

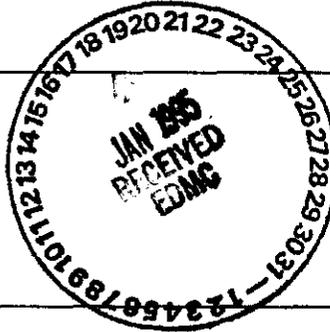
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16. KEY					
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*Robert St. Denis*  
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Name: **K. N. POUL**  
*K. N. Poul*  
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**10-27-93**

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**222-S Analytical Laboratory**

**Project: GROUT - (FEED TANK)**

**Tank: 102AP**

**Date Printed: September 17, 1993**

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Total Organic Carbon	G341, G342	3589
Total Organic Carbon	G348, G349	3600
Total Organic Carbon	G352, G353	3610
Total Organic Carbon	G358, G359	3621
Total Organic Carbon	G363, G364	3632
Total Organic Carbon	G363	3643
Total Organic Carbon	G364	3651
Total Organic Carbon	G443	3659
Total Organic Carbon	G459, G460	3670
Total Organic Carbon	G470, G471	3682
Total Organic Carbon	G476, G477	3696
<hr/>		
Total Inorganic Carbon	G333, G338	3710
Total Inorganic Carbon	G341, G342	3724
Total Inorganic Carbon	G348, G349	3738
Total Inorganic Carbon	G352, G353	3752
Total Inorganic Carbon	G353	3766
Total Inorganic Carbon	G353	3776
Total Inorganic Carbon	G358, G359	3786
Total Inorganic Carbon	G363, G364	3800
Total Inorganic Carbon	G459, 460	3815
Total Inorganic Carbon	G460	3829
Total Inorganic Carbon	G470, G471	3839
Total Inorganic Carbon	G476, G477	3853

This report consists of pages 1 though 3866 plus 2917.1 to 2917.10 and 3609.1, also pages 125 to 144 were intentionally left blank.

Employee payroll numbers have been eliminated from this data package to protect the privacy of WHC employees. The elimination of these numbers in no way compromises the integrity of the raw data or information contained herein.

K. K. Giamberardini

K. K. Giamberardini, Manager  
Laboratory Data Management

10-13-93

Date

**NARRATIVE**

TANK 241-AP-102

CASE NARRATIVE

Analysis And Characterization  
of  
Grout Tank  
241-AP-102

Introduction

On 4/30/93 grout feed tank 241-AP-102 was sampled for a full characterization under the protocol listed in Hanford Grout Disposal Program-Campaign 102 Feed Characterization and Test Plan, WHC-SD-WM-TP-136, and Technical Project Plan for The 222-S Laboratory in Support of The Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP, and 102-AP, WHC-SD-WM-TPP-008.

The analyses in this data package were performed by the Westinghouse Hanford 222-S Laboratory under the following three documents: 1) "Hanford Grout Disposal Program Campaign 102 feed Characterization and Test Plan" (WHC-SD-WM-TP-136, Revision 0), 2) "Grout Treatment Facility Characterization Project, Fiscal Year 1993, Statement of Work For The Processing and Analytical Laboratories" (WHC-SOW-92-005, Revision 1), and 3) "Technical Project Plan For the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP, and 102-AP" (WHC-SD-WM-TPP-008, Revision 0). These documents will hereafter be referred to as the 1) FCP, 2) SOW, and 3) TPP respectively.

Laboratory operations at the 222-S are performed according to the "Quality Assurance Project Plan for the Analysis of Highly Radioactive Samples in Support of Environmental Activities on the Hanford Site" (WHC-SD-CP-QAPP), unless superseded by the FCP, the SOW of the TPP. Deviations from these guidelines are documented in letters of instruction from Grout Technology, Engineering Change Notices (ECNs) and in this narrative.

Tank 241-AP-102 (102-AP) are to be prepared as feed wastes for processing and disposal during campaign 102 of the Hanford Grout Disposal Program (HGDP). This campaign is scheduled to be initiated during October 1993. A historical profile of 102-AP is as follows:

Tank 102-AP is a 1,140,000 gallon radioactive waste tank used to composite solutions from several sources, and mix them prior to blending with dry grout material. After the last grout campaign (campaign 101) in which grout was blended and poured into vault 218-E-16-101 (vault 101), all of the contents of tank 102-AP were converted to grout except for a residual "heel" of liquid. The leachate and excess drainable liquids (that result from the curing process of grout) from that campaign were returned back to 102-AP and combined with the heel. Wastes from the Plutonium Uranium Extraction facility, consisting of neutralizing agents, were then added to 102-AP, as was solution from another radioactive waste storage tank (241-AN-106), which was characterized prior to transfer of the solution (Welsh, 1991). Table one shows the expected general composition of tank 102-AP before the analysis began.

SD-WM-DR-0410, Rev 0  
241-AF-102

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 3 thru 185,

is available only from  
Central Files.

# TAN. FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	R. L. WRIGHT	Telephone:	373-3552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	222 S CAR		
SAMPLING INFORMATION			
Sample Collected by:	R. Goulet, N. CADY	Date:	4-30-93
Sample Location:	102-AP # 10	Custody Seal #:	3387
Remarks:	NA		
Ice Chest or Sample Pig No.:	TF-4	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: *R. Wright* DATE: 4/30/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
0319	NA

CHAIN OF POSSESSION		
Relinquished by: <i>John Palmer</i>	Received by: <i>K. O. G. A.</i>	Date/Time: 5/1/93 0415
Relinquished by: <i>K. O. G. A.</i>	Received by: <i>[Signature]</i>	Date/Time: 5-1-93 0510
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TANN FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	373-3552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	222-S LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. GUYRETT/MARINO	Date:	4-30-93 Time: 1015
Sample Locations:	IC-2-AP #10	Custody Seal #:	3385
Remarks:	NA		
Ice Chest or Sample Pig No.:	A-5	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: R. Wright DATE: 4/30/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>A-318</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by: <u>R. Wright</u>	Received by: <u>[Signature]</u>	Date/Time: <u>4/30/93 14:50</u>
Relinquished by: <u>[Signature]</u>	Received by: <u>Valerie Marino</u>	Date/Time: <u>4-30-93 15:15</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TANK FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	273-3552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	722-S LAB		
SAMPLING INFORMATION			
Sample Collected by:	B. MYERS / J. DUNN	Date:	4-29-93 Time: 7022
Sample Locations:	102-AP #1B	Custody Seal #:	3394
Remarks:	NA		
Ice Chest or Sample Pig No.:	B23	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: *R. Wright* DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6309</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by: <i>A.S. Kelly</i>	Received by: <i>RE Lange</i>	Date/Time: 4/30/93 0420
Relinquished by: <i>RE Lange</i>	Received by: <i>N. B. Howard</i>	Date/Time: 4/30/93 0455
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	323-3552
Bill of Lading No.:	N/A	Offsite Property No.:	N/A
Method of Shipment:	Placed in overpack and shipped in D Plant Sample Truck		
Shipped to:	222-S LAB		

SAMPLING INFORMATION			
Sample Collected by:	D. Jones/T. Newing	Date:	4/28/03 Time: 2016
Sample Location:	102-N II/A	Custody seal #:	3348
Remarks:	N/A		
Ice Chest or Sample Pig No.:	B-13	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: *R. Wright* DATE: 4/29/03

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>Q299</u>	<u>N/A</u>

CHAIN OF POSSESSION		
Relinquished by: <i>D.S. [Signature]</i>	Received by: <i>R.E. [Signature]</i>	Date/Time: 4/30/03 0045
Relinquished by: <i>R.E. [Signature]</i>	Received by: <i>N.B. [Signature]</i>	Date/Time: 4/30/03 0115
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TANK FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	373-3552
Bill of Lading No.:	N/A	Offsite Property No.:	N/A
Method of Shipment:	B-PLANT SAMPLE TRUCK		
Shipped to:	777-S LAB		
SAMPLING INFORMATION			
Sample Collected by:	D. Jones / T. P. King	Date:	4/28/93 Time: 2049
Sample Locations:	102-A #1A	Custody Seal #:	3247
Remarks:	N/A		
Ice Chest or Sample Pig No.:	C-3	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: *R. Wright* DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6302</u>	<u>N/A</u>

CHAIN OF POSSESSION		
Relinquished by: <i>W. S. King</i>	Received by: <i>R. E. Lange</i>	Date/Time: 4/30 0045
Relinquished by: <i>R. E. Lange</i>	Received by: <i>Al B. King</i>	Date/Time: 4/30/0115
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

TAN. FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	323-3552
Bill of Lading No.	N/A	Office Property No.	N/A
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	222-S Lab		
SAMPLING INFORMATION			
Sample Collected by:	R. MYERS/J. DUNN	Date:	4-29-93 Time: 2031
Sample Locations:	102-AP / #1B	Custody Seal #:	3295
Remarks:	N/A		
Ice Chest or Sample Pkg. No.:	B25	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: R. Wright DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>G310</u>	<u>N/A</u>

CHAIN OF POSSESSION		
Relinquished by: <u>R.S. Shetty</u>	Received by: <u>RE Lange</u>	Date/Time: <u>4/30/93 0420</u>
Relinquished by: <u>RE Lange</u>	Received by: <u>N.B. Hardy</u>	Date/Time: <u>4/30/93 0455</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	WHC/RL WRIGHT	Telephone:	373-3552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	222-S Lab		
SAMPLING INFORMATION			
Sample Collected by:	D. JENSEN/T. WRIGHT	Date:	4/28/93 Time: 0043
Sample Locations:	107-AP #1A	Custody Seal #:	3345
Remarks:			
Ice Chest or Sample Dig. No.:	TF-3	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: RJ Wright DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6301</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by: <u>RJ Wright</u>	Received by: <u>AL Eric</u>	Date/Time: <u>4/29/93 1418</u>
Relinquished by: <u>AL Eric</u>	Received by: <u>Sandra Cobb</u>	Date/Time: <u>04-29-93 1445</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# FARM FARM PLANT OPERATING PROCEDURE

COPY

WHC-SD-WM-DP-046, REV 0

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	D. JONES/T. W. EARLING	Telephone:	373-3557
Bill of Lading No.:	N/A	Offsite Property No.:	N/A
Method of Shipment:	B-PLANT SAMPLE TRUCK		
Shipped to:	727-S Lab		
SAMPLING INFORMATION			
Sample Collected by:	D. JONES/T. W. EARLING	Date:	4/28/93
Sample Location:	102-AP #1A	Time:	2131
Remarks:	N/A	Custody Seal #:	3342
Ice Chest or Sample Dig No.:	G-5	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: *R. J. Wright* DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>B306</u>	<u>N/A</u>

CHAIN OF POSSESSION		
Relinquished by: <i>R. J. Wright</i>	Received by: <i>A. Sims</i>	Date/Time: <i>4/29/93 1015</i>
Relinquished by: <i>A. Sims</i>	Received by: <i>Shirley Cobb</i>	Date/Time: <i>04-29-93 1100</i>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TANN FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	R L WRIGHT	Telephone:	323-3552
Bill of Lading No.:	N/A	Offsite Property No.:	N/A
Method of Shipment:	R-PLANT Sample TRUCK		
Shipped to:	222-S LAB		
SAMPLING INFORMATION			
Sample Collected by:	D. Jones/T. N. P. King	Date:	4/28/93
		Time:	2103
Sample Locations:	102-AP #1A	Custody Seal #:	3349
Remarks:	N/A		
Ice Chest or Sample Pkg. No.:	TF-8	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: *R L Wright* DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6303</u>	<u>N/A</u>

CHAIN OF POSSESSION		
Relinquished by: <i>R L Wright</i>	Received by: <i>J L Sims</i>	Date/Time: <i>4/29/93 1015</i>
Relinquished by: <i>J L Sims</i>	Received by: <i>Sandra Cobb</i>	Date/Time: <i>04-29-93 1100</i>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TANK FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046 REV 0

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	323-3552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT SAMPLE TRUCK		
Shipped to:	722-S LAB		
SAMPLING INFORMATION			
Sample Collected by:	D. JONES/T. MANN	Date:	4/28/93
Sample Locations:	102-AP #1A	Custody Seal #:	3344
Remarks:	NA		
Ice Chest or Sample Pkg. No.:	TF-9	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: RL Wright DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>B305</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by: <u>RL Wright</u>	Received by: <u>Al Sims</u>	Date/Time: <u>4/29/93 1418</u>
Relinquished by: <u>Al Sims</u>	Received by: <u>Daniel Cobb</u>	Date/Time: <u>04-29-93 1445</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

COPY

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	R. L. WRIGHT	Telephone:	373-2552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	R-PLANT Sample TRUCK		
Shipped to:	222-S Lab		

SAMPLING INFORMATION			
Sample Collected by:	R. Conger/Timpany	Date:	4-30-93 Time 10:08
Sample Locations:	102-AP #1C	Custody Seal #:	3384
Remarks:	NA		
Ice Chest or Sample Pkg. No.:	TF-9	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: R. L. Wright DATE: 4/30/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>A-317</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by: <u>Thane Peltrey</u>	Received by: <u>K. B. O. [Signature]</u>	Date/Time: <u>5/1/93 0415</u>
Relinquished by: <u>Gale Aldred</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5-1-93 0510</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TAN. FARM PLANT OPERATING PROCEDURE

0011

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	323-3552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	NA		
Shipped to:	222-S LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Cougrent, Nearing	Date:	4/30/93
Sample Locations:	102-AP #1C	Custody Seal #:	3389
Remarks:	NA		
Ice Chest or Sample Pkg. No.:	G-1	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: *R. Wright* DATE: 4/30/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>B322</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by: <i>Jane Paalvey</i>	Received by: <i>K. O. Smith</i>	Date/Time: 5/1/93 0130
Relinquished by: <i>CO. [Signature]</i>	Received by: <i>[Signature]</i>	Date/Time: 5-1-93 0210
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TANK FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	P. L. WRIGHT	Telephone:	373-3552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT SAMPLE TRUCK		
Shipped to:	222-S LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. COUCHMAN/T. NEARNEY	Date:	4-30-93
		Time:	1111
Sample Location:	102-AP #1C	Custody Seal #:	3382
Remarks:	NA		
Ice Chest or Sample Pig No.:	G-7	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: P. L. Wright DATE: 4/30/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>0315</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by:	Received by:	Date/Time:
<u>P. L. Wright</u>	<u>J. Hummel</u>	<u>4/30/93 1450</u>
Relinquished by:	Received by:	Date/Time:
<u>J. Hummel</u>	<u>Valerie Massie</u>	<u>4-30-93 15:15</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TAN. FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	373-3552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT SAMPLE TRUCK		
Shipped to:	222-S LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Coireen H. Nearing	Date:	4/30/93
Sample Location:	107-AP # 1C	Custody Seal #:	3386
Remarks:	NA		
Ice Chest or Sample Pkg. No.:	B-21	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: *R. Wright* DATE: 4/30/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6323</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by: <i>Gene Polfrey</i>	Received by: <i>Kelly O. Bell</i>	Date/Time: 5/1/93 0130
Relinquished by: <i>Kelly O. Bell</i>	Received by: <i>[Signature]</i>	Date/Time: 5-1-93 0210
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TANIC FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	373-3552
Bill of Lading No.:	NA	Office Property No.:	NA
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	222-S Lab		
SAMPLING INFORMATION			
Sample Collected by:	R. MYERS/J. DUNN	Date:	4-24-93 Time: 2037
Sample Locations:	102-AP/1B	Custody Seal #:	#3396
Remarks:	NA		
Ice Chest or Sample Pkg. No.:	C-4	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: R. Wright DATE: 4/24/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6311</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by:	Received by:	Date/Time:
<i>[Signature]</i>	<i>[Signature]</i>	4/30/93 1330
Relinquished by:	Received by:	Date/Time:
<i>[Signature]</i>	<i>[Signature]</i>	04-30-93 14:10
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TANK FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	373-3552
Bill of Lading No.:	N/A	Offsite Property No.:	N/A
Method of Shipment:	B-Plant Sample: TRUCK		
Shipped to:	222-S Lab		
SAMPLING INFORMATION			
Sample Collected by:	B. MYERS / J. D... ..	Date:	4-24-93
Sample Locations:	107-AD / # 1B	Custody Seal #:	# 3295
Remarks:	N/A		
Ice Chest or Sample Pig No.:	TFL	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: RJ Wright DATE: 4/24/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>0313</u>	<u>N/A</u>

