0012371

SINGLE-SHELL TANK WASTE CHARACTERIZATION FOR TANK 241-U-110 CORE 7
COMPOSITE SEGMENTS 1 2 3 4

DATA PACKAGE

SECTION

12 OF 12

012371
12 of 12

Westinghouse Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-8-90

REVIEWED BY C.J. Simiele

LABORATORY WHC 222-S

CASE # SST-241-U-110

SDG # Core 7 Seg 1 89-046

SAMPLES/MATRIX Seq # 89-046 (LAB ID#)

fusion- F0202

water leach- F0207

acid digest- F0212

untreated- F0197

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	IC	TOC	ICP
1. Holding Time		X	X	O
2. Calibration		O	O	~~M~~ X (U3)
3. Analytical Blank		X	O	X
4. LCS		N/A	N/A	N/A
5. ICS (ICP only)		N/A	N/A	N/A
6. Matrix Spike		O	O	M
7. Duplicate Analyses		X	O	~~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: No Radiochemical Validation done.

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

Westinghouse
Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-8-90

REVIEWED BY C.J. Simiele

LABORATORY WHC 222-S

CASE # SST-241-U-110

SDG # Core 7-Seg 1
89-046

SAMPLES/MATRIX Seg-89-046

LAB ID:
Fusion: E0202
Water leach E0207
Aud digest: E0212
Untreated: E0197

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	pH (Duplicate Analyses only)	% Water (Duplicate Analyses only)	
1.				
2. Duplicate Analyses		O	X	
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.

SUMMARY DATA REPORT

Results are reported as wet weight.

Tank	241-U-110
Core	7
Segment	1
Custosmer Id.	89-046

Undigested Sample Results

	Sample	Duplicate
pH	9.62	9.75
%Water	4.16% J	3.08%

Fusion Dissolution Results

	Sample	Duplicate
Fusion Digestion	2.84 g/L	2.41 g/L
Total Alpha	<9.15E-03 uci/g	1.88E-01 uci/g
Total Beta	6.27E+00 uci/g	3.44E+01 uci/g
GEA Cs-137	1.44E-01 uci/g	1.49E+01 uci/g
Uranium	3.19E+01 ug/g	3.86E+01 ug/g

Water Digestion

	Sample	Duplicate
Water Digestion	10.4 g/L	10.0 g/L
Ion Chromatograph		
Fluoride	<1.92E+01 ug/g	<2.00E+01 ug/g
Chloride	5.68E+01 ug/g	5.64E+01 ug/g
Nitrate	2.05E+02 ug/g	1.83E+02 ug/g
Phosphate	2.42E+02 ug/g J	1.89E+02 ug/g
Sulfate	<1.92E+02 ug/g	<2.00E+02 ug/g
Total Organic Carbon/	7.40E+02 ug/g	6.05E+01 ug/g

10-9-90
C.N. Sumpell

Acid Digestion Results

ICP Results DATA SUMMARY

	Sample		Duplicate	
Aluminum	89743	ug/g	81035	ug/g
Antimony	305	ug/g UJ	734	ug/g
Arsenic	92	ug/g U	216	ug/g
Barium	22	ug/g	57	ug/g
Beryllium	2	ug/g	6	ug/g
Bismuth	303	ug/g	750	ug/g
Boron	87	ug/g	124	ug/g
Cadmium	LT	UJ	23	ug/g
Calcium	152	ug/g UJ	160	ug/g
Cerium	836	ug/g UJ	2037	ug/g
Chromium	LT	UJ	25	ug/g
Copper	50	ug/g UJ	122	ug/g
Europium	17	ug/g U	40	ug/g
Iron	1334	ug/g	2654	ug/g
Lanthanum	45	ug/g U	147	ug/g
Lead	307	ug/g U	658	ug/g
Lithium	38	ug/g U	387	ug/g
Magnesium	76	ug/g	155	ug/g
Manganese	236	ug/g U	270	ug/g
Mercury	LT	UJ	33	ug/g
Molybdenum	45	ug/g U	84	ug/g
Neodymium	LT	UJ	1363	ug/g
Nickel	LT	UJ	97	ug/g
Potassium	1616	ug/g UJ	3162	ug/g
Samarium	952	ug/g U	2339	ug/g
Selenium	403	ug/g U	824	ug/g
Silver	62	ug/g U	147	ug/g
Sodium	947	ug/g U	4864	ug/g
Strontium	13	ug/g U	115	ug/g
Sulfur	134	ug/g U	223	ug/g
Tantalum	107	ug/g UR	318	ug/g
Thallium	7361	ug/g UJ	12689	ug/g
Thorium	3408	ug/g U	6239	ug/g
Tin	98	ug/g	147	ug/g
Titanium	49	ug/g U	93	ug/g
Uranium	5102	ug/g U	13551	ug/g
Vanadium	69	ug/g U	129	ug/g
Zinc	30	ug/g U	53	ug/g
Zirconium	107	ug/g U	242	ug/g

