Westinghouse Hanford Company

0012193

77

5 of 10

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-4-90

REVIEWED BY C. J. Simiele

LABORATORY 222-S WHC

CASE # SST-241-U-110

SDG # Core 6 Composite

SAMPLES/MATRIX Seq 2- 89-043 Seq 3- 89-044

Seq 4- 89-045

Lab ID#:

Fusion Prep: F0923

Acid Prep: F0935

Water Prep: F0930

Untreated: F0917

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK / ANALYSIS	CN[U]	Hg[U]	ICP[F]
1. Holding Time	X	X	X
2. Calibration	O	O	M
3. Analytical Blank	X	O	X
4. LCS	N/A	N/A	N/A
5. ICS (ICP only)	N/A	N/A	~~N/A~~* CS
6. Matrix Spike	O	O	M
7. Duplicate Analyses.	O	X	X
8.			
9.			
10.			

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

OVERALL ASSESSSMENT:

JAN 1991
RECEIVED
EDMC

NOTES: a= acid digested, W=water leach, f= fusion, U= untreated; *=none provided with data package.

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

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OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-4-90

REVIEWED BY C.J. Simiele

LABORATORY 222-S

CASE # SST-241-U-110

SDG # Core to Composite

SAMPLES/MATRIX Seq(2)-89-043; Seq(3)-89-044
Seq(4)-89-045

LAB ID:
fusion : F0923
Acid digest: F0935
water prep: F0930
untreated: F0917

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	ICP[w]	TOC[w]	NH_3[w]
1. Holding time		X	X	X
2. Calibration		O	O	O
3. Analytical Blank		O	O	O
4. LCS		N/A	N/A	N/A
5. ICS (ICP only)		N/A	N/A	N/A
6. Matrix spike		O	O	O
7. Duplicate Analyses		X	X	O
8.				
9.				
10.				

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

OVERALL ASSESSSMENT:

NOTES: w= water leach prep; fusion=f; a=acid digestion; u=untreated

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

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Westinghouse
Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-4-90

REVIEWED BY C.J. Simiele

LABORATORY WHC-222-S

CASE # SST-241-U-110

SDG # Core 16 Composite

SAMPLES/MATRIX Seq(2) 89-043; Seq(2) 89-044
Seq(4) 89-045

LAB ID: fusion: F0923
Acid digest: F0935
Water Prep: F0930
Untreated: F0917

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	Carbonate[W]	NO_2[W]	A.A.[W]
1. Holding Times		X	X	X
2. Calibration		O	O	O
3. Analytical Blank		O	O	O
4. LCS		N/A	N/A	N/A
5. ICS (ICP only)		N/A	N/A	N/A
6. Matrix Spike		O	O	O
7. Duplicate Analyses		O	X	O
8.				
9.				
10.				

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

OVERALL ASSESSSMENT:

NOTES: W=water leach; A=acid digested; f=fusion

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

9 1 2 5 0 1 3 0 5

Westinghouse
Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-4-90

REVIEWED BY C.J. Simiele

LABORATORY WHC 222-S

CASE # SST-241-U-110

SDG # Core to Composite

SAMPLES/MATRIX Seq(2) 89-043 Seq(3)-89-044
Seq(4) 89-045

LAB ID:
Fusion : F0923
Acid digest: F0935
Water leach F0930
Untreated : F0917

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	ICP[W]	A.A.[A]	ICP[A]
1. Holding Time		X	O	O
2. Calibration		O	O	M
3. Analytical Blank		O	O	O
4. LCS		N/A	N/A	N/A
5. ICS (ICP only)		N/A	N/A	N/A
6. Matrix Spike		X	O	X
7. Duplicate Analyses		X	X	X
8.				
9.				
10.				