CHAIN OF POSSESSION		
Relinquished by:	Received by:	Date/Time:
<u>RJ Wright</u>	<u>J. D...</u>	<u>4/24/93 1730</u>
Relinquished by:	Received by:	Date/Time:
<u>J. D...</u>	<u>Calvin M...</u>	<u>4-30-93 1410</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TANK FARM PLANT OPERATING PROCEDURE

WHC-SD-WM-DP-046, REV 0

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	333-3552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	722-S		
SAMPLING INFORMATION			
Sample Collected by:	B. MYERS / J. DUNN	Date:	4-29-93 Time: 2010
Sample Location:	102-A <sup>1</sup> #1B	Custody Seal #:	3392
Remarks:	NA		
Ice Chest or Sample Pkg. No.:	410	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: *R. Wright* DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6307</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by:	Received by:	Date/Time:
<i>R. Wright</i>	<i>A. Mammola</i>	4/30/93 0945
Relinquished by:	Received by:	Date/Time:
<i>A. Mammola</i>	<i>Valerio Marzi</i>	4-30-93 10:15
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

# TANK FARM PLANT OPERATING PROCEDURE

GUT W

WHC-SD-WM-DP-046, REV 0

## CHAIN OF CUSTODY

Company Contact:	R. L. WRIGHT	Telephone:	373-3552
Bill of Lading No.:	N/A	Offsite Property No.:	N/A
Method of Shipment:	4-29-93 <sup>12:15</sup> 227-5 Lab B: Plant Sample TRUCK		
Shipped to:	227-5 Lab		

## SAMPLING INFORMATION

Sample Collected by:	B. MYERS / J. DWAN	Date:	4-29-93	Time:	20:15
Sample Location:	102-AP 1B	Custody Seal #:	3393		
Remarks:	N/A				
Ice Chest or Sample Pkg. No.:	B24	Field Logbook and Page No.:	N/A		

SUPERVISION REVIEW: R. L. Wright DATE: 4/29/93

## SAMPLE IDENTIFICATION

Sample Number	Sample Schedule Number
<u>6308</u>	<u>NA</u>

## CHAIN OF POSSESSION

Relinquished by:	Received by:	Date/Time:
<u>R. L. Wright</u>	<u>J. Summers</u>	<u>4/30/93 0945</u>
Relinquished by:	Received by:	Date/Time:
<u>J. Summers</u>	<u>Valerie L. Mason</u>	<u>04-30-93 10:15</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 204 thru 480,

is available only from  
Central Files.



P.O. Box 1970 Richland, WA 99352

G335A  
CASE NARRATIVE - ICP

WHCPAL LABORATORIES  
WHCPAL/CUSTOMER SAMPLE NOS: G333 102AP-G317  
G338 102AP-G322

INORGANIC ANALYSIS

The data evaluation for this project will follow the guidelines specified in "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP and 102-AP", WHC-SD-WM-TPP-008. Contained in this report is the evaluation of the data generated by Westinghouse Hanford Company - Processing and Analytical Laboratories (WHC-PAL), 222-S Laboratory. Information will be organized by quality control parameter. No computer-readable data will be submitted on floppy diskette as mentioned in the comment on the following cover page.

INITIAL AND CONTINUING CALIBRATION VERIFICATION

All instrument calibration requirements were in specification during analysis, with the exceptions noted below:

- Antimony in CCV-1 (88.3%).
- Potassium in CCV-1 (76.2%) and CCV-4 (81.1%).
- Sodium in CCV-1 (85.1%), CCV-2 (238.0%), CCV-3 (78.4%) and CCV-4 (122.5%).

High recoveries for Sodium in CCV-2 can be attributed to memory effects from the samples which contain high levels of Sodium.

INITIAL AND CONTINUING CALIBRATION BLANKS

All ICB and CCB analytical measurements were within the IDL with the exception of Potassium in CCB-1 and CCB-4, Silver in the ICB, Sodium in CCB-1, CCB-2 and CCB-3 and Phosphorus in CCB-1, CCB-2, CCB-3 and CCB-4.

PREPARATION BLANK

All analytical measurements were within the IDL with the exception of Aluminum, Barium, Iron, Sodium and Phosphorus. Considering the values reported for the preparation blank and the values reported for the sample, false positives may exist for Barium and Iron.

DUPLICATE ANALYSES

Duplicate precision failures were noted as follows:

For G333: Antimony (200.0%), Barium (18.1%) and Iron (19.2%).

For G338: Antimony (200.0%), Barium (18.7%) and Iron (25.5%).

Control limits for duplicate samples are based on three times the historical standard deviation of Laboratory Management Control System standards. Duplicate failures are attributed to the low level of these analytes in the sample.

G333 102AP-G317  
G338 102AP-G322

LABORATORY CONTROL SAMPLE

Failures were noted for Aluminum and Sodium. These failures may be influenced by the level of contamination found in the preparation blank.

SERIAL DILUTION

A serial dilution failure was noted for Nickel. The original sample values for Aluminum, Sodium and Phosphorus exceeded the linear range of the instrument. As a result, the serial dilution values were reported on Form I after appropriate dilution factors were applied. Consequently, serial dilution values were omitted on Form IX.

RECOMMENDATIONS

The values reported for Lead and Potassium should be considered estimates.

ABBREVIATIONS

\* = Duplicate failure. E = Serial dilution failure. N = Spike failure. NR = Not required. P = ICP method used. U = less than IDL.

*Brian Wels*  
9/2/93

Brian Wels  
Senior Scientist, WHCPAL

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 483 thru 544,

is available only from  
Central Files.



P.O. Box 1970 Richland, WA 99352

G339A  
CASE NARRATIVE - ICP

WHCPAL LABORATORIES  
WHCPAL/CUSTOMER SAMPLE NOS: G341 102AP-G323  
G342 102AP-G299

#### INORGANIC ANALYSIS

The data evaluation for this project will follow the guidelines specified in "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP and 102-AP", WHC-SD-WM-TPP-008. Contained in this report is the evaluation of the data generated by Westinghouse Hanford Company - Processing and Analytical Laboratories (WHC-PAL), 222-S Laboratory. Information will be organized by quality control parameter. No computer-readable data will be submitted on floppy diskette as mentioned in the comment on the following cover page.

#### INITIAL AND CONTINUING CALIBRATION VERIFICATION

All instrument calibration requirements were in specification during analysis, with the exceptions noted below:

Antimony in the ICV (83.6%), CCV-2 (69.7%) and CCV-3 (87.0%).

Potassium in CCV-1 (70.6%), CCV-2 (111.6%) and CCV-3 (123.5%).

Sodium in CCV-1 (76.0%), CCV-2 (202.2%), CCV-3 (267.0%) and CCV-4 (110.3%).

Phosphorus in the ICV (110.9%), CCV-1 (123.3%) and CCV-4 (111.3%).

High recoveries for Sodium in CCV-2 and CCV-3 can be attributed to memory effects from samples containing high levels of Sodium.

#### INITIAL AND CONTINUING CALIBRATION BLANKS

All ICB and CCB analytical measurements were within the IDL with the exception of Potassium in the ICB, Silver in the ICB and CCB-1, Sodium in the ICB, CCB-1, CCB-2 and CCB-3 and Phosphorus in the ICB, CCB-1, CCB-2 and CCB-4.

#### PREPARATION BLANK

All analytical measurements were within the IDL with the exception of Aluminum, Iron, Potassium, Sodium and Phosphorus. Considering the values reported for the preparation blank and the values reported for the sample, false positives may exist for Iron.

#### DUPLICATE ANALYSES

Duplicate precision failures were noted as follows:

For G341: Antimony (200.0%), Barium (68.4%) and Iron (22.2%).

For G342: Antimony (17.8%), Barium (41.0%) and Iron (19.3%).

Control limits for duplicate samples are based on three times the historical standard deviation of Laboratory Management Control System standards.

Duplicate failures are attributed to the low level of these analytes in the sample.

G341 102AP-G323  
G342 102AP-G299

LABORATORY CONTROL SAMPLE

Failures were noted for Aluminum, Potassium and Sodium. These failures may be influenced by the level of contamination found in the preparation blank.

SERIAL DILUTION

No serial dilution failures were noted. The original sample values for Aluminum, Sodium and Phosphorus exceeded the linear range of the instrument. As a result, the serial dilution values were reported on Form I after appropriate dilution factors were applied. Consequently, serial dilution values were omitted on Form IX.

RECOMMENDATIONS

The values reported for Antimony, Lead, Phosphorus and Potassium should be considered estimates.

ABBREVIATIONS

\* = Duplicate failure. E = Serial dilution failure. N = Spike failure. NR = Not required. P = ICP method used. U = less than IDL.

*Brian Wells*  
9/2/93

Brian Wells  
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Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 548 thru 604,

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Central Files.



P.O. Box 1970 Richland, WA 99352

G346A  
CASE NARRATIVE - ICP

WHCPAL LABORATORIES  
WHCPAL/CUSTOMER SAMPLE NOS: G348 102AP-G303  
G349 102AP-G305

INORGANIC ANALYSIS

The data evaluation for this project will follow the guidelines specified in "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP and 102-AP", WHC-SD-WM-TPP-008. Contained in this report is the evaluation of the data generated by Westinghouse Hanford Company - Processing and Analytical Laboratories (WHC-PAL), 222-S Laboratory. Information will be organized by quality control parameter. No computer-readable data will be submitted on floppy diskette as mentioned in the comment on the following cover page.

INITIAL AND CONTINUING CALIBRATION VERIFICATION

All instrument calibration requirements were in specification during analysis, with the exceptions noted below:

- Antimony in CCV-2 (119.6%), CCV-3 (83.9%) and CCV-4 (115.2%).
- Lead in CCV-3 (114.7%) and CCV-4 (111.3%).
- Potassium in CCV-2 (129.6%) and CCV-3 (137.0%).
- Sodium in CCV-2 (171.3%), CCV-3 (221.6%) and CCV-4 (113.9%).
- Phosphorus in the ICV (89.1%) and CCV-3 (110.0%).

High recoveries for Sodium can be attributed to memory effects from the samples which contain high levels of Sodium.

INITIAL AND CONTINUING CALIBRATION BLANKS

All ICB and CCB analytical measurements were within the IDL with the exception of Potassium in CCB-3, Silver in the ICB and CCB-1, Sodium in CCB-2, CCB-3 and CCB-4 and Phosphorus in CCB-1 and CCB-4. The values associated with Potassium and Phosphorus are too low to indicate the actual presence of the analyte.

PREPARATION BLANK

All analytical measurements were within the IDL with the exception of Aluminum, Iron, Lead, Sodium and Phosphorus. The values associated with Aluminum, Iron, Lead and Phosphorus are too low to indicate the actual presence of the analyte. Considering the values reported for the preparation blank and the values reported for the sample, false positives may exist for Iron in G359.

DUPLICATE ANALYSES

A duplicate precision failure was noted for Lead (200.0%) in G349. Control limits for duplicate samples are based on three times the historical standard deviation of Laboratory Management Control System standards. The failure for Lead is attributed to the low level of this analyte in the sample.

G348 102AP-G303  
G349 102AP-G305

Page 2

LABORATORY CONTROL SAMPLE

Failures were noted for Aluminum, Beryllium and Sodium. The low recovery for Beryllium may be attributed to matrix effects of the digestion process.

SERIAL DILUTION

No serial dilution failures were noted. The original sample values for Aluminum, Sodium and Phosphorus exceeded the linear range of the instrument. As a result, the serial dilution values were reported on Form I after appropriate dilution factors were applied. A second dilution was analyzed; however, the software is not capable of handling fractional dilution factors. Consequently, serial dilution values were omitted on Form IX. Hand calculation from raw data revealed no serial dilution failures for these elements.

RECOMMENDATIONS

The values reported for Aluminum and Sodium should be considered estimates.

ABBREVIATIONS

\* = Duplicate failure. E = Serial dilution failure. N = Spike failure. NR = Not required. P = ICP method used. U = less than IDL.

*Brian Wels*

8/20/93

Brian Wels  
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Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 610 thru 668,

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P.O. Box 1970 Richland, WA 99352

G350A  
CASE NARRATIVE - ICP

WHCPAL LABORATORIES

WHCPAL/CUSTOMER SAMPLE NOS: G352 102AP-G306  
G353 102AP-G308

INORGANIC ANALYSIS

The data evaluation for this project will follow the guidelines specified in "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP and 102-AP", WHC-SD-WM-TTP-008. Contained in this report is the evaluation of the data generated by Westinghouse Hanford Company - Processing and Analytical Laboratories (WHC-PAL), 222-S Laboratory. Information will be organized by quality control parameter. No computer-readable data will be submitted on floppy diskette as mentioned in the comment on the following cover page.

INITIAL AND CONTINUING CALIBRATION VERIFICATION

All instrument calibration requirements were in specification during analysis, with the exceptions noted below:

- Antimony in the ICV (115.0%) and CCV-4 (123.1%).
- Potassium in the ICV (89.1%), CCV-1 (84.6%), CCV-2 (111.3%) and CCV-3 (133.6%).
- Sodium in the ICV (89.4%), CCV-1 (74.4%), CCV-2 (168.9%), CCV-3 (207.9%) and CCV-4 (112.1%).
- Phosphorus in CCV-1 (75.3%), CCV-2 (70.6%), CCV-3 (71.3%) and CCV-4 (88.1%).

INITIAL AND CONTINUING CALIBRATION BLANKS

All ICB and CCB analytical measurements were within the IDL with the exception of Silver in the ICB, Sodium in the ICB, CCB-1, CCB-2 and CCB-3 and Phosphorus in ICB, CCB-1, CCB-3 and CCB-4. The values associated with Silver and Phosphorus are too low to indicate the actual presence of the analyte.