LT: Less Than Instrument Detection Limit
NC: Not Calibrated

RCRA LEVEL C QC

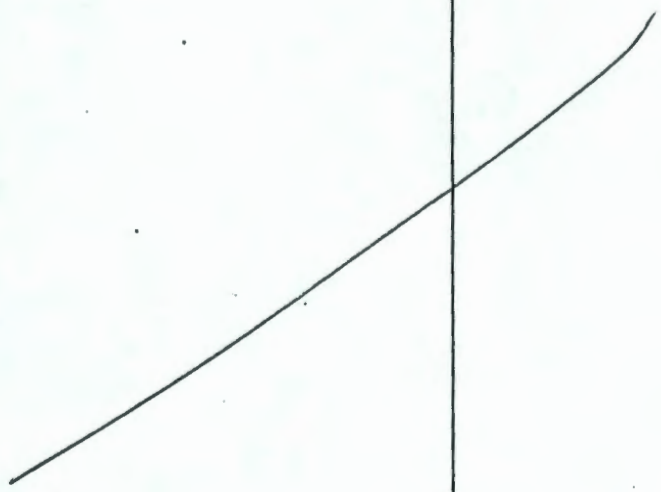
Name C.J. Simiele Date 10-9-90

QC Check: Holding Times

COMMENTS: IC, TOC and pH analyses out of control limits. All other holding times met.

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

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



RCRA LEVEL C QC

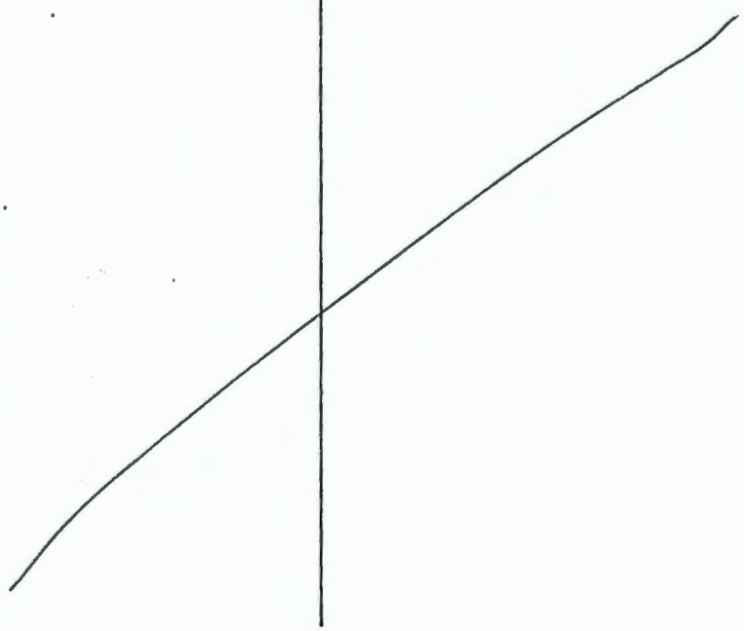
Name C.J. Simiele Date 10-9-90

QC Check: Calibration

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

ACTION: None

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



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RCRA LEVEL C QC

Name C.J. Simiele Date 10-9-90

QC Check: Analytical Blanks

COMMENTS: Possible contaminants detected in preparation blank and associated sample for the following anions: Cl & NO_3