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

OVERALL ASSESSSMENT: _____

NOTES: _____

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

Westinghouse
Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-4-90

REVIEWED BY C.J. Simiele

LABORATORY 222-S LWHC

CASE # SST-241-U-110

SDG # Core to Composite

SAMPLES/MATRIX Seq(2)-89-043; Seq(3)-89-044
Seq(4) 89-045

LAB ID
fusion - F0923
Acid digest - F0935
water leach - F0930
untreated - F0917

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	pH (Duplicate	% Water Analyses	only)
1. —				
2. Duplicate Analyses.		O	O	
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

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

OVERALL ASSESSSMENT: _____

NOTES: _____

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

9 1 2 5 6 1 3 8

Analytical Laboratory Data Summary

SINGLE SHELL TANK PROJECT

The next four pages of this report (including this page) summarizes the results for the analysis of the

Core 6 Composite Sample
Tank 241-U-110

UNTREATED SAMPLE RESULTS

	Sample		Duplicate Sample	
Laboratory ID:	F0917		F0918	
pH	12.91		12.97	
Laboratory ID:	F0917		F0918	
% Water	35.40%		38.60%	
Laboratory ID:	F0917		F0918	
Mercury	2.55 J	ug/g	4.89	ug/g
Laboratory ID:	F0917		F0918	
Cyanide	<0.12 u	ug/g	<0.13	ug/g

10-4-90
CJ Simpiele

Core 6 Composite
Fusion Dissolution

Data Summary

Results are wet weight

Radiological Analysis

Fusion Dissolution

	Sample	Duplicate Sample
Fusion	2.86 g/L	2.38 g/L
Total Alpha	<0.44 uci/g	<0.48 uci/g
Total Beta	811 uci/g	1180 uci/g
GEA Cs-137	20.60 uci/g	25.40 uci/g
Uranium	4580 ug/g	6600 ug/g
Americium 241	0.09 uci/g	0.15 uci/g
Iodine 129	<0.0064 uci/g	<0.0082 uci/g
Neptunium 237	<0.38 uci/g	<0.45 uci/g
Plutonium	0.21 uci/g	0.32 uci/g
Strontium 90	270 uci/g	372 uci/g
Technetium 99	<0.017 uci/g	<0.021 uci/g

ICP Results

Fusion Dissolution

	Wet Weight Sample			Wet Weight Sample Duplicate	
Aluminum	80713	ug/g	~~R~~ J	111659	ug/g
Antimony	LT		R	LT	
Barium	LT		R	43	ug/g
Beryllium	LT		R	LT	
Bismuth	14919	ug/g		12799	ug/g
Boron	291	ug/g	~~R~~ J	643	ug/g
Cadmium	LT		R	LT	
Calcium	1206	ug/g	~~R~~ J	1669	ug/g
Cerium	LT		R	LT	
Cobalt	LT		UJ	LT	
Copper	LT		R	LT	
Europium	LT			LT	
Iron	11319	ug/g	J	14160	ug/g
Lanthanum	LT		UJ	LT	
Lead	LT		UJ	LT	
Lithium	LT		UJ	LT	
Magnesium	2310	ug/g	~~R~~ J	1910	ug/g
Manganese	2766	ug/g	J	4086	ug/g
Mercury	LT			LT	
Molybdenum	LT		UJ	LT	
Nickel	5634	ug/g	J	6348	ug/g
Samarium	LT		R	LT	
Selenium	LT		UJ	LT	
Silver	LT		R	LT	
Sodium	131801	ug/g	J	127425	ug/g
Strontium	323	ug/g	J	487	ug/g
Sulfur	LT		UJ	407	ug/g
Tantalum	LT		R	LT	
Thallium	LT		UJ	LT	
Thorium	LT		UJ	LT	
Tin	LT		UJ	LT	
Titanium	LT		UJ	LT	
Uranium	LT		UJ	LT	
Vanadium	LT		UJ	LT	
Zinc	98	ug/g	~~R~~ J	126	ug/g
Zirconium	LT		UJ	LT	

LT: Less Than
NC: Not Calibrated
NOT CALC: Not Calculated
Instrument Standards Outside Control Limits

