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Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

DEC 13 1995

96-PCA-054

Mr. Moses N. Jaraysi
200 Area Unit Supervisor
Nuclear Waste Program
State of Washington
Department of Ecology
1315 West Fourth Avenue
Kennewick, Washington 99336

Mr. Joseph J. Witczak
Unit Supervisor
Regulatory and Technical Support
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Messrs. Jaraysi and Witczak:

SUBMITTAL OF VALIDATED DATA FOR THE 105-DR LARGE SODIUM FIRE FACILITY SAMPLING (T-1-1)

Enclosed are the two validated data packages for the 105-DR Large Sodium Fire Facility, submitted by the U.S. Department of Energy, Richland Operations Office (RL) and the Westinghouse Hanford Company (WHC). The 105-DR Large Sodium Fire Facility is an interim status treatment and storage unit located in the 100-D Area of the Hanford Site. This unit was in operation from 1972 to 1986. The 105-DR Large Sodium Fire Facility is being closed under the Resource Conservation and Recovery Act. The data packages include inorganic analysis of soil and scrubber gravel collected at the 105-DR Large Sodium Fire Facility in July 1995. The analyses were performed by Lockheed Analytical Services.

The data packages included here were validated by Los Alamos Technical Associates, Inc. Data validation activities were performed in accordance with Level D as defined in WHC-SD-EN-SPP-002, Data Validation Procedures for Chemical Analysis and WHC-SD-EN-SPP-001, Data Validation Procedures for Radiochemical Analysis. Level D validation includes evaluation and qualification of results based on analytical holding times, method blank results, matrix spikes and duplicates, surrogate recoveries, and analytical method blanks. 35085 39897

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EDMC

Should you have any questions, please contact Ms. E. M. Mattlin, RL, on (509) 376-2385 or Mr. P. C. Miller, WHC, on (509) 376-0441.

Sincerely,

James E. Rasmussen, Director
Environmental Assurance, Permits,
and Policy Division
DOE Richland Operations Office

Edward F. Loika, Director
FFTF Transition Project
Transition Projects
Westinghouse Hanford Company

Enclosures:
1. SDG W0635-QES-392, Data Validation Report for 105-DR Large Sodium Fire Facility
2. SDG W0635-QES-393, Data Validation Report for 105-DR Large Sodium Fire Facility

cc w/encls:
EDMC, H6-08
R. Jim, YIN
S. McKinney, Ecology
D. Powaukee, NPT
F. Ruck III, WHC
D. Sherwood, EPA
J. Wilkinson, CTUIR

cc w/o encls:
W. Dixon, WHC
S. Price, WHC

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Los Alamos Technical Associates, Inc.

8633 Gage Blvd. / Kennewick, WA 99336 / Telephone (509) 783-4369 / FAX (509) 783-9661

October 18, 1995
LATA95-203

OCT 1995
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Validation
Log In

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

Subject: VW403.97, SDG W0635-QES-392

Dear Mr. Pool:

Attached is the data validation report for analytical results for 105-DR Large Sodium Fire Facility (SDG W0635-QES-392). The package was received by Los Alamos Technical Associates on September 13, 1995. The data package was initially placed on hold September19, 1995 and released on October 5, 1995.

If you have any questions, please let me know.

Sincerely,

Brent Morris for

Marsha C. Webb
Deputy Project Manager

DEC 1995
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EDMC

Attachment

cc: Jeanette Duncan, CH2M Hill
Don Smith, LATA
VW403.97
MCW/lb

ln

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DATA VALIDATION REPORT
for
105-DR LARGE SODIUM FIRE FACILITY
SDG W0635-QES-392
LATA VW403.97

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

October 18, 1995

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INFORMATION ONLY COPY

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105-DR LARGE SODIUM FIRE FACILITY
Data Validation Narrative

INTRODUCTION

All samples in Sample Delivery Group (SDG) W0635-QES-392 (VW403.97) were validated at level D as defined in the Data Validation Procedures for Chemical Analysis (WHC-SD-EN-SPP-002, Rev. 2).

The analyses were performed by Quanterra Environmental Services.

ANALYSES REQUESTED

See Table 1

DATA QUALITY OBJECTIVES

Precision:	Goals for precision were met.
Accuracy:	Goals for accuracy were met with the exception of those items discussed in the "**Qualification Summary Table**".
Sample Result Verification:	All sample results were supported in the raw data.
Detection Limits:	Detection limit goals were met for all sample results as specified in the *105-DR Large Sodium Fire Facility Decontamination, Sampling, and Analysis Plan*, WHC-SD-EN-AP-186, Rev. 0.
Completeness:	The data package was 100% complete for all requested analyses.

Data qualifiers are assigned to any results that have been determined to be deficient. These are discussed in the Qualification Summary Table.

Table 1
Chain-of-Custody
Analysis Request

LATA ID #: VW403.97 SDG: W0635-QES-392

Sample Information					Analyses Requested		
SAMPLE NO.	DATE COLLECTED	MATRIX	SAF	FIELD QC INFO	1	2	3
B0G979	18-Jul-95	SOIL	95-080		X	X	X
B0G980	18-Jul-95	SOIL	95-080		X	X	X
B0G981	18-Jul-95	SOIL	95-080	Dupe of B0G980	X	X	X
B0G982	18-Jul-95	SOIL	95-080		X	X	X
B0G983	18-Jul-95	SOIL	95-080		X	X	X
B0G984	18-Jul-95	SOIL	95-080		X	X	X

Method References:

	Analysis	Method
1.	ICP Metals (Na & Li)	6010
2.	Activity Scan	Lab Specific
3.	Rad Screen	Lab Specific

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REFERENCES

WHC 1993, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, Richland, Washington.

WHC 1995, *105-DR Large Sodium Fire Facility Decontamination, Sampling, and Analysis Plan*, WHC-SD-EN-AP-186, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

GLOSSARY OF VALIDATION APPLIED QUALIFIERS (CHEMISTRY)

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows.

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

UJ- Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during data validation, the associated quantitation limit is an estimate.

J- Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision making purposes.

BJ- Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

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

UR- Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data are unusable due to an identified QC deficiency.

GLOSSARY OF LABORATORY APPLIED QUALIFIERS

Inorganic Qualifiers

U- Indicates the analyte was analyzed for but not detected in the sample.

B- Indicates the analyte concentration is less than the CRDL but greater than the IDL.

E- Indicates the value reported is estimated due to the presence of interference.

N- Indicates spiked sample recovery was not within the control limits.

*- Indicates duplicate analysis was not within control limits.

Qualification Summary Table

Qualification Summary Table

Inorganics (Metals)

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Sodium	MINOR	J	B0G979 B0G980 B0G981 B0G982 B0G983 B0G984	ACCURACY	No matrix spike performed.

Inorganics (Metals) Field QC

ANALYTE	TYPE	QUALIFIER	FIELD QC SAMPLES	DQO	ASSESSMENT
ALL	Field Duplicate	NONE	B0G980/B0G981	PRECISION	Field duplicate precision is acceptable.

Data Summary Tables

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METALS
DATA SUMMARY TABLE

LATA ID#: VW403.97		HEIS #:	B0G979		B0G980		B0G981		B0G982		B0G983		B0G984	
		Date:	18-Jul-95		18-Jul-95		18-Jul-95		18-Jul-95		18-Jul-95		18-Jul-95	
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Sodium	7440-23-5	mg/Kg	273	J	154	J	175	J	183	J	182	J	227	J
Lithium	7439-93-2	mg/Kg	6.6	B	6.4	B	6.9	B	9.5	B	10.2	B	23.7	

Shaded areas indicate changes by the validator.