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0207	Cl	U			
L	NO_3	U			

RCRA LEVEL C QC

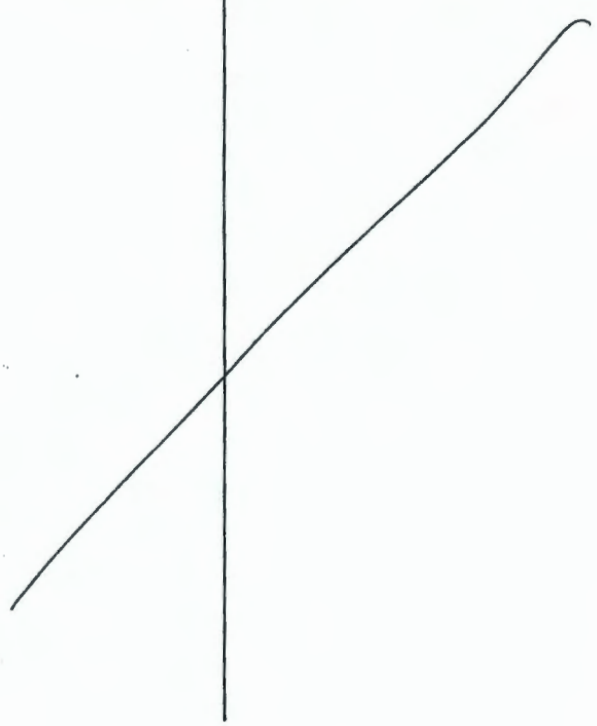
Name C. J. Simiele Date 10-9-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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



RCRA LEVEL C QC

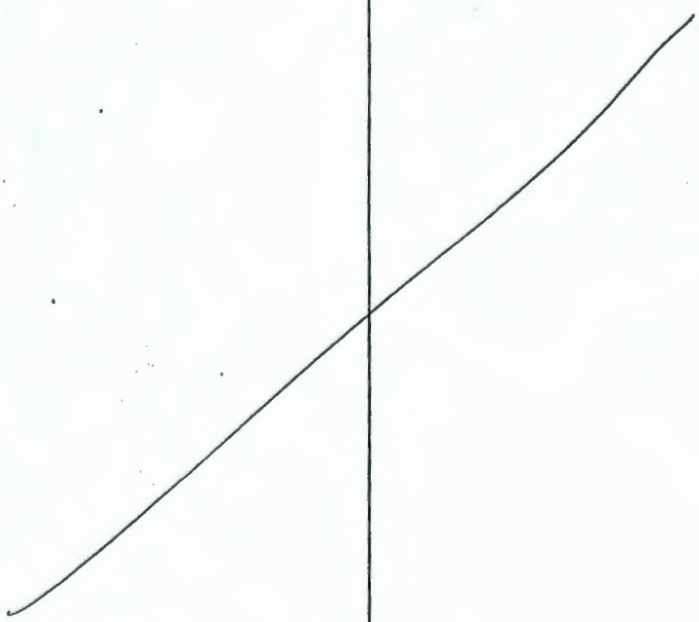
Name C.J. Simiele Date 10-9-90

QC Check: Matrix Spike

COMMENTS: All IC matrix spike analyses with in control limits. of ±25%.

ACTION: None

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



RCRA LEVEL C QC

Name C.J. Simiele Date 10-9-90

QC Check: Duplicate Analyses

COMMENTS: One anion (PO_4) in duplicate analyses out of control limits of ± 20%.