10-4-90
C.J. Sumpiello

Core 6 Composite

Water Digestion

Data Summary

Results are Wet Weight

	Sample	Duplicate
pH of Digested Solution		
pH	10.34	10.98

Anion Analysis

Water Digestion

Fluoride	6.04+03 ug/g	5.40E+03 ug/g
Chloride	<1.47E+03 ug/g	<1.41E+03 ug/g
Nitrate	3.87E+04 ug/g J	5.26E+04 ug/g
Phosphate	3.18E+04 ug/g J	3.84E+04 ug/g
Sulfate	<1.47E+04 ug/g	<1.41E+04 ug/g
Total Organic Carbon	9.45E+02 ug/g J	6.28E+02 ug/g
Total Organic Carbon *	<5.49E+02 ug/g	5.47E+02 ug/g
Ammonia	<1.67E+04 ug/g	<1.60+04 ug/g
Carbonate	3.27E+03 ug/g	3.00E+03 ug/g
Chrome VI	Analysis not performed	
Nitrite	8.43E+03 ug/g J	1.17E+04 ug/g

Radiological Analysis

Water Digestion

Total Alpha 02-06-90	<6.57E-03 uci/g	<3.67E-03 uci/g
Total Beta 02-06-90	5.28 uci/g	1.45E+01 uci/g
GEA Cs-137	4.55 uci/g	6.93 uci/g
Americium 241	<2.66E-03 uci/g	<2.48E-03 uci/g
Carbon 14	2.65E-04 uci/g	1.71E-04 uci/g
Iodine 129	<9.00E-03 uci/g	<1.40E-02 uci/g
Neptunium	<1.57E-01 uci/g	<1.51E-01 uci/g
Plutonium 239	<1.51E-03 uci/g	<9.46E-04 uci/g
Strontium	6.77E-02 uci/g	5.94E-02 uci/g
Technetium 99	5.02E-03 uci/g	3.97E-02 uci/g
Tritium	2.73E-03 uci/g	2.34E-03 uci/g

Atomic Absorption Spectroscopy

Hydride Analysis

Water Digestion

Arsenic	<7.27E-1 ug/g	<6.97E-01 ug/g
Mercury	1.32E-01 ug/g	1.00E-01 ug/g
Selenium	2.11E--01 ug/g	2.02E-01 ug/g

ICP Results

Water Digestion

	Sample	Duplicate
Aluminum	3823.95 ug/g	2694.93 ug/g
Antimony	LT	LT
Barium	LT	LT
Beryllium	LT	LT
Boron	289.22 ug/g	389.25 ug/g
Cadmium	LT	LT
Calcium	300.40 ug/g J	83.68 ug/g
Cerium	LT	LT
Chromium	379.24 ug/g	297.81 ug/g
Cobalt	LT	LT
Copper	LT	LT
Europium	LT	LT
Iron	47.01 ug/g	103.28 ug/g
Lanthanum	LT	LT
Lithium	LT	LT
Magnesium	622.75 ug/g J	2121.69 ug/g
Manganese	LT	LT
Mercury	41.42 ug/g	38.21 ug/g
Molybdenum	LT	LT
Neodymium	LT	LT
Nickel	LT	LT
Potassium	LT	LT
Selenium	LT	LT
Silver	LT	LT
Sodium	102854.29 ug/g J	78376.12 ug/g
Strontium	LT	LT
Sulfur	411.28 ug/g	421.39 ug/g
Tantalum	LT	LT
Thallium	LT UJ	684.28 ug/g
Tin	LT	LT
Titanium	LT	LT
Vanadium	LT	LT
Zinc	26.15 ug/g	48.96 ug/g
Zirconium	LT	LT

LT: Less Than
NC: Not Calibrated
NOT CALC: Not Calculated
Instrument Standards Outside Control Limits