Sample Results (Form I's)

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0G979

Lab Name: QUANTERRA MO Contract: 519.158

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0635

Matrix (soil/water): SOIL Lab Sample ID: 8906-001

Level (low/med): LOW Date Received: 07/19/95

% Solids: 98.3

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

CAS No.	Analyte	Concentration	C	Q	M
7440-23-5	Sodium	273			P
7439-93-2	Lithium	6.6	B		P

J

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

SW-846

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BM 10-11-95

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0G980

Lab Name: QUANTERRA_MO Contract: 519.158
Lab Code: ITMO Case No.: SAS No.: SDG No.: W0635
Matrix (soil/water): SOIL Lab Sample ID: 8906-002
Level (low/med): LOW Date Received: 07/19/95
% Solids: 98.7

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

CAS No.	Analyte	Concentration	C	Q	M
7440-23-5	Sodium	154			P
7439-93-2	Lithium	6.4	B		P

J

Color Before: Clarity Before: Texture:
Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0G981

Lab Name: QUANTERRA MO Contract: 519.158
Lab Code: ITMO Case No.: SAS No.: SDG No.: W0635
Matrix (soil/water): SOIL Lab Sample ID: 8906-003
Level (low/med): LOW Date Received: 07/19/95
% Solids: 98.0

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

CAS No.	Analyte	Concentration	C	Q	M	
7440-23-5	Sodium	175			P	J
7439-93-2	Lithium	6.9	B		P	

Color Before: Clarity Before: Texture:
Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0G982

Lab Name: QUANTERRA MO Contract: 519.158

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0635

Matrix (soil/water): SOIL Lab Sample ID: 8906-004

Level (low/med): LOW Date Received: 07/19/95

% Solids: 93.8

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

CAS No.	Analyte	Concentration	C	Q	M	
7440-23-5	Sodium	183			P	J
7439-93-2	Lithium	9.5	B		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0G983

Lab Name: QUANTERRA_MO Contract: 519.158

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0635

Matrix (soil/water): SOIL Lab Sample ID: 8906-005

Level (low/med): LOW Date Received: 07/19/95

% Solids: 94.8

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

CAS No.	Analyte	Concentration	C	Q	M	
7440-23-5	Sodium	182			P	J
7439-93-2	Lithium	10.2	B		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

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U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0G984

Lab Name: QUANTERRA_MO Contract: 519.158
Lab Code: ITMO Case No.: SAS No.: SDG No.: W0635
Matrix (soil/water): SOIL Lab Sample ID: 8906-006
Level (low/med): LOW Date Received: 07/19/95
% Solids: 95.9

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

CAS No.	Analyte	Concentration	C	Q	M	
7440-23-5	Sodium	227			P	J
7439-93-2	Lithium	23.7			P	

Color Before: Clarity Before: Texture:
Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

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Checklists

LATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
VALIDATION PROCEDURE:	☐ WHC-CM-5-3, Rev. 0			☒ WHC-SD-EN-SPP-002, Rev. 2	

PROJECT:	105-DR LARGE SODIUM FIRE FACILITY		SDG:	W0635-QES-392	
VALIDATOR:	BJ MORRIS 10.17.95	LATA NO:	VW403.97	DATE:	7-Oct-95
REVIEWER:	BJ SEYMOUR 10.17.95	LAB:	QES	CASE:	N/A
SAF NO:	95-080	QAPP NO:	N/A	SAP NO:	WHC-SD-EN-AP-186, Rev. 0

ANALYSES REQUESTED

☒ ICP Metals (Na & Li) 6010	

SAMPLE NO.	MATRIX
B0G979 B0G980 B0G981 B0G982 B0G983 B0G984	SOIL

COMMENTS:

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

	YES	NO	N/A
Is technical verification documentation present?	☒	☐	☐
Is a case narrative present?	☒	☐	☐

2. HOLDING TIMES

	YES	NO	N/A
Are sample holding times acceptable?	☒	☐	☐

See HOLDING TIME SUMMARY form

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS

	YES	NO	N/A
Were initial calibrations performed on all instruments?	☒	☐	☐
Are initial calibrations acceptable?	☒	☐	☐
Are ICP interference checks acceptable?	☒	☐	☐
Were ICV and CCV checks performed on all instruments?	☒	☐	☐
Are ICV and CCV checks acceptable?	☒	☐	☐
Validation calculation checks were performed and are acceptable.	☒	☐	☐

If NO(s) are checked, see CALIBRATION DATA SUMMARY form

4. BLANKS

	YES	NO	N/A
Were ICB and CCB checks performed for all applicable analyses?	X		
Are ICB and CCB results acceptable?	X		
Were preparation blanks analyzed?	X		
Are preparation blank results acceptable?	X		

If NO(s) are checked, see BLANK AND SAMPLE DATA SUMMARY form

5. ACCURACY

	YES	NO	N/A
Were spike samples analyzed at the proper frequency?		X	
Are all spike sample recoveries acceptable?	X		
Are all elements spiked at an appropriate level?	X		
Was a post digestion spike analyzed?	X		
Are all post digestion spike recoveries acceptable?	X		
Were laboratory control samples (LCS) analyzed at the proper frequency?	X		
Are all LCS recoveries acceptable?	X		
Validation calculation checks were performed and are acceptable.	X		

If NO(s) are checked, see ACCURACY DATA SUMMARY form

6. PRECISION

	YES	NO	N/A
Were laboratory duplicates analyzed at the proper frequency?			X
Are all duplicate RPD values acceptable?			X
Were MS/MSDs analyzed?	X		
Are all MS/MSD RPD values acceptable?	X		
Were ICP serial dilution samples analyzed at the proper frequency?	X		
Are all ICP serial dilution %D values acceptable?	X		
Validation calculation checks were performed and are acceptable.	X		

If NO(s) are checked, see PRECISION DATA SUMMARY form

7. FIELD QC SAMPLES

	YES	NO	N/A
Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified?	X		
Are field/trip blank results acceptable? (see Blank Data Summary form)			X
Are field duplicate RPD values acceptable? (see Field QC evaluation)	X		
Are field split RPD values acceptable? (see Field QC evaluation)			X
Are performance audit sample results acceptable?			X

Comments: B0G981 is a field duplicate of B0G980.

8. FURNACE AA QUALITY CONTROL

	YES	NO	N/A
Were duplicate injections required?			X
Are all duplicate injection %RSD values acceptable?			X
Were analytical spikes required?			X
Are all analytical spike recoveries acceptable?			X
Was MSA required?			X
Are all MSA results acceptable?			X
Validation calculation checks were performed and are acceptable.			X

Comments:

9. REPORTED RESULTS AND DETECTION LIMITS

	YES	NO	N/A
Are results reported for all requested analyses?	X		
Are all results supported in the raw data?	X		
Are results calculated properly?	X		
Do results meet the CRDLs?	X		
Validation calculation checks were performed and are acceptable.	X		

Comments:

VALIDATION SUMMARY

For deficiencies (major and minor) and comments, please refer to the Qualification Summary Table.

LATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

HOLDING TIME SUMMARY

SDG:	W0635-QES-392		VALIDATOR: BJ MORRIS					DATE:	07-Oct-95	
PROJECT:	105-DR LARGE SODIUM FIRE FACILITY		REVIEWER: BJ SEYMOUR					LATA NO.:	VW403.97	
HEIS-SN	MATRIX CODE	ANALYSIS	DATE COLLECTED	PREP DATE	ANALYSIS DATE	PREP HT (days)	*Required HT (days)*	ANALYSIS HT (days)	*Required HT (days)*	VAL Q
B0G979	SOIL	ICP Metals	18-Jul-95	N/A	11-Aug-95	N/A	*N/A*	24	*180*	NONE
B0G980	SOIL	ICP Metals	18-Jul-95	N/A	11-Aug-95	N/A	*N/A*	24	*180*	NONE
B0G981	SOIL	ICP Metals	18-Jul-95	N/A	11-Aug-95	N/A	*N/A*	24	*180*	NONE
B0G982	SOIL	ICP Metals	18-Jul-95	N/A	11-Aug-95	N/A	*N/A*	24	*180*	NONE
B0G983	SOIL	ICP Metals	18-Jul-95	N/A	11-Aug-95	N/A	*N/A*	24	*180*	NONE
B0G984	SOIL	ICP Metals	18-Jul-95	N/A	11-Aug-95	N/A	*N/A*	24	*180*	NONE

LATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

ACCURACY DATA SUMMARY

SDG:		W0635-QES-392			VALIDATOR:		BJ MORRIS			DATE:	07-Oct-95	
PROJECT:		105-DR LARGE SODIUM FIRE FACILITY			REVIEWER:		BJ SEYMOUR			LATA NO.:	VW403.97	
							PERCENT RECOVERY (%R)					
HEIS-SN	ANALYTE	RESULTS	Lab Q	Actual Spiking Level	Minimum Required Spiking Level	Difference	Matrix Spike	Matrix Spike Duplicate	Post Digestion Spike	Laboratory Control Standard	SAMPLES AFFECTED	VAL Q
B0G979	Sodium	No matrix spike performed.									B0G979 B0G980 B0G981 B0G982 B0G983 B0G984	J

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B0G979S

Lab Name: QUANTERRA_MO Contract: 519.158

Lab Code: ITMO Case No.: _____ SAS No.: _____ SDG No.: W0635

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 98.3

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Sodium									NR
Lithium	75-125	103.3774		6.6033	B	101.73	95.1		P

Comments:

FORM V (Part 1) - IN SW-846

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METALS FIELD DUPLICATE EVALUATION

LATA ID#: VW403.97		HEIS #:	B0G980		B0G981		RPD	DIF	DL
		Date:	18-Jul-95		18-Jul-95		S >35%	S >2*DL	mg/Kg
		Matrix:	SOIL		SOIL				
			ORIGINAL		DUPLICATE				
Constituent	CAS #	Units	Results	Q	Results	Q			
Sodium	7440-23-5	mg/Kg	154	J	175	J		21	500
Lithium	7439-93-2	mg/Kg	6.4	B	6.9	B		0.5	2

EVALUATION:

1. Field duplicates are not evaluated for precision if both results are non-detect.
2. If both sample results are >5*DL the RPD is used for evaluation.
3. If either sample result is <5*DL the DIF is used for evaluation.
4. All positive results have exhibited acceptable precision.

Shaded areas indicate changes by the validator.

LATA INORGANIC (METALS) DATA VALIDATION CHECKLIST

PERCENT RECOVERY (ICV/CCV)

SDG: W0635-QES-392 Date: 7-Oct-95

LATA No.: VW403.97 Validator: BJ MORRIS

Analyte	ICV/CCV ID	Observed Value O	True Value A	%R
Sodium	ICV	39347	40000	98.4%
Sodium	CCV	39713	40000	99.3%
Lithium	ICV	3861	4000	96.5%
Lithium	CCV	3895	4000	97.4%

MATRIX SPIKE RECOVERY (MS)

SDG: W0635-QES-392 Date: 7-Oct-95

LATA No.: VW403.97 Validator: BJ MORRIS

Analyte	Sample ID	Spike Sample Result SSR	Sample Result SR	Spike Added SA	%R
Lithium	B0G979	103.38	6.60	101.73	95.1%

LATA INORGANIC (METALS) DATA VALIDATION CHECKLIST

PERCENT RECOVERY (LCS)

SDG: W0635-QES-392 Date: 7-Oct-95

LATA No.: VW403.97 Validator: BJ MORRIS

Analyte	Observed value	True value	%R
	OLCS	ALCS	
Sodium	2065	2146	96.2%
Lithium	100.4	100	100.4%

LATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

RELATIVE PERCENT DIFFERENCE

SDG: W0635-QES-392 Date: 7-Oct-95

LATA No.: VW403.97 Validator: BJ MORRIS

Analyte	Sample ID	Matrix Spike OS	Matrix Spike Duplicate D	RPD
Lithium	B0G979	95.1%	95.7%	0.6%

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PERCENT DIFFERENCE (ICP SERIAL DILUTION)

SDG: W0635-QES-392 Date: 7-Oct-95

LATA No.: VW403.97 Validator: BJ MORRIS

Analyte	Analyte Concentration before Dilution	Analyte Concentration after Serial Dilution	%D
	I	S	
Sodium	2685	2453	8.6%
Lithium	64.9	69.7	7.3%

INORGANICS RESULTS CALCULATION, SOIL

SDG: W0635-QES-392 Date: 7-Oct-95

LATA No.: VW403.97 Validator: BJ MORRIS

Analyte	Concentration (Cal Curve)		Run Dilution Factor	Final Volume (mL)	Weight of Sample (g)	Dry Weight Conversion (decimal)	Concentration (mg/Kg)
	CONCS	units	DFS	VOL	WS	SS	
Sodium-B0G980	1.5167	mg/L	1.00	100	1.00	0.987	153.65
Lithium-B0G982	0.0889	mg/L	1.00	100	1.00	0.938	9.48

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Laboratory Case Narratives

Quanterra
Environmental Services

CERTIFICATE OF ANALYSIS

SEP 1995
RECEIVED
SDLA

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

August 22, 1995

Attention: Karl Pool

Project number	:	519.158
Date Received by Lab	:	July 19, 1995
Number of Samples	:	Six (6)
Sample Type	:	Soil
SDG Number	:	W0635
Data Deliverable	:	Standalone

I. Introduction

On July 19, 1995, six (6) soil samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analyses. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client ID's:

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
8906-001	B0G979	50720901	Soil	07/19/95
8906-002	B0G980	50720902	Soil	07/19/95
8906-003	B0G981	50720903	Soil	07/19/95
8906-004	B0G982	50720904	Soil	07/19/95
8906-005	B0G983	50720905	Soil	07/19/95
8906-006	B0G984	50720906	Soil	07/19/95

II. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested: Lithium and Sodium by EPA method 6010.

000033 10-11-95

Quanterra Environmental Services

Westinghouse Hanford Company
August 22, 1995
Project Number: 519.158
SDG: W0635
Page 2

III. Quality Control

A Laboratory Control Sample and Method Blank were analyzed with each preparation batch. A Matrix Spike and Matrix Spike Duplicate analyses were performed for Lithium; Sodium precision was determined by post digestion spike.

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike

V. Comments

Since sodium is not in our normal SW846 spiking list and the samples required only lithium and sodium, the analyst performed a post digestion spike for sodium. These results, along with the matrix spike results for lithium, can be found on the matrix spike forms.

BM 10-11-95

02

Quanterra
Environmental Services

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Wade H. Price
Project Manager
e:\\price$\abbydave\hanw0649.nar

000055 BM 10-11-95

9613389.1554

Chain-of-Custody Information

Westinghouse Hanford Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C # 008327 Page 1 of 1

Collector HULSE, KARL	Contact/Requestor KNAUS, Z.C.	Tel. No. 372-1597 MISN H6-23 FAX
SAF Number 95-080	Sample Origin 105 DR	Purchase Order/Charge Code N/A
Project Title RCRA Closure Project (105-DR)	Logbook # WHC-N-205-30	Ice Chest # 55 Temp.
Shipped To (Lab) Quanterra	Method of Shipment Gov. Vehicle	Bill of Lading/Air Bill No. N/A
Protocol RCRA 507209	Data Turnaround NON-TPA	Offsite Property No. N/A

Sample No.	Lab. ID	A	Date	Time	No/Type Container	Sample Analysis	Preservative
B0G979	01	S	7/18/95	0936	(1) 40 aGs	ACTIVITY SCAN (Lab Specific)	None
B0G979		S	7/18/95	0936	(1) 125 aG	ICP METALS (6010), Li, Na	4 deg C
B0G980	2	S	7/18/95	0925	(1) 40 aG	ACTIVITY SCAN (Lab Specific)	None
B0G980		S	7/18/95	0925	(1) 125 aG	ICP METALS (6010), Li, Na	4 deg C
B0G981	3	S	7/18/95	0925	(1) 40 aG	ACTIVITY SCAN (Lab Specific)	None
B0G981		S	7/18/95	0925	(1) 125 aG	ICP METALS (6010), Li, Na	4 deg C
B0G982	4	S	7/18/95	0953	(1) 40 aG	ACTIVITY SCAN (Lab Specific)	None
B0G982		S	7/18/95	0953	(1) 125 aG	ICP METALS (6010), Li, Na	4 deg C
B0G983	5	S	7/18/95	1003	(1) 40 aG	ACTIVITY SCAN (Lab Specific)	None
B0G983		S	7/18/95	1003	(1) 125 aG	ICP METALS (6010), Li, Na	4 deg C
B0G984	6	S	7/18/95	1013	(1) 40 aG	ACTIVITY SCAN (Lab Specific)	None
B0G984		S	7/18/95	1013	(1) 125 aG	ICP METALS (6010), Li, Na	4 deg C

Old Tank 100

Received items circled

POSSIBLE SAMPLE HAZARDS/REMARKS MSDS Yes ☐ No ☒
List all known wastes.