PREPARATION BLANK

All analytical measurements were within the IDL with the exception of Aluminum, Iron and Sodium. The value associated with Iron is too low to indicate the actual presence of the analyte. Considering the values reported for the preparation blank and the values reported for the sample, false positives may exist for Iron.

POST DIGEST SPIKE SAMPLE RECOVERIES

A spike recovery failure was noted for Potassium (134.1%).

G352 102AP-G306  
G353 102AP-G308

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#### DUPLICATE ANALYSES

Duplicate precision failures were noted as follows:

For G352: Barium (23.4%), Cadmium (12.4%) and Iron (10.8%).

For G353: Barium (18.4%), Beryllium (15.9%) and Iron (9.1%).

Control limits for duplicate samples are based on three times the historical standard deviation of Laboratory Management Control System standards. Failures for Barium, Beryllium and Cadmium are attributed to the low level of these analytes in the sample. Failures for Iron may be influenced by the values reported for the preparation blank.

#### LABORATORY CONTROL SAMPLE

Failures were noted for Aluminum, Antimony, Iron, Silver and Sodium. Failures for Sodium may be influenced by the level of contamination found in the preparation blank. The low recovery for Silver may be attributed to matrix effects of the digestion process.

#### SERIAL DILUTION

No serial dilution failures were noted. The original sample values for Aluminum, Sodium and Phosphorus exceeded the linear range of the instrument. As a result, the serial dilution values were reported on Form I after appropriate dilution factors were applied. A second dilution was analyzed for G352; however, the software is not capable of handling fractional dilution factors. Consequently, serial dilution values were omitted on Form IX. Hand calculation from raw data revealed no serial dilution failures for Aluminum, Sodium or Phosphorus. No serial dilution evaluation is possible for Sodium in G353.

#### RECOMMENDATIONS

The values reported for Aluminum, Antimony, Iron, Potassium, Silver, Sodium and Phosphorus should be considered estimates.

#### ABBREVIATIONS

\* = Duplicate failure. E = Serial dilution failure. N = Spike failure. NR = Not required. P = ICP method used. U = less than IDL.

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8/23/93

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WITC-SD-WM-DP-0416  
Rev. 0

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a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 672 thru 729,

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P.O. Box 1970 Richland, WA 99352

G356A  
CASE NARRATIVE - ICP

WHCPAL LABORATORIES  
WHCPAL/CUSTOMER SAMPLE NOS: G358 102AP-G309  
G359 102AP-G311

**INORGANIC ANALYSIS**

The data evaluation for this project will follow the guidelines specified in "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP and 102-AP", WHC-SD-WM-TPP-008. Contained in this report is the evaluation of the data generated by Westinghouse Hanford Company - Processing and Analytical Laboratories (WHC-PAL), 222-S Laboratory. Information will be organized by quality control parameter. No computer-readable data will be submitted on floppy diskette as mentioned in the comment on the following cover page.

INITIAL AND CONTINUING CALIBRATION VERIFICATION

All instrument calibration requirements were in specification during analysis, with the exceptions noted below:

- Antimony in CCV-1 (83.7%), CCV-2 (113.8%), CCV-3 (73.7%) and CCV-4 (124.5%).
- Potassium in CCV-1 (111.3%), CCV-2 (156.0%) and CCV-3 (164.9%).
- Sodium in CCV-2 (196.0%), CCV-3 (227.1%) and CCV-4 (118.9%).
- Phosphorus in CCV-2 (112.2%) and CCV-3 (119.6%).

High recoveries for Sodium can be attributed to memory effects from the samples which contain high levels of Sodium.

INITIAL AND CONTINUING CALIBRATION BLANKS

All ICB and CCB analytical measurements were within the IDL with the exception of Aluminum in CCB-1, CCB-2, CCB-3 and CCB-4, Chromium in CCB-2, Lead in the ICB and CCB-3, Nickel in CCB-3, Potassium in CCB-2 and CCB-3, Silver in the ICB, CCB-1 and CCB-2, Sodium in CCB-2, CCB-3 and CCB-4, and Phosphorus in CCB-1 and CCB-4. The values associated with Aluminum, Chromium, Lead, Nickel and Phosphorus are too low to indicate the actual presence of the analyte.

PREPARATION BLANK

All analytical measurements were within the IDL with the exception of Aluminum, Iron, Lead, Nickel, Potassium, Sodium and Phosphorus. The values associated with Lead, Nickel, Potassium and Phosphorus are too low to indicate the actual presence of the analyte.

G358 102AP-G309  
G359 102AP-G311

Page 2

DUPLICATE ANALYSES

Duplicate precision failures were noted as follows:

For G358: Cadmium (12.2%) and Iron (122.7%).

For G359: Antimony (200.0%), Iron (14.1%) and Lead (200.0%).

Control limits for duplicate samples are based on three times the historical standard deviation of Laboratory Management Control System standards. These failures are attributed to the low level of these analytes in the sample. The failure for Iron in G358 may be influenced by the value reported for the preparation blank.

LABORATORY CONTROL SAMPLE

Failures were noted for Aluminum and Sodium.

SERIAL DILUTION

A serial dilution failure was noted for Nickel. The original sample values for Aluminum, Sodium and Phosphorus exceeded the linear range of the instrument. As a result, the serial dilution values were reported on Form I after appropriate dilution factors were applied. A second dilution was analyzed; however, the software is not capable of handling fractional dilution factors. Consequently, serial dilution values were omitted on Form IX. Hand calculation from raw data revealed no serial dilution failures for Aluminum, Sodium and Phosphorus.

RECOMMENDATIONS

The values reported for Aluminum, Nickel and Sodium should be considered estimates.

ABBREVIATIONS

\* = Duplicate failure. E = Serial dilution failure. N = Spike failure. NR = Not required. P = ICP method used. U = less than IDL.

*Brian Wells*

8/20/93

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WTC-SD-WM-DP-046  
Rev Q

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 733 thru 791,

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G361A  
CASE NARRATIVE - ICP

WHCPAL LABORATORIES  
WHCPAL/CUSTOMER SAMPLE NOS: G363 102AP-G313  
G364 102AP-G315

#### INORGANIC ANALYSIS

The data evaluation for this project will follow the guidelines specified in "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP and 102-AP", WHC-SD-WM-TPP-008. Contained in this report is the evaluation of the data generated by Westinghouse Hanford Company - Processing and Analytical Laboratories (WHC-PAL), 222-S Laboratory. Information will be organized by quality control parameter. No computer-readable data will be submitted on floppy diskette as mentioned in the comment on the following cover page.

#### INITIAL AND CONTINUING CALIBRATION VERIFICATION

All instrument calibration requirements were in specification during analysis, with the exceptions noted below:

Potassium in CCV-1 (80.5%), CCV-2 (112.2%) and CCV-4 (87.8%).

Sodium in the ICV (47.0%), CCV-1 (12.4%), CCV-3 (127.0%) and CCV-4 (14.2%).

Phosphorus in CCV-1 (82.0%), CCV-3 (70.7%) and CCV-4 (76.6%).

#### INITIAL AND CONTINUING CALIBRATION BLANKS

All ICB and CCB analytical measurements were within the IDL with the exception of Potassium in CCB-1, Silver in the ICB, Sodium in all calibration blanks and Phosphorus in CCB-1, CCB-2, CCB-3 and CCB-4. The values associated with Potassium and Phosphorus are too low to indicate the actual presence of the analyte.

#### PREPARATION BLANK

All analytical measurements were within the IDL with the exception of Aluminum, Cadmium, Iron, Lead and Sodium. The values associated with Aluminum, Cadmium, Iron and Lead are too low to indicate the actual presence of the analyte. Considering the values reported for the preparation blank and the values reported for the sample, false positives may exist for Iron.

#### POST DIGEST SPIKE SAMPLE RECOVERIES

A spike recovery failure was noted for Silver (10.0%). The low recovery for Silver may be attributed to matrix effects of the digestion process.

G363 102AP-G313  
G364 102AP-G315

Page 2

#### DUPLICATE ANALYSES

Duplicate precision failures were noted as follows:

For G363: Antimony (52.5%) and Iron (15.3%).

For G364: Barium (61.1%), Beryllium (18.0%), Cadmium (11.2%), Iron (13.9%) and Lead (200.0%).

Control limits for duplicate samples are based on three times the historical standard deviation of Laboratory Management Control System standards. Failures are attributed to the low level of these analytes in the sample.

#### LABORATORY CONTROL SAMPLE

Failures were noted for Aluminum, Lead, Potassium and Silver. Low recoveries for Lead and Silver may be attributed to matrix effects of the digestion process. The low recovery for Potassium is consistent with the low bias found in the calibration verification standards. The high recovery for Aluminum cannot be readily explained by contamination found in the preparation blank; however, the recovery of undigested standards were within specifications.

#### SERIAL DILUTION

No serial dilution failures were noted. The original sample values for Aluminum, Sodium and Phosphorus exceeded the linear range of the instrument. As a result, the serial dilution values were reported on Form I after appropriate dilution factors were applied. A second dilution was analyzed; however, the software is not capable of handling fractional dilution factors. Consequently, serial dilution values were omitted on Form IX. Hand calculation from raw data revealed no serial dilution failures for Aluminum, Sodium and Phosphorus.

#### RECOMMENDATIONS

The values reported for Potassium and Phosphorus should be considered estimates. Calibration verification standards (500 ppb) and blanks indicate that Sodium is unusable; however, undigested control standards (10 ppm) were in specification. The samples were measured at ca. 80 ppm. Without a high standard to bracket the sample concentration, Sodium values are suspect.

#### ABBREVIATIONS

\* = Duplicate failure. E = Serial dilution failure. N = Spike failure. NR = Not required. P = ICP method used. U = less than IDL.

*Brian Wells*

8/16/93

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WHC-SD-WM-DP-046

REV Ø

241-AP-102

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 795 thru 905,

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G447AR  
CASE NARRATIVE - ICP

WHCPAL LABORATORIES  
WHCPAL/CUSTOMER SAMPLE NOS: G449 102AP-G301  
G450 102AP-G302

INORGANIC ANALYSIS

The data evaluation for this project will follow the guidelines specified in "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP and 102-AP", WHC-SD-WM-TPP-008. Contained in this report is the evaluation of the data generated by Westinghouse Hanford Company - Processing and Analytical Laboratories (WHC-PAL), 222-S Laboratory. Information will be organized by quality control parameter. No computer-readable data will be submitted on floppy diskette as mentioned in the comment on the following cover page.

INITIAL AND CONTINUING CALIBRATION VERIFICATION

All instrument calibration requirements were in specification during analysis, with the exceptions noted below:

Antimony in CCV-1 (117.1%), CCV-2 (150.8%) and CCV-4 (123.3%).  
Potassium in CCV-1 (84.6%), CCV-2 (133.7%) and CCV-3 (148.3%).  
Sodium in the ICV (85.1%), CCV-1 (55.6%), CCV-2 (194.0%) and CCV-3 (241.3%).  
Phosphorus in CCV-1 (79.2%).

INITIAL AND CONTINUING CALIBRATION BLANKS

All ICB and CCB analytical measurements were within the IDL with the exception of Silver in the ICB, Sodium in all calibration blanks and Phosphorus in CCB-1 and CCB-3. The values associated with Phosphorus are too low to indicate the actual presence of the analyte.

PREPARATION BLANK

All analytical measurements were within the IDL with the exception of Aluminum, Iron and Sodium. The value associated with Sodium is too low to indicate the actual presence of the analyte. Considering the values reported for the preparation blank and the values reported for the sample, a false positive may exist for Iron.

POST DIGEST SPIKE SAMPLE RECOVERIES

No spike recovery failures were noted.

DUPLICATE ANALYSES

Duplicate precision failures were noted as follows:

For G449: Beryllium (28.1%) and Iron (33.5%).  
For G450: Antimony (200.0%) and Cadmium (14.8%).

Control limits for duplicate samples are based on three times the historical standard deviation of Laboratory Management Control System standards. Failures are attributed to the low level of these analytes in the sample.

LABORATORY CONTROL SAMPLE

Failures were noted for Aluminum, Beryllium, Iron, Sodium and Phosphorus. Failures for Aluminum may be influenced by the level of contamination found in the preparation blank. Low recoveries for Beryllium and Phosphorus may be attributed to matrix effects of the digestion process.

SERIAL DILUTION

Serial dilution failures were noted for Nickel. The original sample values for Aluminum, Sodium and Phosphorus exceeded the linear range of the instrument. As a result, the serial dilution values were reported on Form I after appropriate dilution factors were applied. A second dilution was analyzed for G449; however, the software is not capable of handling fractional dilution factors. Consequently, serial dilution values were omitted on Form IX. Hand calculation from raw data revealed no serial dilution failures for Aluminum, Sodium and Phosphorus. No serial dilution evaluation is possible for Sodium in G450.

RECOMMENDATIONS

These data represent a re-analysis of the original sample preparation. The values reported for Antimony, Beryllium, Iron, Nickel, Potassium, Sodium and Phosphorus should be considered estimates.

ABBREVIATIONS

\* = Duplicate failure. E = Serial dilution failure. N = Spike failure. NR = Not required. P = ICP method used. U = less than IDL.

*Brian Wels*  
8/23/93

Brian Wels  
Senior Scientist, WHCPAL



WHC-SD-WM-DP-046

REV 0

241-AP-102

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 909 thru 907,

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G451A  
CASE NARRATIVE - ICP

WHCPAL LABORATORIES  
WHCPAL/CUSTOMER SAMPLE NOS: G453 102AP-G307  
G454 102AP-G310

#### INORGANIC ANALYSIS

The data evaluation for this project will follow the guidelines specified in "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP and 102-AP", WHC-SD-WM-TPP-008. Contained in this report is the evaluation of the data generated by Westinghouse Hanford Company - Processing and Analytical Laboratories (WHC-PAL), 222-S Laboratory. Information will be organized by quality control parameter. No computer-readable data will be submitted on floppy diskette as mentioned in the comment on the following cover page.

#### INITIAL AND CONTINUING CALIBRATION VERIFICATION

All instrument calibration requirements were in specification during analysis, with the exceptions noted below:

Antimony in CCV-2 (87.7%), CCV-3 (88.1%) and CCV-4 (86.3%).

Lead in CCV-4 (89.7%).

Potassium in CCV-1 (83.7%), CCV-2 (111.0%), CCV-3 (133.6%) and CCV-4 (89.3%).

Sodium in CCV-1 (67.9%), CCV-2 (185.6%) and CCV-3 (248.8%).

Phosphorus in the ICB (111.1%), CCV-1 (120.2%), CCV-2 (118.0%), CCV-3 (125.1%) and CCV-4 (121.5%).

High recoveries for Sodium in CCV-2 and CCV-3 can be attributed to memory effects from samples containing high levels of Sodium.

#### INITIAL AND CONTINUING CALIBRATION BLANKS

All ICB and CCB analytical measurements were within the IDL with the exception of Silver in the ICB and CCB-1, Sodium in the ICB, CCB-1, CCB-2 and CCB-3 and Phosphorus in all calibration blanks.

