L	5.0	—
-005	B076W8	Total Organic Carbon	✓	0.50 u	MG/L	0.50	U
		Total Organic Halides	✓	9.8	UG/L	5.0	J
-006	B076W7	Total Organic Carbon	✓	0.98	MG/L	0.50	—
		Total Organic Halides	✓	5.3	UG/L	5.0	J
-007	B076W6	Total Organic Carbon	✓	0.76	MG/L	0.50	—
		Total Organic Halides	✓	5.0 u	UG/L	5.0	UJ

✓ 3/16/93

9613402.2739 0000004

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 10/21/92

CLIENT: WESTINGHOUSE HANFORD

WESTON BATCH #: 9209L008

WORK ORDER: 06168-002-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	Valid Qual
-008	B076V9	Total Organic Carbon	0.50 u	MG/L	0.50	u
		Total Organic Halides	5.7	UG/L	5.0	J
-009	B076V8	Total Organic Carbon	0.53	MG/L	0.50	—
		Total Organic Halides	12.2	UG/L	5.0	J
-010	B076V2	Total Organic Carbon	0.87	MG/L	0.50	—
		Total Organic Halides	6.3	UG/L	5.0	J
-011	B076T7	Total Organic Carbon	0.64	MG/L	0.50	—
		Total Organic Halides	5.0 u	UG/L	5.0	UJ
-012	B076T8	Total Organic Carbon	0.76	MG/L	0.50	—
		Total Organic Halides	5.0 u	UG/L	5.0	UJ
-013	B076V1	Total Organic Carbon	0.98	MG/L	0.50	—
		Total Organic Halides	5.0 u	UG/L	5.0	UJ
-014	B076W5	Total Organic Carbon	0.50 u	MG/L	0.50	u
		Total Organic Halides	5.0 u	UG/L	5.0	UJ

✓ cwk 3/16/93

9613402.2740

ATTACHMENT 5

Data Review Supporting Documentation

9613402.2741

WET CHEMISTRY DATA VALIDATION CHECKLIST - FORM A-7

PROJECT: 300-FF-5	REVIEWER: SWC	DATE: 3/10/93
LABORATORY: Weston	CASE: 92092008	SDG:
SAMPLES/MATRIX: B076T9, B076W4, B076V0, B076W0, B076W8, B076W7, B076W6, B076V9, B076V8, B076V2, B076T7, B076T8, B076V1, B076W5		
circled samples are fully validated CWC	(TOC and TOX analyses) CWC	

1. DATA PACKAGE COMPLETENESS

Review the data package for completeness and check off the items below. If any data review elements are missing contact the laboratory for submittal of the omitted data.

Data Package Item	Present?: Yes	No	N/A
Case Narrative	✓	—	—
Cover Page	✓	—	—
Traffic Reports/Chain-of-Custody	✓	—	—
Sample Analysis Data Report Forms	✓	—	—
Standards Data	✓	—	—
QC Summary			
Blanks Summary Report Forms	✓	—	—
Spike Sample Recovery Report Forms	✓	—	—
Duplicate Sample Analysis Report Forms	✓	—	—
Laboratory Control Sample Report Forms	—	—	✓
Raw Data			
Ion Chromatograph Chromatograms	—	—	✓
TOC and TOX Instrument Printouts	✓	—	—
Laboratory Bench Sheets	—	—	✓
Additional Data			
Laboratory Sample Preparation Logs	—	—	✓
Instrument Run Logs	—	—	✓
Internal Laboratory Chain-of-Custory	✓	—	—
Percent Solids Analysis Records	—	—	✓
Reduction Formulae	—	—	✓
Chemist Notebook Pages	—	—	✓

2. HOLDING TIMES

Were all samples analyzed within holding times? Yes (No) N/A

Action: If any holding times were exceeded qualify all affected results as estimated (J for detects and UJ for nondetects).