SPECIAL INSTRUCTIONS Hold Time
"standalone Data Deliverable" SDG W0635

Relinquished By Print	Sign	Date/Time	Received By Print	Sign	Date/Time
KB Hulse	KB Hulse	7-19-95 0925	R.R. Fox		7-19-95 09:25
R.R. Fox		7-19-95 10:10		signature	7/19/95 1010

Matrix *

S	Soil	DS	Drum Solids
SE	Sediment	DL	Drum Liquids
SO	Solid	T	Tissue
SL	Sludge	WI	Wipe
W	Water	L	Liquid
O	Oil	V	Vegetation
A	Air	X	Other

FINAL SAMPLE DISPOSITION: Disposal Method e.g. Return to customer, per lab procedure, used in process — Disposed By — Date/Time

** All samples containing hazardous materials shall be picked up by requester and returned to parent container or site of origin.

A 6001.500 (07/95)

00008327 7/19/95

Client Sample Screening Results

19-Jul-95

(R2) 7/19/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0G800		7/19/95 12:00:00 PM	QUAD23A	7/19/95 2:43:22 PM	B0G800	30	19	0.57583333	102	2.425
	LIQUID		Bkg:	7/19/95 5:34:10 AM	BKG	800	46	0.0575	780	0.975

Anl Date: 7/19/95 Tot Sa, Alq: 1.00E+00 , 1.00E+01 Alp; (Dpm/ 1.65E+00 (uCi/ 7.42E-05 (pCi/ 7.42E+01 ± 2.5E+01 CAT I 3.4E-01 Lab Alq
Ppt mg: 2.3 Units: L , ml Bet; Alq): 4.26E+00 Sa): 1.92E-04 L|g): 1.92E+02 ± 2.8E+01 2.6E-01 L|g

WHC B0G8R4		7/19/95 12:00:00 PM	QUAD23B	7/19/95 2:43:22 PM	B0G8R4	30	24	0.7725	158	4.3679167
	SOLID		Bkg:	7/19/95 5:34:10 AM	BKG	800	22	0.0275	719	0.89875

Anl Date: 7/19/95 Tot Sa, Alq: 1.50E+03 , 6.94E+01 Alp; (Dpm/ 4.26E+00 (uCi/ 4.14E-02 (pCi/ 2.76E+01 ± 7.4E+00 CAT II 1.8E+00 Lab Alq
Ppt mg: 69.4 Units: g , mg Bet; Alq): 8.93E+00 Sa): 8.70E-02 L|g): 5.80E+01 ± 5.7E+00 1.7E+00 L|g

WHC B0G8R5		7/19/95 12:00:00 PM	QUAD23C	7/19/95 2:43:22 PM	B0G8R5	30	72	2.34875	519	16.35125
	SOLID		Bkg:	7/19/95 5:34:10 AM	BKG	800	41	0.05125	759	0.94875

Anl Date: 7/19/95 Tot Sa, Alq: 1.40E+03 , 7.69E+01 Alp; (Dpm/ 1.34E+01 (uCi/ 1.10E-01 (pCi/ 7.83E+01 ± 1.0E+01 CAT III 6.4E-01 Lab Alq
Ppt mg: 76.9 Units: g , mg Bet; Alq): 3.36E+01 Sa): 2.75E-01 L|g): 1.97E+02 ± 9.3E+00 5.1E-01 L|g

WHC B0G979		7/19/95 10:30:00 AM	QUAD21A	7/19/95 11:44:48 AM	B0G979	30	10	0.28458333	79	1.5183333
	SOLID		Bkg:	7/19/95 5:33:56 AM	BKG	800	39	0.04875	892	1.115

Anl Date: 7/19/95 Tot Sa, Alq: 2.17E+02 , 7.61E+01 Alp; (Dpm/ 1.66E+00 (uCi/ 2.13E-03 (pCi/ 9.83E+00 ± 6.8E+00 CAT I 5.1E+00 Lab Alq
Ppt mg: 76.1 Units: G , mg Bet; Alq): 3.28E+00 Sa): 4.22E-03 L|g): 1.94E+01 ± 3.9E+00 5.1E+00 L|g

WHC B0G980		7/19/95 10:30:00 AM	QUAD21B	7/19/95 11:44:48 AM	B0G980	30	14	0.43666667	182	5.1729167
	SOLID		Bkg:	7/19/95 5:33:56 AM	BKG	800	24	0.03	715	0.89375

Anl Date: 7/19/95 Tot Sa, Alq: 2.25E+02 , 8.17E+01 Alp; (Dpm/ 2.44E+00 (uCi/ 3.03E-03 (pCi/ 1.35E+01 ± 6.1E+00 CAT I 3.7E+00 Lab Alq
Ppt mg: 81.7 Units: g , mg Bet; Alq): 1.11E+01 Sa): 1.38E-02 L|g): 6.14E+01 ± 5.4E+00 1.6E+00 L|g

00003 8

00013

BM 10-11-95

(B) 7/19/95

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
WHC B0G981		7/19/95 10:30:00 AM	QUAD21C	7/19/95 11:44:48 AM	B0G981	30	10	0.29958333	116	2.7591667
	SOLID		Bkg:	7/19/95 5:33:56 AM	BKG	800	27	0.03375	886	1.1075
Anl Date: 7/19/95	Tot Sa, Alq: 1.85E+02	, 9.45E+01	Alp; (Dpm/ 1.85E+00	(uCi/ 1.63E-03	(pCi/ 8.82E+00	± 5.8E+00	CAT	5.7E+00	Lab	
Ppt mg: 94.5	Units: g	, mg	Bet; Alq): 5.97E+00	Sa): 5.27E-03	L/g): 2.85E+01	± 3.8E+00	I	3.5E+00	Alq L/g	
WHC B0G982		7/19/95 10:30:00 AM	QUAD21D	7/19/95 11:44:48 AM	B0G982	30	7	0.19083333	88	2.0145833
	SOLID		Bkg:	7/19/95 5:33:56 AM	BKG	800	34	0.0425	735	0.91875
Anl Date: 7/19/95	Tot Sa, Alq: 2.01E+02	, 9.83E+01	Alp; (Dpm/ 1.18E+00	(uCi/ 1.09E-03	(pCi/ 5.41E+00	± 5.0E+00	CAT	9.2E+00	Lab	
Ppt mg: 98.3	Units: g	, mg	Bet; Alq): 4.43E+00	Sa): 4.08E-03	L/g): 2.03E+01	± 3.2E+00	I	4.9E+00	Alq L/g	
WHC B0G983		7/19/95 10:30:00 AM	QUAD22A	7/19/95 11:44:52 AM	B0G983	30	9	0.25125	86	1.8191667
	SOLID		Bkg:	7/19/95 5:34:01 AM	BKG	800	39	0.04875	838	1.0475
Anl Date: 7/19/95	Tot Sa, Alq: 1.75E+02	, 9.83E+01	Alp; (Dpm/ 1.54E+00	(uCi/ 1.23E-03	(pCi/ 7.05E+00	± 5.1E+00	CAT	7.1E+00	Lab	
Ppt mg: 95.5	Units: g	, mg	Bet; Alq): 3.76E+00	Sa): 3.01E-03	L/g): 1.72E+01	± 3.0E+00	I	5.8E+00	Alq L/g	
WHC B0G984		7/19/95 10:30:00 AM	QUAD22B	7/19/95 11:44:52 AM	B0G984	30	8	0.23416667	95	2.1904167
	SOLID		Bkg:	7/19/95 5:34:01 AM	BKG	800	26	0.0325	781	0.97625
Anl Date: 7/19/95	Tot Sa, Alq: 1.85E+02	, 8.75E+01	Alp; (Dpm/ 1.36E+00	(uCi/ 1.29E-03	(pCi/ 6.98E+00	± 5.3E+00	CAT	7.2E+00	Lab	
Ppt mg: 87.5	Units: g	, mg	Bet; Alq): 4.58E+00	Sa): 4.37E-03	L/g): 2.36E+01	± 3.6E+00	I	4.2E+00	Alq L/g	