#### PREPARATION BLANK

All analytical measurements were within the IDL with the exception of Aluminum, Cadmium, Iron, Lead, Sodium and Phosphorus. Considering the values reported for the preparation blank and the values reported for the sample, false positives may exist for Iron.

#### DUPLICATE ANALYSES

Duplicate precision failures were noted as follows:

For G453: Antimony (200.0%), Barium (45.6%), Cadmium (16.9%) and Iron (42.6%).

For G454: Cadmium (22.9%) and Lead (200.0%).

Control limits for duplicate samples are based on three times the historical standard deviation of Laboratory Management Control System standards.

Duplicate failures for Antimony, Barium, Cadmium and Lead are attributed to the low level of these analytes in the sample.

G453 102AP-G307  
G454 102AP-G310

LABORATORY CONTROL SAMPLE

Failures were noted for Aluminum, Potassium and Sodium.

SERIAL DILUTION

Serial dilution failures were noted for Chromium and Nickel.

RECOMMENDATIONS

The values reported for Antimony, Iron, Lead, Potassium and Phosphorus should be considered estimates.

ABBREVIATIONS

\* = Duplicate failure. E = Serial dilution failure. N = Spike failure. NR = Not required. P = ICP method used. U = less than IDL.

*Brian Wels*  
8/16/93

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WHC-SD-WM-DA-046

Rev. 0

241-AP-102

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 971 thru 1032,

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G457A  
CASE NARRATIVE - ICP

WHCPAL LABORATORIES  
WHCPAL/CUSTOMER SAMPLE NOS: G459 102AP-G318  
G460 102AP-G319

#### INORGANIC ANALYSIS

The data evaluation for this project will follow the guidelines specified in "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP and 102-AP", WHC-SD-WM-TPP-008. Contained in this report is the evaluation of the data generated by Westinghouse Hanford Company - Processing and Analytical Laboratories (WHC-PAL), 222-S Laboratory. Information will be organized by quality control parameter. No computer-readable data will be submitted on floppy diskette as mentioned in the comment on the following cover page.

#### INITIAL AND CONTINUING CALIBRATION VERIFICATION

All instrument calibration requirements were in specification during analysis, with the exceptions noted below:

Antimony in CCV-3 (89.9%) and CCV-4 (71.4%).

Potassium in CCV-1 (72.5%), CCV-2 (89.9%) and CCV-3 (132.0%).

Sodium in CCV-1 (73.5%), CCV-2 (199.4%), CCV-3 (246.2%) and CCV-4 (88.0%).

Phosphorus in the ICB (113.1%), CCV-1 (118.0%), CCV-2 (113.1%), CCV-3 (112.2%) and CCV-4 (116.6%).

High recoveries for Sodium can be attributed to memory effects from the samples which contain high levels of Sodium.

#### INITIAL AND CONTINUING CALIBRATION BLANKS

All ICB and CCB analytical measurements were within the IDL with the exception of Potassium and Silver in the ICB, Sodium in the ICB, CCB-1, CCB-2 and CCB-3, and Phosphorus in CCB-1, CCB-2 and CCB-4. The values associated with Potassium and Phosphorus are too low to indicate the actual presence of the analyte.

#### PREPARATION BLANK

All analytical measurements were within the IDL with the exception of Aluminum, Iron, Sodium and Phosphorus. The values associated with Phosphorus are too low to indicate the actual presence of the analyte. Considering the values reported for the preparation blank and the values reported for the sample, false positives may exist for Iron.

G459 102AP-G318  
G460 102AP-G319

Page 2

#### DUPLICATE ANALYSES

Duplicate precision failures were noted as follows:

For G459: Barium (8.9%), Beryllium (14.9%) and Iron (13.1%).

For G460: Barium (19.6%) and Iron (9.4%).

Control limits for duplicate samples are based on three times the historical standard deviation of Laboratory Management Control System standards. Failures for Barium and Beryllium and Iron in G459 are attributed to the low level of these analytes in the sample. The failure for Iron in G460 may be influenced by the value reported for the preparation blank.

#### LABORATORY CONTROL SAMPLE

Failures were noted for Aluminum, Barium, Cadmium, Chromium, Potassium, Silver and Sodium. Control limits are based on three times the historical standard deviation of Laboratory Management Control System standards. Failures for Aluminum and Sodium may be influenced by the values reported for the preparation blank.

#### SERIAL DILUTION

Serial dilution failures were noted for Nickel. The original sample values for Aluminum, Sodium and Phosphorus exceeded the linear range of the instrument. As a result, the serial dilution values were reported on Form I after appropriate dilution factors were applied. A second dilution was analyzed; however, the software is not capable of handling fractional dilution factors. Consequently, serial dilution values were omitted on Form IX. Hand calculation from raw data revealed no serial dilution failures for these elements.

#### RECOMMENDATIONS

The values reported for Barium, Cadmium, Chromium, Nickel, Potassium and Silver should be considered estimates.

#### ABBREVIATIONS

\* = Duplicate failure. E = Serial dilution failure. N = Spike failure. NR = Not required. P = ICP method used. U = less than IDL.

*Brian Wels*

*8/24/93*

Brian Wels  
Senior Scientist, WHCPAL



WTC-SD-WM-DP-046

Rw. Ø

241-AP-102

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 1036 thru 1094,

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P.O. Box 1970 Richland, WA 99352

G468A  
CASE NARRATIVE - ICP

WHCPAL LABORATORIES  
WHCPAL/CUSTOMER SAMPLE NOS: G470 102AP-G327

#### INORGANIC ANALYSIS

The data evaluation for this project will follow the guidelines specified in "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP and 102-AP", WHC-SD-WM-TPP-008. Contained in this report is the evaluation of the data generated by Westinghouse Hanford Company - Processing and Analytical Laboratories (WHC-PAL), 222-S Laboratory. Information will be organized by quality control parameter. No computer-readable data will be submitted on floppy diskette as mentioned in the comment on the following cover page.

#### INITIAL AND CONTINUING CALIBRATION VERIFICATION

All instrument calibration requirements were in specification during analysis, with the exceptions noted below:

- Aluminum in CCV-1 (118.9%) and CCV-3 (112.7%).
- Antimony in CCV-3 (66.4%).
- Potassium in CCV-3 (79.9%).
- Phosphorus in CCV-1 (113.1%).

#### INITIAL AND CONTINUING CALIBRATION BLANKS

All ICB and CCB analytical measurements were within the IDL with the exception of Silver in the ICB and CCB-1 and Phosphorus in CCB-1. The values associated with these exceptions are too low to indicate the actual presence of the analyte.

#### PREPARATION BLANK

All analytical measurements were within the IDL with the exception of Aluminum, Antimony, Iron and Sodium. The values associated with these exceptions are too low to indicate the actual presence of the analyte.

#### SPIKE SAMPLE RECOVERIES

A spike recovery failure was noted for Silver (26.3%). A matrix effect of the digestion process is suspected in the failure for Silver.

#### DUPLICATE ANALYSES

A Duplicate precision failure was noted for Nickel (21.6%). Control limits for duplicate samples are based on three times the historical standard deviation of Laboratory Management Control System standards. The failure for Nickel is attributed to the low level of this analyte in the sample.

LABORATORY CONTROL SAMPLE

Failures were noted for Aluminum, Iron, Silver and Sodium. The failure for Iron may be influenced by the value reported for the preparation blank. The low recovery for Silver may be attributed to matrix effects of the digestion process.

SERIAL DILUTION

No serial dilution failures were noted.

RECOMMENDATIONS

The values reported for Aluminum, Iron, Nickel and Sodium should be considered estimates. Values reported for Silver are unusable.

ABBREVIATIONS

\* = Duplicate failure. E = Serial dilution failure. N = Spike failure. NR = Not required. P = ICP method used. U = less than IDL.

*Brian Wels*  
8/20/93

Brian Wels  
Senior Scientist, WHCPAL



WHC-SD-WM-DP-046

Rev 0

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Validation Report and  
the Sample Data Summary,

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**ADDENDUM 1A**

**WESTINGHOUSE 222-S LABORATORY**

**241 - AP - 102 GROUT**

**VALIDATION SUMMARY**

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ADDENDUM 1A

This document has under gone two or three pagination processes. Two are from WHC, one is from PNL and one is from HASM.

The different formats are identified as follows:

- |         | Number Series  |
|---------|--|
| 1) WHC  | 1, 2, 3 etc  |
| 2) WHC  | 1A-1, 1A-2, etc (for 222-S & PNL Addendums to original Document) |
| 3) HASM | 000006, 000007 etc   |
| 4) PNL  | B01-001, B02-002 etc   |

Lola R. Webb  
Lola R. Webb  
Records Management Specialist

10/28/93  
Date

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# LABORATORY CASE NARRATIVE

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## ADDENDUM 1A

TANK 241-AP-102

## CASE NARRATIVE

Analysis And Characterization  
of  
Grout Tank  
241-AP-102

Introduction

On 4/30/93 grout feed tank 241-AP-102 was sampled for a full characterization under the protocol listed in Hanford Grout Disposal Program-Campaign 102 Feed Characterization and Test Plan, WHC-SD-WM-TP-136, and Technical Project Plan for The 222-S Laboratory in Support of The Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP, and 102-AP, WHC-SD-WM-TPP-008.

The analyses in this data package were performed by the Westinghouse Hanford 222-S Laboratory under the following three documents: 1) "Hanford Grout Disposal Program Campaign 102 feed Characterization and Test Plan" (WHC-SD-WM-TP-136, Revision 0), 2) "Grout Treatment Facility Characterization Project, Fiscal Year 1993, Statement of Work For The Processing and Analytical Laboratories" (WHC-SOW-92-005, Revision 1), and 3) "Technical Project Plan For the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP, and 102-AP" (WHC-SD-WM-TPP-008, Revision 0). These documents will hereafter be referred to as the 1) FCP, 2) SOW, and 3) TPP respectively.

Laboratory operations at the 222-S are performed according to the "Quality Assurance Project Plan for the Analysis of Highly Radioactive Samples in Support of Environmental Activities on the Hanford Site" (WHC-SD-CP-QAPP), unless superseded by the FCP, the SOW of the TPP. Deviations from these guidelines are documented in letters of instruction from Grout Technology, Engineering Change Notices (ECNs) and in this narrative.

Tank 241-AP-102 (102-AP) are to be prepared as feed wastes for processing and disposal during campaign 102 of the Hanford Grout Disposal Program (HGDP). This campaign is scheduled to be initiated during October 1993. A historical profile of 102-AP is as follows:

Tank 102-AP is a 1,140,000 gallon radioactive waste tank used to composite solutions from several sources, and mix them prior to blending with dry grout material. After the last grout campaign (campaign 101) in which grout was blended and poured into vault 218-E-16-101 (vault 101), all of the contents of tank 102-AP were converted to grout except for a residual "heel" of liquid. The leachate and excess drainable liquids (that result from the curing process of grout) from that campaign were returned back to 102-AP and combined with the heel. Wastes from the Plutonium Uranium Extraction facility, consisting of neutralizing agents, were then added to 102-AP, as was solution from another radioactive waste storage tank (241-AN-106), which was characterized prior to transfer of the solution (Welsh, 1991). Table one shows the expected general composition of tank 102-AP before the analysis began.

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241-AP-102

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 5 thru 285,

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# LETTERS OF INSTRUCTION

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TA-287

From: Low-Level Waste Disposal Technology 7E220-93-052  
Phone: 373-2984 R4-03  
Date: September 28, 1993  
Subject: VALIDATION OF THE TANK 102-AP DATA PACKAGES

To: G. C. Mooers H4-19

cc: K. C. Burgard <i>KCB</i>	R4-03	M. A. Richman <i>mar</i>	S1-57
T. Y. Hosaka	P7-27	R. H. St Denis	T6-06
M. M. Lane	H4-23	J. H. Tillman	H4-23
K. N. Pool	H4-23	LLWDT File/LB	



The Hanford Analytical Services Management (HASM) is requested to use the following documents as the basis for the validation of the tank 102-AP data packages:

- 1) "Hanford Grout Disposal Program-Campaign 102 Feed Characterization and Test Plan"
- 2) "HASM Statement-Of-Work"
- 3) "Pacific Northwest Laboratories (PNL) Grout Analytical Services Technical Project Plan"
- 4) "Technical Project Plan for the 222-S Laboratory in Support of the Grout Treatment Facility Sampling and Characterization Plans for Tanks 105-AP, 106-AP, and 102-AP"

If there are discrepancies between the Technical Project Plans (TPP) and the Grout test plan, the requirements in the TPPs are to be used for validation. The basis for this guidance are (1) the laboratories suggested and received approval for using a number of alternatives to the requirements in the test plan, and (2) the laboratories conducted analyses according the TPPs only after they were approved by the customer.

An Engineering Change Notice to the test plan is being prepared to reflect the approved alternatives and other changes (including changes in the environmental regulations).

If you have any questions or require further information, please call me at 373-2984.

*D. M. Nguyen*  
D. M. Nguyen  
Engineer

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**ADDENDUM 2A**

**PNL 325 LABORATORY**

**102 - AP GROUT**

**VALIDATION SUMMARY**

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**ADDENDUM 2A**

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ADDENDUM 2 A

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- |    | Number Series  |
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| 2) | WHC 1A-1, 1A-2, etc (for 222-S & PNL Addendums to original Document) |
| 3) | HASM 000006, 000007 etc  |
| 4) | PNL B01-001, B02-002 etc   |

*Lola R Webb*  
-----  
Lola R. Webb  
Records Management Specialist

*10/28/83*  
-----  
Date

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ADDENDUM 2 A

# LABORATORY CASE NARRATIVE

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# VALIDATION NARRATIVE

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# WHC-SD-WM-DP-046, REV 0

## ADDENDUM 2A Tank 241-AP-102 Data Validation Report

Validation of the PNL organic portion of the 102-AP data package was performed to the requirements provided in Sections 2.0 and 2.4 of the *Sample Management and Administration* manual (WHC-CM-5-3, Rev. 0). The data validation was performed at level "C" as defined in Section 2.0 of WHC-CM-5-3. The report forms listed in the WHC-CM-5-3 manual section 2.0 and 2.4 were not used for this report. Instead, this report has been written to provide the data user a narrative that incorporates all the required aspects that would be included on the validation forms. The overriding QA document was the *Pacific Northwest Laboratories (PNL) Grout Analytical Services Technical Project Plan*. Additional guidance was given by the Grout Test Plan and Statement of Work; *Hanford Grout Disposal Program Campaign 102 Feed Characterization and Test Plan (WHC-SD-WM-TP-136)* and *Grout Treatment Facility Characterization Project, Fiscal Year 1993, Statement of Work for the Processing and Analytical Laboratories (WHC-SOW-92-0005, Rev. 1)* respectively. The sample analyses were performed by the PNL 325 Building Hot Cell "B" Laboratory. Sample analyses included volatile organic analysis, semi-volatile organic analysis, and high performance liquid chromatography (HPLC) analysis. The Radchem samples were analyzed by the Westinghouse Hanford 222-S Analytical Laboratory.