10-4-90
C.J. Surpell

Core 6 Composite
Acid Digestion

DATA SUMMARY

Results are wet weight

ICP Results

Acid Digestion

	Wet Weight Sample	Wet Weight Duplicate
Aluminum	107879 ug/g J	94696 ug/g
Arsenic	262 ug/g	106 ug/g
Barium	299 ug/g	32 ug/g
Beryllium	7 ug/g	2 ug/g
Bismuth	27539 ug/g	12586 ug/g
Boron	119 ug/g	47 ug/g
Cadmium	34 ug/g	LT
Calcium	748 ug/g	419 ug/g
Cerium	1715 ug/g	LT
Chromium	868 ug/g	377 ug/g
Copper	140 ug/g	47 ug/g
Europium	27 ug/g	LT
Iron	16785 ug/g	9013 ug/g
Lanthanum	147 ug/g	LT
Lead	1252 ug/g	466 ug/g
Lithium	51 ug/g	LT
Magnesium	2630 ug/g	735 ug/g
Manganese	4849 ug/g	2811 ug/g
Mercury	428 ug/g	959 ug/g
Molybdenum	95 ug/g	36 ug/g
Neodymium	896 ug/g	LT
Nickel	222 ug/g	96 ug/g
Phosphorous	35475 ug/g	12888 ug/g
Potassium	1934 ug/g	LT
Samarium	1578 ug/g	LT
Selenium	1428 ug/g	673 ug/g
Silver	126 ug/g	LT
Sodium	146087 ug/g	69937 ug/g
Strontium	639 ug/g	356 ug/g
Sulfur	639 ug/g	290 ug/g
Tantalum	350 ug/g	LT
Thallium	8236 ug/g	850 ug/g
Thorium	4171 ug/g	1486 ug/g
Tin	213 ug/g	93 ug/g
Titanium	132 ug/g	50 ug/g
Uranium	17899 ug/g	6825 ug/g
Vanadium	122 ug/g	45 ug/g
Zinc	215 ug/g	84 ug/g
Zirconium	278 ug/g	63 ug/g

Atomic Absorption Spectroscopy

Hydride Analysis
Acid Digestion

	Sample	Duplicate
Acid Digestion	9.51 g/L	11.6 g/L
Arsenic	0.66 ug/g J	0.19 ug/g
Mercury	1.67 ug/g	1.34 ug/g
Selenium	0.90 ug/g J	<4.31 ug/g

10-4-90
CS. Simpill

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Holding Time

COMMENTS: Of the untreated samples no analyses holding times were met. (including: pH, mercury, cyanide and % water.)

ACTION: None - Due to the unusual circumstances under which SST-241-U-110 samples were analyzed any analyses which did not meet specified holding times will not be qualified.

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

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Calibration

COMMENTS: All CN initial and continuing calibration within control limits

ACTION: None.

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

___ of ___

9112261314

RCRA LEVEL C QC

Name C. J Simiele Date 10-4-90

QC Check: Analytical Blanks.

COMMENTS: Possible Contaminants detected in cyanide preparation blank. No D.L. provided for CN analysis.

ACTION: Qualify associated data as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
F0917	CN	U			

___ of ___

9112135

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

9112201316

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Matrix Spike

COMMENTS: CN matrix spike with in control limits.

ACTION: None

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

___ of ___

91121016317

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Duplicate Analyses

COMMENTS: CN duplicate analyses with in Control limits.

ACTION: None

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

___ of ___

9 1 1 2 5 0 1 3 1 8

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Calibration

COMMENTS: All mercury initial and continuing calibration with in control limits.

ACTION: None

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

___ of ___

9 1 3 1 0 5 2 1 1 6

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Analytical Blank

COMMENTS: No contaminants detected in mercury preparation blank.

ACTION: None

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

___ of ___

9112 1 0 0 3 1 0

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Matrix Spike

COMMENTS: Mercury matrix spike with in Control limits

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Duplicate Analyses

COMMENTS: Mercury duplicate analyses out of Control limits

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0917	Hg	J			

___ of ___

9 1 1 2 1 5 1 3 1 3

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Holding Time

COMMENTS: Of the fusion prep'ed samples, holding times were not met for ICP and I^{129} analyses all other holding times were met.

ACTION: None- Due to the unusual circumstances under which SST241-U-110 samples were analyzed any analyses which did not meet specified holding times, will not be qualified.

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

___ of ___

9112130134

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Calibration

COMMENTS: All initial and continuing lin-digested calibration standards within ±10% control limits. Eighteen elements in initial and continuing acid-digested calibration standards out of control limits.

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0923	Sb	J			
	Be	UJ			
	Ca	J			
	Ce	UJ			
	Co	UJ			
	Fe	J			
	Li	UJ			
	Mo	UJ			
	K	J			
	Sm	J			
	Se	UJ			
	Na	J			
	Ta	UJ			
	Tl	↓			
	Th	↓			
	U	UJ			
	V	UJ			
	Zr	UJ			

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Analytical Blank

COMMENTS: Possible contaminants detected in ICP fusion prep'ed samples: Sulfur

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0923	S	U			

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: ICS

COMMENTS: No ICS data provided with data package.