BM 10-11-95

9613389.1556

SAMPLE STATUS REPORT FOR N 5712. RAD SCREEN BOG979 TIME: 7/19/95 8: 8
DISPATCHED: 7/17/95 14:44 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/18/95 14:34

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT ACT	< 5.00000E 01 pCi/G	N	Y	B6023

END OF REPORT

07/19/95 09:11 ☎373 3176 222S 3B --- F.A.S. 003

SAMPLE STATUS REPORT FOR N 5713. RAD SCREEN BOG980 TIME: 7/19/95 8: 8
DISPATCHED: 7/17/95 14:45 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/18/95 14:35

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	B6023

07/19/95 09:12 ☎373 3176 222S 3B --- F.A.S. 004

SAMPLE STATUS REPORT FOR N 5714. RAD SCREEN BOG981 TIME: 7/19/95 8: 8
DISPATCHED: 7/17/95 14:45 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/18/95 14:35

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	B6023

07/19/95 09:12 ☎373 3176 222S 3B --- F.A.S. 005

SAMPLE STATUS REPORT FOR N 5715. RAD SCREEN BOG982 TIME: 7/19/95 8:44
DISPATCHED: 7/17/95 14:45 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/18/95 14:35

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	B6023

07/19/95 09:12 ☎373 3176 222S 3B --- F.A.S. 006

SAMPLE STATUS REPORT FOR N 5716. RAD SCREEN BOG983 TIME: 7/19/95 8: 8
DISPATCHED: 7/17/95 14:45 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/19/95 6: 9

000040

BM 10-12-95

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE

00015

SAMPLE STATUS REPORT FOR N 5713. RAD SCREEN BOG980 TIME: 7/19/95 8: 8
DISPATCHED: 7/17/95 14:45 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/18/95 14:35

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	B6023

07/19/95 09:12 ☎373 3176 222S JB --- F.A.S. 004

SAMPLE STATUS REPORT FOR N 5714. RAD SCREEN BOG981 TIME: 7/19/95 8: 8
DISPATCHED: 7/17/95 14:45 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/18/95 14:35

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	B6023

07/19/95 09:12 ☎373 3176 222S JB --- F.A.S. 005

SAMPLE STATUS REPORT FOR N 5715. RAD SCREEN BOG982 TIME: 7/19/95 8:44
DISPATCHED: 7/17/95 14:45 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/18/95 14:35

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	B6023

07/19/95 09:12 ☎373 3176 222S JB --- F.A.S. 006

SAMPLE STATUS REPORT FOR N 5716. RAD SCREEN BOG983 TIME: 7/19/95 8: 8
DISPATCHED: 7/17/95 14:45 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/19/95 6: 9

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	B6023

07/19/95 09:12 ☎373 3176 222S JB --- F.A.S. 007

SAMPLE STATUS REPORT FOR N 5717. RAD SCREEN BOG984 TIME: 7/19/95 8: 8
DISPATCHED: 7/17/95 14:45 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/18/95 14:35

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT ACT	< 5.00000E 01 pCi/G	N	Y	B6023

END OF REPORT

BM 10.11.95

9613589.1557

Supplemental Information

LATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

INFORMATION REQUEST FORM (IRF)

To: Jim McCabe Date: 19-Sep

Primary FAX: 372-2106 Secondary FAX: 372-1616

PROJECT NAME:	105-DR Large Sodium Fire Facility
SDG NUMBER:	W0635-QES-392
LATA NO.:	VW403.97
LABORATORY:	QES
CASE NUMBER:	N/A
ANALYSIS METHOD:	
ANALYSIS DATE:	
ITEM(S) MISSING:	

Comments: Can you provide the Field QC information for this project?

RETURN TO LATA

Attention: B MORRIS

INFORMATION RECEIVED FROM WHC (INITIALS/DATE): BM 10-5-96

INFORMATION ACCEPTABLE?: YES ☒ NO ☐ 000343

If NO is checked, send a new LIRF to request additional information.

Post-it® Fax Note 7671	Date 9/19	# of pages ▸ 1
To Jim McCabe	From Brent Morr	
Co./Dept.	Co.	
Phone #	Phone # 946-2907	
Fax #	Fax #	

9613389.1558

END OF PACKAGE

9613389.1559

INFORMATION ONLY COPY

Los Alamos Technical Associates, Inc.

8633 Gage Blvd. / Kennewick, WA 99336 / Telephone (509) 783-4369 / FAX (509) 783-9661

October 18, 1995
LATA95-202

OCT 1995
RECEIVED
Validation
Log In

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

Subject: VW403.98, SDG W0638-QES-393

Dear Mr. Pool:

Attached is the data validation report for analytical results for 105-DR Large Sodium Fire Facility (SDG W0638-QES-393). The package was received by Los Alamos Technical Associates on September 13, 1995. The data package was initially placed on hold September19, 1995 and released on October 6, 1995.

If you have any questions, please let me know.

Sincerely,

Brent Morris for

Marsha C. Webb
Deputy Project Manager

Attachment

cc: Jeanette Duncan, CH2M Hill
Don Smith, LATA
VW403.98
MCW/lb

ln

9613389.1560

INFORMATION ONLY COPY

DATA VALIDATION REPORT
for
105-DR LARGE SODIUM FIRE FACILITY
SDG W0638-QES-393
LATA VW403.98

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

October 18, 1995

INFORMATION ONLY COPY

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105-DR LARGE SODIUM FIRE FACILITY
Data Validation Narrative

INTRODUCTION

All samples in Sample Delivery Group (SDG) W0638-QES-393 (VW403.98) were validated at level D as defined in the Data Validation Procedures for Chemical Analysis (WHC-SD-EN-SPP-002, Rev. 2).

The analyses were performed by Quanterra Environmental Services.

ANALYSES REQUESTED

See Table 1

DATA QUALITY OBJECTIVES

Precision:	Goals for precision were met.
Accuracy:	Goals for accuracy were met.
Sample Result Verification:	All sample results were supported in the raw data.
Detection Limits:	Detection limit goals were met for all sample results as specified in the *105-DR Large Sodium Fire Facility Decontamination, Sampling, and Analysis Plan*, WHC-SD-EN-AP-186, Rev. 0.
Completeness:	The data package was 100% complete for all requested analyses.

Data qualifiers are assigned to any results that have been determined to be deficient. These are discussed in the Qualification Summary Table.

Table 1
Chain-of-Custody
Analysis Request

LATA ID #: VW403.98 SDG: W0638-QES-393

Sample Information					Analyses Requested			
SAMPLE NO.	DATE COLLECTED	MATRIX	SAF	FIELD QC INFO	1	2	3	4
B0G9F6	20-Jul-95	GRAVEL	95-080		X	X	X	X
B0G9F7	20-Jul-95	GRAVEL	95-080		X	X	X	X

Method References:

	Analysis	Method
1.	TCLP Metals	
	-As, Ba, Cd, Cr, Pb, Ag, Se	1311/6010
	-Hg	1311/7470
2.	pH	9045
3.	Activity Scan	Lab Specific
4.	Rad Screen	Lab Specific

REFERENCES

WHC 1993, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, Richland, Washington.

WHC 1995, *105-DR Large Sodium Fire Facility Decontamination, Sampling, and Analysis Plan*, WHC-SD-EN-AP-186, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

GLOSSARY OF VALIDATION APPLIED QUALIFIERS (CHEMISTRY)

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows.