The primary objective of the data validation effort was to ensure the usability and defensibility of the data. This was accomplished through a detailed examination of the data package to recreate the analytical process and verify that proper and acceptable analytical techniques had been applied. Additionally, the data package was checked for correct submission of required deliverables, correct data transcriptions from the raw data to the data summary forms, and for proper calculation of a number of parameters. An overall assessment of the data for each Sample Data Group (SDG) is provided on the Data Assessment Summary Form as required by WHC-CM-5-3.

### Data Assessment Summary Tables

Data Assessment Summary Tables are contained later in this Data Validation Report. The Summary Tables present the data qualifiers and sub-qualifiers assigned to all analytical results, and include all properties and analytes reported for the Segments, Cores, and Composites. The analytical results included on the Summary Tables often are taken from the raw data sheets and are presented in a more condensed form than in the Sample Data Summary. Since the Summary Tables include specific qualification categories and, therefore, contain more information on data shortcomings, they are provided as a concise package of all data validation results.

At the top of each table, as a header, is presented the analysis type, the composite or segment analyzed, the unique sample ID, and the type of digestion, if appropriate. The analyte or property, and the sample results, are listed in the first two columns. If the sample results are below the instrument detection limit (IDL), the IDL is reported, with a "Less Than" symbol attached.

The numbered qualifier columns at the top of the page provide a more comprehensive presentation of the assessments made to each sample result.

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Each numbered column corresponds to a separate qualification category; while each qualification category does not apply to all analyses, the qualification numbers always refer to a specific qualification criteria. The qualifier that appears in a given category indicates that a particular qualification criteria was not met for that analyte. For example, if a "J" qualifier is in the number "9" column for arsenic, this would indicate that arsenic was qualified as estimated due to duplicate analysis failure. The qualifiers are also entered beside the analytical result on the data summary table. If multiple qualifiers have been assigned to a particular data point, only the qualifier of highest significance will be entered on the data summary table. For example, if a sample has an "R" and a "J" qualifier for the same analyte on the data assessment table, only an "R" will be entered on the data summary table.

Validation of the chemical analyses data package was performed to the requirements provided in Section 2.0 of WHC-CM-5-3, Rev. 0. The qualification categories for non-radiochemical analyses are presented below:

- 1 Chain of Custody
- 2 Holding Times
- 3 Instrument Calibration
- 4 Initial and Continuing Calibration Verification
- 5 Analytical Blanks
- 6 Preparation Blanks
- 7 Interference Check Sample
- 8 Laboratory Control Sample
- 9 Duplicate Analysis
- 10 Matrix Spike or Post-Digestion Spike
- 11 Retention Time
- 12 Contract Required Detection Limit Standard
- 13 Serial Dilution

Validation of the organic analysis data was performed to the requirements provided in Section 2.2 of WHC-CM-5-3, Rev. 0. The qualification categories for organic data validation are listed below:

- 1 Holding Times
- 2 Surrogate Recovery
- 3 Matrix Spike/Matrix Spike Duplicate
- 4 Blanks
- 5 GC/MS Tune
- 6 Calibration
- 7 Internal Standards
- 8 Pesticides Instrument Performance
- 9 Other (e.g. Duplicates)

When Quality Assurance criteria are not met in a particular category for a sample result, the appropriate data qualifier is attached. By cross-referencing the above lists, it can be seen which qualification criteria were lacking. The RCRA validation process data qualifiers are defined as follows:

- U The material was analyzed for, but was not detected. The associated value is the MDL or SQL.

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**WHC-SD-WM-DP-046, REV 0**

**ADDENDUM 2A**

- UJ The material was analyzed for, but was not detected. The MDL or SQL is an estimated quantity.
- J The associated value is an estimated quantity.
- R The data are unusable.

**Data Validation Narrative**

Volatile Organic Analysis (VOA)

The VOA analyses were performed using method PNL-ALO-345. The analysis followed EPA-CLP SOW 2/88 procedures for analysis of volatile compounds with a heated purge option for better recoveries. The analyses were completed in accordance with the recommended quality control requirements and no major problems were noted.

Semi-Volatile Organic Analysis (Semi-VOA)

Analysis of the Semi-VOAs was performed using method PNL-ALO-345. Minor problems were noted during validation of these results. Several samples had high surrogate recoveries for phenol (G300, G304, G313, and G314), matrix spike and matrix spike duplicate recoveries were out of control limits for sample G320, resulting in all data being qualified as estimated. Overall, the data associated with the reported semi-volatile organic results were acceptable and were assigned only minor qualifiers.

HPLC (HEDTA, EDTA, Citrate)

High Performance Liquid Chromatography analyses were performed in accordance with the PNL Test Plans developed specifically for this Grout project. Because the HPLC method is a new procedure, holding time requirements have yet to be established. The duplicate evaluations exceeded +/- 20% and the matrix spike/MSD recoveries were low in several of the samples, resulting in this data being qualified as estimated. The remainder of the QC requirements were met and the data was found to be acceptable.

IC (Glycolate and Oxalate)

Each of these samples were extracted using procedure PNL-ALO-010 and analyzed for oxalate using procedure PNL-ALO-212, with minor modifications. Holding time and QC criteria have yet to be established since this method is considered to be in the development stage. The results were found to be acceptable with no major problems noted.

## ADDENDUM 2A

## 1.0

## INTRODUCTION

This case narrative provides a summary of each of the analyses conducted on Tank 102AP by the Pacific Northwest Laboratory (PNL), Analytical Chemistry Laboratory (ACL) under the Grout Facility Characterization Project. This narrative is divided into the following sections:

- 1.0 Introduction
- 2.0 Background
- 3.0 Analytical Summary

## 2.0

## BACKGROUND

The following eight samples from Tank 102AP were delivered to the PNL, ACL for Volatile Organic Analysis (VOA), Semi-Volatile Organic Analysis (SVOA), Glycolate, Oxalate, EDTA/HEDTA, and Citrate:

<u>Customer ID</u>	<u>ACL-ID</u>
G300	93-06634
G304	93-06635
G312	93-06636
G314	93-06637
G316	93-06638
G320	93-06639
G321	93-06640
G324	93-06641

Each of the requested analyses was successfully accomplished and reported in the data package, enclosed herewith. No major problems occurred during analysis, minor problems are documented in the narrative for each respective analysis.

## 3.0

## ANALYTICAL SUMMARY

**Volatile Organic Analysis (VOA)** - Each sample listed in Section 2.0 was aliquoted and analyzed directly for VOA by procedure PNL-ALO-345. All analyses were completed within the 14 day holding time (based on sample receipt). No major problems were noted during analysis/data review. A detailed report is found in the data package.

**Semi-Volatile Organic Analysis** - A 10ml sample was extracted for SVOA. Samples G312 and G314 required heating (to dissolve precipitates) prior to aliquoting for extraction. The samples were extracted following procedure PNL-ALO-120 (a single pH extraction was used). A precipitate formed during the extraction procedure. This precipitate was analyzed separately from the liquid phase. 1-Butanol, Pyridine, and Tributylphosphate were added to the normal SVOA target list to accommodate the Grout Program analytical needs. A detailed report is found in the data package.

**Glycolate/Oxalate/HEDTA-EDTA/Citrate** - Each of these compounds were analyzed in accordance to the PNL Test Plan (enclosed in data package) developed for this project. No major problems were noted during analysis/data review. A detailed report can be found in the data package.

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Validation Report and  
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ADDENDUM 2A

GROUT TREATMENT FACILITY  
CHARACTERIZATION PROJECT FY93

TANK 102AP

APPENDIX A

TEST INSTRUCTIONS

DATA PACKAGE/REPORT

Revision 0

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ADDENDUM 2A

TI-Grout-2  
Page 1 of 5  
Revision 1  
04/30/93

PNL GROUT SAMPLE TEST INSTRUCTION  
PROJECT NUMBER 20749  
CASE NUMBER: GROUT

DATE PREPARED: April 30, 1993 PREPARED BY: TY HOSAKA

MATRIX: Liquid/aqueous

APPROVED BY: Ty Hosaka 4/30/93  
Project Manager Date

CONTROLLING DOCUMENTS:

- Project TPP: Grout Analytical Services Technical Project Plan, Revision 0.
- Project QAPJP: 200-BP-1 QAPJP ALO-001, Revision 1.
- Administrative Procedure: PNL-ALO-010

INTRODUCTION:

This Test Instruction (TI) defines the scope of work to be completed on the final eight samples submitted under the Grout Project. These eight samples correspond to tank 102AP. This TI is based on the Grout Analytical Services Technical Project Plan (TPP) 20749.

All analyses are to be completed following the procedures listed in Table 1.0. The procedures listed for VOA and Semi-VOA analysis have been modified to accommodate additional constituents required by the Grout Statement of Work (SOW). These additional compounds are listed in Table 2.0. Samples received shall be identified using the ACL Sample Log-In Form.

Please note that a data package will be required for all analyses conducted under this project. Data package requirements can be found in the TPP.

Any deviation from this TI requires prior approval from the Project Manager.

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ADDENDUM 2A

# GROUT FACILITY CHARACTERIZATION PROJECT

## Tank - 102AP

### DATA PACKAGE/REPORT

PNL Project #20749

Revision 0

September 21, 1993

Prepared By: TY Hosaka  
PK Melethil  
RT Steele  
RW Stromatt

*Battelle, Pacific Northwest Laboratory  
Analytical Chemistry Laboratory*

QA-184

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Appendix B: Chain of Custody

B1 - Westinghouse Chain of Custody and Pacific Northwest Laboratory (PNL) Sample Receipt Forms

B2 - Pacific Northwest Laboratory (PNL) Chain of Custody Forms

B3 - Pacific Northwest Laboratory (PNL) Composite Chain of Custody Forms

Appendix C: Sample Preparation

C1 - Laboratory Analyst Signature List

C2 - Shielded Analytical Laboratory (SAL) Bench Sheets

C3 - Shielded Analytical Laboratory (SAL) Sample Prep Forms

Appendix D: Organic Analysis Primary Data

D1 - Laboratory Analyst Signature List

D2 - Volatile Organic Analysis

D3 - Semi-Volatile Organic Analysis

Appendix E: Bulk Organic Analysis Primary Data

E1 - Laboratory Analyst Signature List

E2 - Pacific Northwest Laboratory Test Plans (4)

E3 - HPLC (Citrate, EDTA, HEDTA) Analysis

E4 - Glycolate/Oxalate Analysis

Contributors List

PROJECT MANAGEMENT OFFICE

TY Hosaka, Project Manager  
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TL Ehlert, Quality Engineer  
TG Walker, Quality Engineer  
RM Nipper, Senior Administrative Assistant  
SL Humphreys, Senior Clerk  
KM Hilty, Senior Clerk  
KJ Smith, Senior Clerk

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GW Klinger, Senior Scientist  
GA Ross, Scientist  
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PK Melethil, Senior Scientist

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FV Hoopes, Technician  
CE Chamberlin, Technician  
JK Rau, Technician

ANALYTICAL LABORATORY OPERATIONS

SA Schubert, Manager  
TL Claypatch, Secretary

CERTIFICATION STATEMENT

I certify that this data package has met the terms and conditions of TPP 20749. Release of the data contained in this hard copy data package has been authorized by the Project Manager, as verified by the following signature.



T. Y. Hosaka  
Project Manager  
Analytical Laboratory Operations

9/21/93  
Date

QA-188

## 1.0

## INTRODUCTION

This case narrative provides a summary of each of the analyses conducted on Tank 102AP by the Pacific Northwest Laboratory (PNL), Analytical Chemistry Laboratory (ACL) under the Grout Facility Characterization Project. This narrative is divided into the following sections:

- 1.0 Introduction
- 2.0 Background
- 3.0 Analytical Summary

## 2.0

## BACKGROUND

The following eight samples from Tank 102AP were delivered to the PNL, ACL for Volatile Organic Analysis (VOA), Semi-Volatile Organic Analysis (SVOA), Glycolate, Oxalate, EDTA/HEDTA, and Citrate:

<u>Customer ID</u>	<u>ACL-ID</u>
G300	93-06634
G304	93-06635
G312	93-06636
G314	93-06637
G316	93-06638
G320	93-06639
G321	93-06640
G324	93-06641

Each of the requested analyses was successfully accomplished and reported in the data package, enclosed herewith. No major problems occurred during analysis, minor problems are documented in the narrative for each respective analysis.

## 3.0

## ANALYTICAL SUMMARY

Volatile Organic Analysis (VOA) - Each sample listed in Section 2.0 was aliquoted and analyzed directly for VOA by procedure PNL-ALO-345. All analyses were completed within the 14 day holding time (based on sample receipt). No major problems were noted during analysis/data review. A detailed report is found in the data package.

Semi-Volatile Organic Analysis - A 10ml sample was extracted for SVOA. Samples G312 and G314 required heating (to dissolve precipitates) prior to aliquoting for extraction. The samples were extracted following procedure PNL-ALO-120 (a single pH extraction was used). A precipitate formed during the extraction procedure. This precipitate was analyzed separately from the liquid phase. 1-Butanol, Pyridine, and Tributylphosphate were added to the normal SVOA target list to accommodate the Grout Program analytical needs. A detailed report is found in the data package.

Glycolate/Oxalate/HEDTA-EDTA/Citrate - Each of these compounds were analyzed in accordance to the PNL Test Plan (enclosed in data package) developed for this project. No major problems were noted during analysis/data review. A detailed report can be found in the data package.

SD-WM-DP-046, Rev ~~1~~

ADD. 2A

241-AP-102

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 2A-190 thru 2A-190,

is available only from  
Central Files.

GROUT TREATMENT FACILITY  
CHARACTERIZATION PROJECT FY93

TANK 102AP

**APPENDIX A**

**TEST INSTRUCTIONS**

DATA PACKAGE/REPORT

Revision 0

*2A-191*

**A00-001**

PNL GROUT SAMPLE TEST INSTRUCTION  
PROJECT NUMBER 20749  
CASE NUMBER: GROUT

DATE PREPARED: April 30, 1993 PREPARED BY: TY HOSAKA

MATRIX: Liquid/aqueous

APPROVED BY:

Terry G. Hosaka  
Project Manager4/30/93  
Date

## CONTROLLING DOCUMENTS:

Project TPP: Grout Analytical Services Technical Project Plan,  
Revision 0.

Project QAPJP: 200-BP-1 QAPJP ALO-001, Revision 1.

Administrative Procedure: PNL-ALO-010

## INTRODUCTION:

This Test Instruction (TI) defines the scope of work to be completed on the final eight samples submitted under the Grout Project. These eight samples correspond to tank 102AP. This TI is based on the Grout Analytical Services Technical Project Plan (TPP) 20749.

All analyses are to be completed following the procedures listed in Table 1.0. The procedures listed for VOA and Semi-VOA analysis have been modified to accommodate additional constituents required by the Grout Statement of Work (SOW). These additional compounds are listed in Table 2.0. Samples received shall be identified using the ACL Sample Log-In Form.