3. INITIAL CALIBRATIONS

Were all instruments calibrated daily, each set-up time and were the proper number of standards used? Yes No N/A

Are the correlation coefficients ≥0.995? Yes No N/A

Was a balance check conducted prior to the TDS analysis? Yes No N/A

Was the titrant normality checked? Yes No N/A

ACTION: Qualify all data as unusable (R) if reported from an analysis in which the above criteria were not met.

4. INITIAL AND CONTINUING CALIBRATION VERIFICATION

Have ICV and CCV been analyzed at the proper frequency? Yes No N/A

Are ICV and CCV percent recoveries within control? Yes No N/A

Are there calculation errors? Yes No N/A

ACTION: Qualify all affected data in accordance with the validation requirements.

5. LABORATORY BLANKS

Are target analytes present in the laboratory blanks? Yes No N/A (TOX is blank corrected)

ACTION: Qualify all associated sample results for any analyte <5 times the amount in any laboratory blank as nondetected (U) and list the affected samples and analytes below.

6. FIELD BLANKS

Are target analytes present in the field blanks? Yes No N/A

ACTION: Qualify all sample results for any analyte <5 times the amount in any valid field blank as nondetected (U).

7. MATRIX SPIKE SAMPLE ANALYSIS

Are spike recoveries within the acceptance limits? Yes No N/A

ACTION: If the sample concentration exceeds the spike concentration by a factor of 4 or more, and spike recoveries are outside the acceptance limits, no qualification is necessary. If spike recovery is outside the control limits and the sample results are >CRQL, qualify the data as estimated (J). If the spike recovery is <30% and the sample results are less then the IDL qualify the data as unusable (R).

8. LABORATORY CONTROL SAMPLE

Are percent recoveries within the acceptance limits? NO LCS for TOX curve Yes No N/A

Are there calculation errors? Yes No N/A

ACTION: Qualify the affected results according to the following requirements:

AQUEOUS LCS - Qualify as estimated (J), all sample results > IDL, for which the LCS %R falls within the range 50-79% or > 120%. Qualify as estimated (UJ), all sample results < IDL, for which the LCS falls within the range of 50-79%. Qualify as unusable (R) all sample results, for which the LCS %R < 50%.

SOLID LCS - Qualify as estimated (J), all sample results > IDL for which the LCS %R is outside the established control limits. Qualify as estimated (UJ), all sample results < IDL for which the LCS %R are lower than the established control limits.

9. PERFORMANCE AUDIT ANALYSES

Are the performance audit sample results within the acceptance limits? Yes No N/A

ACTION: Note the results of the performance audit samples in the validation narrative.

10. DUPLICATE SAMPLE ANALYSIS

Are RPD values within the acceptance limits? Yes No N/A

Action: Qualify the results for all associated samples of the same matrix as estimated (J) if the RPD falls outside the acceptance limits.

11. FIELD DUPLICATE SAMPLES

Do RPD values exceed the acceptance limits? Yes No N/A

ACTION: Note the results of the field duplicate samples in the validation narrative.

12. FIELD SPLIT SAMPLES

Do RPD values exceed the acceptance limits? Yes No N/A

ACTION: Note the results of the field split samples in the validation narrative.

13. ANALYTE QUANTITATION AND DETECTION LIMITS

Have results been reported and calculated correctly?	Yes	No	N/A
Are instrument detection limits below the CRDL?	Yes	No	N/A

Action: If analyte quantitation is in error, contact the laboratory for explanation. If errors or deficiencies can not be resolved with the laboratory, qualify associated data as unusable (R).

14. OVERALL ASSESSMENT AND SUMMARY

Has the laboratory conducted the analysis in accordance with the analytical SOW?	Yes	No	N/A
Were project specific data quality objectives met for this analysis?	Yes	No	N/A

ACTION: Summarize all the data qualifications and complete the data validation narrative as specified in Section 10.0 of the data validation requirements.