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Matrix Spike

COMMENTS: Twenty-Two elements in ICP matrix spike out of control limits.

ACTION: Qualify associated data as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
F0923	Ba	R			
	B	J			
	Cd	R			
	Ca	J			
	Ce	R			
	Co	R			
	Cu	R			
	La	UJ			
	Pb	UJ			
	Li	R			
	Mg	J			
	Mn	J			
	Mo	UJ			
	Ni	J			
	K	R			
	Ag	R			
	Sr	J			
	Ta	R			
	Sn	UJ			
	Ti	UJ			
	Zn	J			
	Zr	UJ			

___ of ___

9112170139

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Duplicate Analyses.

COMMENTS: ICP fusion prep'ed samples out of ±20%
Control Limits include: Al (38%); Ba (760%); B (121%);
Ca (38%); Fe (25%); Mn (48%), Sr (51%); S (1097%); Zn (29%).

ACTION: Qualify all associated samples
as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0923	Al	J			
	Ba				
	B				
	Ca				
	Fe				
	Mn				
	Sr				
	S	J			
	Zn	J			

___ of ___

9 1 1 2 1 1 1 6 0

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Holding Time

COMMENTS: Of the water digested samples, holding times were not met for: IC, TOC (1st & 3rd leach); CO_3, NO_2, NO_3, C^{14}, Sr^{90}, Hg, ICP and ammonia analyses. All other water leach sample holding times were met.

ACTION: None - Due to the unusual circumstances under which SST 241-U-110 samples were analyzed any samples which do not meet specified holding times, will not be qualified.

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

pH

9112250137

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Calibration

COMMENTS: All IC initial and continuing calibration with in control limits. IC calibration frequency with in control limits

ACTION: None

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

___ of ___

9112160132

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Analytical Blank

COMMENTS: All IC preparation blank analysis contaminant free.

ACTION: None

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

___ of ___

9112051373

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

91125114

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Matrix Spike

COMMENTS: All IC matrix spike analyses within control limits.

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: Duplicate Analyses

COMMENTS: Two IC anion duplicate analyses out of control limits. (NO_3 and PO_4)

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0930	NO_3	J			
	PO_4	J			

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Calibration

COMMENTS: Initial and continuing TOC calibration with in control limits. Calibration frequency with in control limits

ACTION: None

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

___ of ___

9 1 1 2 1 5 3 7 7

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: Analytical Blank

COMMENTS: TOC preparation blank contaminant free.

ACTION: None

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

___ of ___

9 1 1 2 1 0 1 3 7 8

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C.J. Simide Date 10-4-90

QC Check: Matrix Spike

COMMENTS: Matrix Spike TOC analyses with in control limits.

ACTION: None

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

___ of ___

0 1 2 1 1 2 1 1 6

RCRA LEVEL C QC

Name C. J. Simiela Date 10-4-90

QC Check: Duplicate Analyses.

COMMENTS: TOC (1st leach) duplicate analyses out of control limits. TOC (3rd leach) duplicate analyses with in control limits.

ACTION: Qualify associated data as per OSM guide lines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0930	TOC (1st leach)	J			

___ of ___

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: Calibration

COMMENTS: Ammonia initial and continuing calibration with in control limits. Calibration frequency with in control limits.

ACTION: None

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

___ of ___

91 1 2 2 1 1 6

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Analytical Blank

COMMENTS: NH_3 preparation blank appears to be contaminant free. No D.L.'s provided for NH_3 analysis.

ACTION: None

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

___ of ___

9 1 1 2 1 5 0 1 3

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

9 1 1 2 5 1 3 1 4

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Matrix Spike

COMMENTS: Ammonia matrix spike with in Control limits.

ACTION: None

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

___ of ___

9 1 1 2 0 5 1 3 1 5

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: Duplicate Analyses

COMMENTS: Ammonia duplicate analyses with un control limits.