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

UJ- Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during data validation, the associated quantitation limit is an estimate.

J- Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision making purposes.

BJ- Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

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

UR- Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data are unusable due to an identified QC deficiency.

GLOSSARY OF LABORATORY APPLIED QUALIFIERS

Qualifiers which may be applied by the laboratory in compliance with applicable requirements are as follows.

Inorganic Qualifiers

U- Indicates the analyte was analyzed for but not detected in the sample.

B- Indicates the analyte concentration is less than the CRDL but greater than the IDL.

E- Indicates the value reported is estimated due to the presence of interference.

N- Indicates spiked sample recovery was not within the control limits.

*- Indicates duplicate analysis was not within control limits.

Qualification Summary Table

Qualification Summary Table

Inorganics (Metals)

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
No qualifiers were added by the validator.					

General Chemistry

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
No qualifiers were added by the validator.					

Data Summary Tables

9613389.1565

METALS
DATA SUMMARY TABLE

LATA ID#: VW403.98		HEIS #:	B0G9F6		B0G9F7	
		Date:	20-Jul-95		20-Jul-95	
		Matrix:	GRAVEL		GRAVEL	
Constituent	CAS #	Units	Results	Q	Results	Q
TCLP Arsenic	7440-38-2	µg/L	58.2	U	58.2	U
TCLP Barium	7440-39-3	µg/L	198	B	378	
TCLP Cadmium	7440-43-9	µg/L	3.1	U	3.1	U
TCLP Chromium	7440-47-3	µg/L	2.8	U	2.8	U
TCLP Lead	7439-92-1	µg/L	41.3	U	41.3	U
TCLP Mercury	7439-97-6	µg/L	0.20	U	0.20	U
TCLP Selenium	7782-49-2	µg/L	43.3	U	43.3	U
TCLP Silver	7440-22-4	µg/L	28.4	B	2.2	U

Shaded areas indicate changes by the validator.

GENERAL CHEMISTRY
DATA SUMMARY TABLE

LATA ID#: VW403.96		HEIS #:	B0G9F6		B0G9F7	
		Date:	20-Jul-95		20-Jul-95	
		Matrix:	GRAVEL		GRAVEL	
Constituent	CAS #	Units	Results	Q	Results	Q
pH	207	pH units	9.83		9.99	

000011

Shaded areas indicate changes by the validator.

Sample Results (Form I's)

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0G9F6

Lab Name: QUANTERRA_MO Contract: 519.158

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0638

Matrix (soil/water): WATER Lab Sample ID: P8920-001

Level (low/med): LOW Date Received: 07/21/95

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	58.2	U		P
7440-39-3	Barium	198	B		P
7440-43-9	Cadmium	3.1	U		P
7440-47-3	Chromium	2.8	U		P
7439-92-1	Lead	41.3	U		P
7439-97-6	Mercury	0.20	U		CV
7782-49-2	Selenium	43.3	U		P
7440-22-4	Silver	28.4	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

TCLP

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SMS 9/20/95

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DEA 10/11/95

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B0G9F7

Lab Name: QUANTERRA_MO Contract: 519.158

Lab Code: ITMO Case No.: SAS No.: SDG No.: W0638

Matrix (soil/water): WATER Lab Sample ID: P8920-002

Level (low/med): LOW Date Received: 07/21/95

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	58.2	U		P
7440-39-3	Barium	378			P
7440-43-9	Cadmium	3.1	U		P
7440-47-3	Chromium	2.8	U		P
7439-92-1	Lead	41.3	U		P
7439-97-6	Mercury	0.20	U		CV
7782-49-2	Selenium	43.3	U		P
7440-22-4	Silver	2.2	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

TCLP

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cma 9-2-95

~~0000040~~

JS 10/11/95

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

Project: 519.158

Category: pH
Method: EPA 9045
Matrix: SOLID

Sample Date : 07/20/95
Receipt Date : 07/21/95
Report Date : 08/21/95

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	Dil.
B0G9F6	8920-001	pH	C-006	QCBLK73578-1	07/25/95	07/25/95	9.83	PH			1
B0G9F6	8920-001DUP	pH	C-006	QCBLK73578-1	07/25/95	07/25/95	9.88	PH			1
B0G9F7	8920-002	pH	C-006	QCBLK73578-1	07/25/95	07/25/95	9.99	PH			1
NA	QCBLK73578-1	pH	C-006	QCBLK73578-1	07/25/95	07/25/95	5.91	PH			1

ems 9/20/95
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Rec'd 10-11-95

9613389.1568

Checklists

LATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

VALIDATION PROCEDURE:	☐ WHC-CM-5-3, Rev. 0			☒ WHC-SD-EN-SPP-002, Rev. 2	
PROJECT:	105-DR LARGE SODIUM FIRE FACILITY		SDG:	W0638-QES-393	
VALIDATOR:	DE STROUP DES 10-16-95	LATA NO:	VW403.98	DATE:	11-Oct-95
REVIEWER:	BJ SEYMOUR BJS 10-15-95	LAB:	QES	CASE:	NA
SAF NO:	95-080	QAPP NO:	N/A	SAP NO:	WHC-SD-EN-AP-186, Rev. 0

ANALYSES REQUESTED

☒ TCLP METALS 1311/6010	☒ Mercury 7470				

SAMPLE NO.	MATRIX
B0G9F6 B0G9F7	GRAVEL

COMMENTS:

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

	YES	NO	N/A
Is technical verification documentation present?	☒	☐	☐
Is a case narrative present?	☒	☐	☐

2. HOLDING TIMES

	YES	NO	N/A
Are sample holding times acceptable?	☒	☐	☐

See HOLDING TIME SUMMARY form

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS

	YES	NO	N/A
Were initial calibrations performed on all instruments?	☒	☐	☐
Are initial calibrations acceptable?	☒	☐	☐
Are ICP interference checks acceptable?	☒	☐	☐
Were ICV and CCV checks performed on all instruments?	☒	☐	☐
Are ICV and CCV checks acceptable?	☒	☐	☐
Validation calculation checks were performed and are acceptable.	☒	☐	☐

If NO(s) are checked, see CALIBRATION DATA SUMMARY form

4. BLANKS

	YES	NO	N/A
Were ICB and CCB checks performed for all applicable analyses?	X		
Are ICB and CCB results acceptable?	X		
Were preparation blanks analyzed?	X		
Are preparation blank results acceptable?	X		

If NO(s) are checked, see BLANK AND SAMPLE DATA SUMMARY form

5. ACCURACY

	YES	NO	N/A
Were spike samples analyzed at the proper frequency?	X		
Are all spike sample recoveries acceptable?	X		
Are all elements spiked at an appropriate level?	X		
Was a post digestion spike analyzed?			X
Are all post digestion spike recoveries acceptable?			X
Were laboratory control samples (LCS) analyzed at the proper frequency?	X		
Are all LCS recoveries acceptable?	X		
Validation calculation checks were performed and are acceptable.	X		

If NO(s) are checked, see ACCURACY DATA SUMMARY form

6. PRECISION

	YES	NO	N/A
Were laboratory duplicates analyzed at the proper frequency?	X		
Are all duplicate RPD values acceptable?	X		
Were MS/MSDs analyzed?	X		
Are all MS/MSD RPD values acceptable?	X		
Were ICP serial dilution samples analyzed at the proper frequency?	X		
Are all ICP serial dilution %D values acceptable?	X		
Validation calculation checks were performed and are acceptable.	X		

If NO(s) are checked, see PRECISION DATA SUMMARY form

7. FIELD QC SAMPLES

	YES	NO	N/A
Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified?	☐	X	☐
Are field/trip blank results acceptable? (see Blank Data Summary form)	☐	☐	X
Are field duplicate RPD values acceptable? (see Field QC evaluation)	☐	☐	X
Are field split RPD values acceptable? (see Field QC evaluation)	☐	☐	X
Are performance audit sample results acceptable?	☐	☐	X

Comments:

8. FURNACE AA QUALITY CONTROL

	YES	NO	N/A
Were duplicate injections required?	X	☐	☐
Are all duplicate injection %RSD values acceptable?	X	☐	☐
Were analytical spikes required?	X	☐	☐
Are all analytical spike recoveries acceptable?	X	☐	☐
Was MSA required?	☐	X	☐
Are all MSA results acceptable?	☐	☐	X
Validation calculation checks were performed and are acceptable.	X	☐	☐

Comments:

9. REPORTED RESULTS AND DETECTION LIMITS

	YES	NO	N/A
Are results reported for all requested analyses?	X	☐	☐
Are all results supported in the raw data?	X	☐	☐
Are results calculated properly?	X	☐	☐
Do results meet the CRDLs?	X	☐	☐
Validation calculation checks were performed and are acceptable.	X	☐	☐

Comments:

VALIDATION SUMMARY

For deficiencies (major and minor) and comments, please refer to the Qualification Summary Table.