Please note that a data package will be required for all analyses conducted under this project. Data package requirements can be found in the TPP.

~~Any deviation from this TI requires prior approval from the Project Manager.~~

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A00-002

## APPENDUM 2A

TI-Grout-2  
Page 2 of 5  
Revision 1  
04/30/93

Table 1.0

## REQUESTED ANALYSES:

ANALYSIS	PROCEDURE	TASK LEADER	WP#
VOA Prep	PNL-ALO-121*	Steele	M99159
Semi-VOA Prep	PNL-ALO-120	Steele	M99160
Semi-VOA Prep	PNL-ALO-122	Steele	M99160
VOA	PNL-ALO-331*	Hoppe	M99162
	PNL-ALO-332*	Hoppe	M99162
	PNL-ALO-335	Hoppe	M99162
Semi-VOA	PNL-ALO-340*	Hoppe	M99163
	PNL-ALO-345	Hoppe	M99163
IC (Glycolate/ Oxalate)	PNL-Test Plan	Hoppe Development Hoppe Analysis	M99172 M99173
HPLC (EDTA/HEDTA)	PNL-Test Plan	Hoppe Development Hoppe Analysis	M99168 M99169
HPLC (Citrate)	PNL-Test Plan	Hoppe Development Hoppe Analysis	M99170 M99171

\* note - optional methods, employed at the discretion of the cognizant scientist.

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A00-003

## APPENDIX 2A

TI-Grout-2  
Page 3 of 5  
Revision 1  
04/30/93

Table 2.0

## ADDITIONAL NON-ROUTINE COMPOUNDS

COMPOUND	METHOD
iso-Propyl Benzene	VOA
1,2,3-Trimethyl benzene	VOA
1,2,4-Trimethyl benzene	VOA
1,3,5-Trimethyl benzene	VOA
Pyridine	Semi-VOA
n-Butyl alcohol	Semi-VOA
Tributyl Phosphate	Semi-VOA

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A00-004

**SAMPLE RECEIPT INSTRUCTIONS:**

Samples covered by this TI will be delivered from the 222-S Laboratory during swing shift on April 28, 29 and May 3, 4. Samples should be received in accordance to requirements outlined in procedure PNL-ALO-051. Chain of Custody requirements are in effect for these samples.

**SAMPLE PREPARATION INSTRUCTIONS:**

Representative aliquots will be transferred to the appropriate Task Leader for sample preparation in accordance with PNL-ALO-010. All of the samples are assumed to be well mixed and can be considered homogenous.

All efforts should be made to meet the SW-846 holding time requirements for the volatile and semi-volatile analyses for these samples. The semi-volatile holding time requirement is 7 days from sampling for extraction and 40 days after extraction. The volatile holding time is 14 days after sampling. Due to increased transportation times required to ship the samples to PNL, smaller batches may be required to meet these holding time requirements.

**QUALITY CONTROL:**

All sample preparation and analyses shall be conducted following the CERCLA protocol option, if available, in the procedure (See Table 1.0).

The QC requirements for each batch analyzed are: matrix spike, matrix spike duplicate, a sample duplicate and method blank. These requirements hold for each analysis listed in Table 1.0, where applicable.

**SAMPLE IDENTIFICATION SYSTEM:**

The sample identification system, outlined below, will be followed. Each sample will be identified by a unique ALO number assigned at the time of log-in (See Table 2.0). Sample QC shall be identified as follows:

sample	93-xxxx
duplicate	93-xxxxD
matrix spike	93-xxxxMS
MS duplicate	93-xxxxMSD

Additional batch QC shall be designated as follows:

Preparation Blank	PB
Method Blank	FBLKXX

Where F is the fraction designator (F = V for Volatiles, S for Semi-volatiles, I for IC, and H for HPLC)

and XX is a unique numerical identifier (i.e., VBLK1, VBLK2, etc.)

AA-195

000-005

**DELIVERABLES:**

A separate report will be issued for each tank analyzed under this project. All reports shall cross-reference Client ID to ACL sample number and both shall include appropriate QC suffixes.

VOA, and SVOA data shall be reported in time to accommodate a 85 day turn around time starting from May 5, 1993. All other constituents will be reported in time to accommodate a 111 day turn around time starting from May 5, 1993.

Final data report deliverables shall include: case narrative for each analysis, summary of all analytes detected above IDL/CRDL/CRQL, RPD flags for duplicate precision, holding time flags when holding times are not met, and matrix spike recovery flags for sample accuracy. Detection limit guidelines shall be included in the final report.

A CLP-type data package is required for volatile and semi-volatile analysis. The routine CLP data package will be modified to accommodate additional non-CLP target compounds requested in the Grout SOW. These additional compounds will be incorporated on the Form I report and also identified separately in the case narrative for each analysis. Appropriate spike, calibration, and standard information, for the non-routine compounds, will also be incorporated into the data package.

A data package is required for all additional analyses conducted under this project, however, the format need not be CLP. At a minimum these data packages should include: case narrative, summary data report, and raw data supporting the results (instrument calibration, balance/pipet checks, raw analytical data, standard information, etc.). These data packages will be reviewed by the ACL QA/QC Project Manager, or designee, to ensure that an adequate amount of information is available to complete a full data validation.

Volatile, and semi-volatile data packages are due to the ACL Records Processing Center by July 7, 1993. All other data packages are due to the ACL Record Processing Center by July 21, 1993.

QA-196

ACU-006

ADDENDUM 2A

CONTROLLED DOCUMENT  
COPY NO. 01Addendum 1  
TI-Grout-2, Revision 1  
Tank - 102AP Sample IDs

Customer ID	ALO-Number	Depth <sup>a</sup>	Riser <sup>b</sup>
G300 <sup>c</sup>	93-06634*	306	30
G304 <sup>d</sup>	93-06635*	125	30
G312	93-06636*	162	150
G314 <sup>c</sup>	93-06637*	18	150
G316	93-06638*	372	270
G320 <sup>c</sup>	93-06639*	226	270
G321 <sup>c</sup>	93-06640*	226	270
G324	93-06641*	Blank	Field

- a - Depth sample was taken in inches.
- b - Riser position for corresponding sample in degrees.
- c - Sample received with two phases. The liquid phase should be decanted for requested analyses. The solid phase will not be analyzed.
- d - Sample received with 50% volume (approx 50 mls) care should be taken to ensure that all analyses can be completed with this decreased sample volume.
- \* - Indicates confirmed sample. Sample has been received and assigned to that ALO number. Unconfirmed samples have not yet been received, the ALO numbers will remain the same, however, the Customer ID, tank depth, and riser position may change.

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A00-007

WHC-SD-WM-DP-046, REV 0

ADDENDUM 2A

WHC-SD-WM-DP-046, REV 0

GROUT TREATMENT FACILITY  
CHARACTERIZATION PROJECT FY93

TANK 102AP

**APPENDIX B**

**CHAIN OF CUSTODY**

-----  
DATA PACKAGE/REPORT

Revision 0

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B00-001

GROUT TREATMENT FACILITY  
CHARACTERIZATION PROJECT FY93

TANK 102AP

DATA PACKAGE/REPORT

Appendix B

TABLE OF CONTENTS

Appendix B - Chain of Custody

B1 - Westinghouse Chain of Custody

B2 - PNL Chain of Custody Forms

B3 - PNL Composite Chain of Custody Forms

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300-002



Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 2A-201 thru 2A-205,

is available only from  
Central Files.

ADDENDUM 2A

**B2 - PACIFIC NORTHWEST LABORATORY (PNL)**

**CHAIN OF CUSTODY FORMS**

2A-206

B02-001

**B3 - PACIFIC NORTHWEST LABORATORY (PNL)**

**COMPOSITE CHAIN OF CUSTODY FORMS**

*2A-207*

**B03-001**

**TAN. FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact	RL WRIGHT	Telephone	373-3552
Bill of Lading No.	N/A	Offsite Property No.	N/A
Method of Shipment	B-PLANT Sample TRUCK		
Shipped to	325 11812/93 Lab		
SAMPLING INFORMATION			
Sample Collected by	D. Jones / T. N. May	Date	4/28/93 Time 20:31
Sample Location	102-AD #1A	Custody Seal #	3346
Remarks	NA		
Ice Chest or Sample Pkg. No.	G-9	Field Logbook and Page No.	N/A

SUPERVISION REVIEW: R. L. Wright DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
G300	NA

CHAIN OF POSSESSION		
Relinquished by: <u>R. L. Wright</u>	Received by: <u>J. Mendenhall</u>	Date/Time: <u>4/29/93 1930</u>
Relinquished by: <u>J. Mendenhall</u>	Received by: <u>John K. Bran</u>	Date/Time: <u>4-29-93 2100</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

2A-208  
B01-002

**TANK FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company/Contract:	RLWRIGHT	Telephone:	373-3552
Bill of Lading No.:	N/A	Offsite Property No.:	N/A
Method of Shipment:	B-PLANT SAMPLE TRUCK		
Shipped to:	325 32275 LAB NW 5/18/93		
SAMPLING INFORMATION			
Sample Collected by:	D. JONES/T. N. CAMP	Date:	4/28/93 Time: 2110
Sample Location:	102-HP/ETA	Custody Seal #:	3545
Remarks:	N/A		
Ice Chest or Sample Pkg No.:	B-8	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: RJ Wright DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6304</u>	<u>N/A</u>

CHAIN OF POSSESSION		
Relinquished by: <u>RJ Wright</u>	Received by: <u>M. ...</u>	Date/Time: <u>4/29/93 19:30</u>
Relinquished by: <u>M. ...</u>	Received by: <u>Cheryl Chamberlain</u>	Date/Time: <u>4/29/93 9:27 PM</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B01-003

**TAN. FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	323-555-2
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	4/29/93 325 LAB		
SAMPLING INFORMATION			
Sample Collected by:	B. MYERS / J. DUNN	Date:	4-29-93 Time: 2047
Sample Location:	102-AD / MB	Custody Seal #:	3397
Remarks:	NA		
Ice Chest or Sample Pkg. No.:	B10	Field Logbook and Page No.:	N/A

PNL

SUPERVISION REVIEW: RJ Wright DATE: 4/29/93

SAMPLE IDENTIFICATION

93-6636

Sample Number	Sample Schedule Number
<u>6317</u>	<u>NA</u>

CHAIN OF POSSESSION

Relinquished by: <u>RJ Wright</u>	Received by: <u>SF Wallace</u>	Date/Time: <u>4/29/93 1940</u>
Relinquished by: <u>SF Wallace</u>	Received by: <u>Lydia Chamberlain</u>	Date/Time: <u>4-30-93 4:15 PM</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Document No.	Rev/Mod.	Page
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B01-005

**TAN. FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact	RL WRIGHT	Telephone	323-3552
Site of Landing No.	N/A	Offsite Property No.	L/A
Method of Shipment	B-Plant Sample TRUCK		
Shipped to	4/30/93 325 LAB		
SAMPLING INFORMATION			
Sample Collected by	R. MYERS / J. DUNN	Date	4-29-93
Sample Location	1E2-19P / 1B	Time	2135
Remarks	N/A		
Field Logbook and Page No.	R18	Field Logbook and Page No.	N/A

SUPERVISION REVIEW: Rf Wright DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
6314	PA

93-66037

CHAIN OF POSSESSION		
Relinquished by: <u>Bill Siefert</u>	Received by: <u>S.F. Walker</u>	Date/Time: <u>4/30/92 1940</u>
Relinquished by: <u>S.F. Walker</u>	Received by: <u>Charles...</u>	Date/Time: <u>4-30-93 9:28 PM</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

IA-211  
B01-006

**TANN FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	RJ WRIGHT	Telephone:	323-3552
Bill of Lading No.:	N/A	Offsite Process No.:	N/A
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	325 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Conger to N/A	Date:	4-30-93 Time: 1048
Sample Location:	102-40 #1C	Custody Seal #:	3388
Remarks:	N/A		
Ice Chest or Sample Pkg. No.:	TF-10	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: RJ Wright DATE: 4/30/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6321</u>	<u>N/A</u>

93-6640

CHAIN OF POSSESSION		
Relinquished by: <u>RJ Wright</u>	Received by: <u>R. Conger</u>	Date/Time: <u>5-3-93 1930</u>
Relinquished by: <u>R. Conger</u>	Received by: <u>W. H. Hays</u>	Date/Time: <u>5/3/93 2100</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B01-008

**TANK FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	323-3552
Bill of Lading No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	325 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Coyle/T. M. King	Date:	4-30-93 Time: 1038
Sample Location:	102 NW FIC	Custody Seal #:	3390
Remarks:	NA		
Ice Chest or Sample Pkg. No.:	G-2	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: R. Wright

DATE: 4/30/93

**SAMPLE IDENTIFICATION**

Sample Number	Sample Schedule Number
<u>0320</u>	<u>NA</u>

93-6639

**CHAIN OF POSSESSION**

Relinquished by: <u>R. Wright</u>	Received by: <u>R. Coyle</u>	Date/Time: <u>5-3-93 1930</u>
Relinquished by: <u>R. Coyle</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/3/93 2100</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B01-009

**FANNING FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact	RL WRIGHT	Telephone	373-3552
Bill of Lading No.	NA	Office Property No.	NA
Method of Shipment	R-PLANT SAMPLE TRUCK		
Shipped to	325 LAB		
SAMPLING INFORMATION			
Sample Collected by	D. JONES	Date	4-28-93 Time 2000
Sample Location	102-AP	Custody Seal #	3381
Remarks	NA		
Ice Chest or Sample Pkg No.	ICE CREAM CARTON	Field Logbook and Page No.	N/A

SUPERVISION REVIEW: RL Wright DATE: 5/3/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>0324</u>	<u>NA</u>

93-0141

CHAIN OF POSSESSION		
Relinquished by: <u>RL Wright</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5-3-93 1930</u>
Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/3/93 2100</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Document No.	Rev/Mod	Page
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**B01-010**

**TAN. FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	R. L. WRIGHT	Telephone:	323-2552
Site or Landing No.:	NA	Offsite Property No.:	NA
Method of Shipment:	B-PLANT Sample Trucks		
Shipped to:	J25 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Cooper/Temporary	Date:	4-30-93
Sample Location:	102-AP #1C	Time:	1001
Remarks:	NA	Custody Seal #:	3383
Ice Chest or Sample Pkg. No.:	TF-5	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: John Bull DATE: 5-1-93

93-1603B

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>B316</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by: <u>R. L. Wright</u>	Received by: <u>J. Michael</u>	Date/Time: <u>5/4/93 1900</u>
Relinquished by: <u>J. Michael</u>	Received by: <u>Robert Cooper</u>	Date/Time: <u>5/4/93 2047</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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ADDENDUM 2A

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Chain of Custody Number GROUT-1