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0207	PO_4	J			

___ of ___

RCRA LEVEL C QC

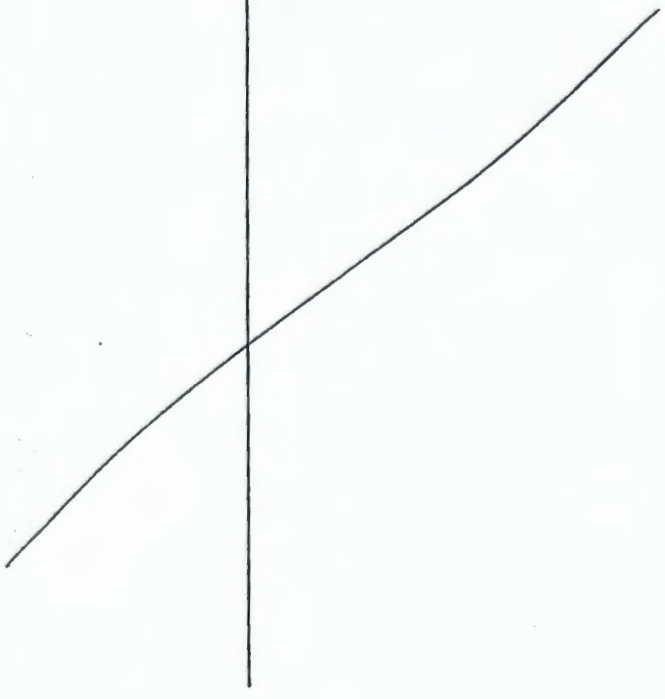
Name C. J. Simiele Date 10-9-90

QC Check: Calibration

COMMENTS: All TOC. inital and continuing calibration with in control limits of ±10%.

ACTION: None

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



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RCRA LEVEL C QC

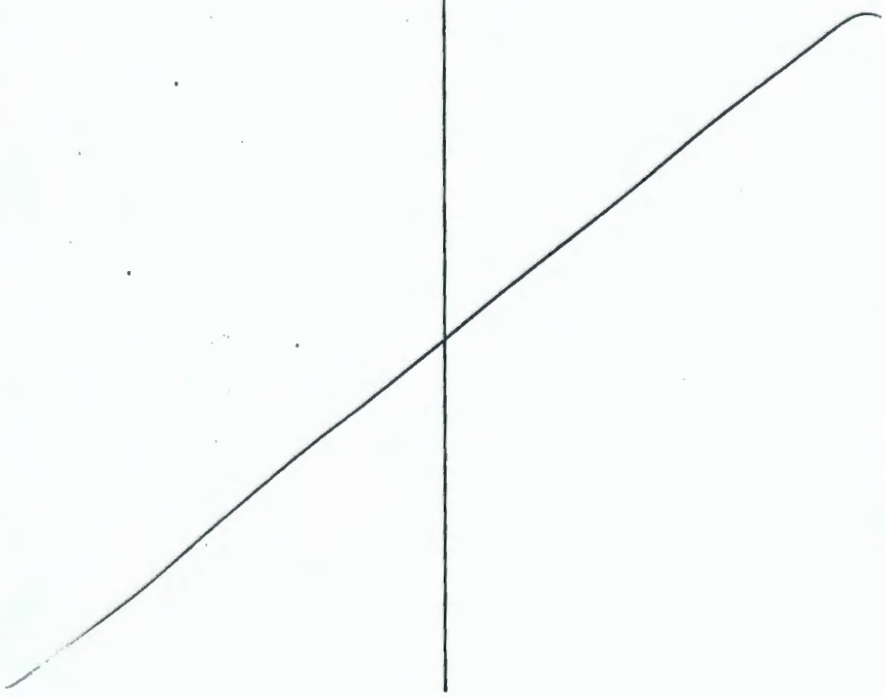
Name C.J. Simiele Date 10-9-90

QC Check: Analytical Blank

COMMENTS: No contaminants detected in preparation blank and associated sample

ACTION: None

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



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RCRA LEVEL C QC

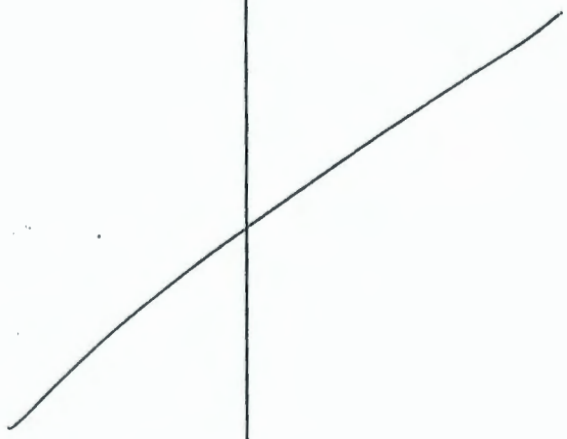
Name C. J. Simiele Date 10-9-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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