ACTION: None

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

___ of ___

9 1 1 2 2 6 1 3 1 6

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Calibration

COMMENTS: Carbonate initial and continuing calibration with in control limits

ACTION: None

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

___ of ___

7 1 3 1 1 5 2 1 1 6

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Analytical Blank

COMMENTS: Carbonate preparation blank Contaminant free.

ACTION: None

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

___ of ___

9 1 1 2 5 0 1 3 1 6

RCRA LEVEL C QC

Name C.J. Simicle Date 10-4-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

9112150319

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: Matrix Spike

COMMENTS: Carbonate matrix spike with in control limits

ACTION: None

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

___ of ___

0 1 2 1 5 1 1 6

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: Duplicate Analyses

COMMENTS: Carbonate duplicate analyses with in control limits of ±20%.

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: Calibration

COMMENTS: NO_3 initial and continuing calibration with in control limits of ±10%.

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: Analytical Blank

COMMENTS: NO_2 preparation blank appears to be contaminant free. No DL'S provided for NO_2 analysis.

ACTION: None

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

___ of ___

9 1 1 2 5 1 1 3 1 3

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

9 1 1 2 5 0 1 3 7 4

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Matrix Spike

COMMENTS: NO_2 matrix spike analyses with in control limits.

ACTION: None

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

___ of ___

9112060151

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Duplicate Analyses

COMMENTS: NO_2 duplicate analyses out of Control limits.

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0931	NO_2	J			

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Calibration

COMMENTS: All Hg, As, and Se initial and continuing calibration with in control limits.

ACTION: None

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

___ of ___

9112271377

RCRA LEVEL C QC

Name C. J. Simiele Date 10-4-90

QC Check: Analytical Blank

COMMENTS: Preparation blanks for As, Se and Hg contaminant free.

ACTION: None

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

___ of ___

9 1 1 2 2 5 1 3 3

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

6 1 3 1 1 2 1 1 6

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Matrix Spike

COMMENTS: all As, Hg and Se matrix spikes with in control limits.

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-5-90

QC Check: Duplicate Analyses

COMMENTS: As and Se duplicate out of ±20% control limits. (RPD=71.2% and 379% respectively). Hg duplicate analyses within ±20% control limits

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0935	As	J			
↓	Se	J			

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-5-90

QC Check: Calibration

COMMENTS: All initial and continuing ICP calibration with in control limits. Calibration frequency with in control limits.

ACTION: None

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

___ of ___

9 1 1 2 0 5 1 1 6 2

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Analytical Blank

COMMENTS: No contaminants detected in preparation blanks and associated samples.

ACTION: None

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

___ of ___

9 1 1 2 2 5 2 1 3 3 3

RCRA LEVEL C QC

Name C.J. Simiele Date 10-5-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

9112051334

RCRA LEVEL C QC

Name C.J. Simiele Date 10-5-90

QC Check: ICS

COMMENTS: No ICS data provided with data package.

ACTION: NONE

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

___ of ___

9112250135

RCRA LEVEL C QC

Name C.J. Simiele Date 10-5-90

QC Check: Matrix Spike

COMMENTS: One element (Th) in ICP matrix spike out of control limits.

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F929	Th	UJ			

___ of ___

9112050136

RCRA LEVEL C QC

Name C. J. Simiele Date 10-5-90

QC Check: Duplicate Analyses

COMMENTS: ICP (water leach prep) duplicate analyses out of ±20% control limits include: Ca (21%); Mg (242%); Na (24%)

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0930	Ca	J			
L	Mg	L			
	Na				

___ of ___

RCRA LEVEL C QC

Name C.J. Simiela Date 10-4-90

QC Check: Holding Time

COMMENTS: Of the acid digested samples, holding times were not met for mercury analyses. All other acid digested samples holding times were met.

ACTION: None- Due to the unusual circumstances under which SST 241-U-110 samples were analyzed any analyses which did not meet specified holding times, will not be qualified.

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

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Calibration

COMMENTS: As, Hg and Se initial and continuing calibration with in control limits.

ACTION: None

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

___ of ___

9112161319

RCRA LEVEL C QC

Name C. J. Simiele Date 10-5-90

QC Check: Analytical Blank

COMMENTS: All As, Hg, and Se preparation blanks contaminant free.