**ALO CHAIN OF CUSTODY**

SAMPLE DESCRIPTION GROUT/TANK 102AP - LIQUID

APPLICABLE TEST INSTRUCTION GROUT-2

ANALYSIS REQUESTED OR DEPARTMENT VOA

PREP METHOD NONE

ALO SAMPLE NUMBER	SAMPLE DESCRIPTION	SENDER	DATE	RECEIVER	DATE
93-06634		<i>J. Kemp</i>	5/3/93	<i>W. Bell</i>	5/3/93
93-06635		<i>J. Kemp</i>	↓	<i>W. Bell</i>	↓
93-06636		<i>J. Kemp</i>	↓	<i>W. Bell</i>	↓
93-06637		<i>J. Kemp</i>	↓	<i>W. Bell</i>	↓
VBLK01		<i>J. Kemp</i>	↓	<i>W. Bell</i>	↓

Original - Project Management  
 Copy - Sender  
 Copy - Receiver

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ADDENDUM 2A

Page 1 of 1 Chain of Custody Number GROUT-2

**ALO CHAIN OF CUSTODY**

SAMPLE DESCRIPTION GROUT/TANK 102AP - LIQUID

APPLICABLE TEST INSTRUCTION GROUT-2

ANALYSIS REQUESTED OR DEPARTMENT SVOA

PREP METHOD NONE

ALO SAMPLE NUMBER	SAMPLE DESCRIPTION	SENDER	DATE	RECEIVER	DATE
93-06634		<i>JTC</i>	5/5/93	<i>M. Stueh</i>	5/5/93
93-06634D	DUP	<i>JTC</i>	}	<i>M. Stueh</i>	}
93-06635		<i>JTC</i>		<i>M. Stueh</i>	
93-06636		<i>JTC</i>		<i>M. Stueh</i>	
93-06636MS	MS	<i>JTC</i>		<i>M. Stueh</i>	
93-06636MSD	MSD	<i>JTC</i>		<i>M. Stueh</i>	
93-06637		<i>JTC</i>		<i>M. Stueh</i>	
SBLK01	BLK	<i>JTC</i>		<i>M. Stueh</i>	

Original - Project Management  
 Copy - Sender  
 Copy - Receiver

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Chain of Custody Number GROUT-3

**ALO CHAIN OF CUSTODY**

SAMPLE DESCRIPTION GROUT/TANK 102AP - PRECIPITATE

APPLICABLE TEST INSTRUCTION GROUT-2

ANALYSIS REQUESTED OR DEPARTMENT SVOA

PREP METHOD NONE

ALO SAMPLE NUMBER	SAMPLE DESCRIPTION	SENDER	DATE	RECEIVER	DATE
93-06634		<i>JTB</i>	5/193	<i>MS Steele</i>	5-4-93
93-06634D	DUP	<i>JTB</i>	}	<i>MS Steele</i>	}
93-06635		<i>JTB</i>		<i>MS Steele</i>	
93-06636		<i>JTB</i>		<i>MS Steele</i>	
93-06636MS	MS	<i>JTB</i>		<i>MS Steele</i>	
93-06636MSD	MSD	<i>JTB</i>		<i>MS Steele</i>	
93-06637		<i>JTB</i>		<i>MS Steele</i>	
SBLK0102	BLK	<i>JTB</i>		<i>MS Steele</i>	
255 5/193 5/1					

Original - Project Management  
 Copy - Sender  
 Copy - Receiver

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**ALO CHAIN OF CUSTODY**

SAMPLE DESCRIPTION GROUT/TANK 102AP - LIQUID

APPLICABLE TEST INSTRUCTION GROUT-2

ANALYSIS REQUESTED OR DEPARTMENT SVOA

PREP METHOD NONE

ALO SAMPLE NUMBER	SAMPLE DESCRIPTION	SENDER	DATE	RECEIVER	DATE
93-06638		<i>[Signature]</i>	5/6/93	<i>[Signature]</i>	5-6-93
93-06638D	DUP	<i>[Signature]</i>		<i>[Signature]</i>	
93-06639MS	MS	<i>[Signature]</i>		<i>[Signature]</i>	
93-06639MSD	MSD	<i>[Signature]</i>		<i>[Signature]</i>	
93-06640		<i>[Signature]</i>		<i>[Signature]</i>	
93-06641		<i>[Signature]</i>		<i>[Signature]</i>	
SBLK0203		<i>[Signature]</i>		<i>[Signature]</i>	
P15 5/19/93					
93-06639		<i>[Signature]</i>	5/6/93	<i>[Signature]</i>	5-6-93

Original - Project Management  
 Copy - Sender  
 Copy - Receiver

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Chain of Custody Number GROUT-6

**ALO CHAIN OF CUSTODY**

SAMPLE DESCRIPTION GROUT/TANK 102AP - PRECIPITATE

APPLICABLE TEST INSTRUCTION GROUT-2

ANALYSIS REQUESTED OR DEPARTMENT SVOA

PREP METHOD NONE

ALO SAMPLE NUMBER	SAMPLE DESCRIPTION	SENDER	DATE	RECEIVER	DATE
93-06638		<i>Adler</i>	5/6/93	<i>MJ Steele</i>	5/6/93
93-06638D	DUP	<i>Adler</i>		<i>MJ Steele</i>	
93-06639MS	MS	<i>Adler</i>		<i>MJ Steele</i>	
93-06639MSD	MSD	<i>Adler</i>		<i>MJ Steele</i>	
93-06640		<i>Adler</i>		<i>MJ Steele</i>	
93-06641	<i>RTS 6-9-93</i>	<i>Adler</i>		<i>MJ Steele</i>	
SBLK0204 <i>RTS 5/14/93</i>		<i>Adler</i>		<i>MJ Steele</i>	
93-06639		<i>Adler</i>	5/6/93	<i>MJ Steele</i>	5-6-93

Original - Project Management  
 Copy - Sender  
 Copy - Receiver

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B02-007

Page 1 of 1

Chain of Custody Number GROUT-11

**ALO CHAIN OF CUSTODY**

SAMPLE DESCRIPTION TANK 102-AP

APPLICABLE TEST INSTRUCTION TI-GROUT-2

ANALYSIS REQUESTED OR DEPARTMENT GLYCOLATE/OXALATE

PREP METHOD NONE

ALO SAMPLE NUMBER	SAMPLE DESCRIPTION	SENDER	DATE	RECEIVER	DATE
93-06634	G300	<i>JTO</i>	6/22/93	Received by <i>Demetrius</i> 6/26/93	
93-06635	G304	<i>JTO</i>			
93-06636	G312	<i>JTO</i>			
93-06637	G314	<i>JTO</i>			
93-06638	G316	<i>JTO</i>			
93-06639	G320	<i>JTO</i>			
93-06639D	G320	<i>JTO</i>			
93-06640	G321	<i>JTO</i>			
93-06640MS	G321	<i>JTO</i>			
93-06640MSD	G321	<i>JTO</i>			
93-06641	G324	<i>JTO</i>			
IBLK01	DIW	<i>JTO</i>			

Original - Project Management  
 Copy - Sender  
 Copy - Receiver

2A-222

B02-008



Page 1 of 1

Chain of Custody Number GROUT-13

**ACL CHAIN OF CUSTODY**

SAMPLE DESCRIPTION GROUT/102AP - LIQUID

ORIGINATOR SAL

APPLICABLE TEST INSTRUCTION TI-GROUT-2

ANALYSIS REQUESTED OR DEPARTMENT HPLC (EDTA/HEDTA/CITRATE)

PREP METHOD NONE

ACL SAMPLE NUMBER	SAMPLE DESCRIPTION	SENDER	DATE	RECEIVER	DATE
93-06635	G-304 - 6ml	<i>JTD</i>	7/21/93	<i>MJ Steele</i>	7/21/93
93-06636	G-312 - 6ml	<i>JTD</i>	↓	<i>MJ Steele</i>	↓
93-06637	G-314 - 6ml	<i>JTD</i>		<i>MJ Steele</i>	
93-06638	G-316 - 6ml	<i>JTD</i>		<i>MJ Steele</i>	
93-06639	G-320 - 6ml	<i>JTD</i>		<i>MJ Steele</i>	
93-06640	G-321 - 6ml	<i>JTD</i>		<i>MJ Steele</i>	
93-06641	G-324 - 6ml	<i>JTD</i>		<i>MJ Steele</i>	
HBLK01	BLANK	<i>JTD</i>		<i>MJ Steele</i>	

Original - Project Management  
 Copy - Sender  
 Copy - Receiver

2A-224

B02-010

DON'T SAY IT -- Write It!

Date: June 10, 1993

To: 222-S

From: TY Hosaka

Subject: Grout 102AP Sample Composite Chain of Custody

This DSI will act as the Chain of Custody of the 2 102AP sample composites shipped from the 325 Laboratory to the 222-S Laboratory on June 14, 1993. The 2 sample composites are comprised of sample residuals which correspond to the attached COC forms. These samples have been composited at the request of Grout/Technology, and are being returned to 222-S for further study of prepared grout material.

*102AP Composite*

*[Signature]*  
Relinquished by

*6/21/93*  
Received by *SE Wallace*

*6-21-93*  
Date/Time

Relinquished by \_\_\_\_\_

Received by \_\_\_\_\_

Date/Time \_\_\_\_\_

*2A-225*

B03-002

**TANK FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	373-3552
Bill of Lading No.:	NA	Off-site Property No.:	NA
Method of Shipment:	B-Plant Sample TRUCK		
Shipped to:	325 325-S LAB RW 5/18/93		
SAMPLING INFORMATION			
Sample Collected by:	D. JONES/T. NASH	Date:	4/29/93 Time: 2:10
Sample Location:	102-02/#1A	Custody Seal #:	3345
Remarks:	NA		
Ice Chest or Sample Pkg No.:	B-8	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: RJ Wright

DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6304</u>	<u>NA</u>

CHAIN OF POSSESSION		
Relinquished by: <u>RJ Wright</u>	Received by: <u>M. Mendenhall</u>	Date/Time: <u>4/29/93 1830</u>
Relinquished by: <u>M. Mendenhall</u>	Received by: <u>Cheryl Chamberlain</u>	Date/Time: <u>4/29/93 9:27 PM</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B03-003

**TAN. EARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	373-3552
Bill of Lading No.:	N/A	Office Property No.:	N/A
Method of Shipment:	B-Plant Sample TRUCK		
Shipped to:	325 Lab		
SAMPLING INFORMATION			
Sample Collected by:	D. Jones / T. Newby	Date:	4/28/93 Time: 2031
Sample Locators:	102-AD #1A	Custody Seal #:	3341
Remarks:	N/A		
Ice Chest or Sample Bag No.:	G-9	Field Logbook and Bag No.:	N/A

SUPERVISION REVIEW: R.L. Wright DATE: 4/28/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
G300	N/A

CHAIN OF POSSESSION		
Relinquished by: <u>R.L. Wright</u>	Received by: <u>J. Mendenhall</u>	Date/Time: <u>4/29/93 1930</u>
Relinquished by: <u>J. Mendenhall</u>	Received by: <u>John K. Bar</u>	Date/Time: <u>4-29-93 2100</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B03-004

TAN. FARM PLANT OPERATING PROCEDURE

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	323-7552
Bill of Lading No.:	NA	Office Property No.:	NA
Method of Shipment:	B-PLANT SAMPLE TRUCK		
Shipped to:	325 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Cooper - Temporary	Date:	4-30-93 Time: 1001
Sample Location:	102-AP #10	Custody Seal #:	3383
Remarks:	NA		
Field Check on Samples Prior to:	TK-5	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: Devin Smith DATE: 5-1-93

SAMPLE IDENTIFICATION

93-6638

Sample Number	Sample Schedule Number
<u>B316</u>	<u>NA</u>

CHAIN OF POSSESSION

Relinquished by: <u>R. Wright</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/4/93 1900</u>
Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/11/93 2047</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

2A-228  
B03-005

**TANK FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	373-3552
Bill of Lading No.:	N/A	Office Property No.:	N/A
Method of shipment:	B-PLANT Sample TRUCK		
Shipped to:	375 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. C. Cyren, T. N. Mung	Date:	4-30-93 Time: 1030
Sample Location:	102 AD #1C	Custody Seal #:	33912
Remarks:	N/A		
Location of Sample:	G-2	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: Rf Wright DATE: 4/30/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>G320</u>	<u>N/A</u>

93-6639

CHAIN OF POSSESSION		
Relinquished by: <u>Rf Wright</u>	Received by: <u>Rf Wright</u>	Date/Time: <u>5-3-93 1930</u>
Relinquished by: <u>Rf Wright</u>	Received by: <u>Rf Wright</u>	Date/Time: <u>5/3/93 2100</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

DA-229  
B03-006

**FANN FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	R1 GORUMT	Telephone:	373-3552
Site of Sample No.:	N/A	Office Property No.:	N/A
Method of shipment:	B-Plant Sample Truck		
Shipped to:	325 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Coughlin Jr. RINA	Date:	4-30-93 Time: 1048
Sample Location:	102-40 #1C	Custody Tag #:	3358
Remarks:	N/A		
Case/Checklist or Sample Ref No.:	TF-10	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: RJ Wright DATE: 4/30/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6321</u>	<u>N/A</u>

93-6640

CHAIN OF POSSESSION		
Relinquished by: <u>RJ Wright</u>	Received by: <u>R. Coughlin Jr.</u>	Date/Time: <u>5-3-93 1930</u>
Relinquished by: <u>R. Coughlin Jr.</u>	Received by: <u>Manufacturers</u>	Date/Time: <u>5/3/93 2100</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B03-007

**TAN. FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	RL Wright	Telephone:	523-2552
Site of Origin No.:	NA	Origin Property No.:	NA
Method of Shipment:	B-Plant Sample Truck		
Shipped to:	4/30/93 RLW 225 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Myers / J. Dunn	Date:	4-29-93 Time: 2135
Sample Location:	102-AP / 1B	Storage Seal #:	# 3399
Remarks:	NA		
For Chest or Sample Pkg No.:	R18	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: Rf Wright DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6314</u>	<u>EA</u>

93-6637

CHAIN OF POSSESSION		
Relinquished by: <u>Will Seton</u>	Received by: <u>SF Wallace</u>	Date/Time: <u>4/30/93 1940</u>
Relinquished by: <u>SF Wallace</u>	Received by: <u>Joseph Chamberlain</u>	Date/Time: <u>4-30-93 9:28 PM</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B03-008

**PAN. FARM PEANUT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company/Contact:	RL WRIGHT	Telephone:	323-3552
Title of Contact:	N/A	Office Property No.:	N/A
Method of Shipment:	B-Plant Sample TRUCK		
Shipped to:	463493 325 LAB		
SAMPLING INFORMATION			
Sample Collected by:	B. MYERS / J. DUNN	Date:	4-29-93 Time: 2047
Sample Location:	102-AD MB	Custody Seal #:	3397
Terms:	N/A		
Ice Chest or Sample Pkg No.:	B10	Field Logbook and Page No.:	N/A

PNL

SUPERVISION REVIEW: R. J. Wright DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6312</u>	<u>N/A</u>

93-0636

CHAIN OF POSSESSION		
Relinquished by: <u>R. J. Wright</u>	Received by: <u>S. F. Wallace</u>	Date/Time: <u>4/30/93 1940</u>
Relinquished by: <u>S. F. Wallace</u>	Received by: <u>Judy Chaulah</u>	Date/Time: <u>4-30-93 9:15 PM</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

DA-232

B03-009

DON'T SAY IT -- Write It!