LATA INORGANIC (METALS) DATA VALIDATION CHECKLIST

HOLDING TIME SUMMARY

SDG:	W0638-QES-393		VALIDATOR: DE STROUP					DATE:	10-Oct-95		
PROJECT:	105-DR LARGE SODIUM FIRE FACILITY		REVIEWER: BJ SEYMOUR					LATA NO.:	VW403.98		
HEIS-SN	MATRIX CODE	ANALYSIS	DATE COLLECTED	PREP DATE	ANALYSIS DATE	PREP HT (days)	*Required HT (days)*	ANALYSIS HT (days)	*Required HT (days)*	VAL Q	
B0G9F6	GRAVEL	TCLP Metals	20-Jul-95	31-Jul-95	31-Jul-95	11	*180*	0	*180*	None	
B0G9F7	GRAVEL	TCLP Metals	20-Jul-95	31-Jul-95	31-Jul-95	11	*180*	0	*180*	None	
B0G9F6	GRAVEL	Mercury	20-Jul-95	31-Jul-95	31-Jul-95	11	*28*	0	*28*	None	
B0G9F7	GRAVEL	Mercury	20-Jul-95	31-Jul-95	31-Jul-95	11	*28*	0	*28*	None	

LATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

LINEAR REGRESSION ANALYSIS

SDG: W0638-QES-393 Date: 11-Oct-95

LATA No.: VW403.98 Validator: DE STROUP

Analyte/Calibration Date: Hg 7/31/95

Concentration x	Absorbance y
-0.06	0.000
0.63	0.500
0.90	1.000
2.08	2.000
4.95	5.000
10.00	10.000

r	r^2
0.9997	0.9994

slope	x intercept
1.0010	0.0042

1/slope	y intercept
0.9990	-0.0024

000021

LATA INORGANIC (METALS) DATA VALIDATION CHECKLIST

PERCENT RECOVERY (ICV/CCV)

SDG: W0638-QES-393

Date: 11-Oct-95

LATA No.: VW403.98

Validator: DES

Analyte	ICV/CCV ID	Observed Value O	True Value A	%R
Arsenic	ICV	4254.14	4000.00	106.4%
Lead	ICV	4001.36	4000.00	100.0%
Barium	CCV1	3799.22	4000.00	95.0%
Mercury	CCV1	4.27	4.00	106.8%
Arsenic	CCV3	4062.63	4000.00	101.6%
Lead	CCV3	3902.06	4000.00	97.6%

LATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

MATRIX SPIKE RECOVERY (MS)

SDG: W0638-QES-393 Date: 11-Oct-95

LATA No.: VW403.98 Validator: DES

Analyte	Sample ID	Spike Sample Result SSR	Sample Result SR	Spike Added SA	%R
Arsenic	B0G9F6S	5011.37	58.20	5000.00	99.1%
Lead	B0G9F6S	4683.12	41.30	5000.00	92.8%
Arsenic	B0G9F6SD	4905.24	58.20	5000.00	96.9%
Lead	B0G9F6SD	4612.84	41.30	5000.00	91.4%
Mercury	B0G9F6S	0.87	0.00	1.00	87.3%
Mercury	B0G9F6SD	0.80	0.00	1.00	79.8%

LATA INORGANIC (METALS) DATA VALIDATION CHECKLIST

PERCENT RECOVERY (LCS)

SDG: W0638-QES-393 Date: 11-Oct-95

LATA No.: VW403.98 Validator: DES

Analyte	Observed value	True value	%R
	OLCS	ALCS	
Arsenic	1047.87	1000.00	104.8%
Selenium	988.58	1000.00	98.9%
Mercury	2.95	3.00	98.3%

LATA INORGANIC (METALS)
DATA VALIDATION CHECKLIST

RELATIVE PERCENT DIFFERENCE

SDG: W0638-QES-393 Date: 11-Oct-95

LATA No.: VW403.98 Validator: DES

Analyte	Sample ID	Matrix Spike %R	Matrix Spike Duplicate %R	RPD
Arsenic	B0G9F6SD	100.20	98.10	2.1%
Lead	B0G9F6SD	93.70	92.30	1.5%
Mercury	B0G9F6SD	87.30	79.80	9.0%

LATA INORGANIC (METALS) DATA VALIDATION CHECKLIST

PERCENT DIFFERENCE (ICP SERIAL DILUTION)

SDG: W0638-QES-393 Date: 11-Oct-95

LATA No.: VW403.98 Validator: DES

Analyte	Analyte Concentration before Dilution	Analyte Concentration after Serial Dilution	%D
	I	S	
Barium	197.87	204.91	3.6%
Silver	28.4	38.06	34.0%

INORGANICS RESULTS CALCULATION, WATER

SDG: W0638-QES-393 Date: 11-Oct-95

LATA No.: VW403.98 Validator: DE STROUP

Analyte	Concentration from curve		Dilution Factor	Concentration (µg/L)
	CONCW	units	DFW	
Barium	197.97	ug/L	1	198.0
Silver	28.41	ug/L	1	28.4

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LATA GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

VALIDATION PROCEDURE:	☐ WHC-CM-5-3, Rev. 0			☒ WHC-SD-EN-SPP-002, Rev. 2	
PROJECT:	105-DR LARGE SODIUM FIRE FACILITY		SDG:	W0638-QES-393	
VALIDATOR:	DE STROUP DES 10-16-95	LATA NO:	VW403.98	DATE:	11-Oct-95
REVIEWER:	BJ SEYMOUR BM 10-8-95	LAB:	QES	CASE:	NA
SAF NO:	95-080	QAPP NO:	N/A	SAP NO:	WHC-SD-EN-AP-186, Rev. 0

ANALYSES REQUESTED

☒ pH 9045	

SAMPLE NO.	MATRIX	COMMENTS:
B0G9F6 B0G9F7	GRAVEL	

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE	YES	NO	N/A
Is technical verification documentation present?	☒	☐	☐
Is a case narrative present?	☒	☐	☐

2. HOLDING TIMES	YES	NO	N/A
Are sample holding times acceptable?	☒	☐	☐

See HOLDING TIME SUMMARY form

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS	YES	NO	N/A
Were initial calibrations performed on all instruments?	☒	☐	☐
Are initial calibrations acceptable?	☒	☐	☐
Were calibration checks performed on all instruments?	☒	☐	☐
Are calibration checks acceptable?	☒	☐	☐
Validation calculation checks were performed and are acceptable.	☒	☐	☐

If NO(s) are checked, see CALIBRATION DATA SUMMARY form

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4. BLANKS

	YES	NO	N/A
Were laboratory blanks performed for all applicable analyses?	X		
Are laboratory blank results acceptable?	X		
Were preparation blanks analyzed?	X		
Are preparation blank results acceptable?	X		

If NO(s) are checked, see BLANK AND SAMPLE DATA SUMMARY form

5. ACCURACY

	YES	NO	N/A
Were spike samples analyzed at the proper frequency?			X
Are all spike sample recoveries acceptable?			X
Were laboratory control samples (LCS) analyzed at the proper frequency?			X
Are all LCS recoveries acceptable?			X
Validation calculation checks were performed and are acceptable.			X