COMMENTS (attach additional sheets as necessary):

1) The guidelines for TOX LCS recovery ~~[illegible]~~ listed in the case narrative (#3) were not contract or validation guidelines. Should say LCS guidelines 80-120% rather than 70-120%; and RPD guidelines ~~[illegible]~~ 20% rather than 40%

2) in case narrative #4 CCV guidelines should read 75-125% rather than 90-110%

3) in case narrative #5 matrix spike guidelines for TOX should read 75-125% rather than 70-130%

4) RPD guidelines in case narrative #6 should read 20% to TOX rather than 40%

5) TOC method SM 505B ✓
TOX method # OP 21-15-9020.1 ✓

9613402.2747

WHC-SD-EN-SPP-002, Rev. 1

HOLDING TIME SUMMARY - FORM B-1

9209L008

SDG:	REVIEWER: CM Russell	DATE: 3/16/93	PAGE 1 OF 1

COMMENTS: TOC H.T. is 28 days; TOX H.T. is 7 days

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED TOC	DATE ANALYZED TOX	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS TOC	ANALYSIS HOLDING TIME, DAYS TOX	QUALIFIER TOC	QUALIFIER TOX
B076W4	TOC/TOX	9/21/92*		10/5/92	10/12		14 ~~10/5/92~~	21	none	UJ
B076W5					10/19			28		UJ
B076W6					10/12			21		UJ
B076W7					10/12			21		J
B076W8					10/12			21		J
add'l samples in data package, not fully validated, are: (Val Level II)										
B076T9	TOC/TOX	9/21/92*		10/5/92	10/12		14 ~~10/5/92~~	21	none	UJ
B076V0					10/12			21		UJ
B076W0					10/12			21		UJ
B076V9					10/16			25		J
B076V8					10/16			25		J
B076V2					10/16			25		J
B076T7					10/16			25		UJ
B076T8					10/19			28		UJ
B076V1					10/19			28		UJ

*date taken off lieston C-O-C; No WHC C-O-C with package

9613402.2240
WHC-SD-EN-SPP-002, Rev. 1

CALIBRATION DATA SUMMARY - FORM B-2

9209L008

SDG:	REVIEWER: CMRussell	DATE: 3/16/93		PAGE 1 OF 1	
COMMENTS:					
CALIB. TYPE:	INITIAL CONTINUING	INSTRUMENT:			
CALIB. DATE	COMPOUND	RF	RSD/%D/%R	SAMPLES AFFECTED	QUALIFIER
TOC	10/5/93 — corr. coeff (0.9983) is OK.				
	— all CCVs calculated incorrectly, but acceptable				
	(range 92.6 – 99.4%)				
TOX					
10/12	all ICV/CCV acceptable	(75-125%)		See H.T. form B-1	none
10/16	all ICV/CCV acceptable	↓		↓	↓
10/19	all ICV/CCV acceptable	↓		↓	↓

BLANK AND SAMPLE DATA SUMMARY - FORM B-3

9209L008

SDG:	REVIEWER: CMRussell	DATE: 3/16/93	PAGE 1 OF 1

COMMENTS:

SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
TOC	1) all required det. limits met (2 mg/L)								none
	2) all cal blanks acceptable. (<0.5 mg/L)								↓
TOX	1) all required det. limits met (50 µg/L)								none
	2) all cal blanks acceptable. (<5 µg/L or <20 µg/L)								↓

9613402.2749 WHC-SD-EN-SPP-002, Rev. 1

ACCURACY DATA SUMMARY - FORM B-4

92091L008

SDG:	REVIEWER: CMRussell	DATE: 3/16/93	PAGE 1 OF 1	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
TOC				
LCS → ICV/CCV	different source than Cal Stds.; met		80-120% criteria.	None
matrix spike	met 75-125% (84%)			none
mat. spike dup	met 75-125% (87%)			none
TOX				
LCS →	none; the ICV/CCV was same source as cal. stds.; no independent check			J(+), UJ(-) all sample
matrix spike	(B076T9)	111%	all TOX	none
matrix spike dup	→ none			none