ACTION: None

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

___ of ___

9112170

RCRA LEVEL C QC

Name C.J. Simiele Date 10-5-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-4-90

QC Check: Matrix Spike

COMMENTS: As, Hg and Se matrix spike analyses with in control limits.

ACTION: None

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

___ of ___

91125371 6

Dx
Dup?

RCRA LEVEL C QC

Name C. J. Simiele Date 10-5-90

QC Check: Duplicate Analyses

COMMENTS: Hg duplicate analyses with in control limits. As duplicate analyses out of control limits.

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0935	As	J			

___ of ___

RCRA LEVEL C QC

Name C. J. Simiele Date 10-5-90

QC Check: Calibration

COMMENTS: all ICP initial and continuing non-digested samples with in control limits. Eighteen elements in ~~d~~acid digested initial and continuing ICP standards.

ACTION: Qualify assouated data as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
F0935	B	J			
	Al	J			
	Ba	J			
	Ce	J			
	Cr	J			
	Cu	J			
	Fe	J			
	Li	J			
	Mn	J			
	Nd	J			
	Ni	J			
	Ag	J			
	Ta	J			
	Sn	J			
	Ti	J			
	Zn	J			
	Zr	J			

___ of ___

9 1 1 2 7 5 1 3 7 4

RCRA LEVEL C QC

Name C.J. Simiele Date 10-5-90

QC Check: Analytical Blank

COMMENTS: No contaminants detected in preparation blank and associated samples.

ACTION: None

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

___ of ___

9112750375

RCRA LEVEL C QC

Name C.J. Simiela Date 10-5-90

QC Check: LCS

COMMENTS: NO LCS data provided with data package.

ACTION: None

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

___ of ___

9112261376

RCRA LEVEL C QC

Name C.J. Simiele Date 10-5-90

QC Check: ICS

COMMENTS: No ICS data provided with data package.

ACTION: None

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

___ of ___

9 1 1 2 5 0 1 3 7 7

RCRA LEVEL C QC

Name C.J. Simiele Date 10-5-90

QC Check: Matrix Spike

COMMENTS: Twenty Three elements in ICP matrix Spike out of control limits.

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0935	Ba	J			
	B	J			
	Cd	J			
	Ca	J			
	Ce	J			
	Cr	J			
	Cu	J			
	La	J			
	Pb	J			
	Li	J			
	Mg	J			
	Mo	J			
	Nd	J			
	Ni	J			
	P	J			
	K	J			
	Ag	J			
	Sr	J			
	Ta	J			
	Sn	J			
	Ti	J			
	Zn	J			
	Zr	J			

___ of ___

9 1 1 2 5 0 1 3 7 9

RCRA LEVEL C QC

Name C. J. Simiele Date 10-6-90

QC Check: Duplicate Analyses

COMMENTS: ICP (acid digest. prep) duplicate analyses out of ±20% Control limits include entire element List excluding Al. (LT assumed to equal D.L. for determining Duplicate RPD.)

ACTION: Qualify all associated data as per OSM guidelines

sample #	constituent	value/qual	(RPD)
F0935	As	J	60
	Ba		89
	Be		71
	Bi		54
	B		60
	Cd		76
	Ca		44
	Ce		83
	Cr		57
	Cu		66
	Eu		81
	Fe		46
	La		80
	Pb		63
	Li		88
	Mg		72
	Mn		42
	Hg		124
	Mo		62
	Nd		50
	Ni		57
	P		64
	K		77

sample #	constituent	value/qual	RPD
F0935	Sm	J	80
	Se		53
	Ag		70
	Na		52
	Sr		44
	S		54
	Ta		84
	Tl		90
	Th		64
	Sn		52
	Ti		62
	U		62
	V		63
	Zn		61
	Zr		77

of

RCRA LEVEL C QC

Name C.J. Sumiele Date 10-10-90

QC Check: Duplicate Analyses

COMMENTS: Both pH and % water duplicate analyses within ±20% control limits.

ACTION: None

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

___ of ___

0 1 2 5 0 1 1 6