If NO(s) are checked, see ACCURACY DATA SUMMARY form

6. PRECISION

	YES	NO	N/A
Were laboratory duplicates analyzed at the proper frequency?	X		
Are all duplicate RPD values acceptable?	X		
Were MS/MSDs analyzed?			X
Are all MS/MSD RPD values acceptable?			X
Validation calculation checks were performed and are acceptable.			X

If NO(s) are checked, see PRECISION DATA SUMMARY form

7. FIELD QC SAMPLES

	YES	NO	N/A
Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified?		X	
Are field/trip blank results acceptable? (see Blank Data Summary form)			X
Are field duplicate RPD values acceptable? (see Field QC calculations)			X
Are field split RPD values acceptable? (see Field QC calculations)			X
Are performance audit sample results acceptable?			X

Comments:

8. ANALYTE QUANTITATION

	YES	NO	N/A
Was analyte quantitation performed properly?	X		
Are results calculated properly?	X		
Validation calculation checks were performed and are acceptable.	X		

Comments:

9. REPORTED RESULTS AND DETECTION LIMITS

	YES	NO	N/A
Are results reported for all requested analyses?	X		
Are all results supported in the raw data?	X		
Do results meet the CRDLs?	X		
Validation calculation checks were performed and are acceptable.	X		

Comments:

VALIDATION SUMMARY

For deficiencies (major and minor) and comments, please refer to the Qualification Summary Table.

LATA GENERAL CHEMISTRY
DATA VALIDATION CHECKLIST

HOLDING TIME SUMMARY

SDG:	W0638-QES-393		VALIDATOR: DE STROUP					DATE:	11-Oct-95	
PROJECT:	105-DR LARGE SODIUM FIRE FACILITY		REVIEWER: BJ SEYMOUR					LATA NO.:	VW403.98	
HEIS-SN	MATRIX CODE	ANALYSIS	DATE COLLECTED	PREP DATE	ANALYSIS DATE	PREP HT (days)	*Required HT (days)*	ANALYSIS HT (days)	*Required HT (days)*	VAL Q
B0G9F6	GRAVEL	pH	20-Jul-95	25-Jul-95	25-Jul-95	5	*NA*	0	*Immed.*	None
B0G9F7	GRAVEL	pH	20-Jul-95	25-Jul-95	25-Jul-95	5	*NA*	0	*Immed.*	None

Laboratory Case Narratives

9613389.1577

Quanterra
Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

CERTIFICATE OF ANALYSIS

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

August 24, 1995

Attention: Karl Pool

Project number	:	519.158
Date Received by Lab	:	July 21, 1995
Number of Samples	:	Two (2)
Sample Type	:	Soil
SDG Number	:	W0638
Data Deliverable	:	Standalone

I. Introduction

On July 21, 1995, two (2) soil samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analyses. Upon receipt, the samples were given the following laboratory ID numbers to correspond with the specific client ID's:

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
8920-001	B0G9F6	50726101	Water	07/21/95
8920-002	B0G9F7	50726101	Water	07/21/95

II. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested: ICAP metals by EPA method 6010. Mercury by EPA method 7470. All metals analyzed after TCLP extraction by EPA method 1311. pH by EPA method 9045.

III. Quality Control

A Laboratory Control Sample and Method Blank were analyzed with each preparation batch. A Matrix Spike and Matrix Spike Duplicate analyses were performed per the protocol for the analytes. pH analysis uses only Sample Duplicate for matrix QC.

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike

V. Comments

There were no comments or nonconformances associated with the analysis of these samples.

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Wade H. Price
Project Manager
e:\\price$\abbydave\hanw0638.nar

9613389.1578

Chain-of-Custody Information

Temp 1°C / 2°C Temp Bottle Carr# 4767

Westinghouse Hanford Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C # 008332 Page 1 of 1

Collector	HULSE, KARL	Contact/Requestor	KNAUS, Z.C.	Tel. No. 372-1597 MISN H6-23	FAX
SAF Number	95-080	Sample Origin	105DR	Purchase Order/Charge Code	N/A
Project Title	RCRA Closure Project (105-DR)	Logbook #	WHC-N-205 # 30	Ice Chest # 55	Temp.
Shipped To (Lab)	Quanterra	Method of Shipment	Government Vehicle	Bill of Lading/Air Bill No.	N/A
Protocol	RCRA 507261	Data Turnaround	NON-TPA	Offsite Property No.	N/A

Sample No.	Lab. ID	a	Date	Time	No/Type Container	Sample Analysis	Type	% Fill	Preservative
B0G9F6	01	X	7/20/95	0845	(1) 40 aGs	ACTIVITY SCAN (Lab Specific)			None
B0G9F6	1 X	X	7/20/95	0845	(1) 125 aG	pH(9045)	Soil	100%	4 DEG C
B0G9F6	X	X	7/20/95	0845	(1) 500 aG	TCLP METALS(1311/6010), As-6010, Ba, Cd, Cr, Pb, Ag, Se, Hg-7470	↓	↓	4 deg C
B0G9F7	02	X	7/20/95	0910	(1) 40 aGs	ACTIVITY SCAN (Lab Specific)			None
B0G9F7	1 X	X	7/20/95	0910	(1) 125 aG	pH(9045)	Soil	100%	4 DEG C
B0G9F7	X	X	7/20/95	0910	(1) 500 aG	TCLP METALS(1311/6010), As-6010, Ba, Cd, Cr, Pb, Ag, Se, Hg-7470	↓	↓	4 deg C

SDG W0638

POSSIBLE SAMPLE HAZARDS/REMARKS MSDS Yes ☐ No ☒
List all known wastes.

SPECIAL INSTRUCTIONS Hold Time
Sample Matrix is Gravel

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	KB Hulse	KB Hulse	7-21-95 0955		Karen Ahlenberg	Karen Ahlenberg	7-21-95 10:40
	RKF		10:40 7-21-95 2:40		Karen Ahlenberg		7-21-95
					Mark Welsh		7-22-95 1030

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method e.g. Return to customer, per lab procedure, used in process — Disposed By — Date/Time

** All samples containing hazardous materials shall be picked up by requestor and returned to parent container or site of origin.

A 6001-500 (07/95)

0000000 11

9613389.1579

SAMPLE STATUS REPORT FOR N 5721. RAD SCREEN BOG9F6 TIME: 7/20/95 14:55
DISPATCHED: 7/18/95 14:49 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/20/95 14:18

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	B6023

END OF REPORT

07/20/95 15:09 ☎373 3176 222S 3B --- F.A.S. 003

SAMPLE STATUS REPORT FOR N 5722. RAD SCREEN BOG9F7 TIME: 7/20/95 14:55
DISPATCHED: 7/18/95 14:49 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 7/20/95 14:19

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	B6023

END OF REPORT

BM 10-16-95

000241

0000012

Supplemental Information

LATA INORGANIC (METALS)
9613389.1588
DATA VALIDATION CHECKLIST

INFORMATION REQUEST FORM (IRF)

To: Jim McCabe Date: 19-Sep

Primary FAX: 372-2106 Secondary FAX: 372-1616

PROJECT NAME:	105-DR Large Sodium Fire Facility
SDG NUMBER:	W0638-QES-393
LATA NO.:	VW403.98
LABORATORY:	QES
CASE NUMBER:	N/A
ANALYSIS METHOD:	
ANALYSIS DATE:	
ITEM(S) MISSING:	

Comments: Can you provide the Field QC information for this project?

RETURN TO LATA

Attention: B MORRIS

INFORMATION RECEIVED FROM WHC (INITIALS/DATE): 10-6-95

INFORMATION ACCEPTABLE?: YES [X] NO [ ]

If NO is checked, send a new LIRF to request additional information.

0000-53

Post-it® Fax Note 7671		Date 9/19	# of pages ▶ 1
To Jim McCabe		From Brent Morris	
Co./Dept		Co.	
Phone #		Phone # 946-2907	
Fax #		Fax #	

END OF PACKAGE