96134022250 WTEC-SD-EN-SPP-002, Rev. 1

PRECISION DATA SUMMARY - FORM B-5

9209L008

SDG:	REVIEWER CM Russell	DATE: 3/16/93	PAGE 1 OF 1

COMMENTS:

COMPOUND	SAMPLE ID:	SAMPLE ID:	RPD	SAMPLES AFFECTED	QUALIFIER
TOC matrix spike dup	B076V0 MS	B076V0 MSD	5.2	(20% criteria met)	none
anal. dup	~~B0a~~ B076V0	B076V0 (Dup)	0%		none
TOX matrix spike dup → none					none
anal. dup	B076T9	B076T9 (Dup)	NA*	all	none

* cannot be calc. as both are qual. as undetected (UJ)

9613402.2751 WHC-SD-EN-SPP-002, Rev. 1

CALCULATION SUMMARY - FORM B-6

9209LC08

SDG:	REVIEWER: [illegible]	DATE: 3/16/93	PAGE 1 OF 1

COMMENTS:

TOC

all calculations performed using Hewlett-Packard 32S II calculator. Used linear regression program to verify correlation coeff., ICV/CCV % recoveries, and sample concentrations. Sample concentrations and corr. coeff. calculations cannot be written out. ICV/CCV calc. were all incorrect:

(ICV) 4.74 ÷ 5.0 × 100 = 94.9 %

(ICV Dup) 4.63 ÷ 5.0 × 100 = 92.6 %

(CCV 1) 4.97 ÷ 5 × 100 = 99.4 %

(CCV 2) 4.86 ÷ 5 × 100 = 97.1 %

TOX

Trancription error sample B076W0.
Should be 5 (U) → 5 (UJ) after qualification.

B076W4 $\left[\frac{(1.1999 - 0.80785) + (1.0204 - 0.80785)}{2}\right] \div (0.1) = 3.02$ ~~0.302~~ ∴ 5U

B076W8 $\left[\frac{(1.7356 - 0.80785) + (1.8320 - 0.80785)}{2}\right] \div (0.1) = 9.8$

B076W7 $\left[\frac{(1.3619 - 0.80785) + (1.3124 - 0.80785)}{2}\right] \div (0.1) = 5.29$

B076W6 $(0.8454 - 0.80785) \div (0.1) = 0.376$ ∴ 5U

B076W5 $\left[\frac{(0.8017 - 0.6748) + (0.8928 - 0.6748) + (0.8569 - 0.6748)}{3}\right] \div (0.1) = 1.756$ ∴ 5U

There was a calc. error for B076W5. Lab divided by 2 instead of 3. No change in report.

9613402.2255 E-93-06/2978-50

WESTINGHOUSE HANFORD COMPANY
300-FF-5 RI DATA VALIDATION
DISTRIBUTION FORM

Document Title: Data Package Asset# 92092008 Round GW3 (TOX/TOX

Document Number: HCRL-WHC-SD-93-020 Date: 3/10/93

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Project Files (1=Adm; 2=Corres; 3=Source Information; 4=Technical Data & Products)