Date: June 10, 1993

To: 222-S

From: TY Hosaka

Subject: Grout 102AP Sample Composite Chain of Custody

This DSI will act as the Chain of Custody of the 2 102AP sample composites shipped from the 325 Laboratory to the 222-S Laboratory on June 16, 1993. The 2 sample composites are comprised of sample residuals which correspond to the attached COC forms. These samples have been composited at the request of Grout/Technology, and are being returned to 222-S for further study of prepared grout material.

*John Chandra* 6-21-93 *S.F. Wallace*  
Relinquished by                      Received by

6-21-93  
Date/Time

\_\_\_\_\_  
Relinquished by                      Received by

\_\_\_\_\_  
Date/Time

RECEIVED  
JUN 21 1993  
T. Y. HOSAKA

E54-3000-10! (10/89)

*2A-233*  
B03-010

**TANK FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company/Contact:	RLWRIGHT	Telephone:	323-7552
Bill of Lading No.:	N/A	Office Property No.:	N/A
Method of Shipment:	B-Plant Sample TRUCK		
Shipped to:	323 323-S LAB RD 51143		
SAMPLING INFORMATION			
Sample Collected by:	D. Jones/T. Noyes	Date:	4/29/93 Time: 2:10
Sample Location:	103-HP/#1A	Custody Seal #:	3545
Remarks:	N/A		
Form Check on Sample Pkg No.:	B-8	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: RJ Wright DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6304</u>	<u>N/A</u>

CHAIN OF POSSESSION		
Relinquished by: <u>RJ Wright</u>	Received by: <u>M. Mendenhall</u>	Date/Time: <u>4/29/93 1930</u>
Relinquished by: <u>M. Mendenhall</u>	Received by: <u>Ch. Chamberlain</u>	Date/Time: <u>4/29/93 9:27 PM</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B03-011

**TAN FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	373-3552
Bill of Lading No.:	N/A	Offsite Property No.:	N/A
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	333 Lab		
11/8/93 SAMPLING INFORMATION			
Sample Collected by:	D. Jones/T. N. ...	Date:	4/28/93 Time 12:31
Sample Location:	102-AD #1A	Custody Seal #:	3346
Remarks:	N/A		
Ice Chest/Co. Sample Tag No.:	G-9	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: R. H. Wright DATE: 4/28/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
G300	N/A

CHAIN OF POSSESSION		
Relinquished by: <u>R. H. Wright</u>	Received by: <u>M. Mendenhall</u>	Date/Time: <u>4/29/93 1930</u>
Relinquished by: <u>M. Mendenhall</u>	Received by: <u>John K. Bar</u>	Date/Time: <u>4-29-93 2100</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B03-012

CHAIN OF CUSTODY OPERATING PROCEDURE

CHAIN OF CUSTODY			
Company Contact:	R L WRIGHT	Telephone:	323-2552
Bill of Lading No.:	NA	Off-site Property No.:	NA
Method of shipment:	B-PLANT SAMPLE TRUCK		
Shipped to:	J25 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Sargent-Tierney	Date:	4-30-93 Time: 1001
Sample Location:	102-AP #10	Custom seal #:	3383
Remarks:	NA		
Ice Chest or Sample Bag No.:	TF-5	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: Brian Ballew DATE: 5-1-93

SAMPLE IDENTIFICATION

Sample Number	Sample Schedule Number
<u>Q3-6638</u> R316	NA

CHAIN OF POSSESSION

Relinquished by: <u>R L Wright</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/4/93 1900</u>
Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/12/93 2047</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B03-013

**TANK FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company/Contract:	RL WRIGHT	Telephone:	373-3552
Site of Loading No.:	NA	Office Property No.:	NA
Method of shipment:	B-PLANT SAMPLE TRUCK		
Shipped to:	375 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Cuyper/T. M. King	Date:	4-30-93 Time: 1030
Sample Location:	102 AD #10	Clayton Seal #:	3390
Remarks:	NA		
Ice Chest on Sample:	G-2	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: Rf Wright DATE: 4/30/93

**SAMPLE IDENTIFICATION**

Sample Number	Sample Schedule Number
<u>G320</u>	<u>NA</u>

93-0639

**CHAIN OF POSSESSION**

Relinquished by: <u>Rf Wright</u>	Received by: <u>Rf Wright</u>	Date/Time: <u>5-7-93 1930</u>
Relinquished by: <u>Rf Wright</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/3/93 2100</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B03-014

**TANN FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	R. L. GORU-MT	Telephone:	373-3552
Site of Lading No.:	N/A	Office Property No.:	N/A
Method of Shipment:	B-PLANT Sample TRUCK		
Shipped to:	325 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. Congdon Jr. N/A	Date:	4-30-93 Time: 1048
Sample Location:	102-AD #15	Custody Seal #:	3388
Remarks:	N/A		
For: Check Out: Sampler Pkg No.:	TF-10	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: *R. Wright* DATE: 4/30/93

93-6640

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
<u>6321</u>	<u>N/A</u>

CHAIN OF POSSESSION		
Relinquished by: <i>R. Wright</i>	Received by: <i>R. Congdon Jr.</i>	Date/Time: 5-3-93 1920
Relinquished by: <i>R. Congdon Jr.</i>	Received by: <i>Alvin H. Hays</i>	Date/Time: 5/3/93 2100
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

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B03-015

**PANHANDLE FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	RLW RLLBHT	Telephone:	323-2552
Bill of Lading No.:	NA	Office Procedure No.:	NA
Method of Shipment:	B-Plant Sample TRUCK		
Shipped to:	4/30/93 APW 325 LAB		
SAMPLING INFORMATION			
Sample Collected by:	R. MYERS / J. DUNN	Date:	4-29-93 Time: 2135
Sample Location:	102-AP / 1B	Custody Seal #:	# 3399
Remarks:	NA		
See Chest on Sample For No.:	R18	Field Logbook and Page No.:	N/A

SUPERVISION REVIEW: RFH Wright DATE: 4/29/93

SAMPLE IDENTIFICATION	
Sample Number	Sample Schedule Number
93-6637 6314	NA

CHAIN OF POSSESSION		
Relinquished by: <u>Willie Seton</u>	Received by: <u>S.F. Wallace</u>	Date/Time: <u>4/29/93 1940</u>
Relinquished by: <u>S.F. Wallace</u>	Received by: <u>Joseph Chamberlain</u>	Date/Time: <u>4-30-93 9:28 PM</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Document No.	Rev/Mod	Page
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B03-016

**TAN. FARM PLANT OPERATING PROCEDURE**

CHAIN OF CUSTODY			
Company Contact:	RL WRIGHT	Telephone:	322-3552
Site or Field No.:	N/A	Office Property No.:	N/A
Method of shipment:	B-PLANT Sample TRUCK		
Shipped to:	463493 446 325 LAB		
SAMPLING INFORMATION			
Sample Collected by:	B. MYERS / J. DUNN	Date:	4-29-93 Time: 2047
Sample Location:	102-AD MB	Custom Seal #:	3397
Remarks:	N/A		
For Check on Sample Prior to:	BIO	Field Notebook and Page No.:	N/A

PNL

SUPERVISION REVIEW: RJ Wright DATE: 4/29/93

**SAMPLE IDENTIFICATION**

Sample Number	Sample Schedule Number
<u>6312</u>	<u>NA</u>

93-6636

**CHAIN OF POSSESSION**

Relinquished by: <u>RJ Wright</u>	Received by: <u>SF Wallace</u>	Date/Time: <u>4/30/93 1940</u>
Relinquished by: <u>SF Wallace</u>	Received by: <u>John Chamberlain</u>	Date/Time: <u>4-30-93 9:15 PM</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

2A-240  
B03-017

GROUT TREATMENT FACILITY  
CHARACTERIZATION PROJECT FY93

TANK 102AP

**APPENDIX C**

**SAMPLE PREPARATION**

DATA PACKAGE/REPORT

Revision 0

*2A-241*

**C00-001**

ADDENDUM 2A

GROUT TREATMENT FACILITY  
CHARACTERIZATION PROJECT FY93

TANK 102AP

DATA PACKAGE/REPORT

Appendix C

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Appendix C: Sample Preparation

- C1 - Laboratory Analyst Signature List
- C2 - Shielded Analytical Laboratory Bench Sheets
- C3 - Shielded Analytical Laboratory Sample Prep Forms

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C00-002

**C1 - LABORATORY ANALYST SIGNATURE LIST**

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**C01-001**

**B HOT CELL ANALYST SIGNATURE LIST**

<u>ANALYST NAME</u>	<u>INITIALS</u>	<u>WRITTEN NAME</u>	<u>INITIALS</u>
Clyde E. Chamberlin	CEC	<u>Clyde E Chamberlin</u>	<u>CEC</u>
F. Vaughn Hoopes	FVH	<u>F. Vaughn Hoopes</u>	<u>FVH</u>
John K. Rau	JKR	<u>John K. Rau</u>	<u>JKR</u>
Rick T. Steele	RTS	<u>Rick T. Steele</u>	<u>RTS</u>

DA-244

C01-002

SD-WM-DP-646, KEOX

241-AP-102

ADD. 2A

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 2A-245 thru 2A-255,

is available only from  
Central Files.

REDO COPY

GROUT TREATMENT FACILITY  
CHARACTERIZATION PROJECT FY93

TANK 102AP



APPENDIX D

ORGANICS

DATA PACKAGE/REPORT

Revision 0

QA-256  
DOO-001

GROUT TREATMENT FACILITY  
CHARACTERIZATION PROJECT FY93

TANK 102AP

DATA PACKAGE/REPORT

Appendix D

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Appendix D: Organic Analysis Primary Data

D1 - Laboratory Analyst Signature List

D2 - Volatile Organic Analysis

D3 - Semi-Volatile Organic Analysis

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DOO-002

**D1 - LABORATORY ANALYST SIGNATURE LIST**

2A-258

**D01-001**

ORGANIC LABORATORY ANALYST SIGNATURE LIST

<u>ANALYST NAME</u>	<u>INITIALS</u>	<u>WRITTEN NAME</u>	<u>INITIALS</u>
Diana L. Bellofatto	DLB	<u>Diana L. Bellofatto</u>	<u>DLB</u>
Eric W. Hoppe	EWH	<u>Eric W. Hoppe</u>	<u>EWH</u>
George S. Klinger	GSK	<u>George S. Klinger</u>	<u>GSK</u>
Gerald A. Ross	GAR	<u>Gerald A. Ross</u>	<u>GAR</u>
Marilyn J. Steele	MJS	<u>Marilyn J. Steele</u>	<u>MJS</u>
Robert W. Stromatt	RWS	<u>Robert W. Stromatt</u>	<u>RWS</u>

2A-259

D01-002

SD-WM-DP-0416, 100%

241-AP-102

ADD. 2A

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 2A-260 thru 2A-1180,

is available only from  
Central Files.

**RECORD COPY**



**GROUT TREATMENT FACILITY  
CHARACTERIZATION PROJECT FY93**

**TANK 102AP**

**APPENDIX E**

**BULK ORGANICS**

**DATA PACKAGE/REPORT**

Revision 0

**2A-1181**

**ECO-001**

GROUT TREATMENT FACILITY  
CHARACTERIZATION PROJECT

TANK 102AP

DATA PACKAGE/REPORT

Appendix E

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- E4 - Glycolate/Oxalate Analysis

2A-1182

E00-002

**E1 - LABORATORY ANALYST SIGNATURE LIST**

241183

**E01-001**

ORGANIC LABORATORY ANALYST SIGNATURE LIST

<u>ANALYST NAME</u>	<u>INITIALS</u>	<u>WRITTEN NAME</u>	<u>INITIALS</u>
Diana L. Bellofatto	DLB	<i>Diana Bellofatto</i>	<i>DLB</i>
Eric W. Hoppe	EWH	<i>Eric W Hoppe</i>	<i>EWH</i>
George S. Klinger	GSK	<i>George S. Klinger</i>	<i>GSK</i>
Gerald A. Ross	GAR	<i>GARoss</i>	<i>GAR</i>
Marilyn J. Steele	MJS	<i>MJ Steele</i>	<i>MJS</i>
Robert W. Stromatt	RWS	<i>R. Stromatt</i>	<i>RWS</i>

2A-1184  
 E01-002

**INORGANIC LABORATORY ANALYST SIGNATURE LIST**

<u>ANALYST NAME</u>	<u>INITIALS</u>	<u>WRITTEN NAME</u>	<u>INITIALS</u>
David L. Baldwin	DLB	<u>David L. Baldwin</u>	<u>DLB</u>
Robin S. Biagini	RSB	<u>Robin Sue Biagini</u>	<u>RSB</u>
Ingrid E. Burgeson	IEB	<u>Ingrid Burgeson</u>	<u>IB</u>
Merrill C. Burt	MCB	<u>Merrill C. Burt</u>	<u>MCB</u>
John H. Ennen	JHE	<u>John H. Ennen</u>	<u>JE</u>
Darrin E. Faulk	DEF	<u>Darrin Faulk</u>	<u>DF</u>
Shawn A. Homi	SAH	<u>Shawn A. Homi</u>	<u>SAH</u>
Padmanabhan K. Melethil	PKM	<u>Padmanabhan Melethil</u>	<u>PKM</u>
David Ortiz	DO	<u>David Ortiz</u>	<u>DO</u>
James M. Robbins	JMR	<u>James M. Robbins</u>	<u>JMR</u>
Donald E. Rinehart	DER	<u>Donald E. Rinehart</u>	<u>D.E.R.</u>
Danny R. Sanders	DRS	<u>Danny Sanders</u>	<u>DRS</u>
Linda M. Thomas	LMT	<u>Linda M. Thomas</u>	<u>LMT</u>
Michael W. Urie	MWU	<u>Michael W. Urie</u>	<u>MWU</u>
Jerome J. Wagner	JJW	<u>Jerome J. Wagner</u>	<u>JJW</u>
Thomas G. Walker	TGW	<u>Thomas G. Walker</u>	<u>TGW</u>
Teresa Zyn	TZ	<u>Teresa Zyn</u>	<u>T.Z.</u>

2A-1185

E01-003

**E2 - PACIFIC NORTHWEST LABORATORY (PNL)**

**TEST PLANS (4)**

2A-1286

**E02-001**

WMC-SD-WM-DP-0410

REV. 0

ADD. 2 A

241-AP-102

Due to the large volume,  
a copy of the data  
supporting the Data  
Validation Report and  
the Sample Data Summary,

Pages 2A-1187 thru 2A-1585,

is available only from  
Central Files.

**DISTRIBUTION SHEET**

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		ECN NO. NA		
Name	MSIN	Text With all Attach	Addendum 1A & 2A	EDT/ECN Only

K. K. Giamberardini	T6-06			X
D. M. Nguyen	R4-03		X	
R. St. Denis	T6-06			X
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EDMC	H6-08	X		