1.1 File Index		2.1 Incoming Correspondence		4.4.5 Biota/Small Mammals	
1.2 Distribution Lists		2.2 Outgoing Correspondence		4.4.6 Surface Water Sediments	
1.3 Project Procedures		2.3 Internal Correspondence		4.5 Data Val. & Qual. Summary Rpts.	
1.4 Project Modifications				4.5.1 Round 1 Groundwater	
1.5.1 Staff Resumes		3.1 Task Order		4.5.1.1 Internal Drafts/Comments/Resol.	
1.5.2 Staff Training		3.2 Sample Lists		4.5.1.2 WHC Review Draft/Comments/Resol.	
1.5.3 Auth.-Former Site Employee		3.3 Data Validation Procedures		4.5.1.3 Final Report	
1.6.1 QA Manual		3.4 Original Chemical Data	X	4.5.2 Round 2 Groundater	
1.6.2 QA Implementation		3.5 Original Radiochem Data		4.5.2.1 Internal Drafts/Comments/Resol.	
1.6.3.1 QA Audits-Deliverables				4.5.2.2 WHC Review Draft/Comments/Resol.	
1.6.3.2 QA Audits-Files		4.1 Task Plan		4.5.2.3 Final Report	
1.6.4.1 Audit Resps-Deliverables		4.2 Data Pkg. Completeness Verif.		4.5.3 Round 3 Groundwater	
1.6.4.2 Audit Resps-Files		4.2.1 Checklists - Round 1 GW		4.5.3.1 Internal Drafts/Comments/Resol.	
1.6.5 Training		4.2.2 Checklists - Round 2 GW		4.5.3.2 WHC Review Draft/Comments/Resol.	
1.6.6.1 QA Manual Doc Log		4.2.3 Checklists - Round 3 GW		4.5.3.3 Final Report	
1.6.6.2 Procedures Doc Log		4.2.4 Checklists - Round 4 GW		4.5.4 Round 4 Groundwater	
1.6.6.3 Plans Document Log		4.2.5 Checklists - Biota/Small Mam.		4.5.4.1 Internal Drafts/Comments/Resol.	
1.6.6.4 Deliverables Doc Log		4.2.6 Checklists - Surface Wtr./Sed.		4.5.4.2 WHC Review Draft/Comments/Resol.	
1.7.1 Downloads		4.3 Data Val. Calcs./Annotated DP		4.5.4.3 Final Report	
1.7.2 M-113s		4.3.1 Round 1 Groundwater		4.5.5 Biota/Small Mammals	
1.7.3 A-208s		4.3.2 Round 2 Groundwater		4.5.5.1 Internal Drafts/Comments/Resol.	
1.7.4 Budget Status		4.3.3 Round 3 Groundwater		4.5.5.2 WHC Review Draft/Comments/Resol.	
1.7.5 Invoices		4.3.4 Round 4 Groundwater		4.5.5.3 Final Report	
1.8.1 Requisitions		4.3.5 Biota/Small Mammals		4.5.6 Surface Water/Sediments	
1.9 Meeting Minutes		4.3.6 Surface Water/Sediments		4.5.6.1 Internal Drafts/Comments/Resol.	
1.10 Record of Telecons		4.4 Preliminary QA Records		4.5.6.2 WHC Review Draft/Comments/Resol.	
1.11 Progress Reports		4.4.1 Round 1 Groundwater		4.5.6.3 Final Report	
1.12 Subcontractor (HC)		4.4.2 Round 2 Groundwater		4.6 Weekly Status Reports	
		4.4.3 Round 3 Groundwater		4.7 Weekly Management Reports	
		4.4.4 Round 4 Groundwater			

9613402.2754

[32] From: Larry C Hulstrom at ~WHC68 3/9/93 1:25PM (895 bytes: 11 ln)
Priority: Urgent
To: William E Strohben at ~WHC321, Briana M Colley at ~WHC321
Receipt Requested
cc: Larry C Hulstrom. Hat Crowan
Subject: Data Package for Duplication

---------- Message Contents ----------

georgia

Review of the data validated for the 300-FF-5 Spring sampling effort indicates that we inadvertently forgot to select a TOC/TOX data package for validation. Please pull data package 9209L008, Transmittal #1602 and have it duplicated as quickly as possible. Let me know when it is ready for the validators.

In a related area Ebasco (M. Gerboth) has requested that I set up a meeting with HASM to determine how best to get the qualified data packages back into HASM files. Please let me know when you would be available to do this.

Pls. pull ASAP.
Thx.
B.