RCRA LEVEL C QC

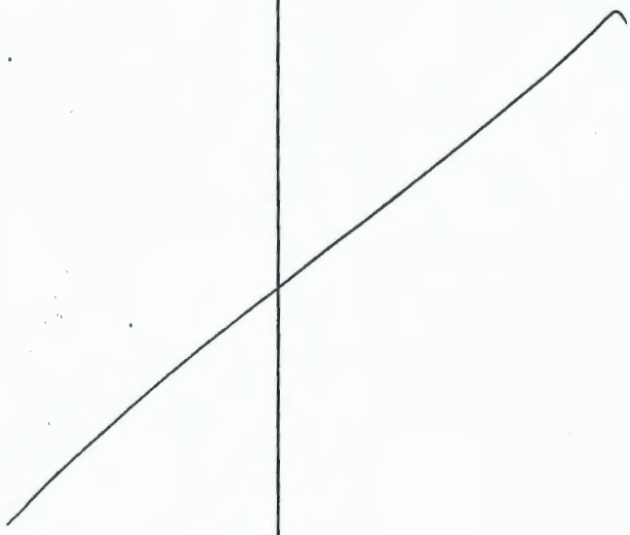
Name C.J. Simiele Date 10-9-90

QC Check: Matrix Spike

COMMENTS: All QC matrix spike analyses with in control limits of ±25%

ACTION: None

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



RCRA LEVEL C QC

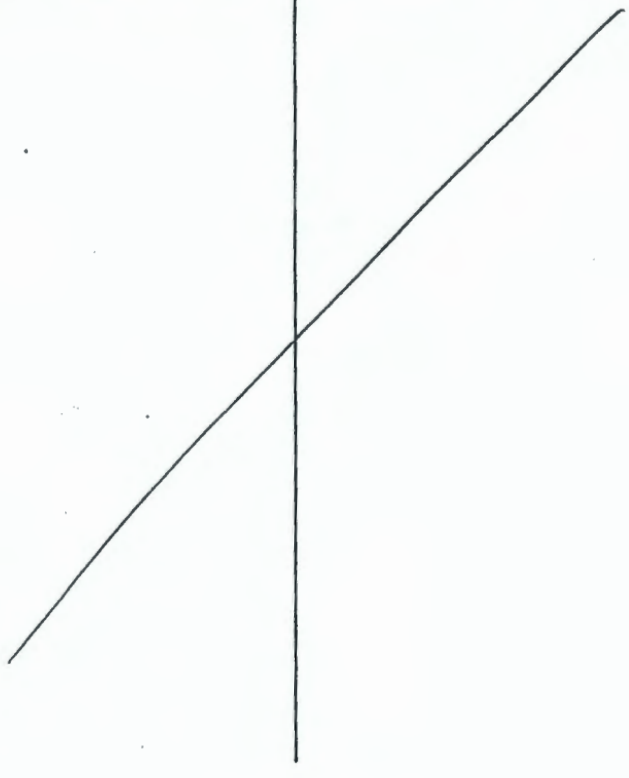
Name C.J. Simiele Date 10-9-90

QC Check: Duplicate Analyses

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

ACTION: None

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



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RCRA LEVEL C QC

Name C.J. Simiele Date 10-9-90

QC Check: Calibration

COMMENTS: All ICP non-digested inital and Continuing calibration within ±10% control limits. Eighteen elements in ICP digested inital and Continuing calibration out of control limits of ±10%.

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0212	Ba	J			
	Bi				
	B				
	Cd				
	Ca				
	Cr	UJ			
	Cu	J			
	La				
	Pb				
	Li				
	Mg				
	Mo				
	Ag				
	Na				
	Sr				
	Ta				
	Ti				
	Zn				

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-9-90

QC Check: Analytical Blank

COMMENTS: Contaminants detected in preparation blank and associated sample for: Sb, As, Ca, Ce, Cu, Eu, La, Pb, Li, Mn, Mo, P, K, Sm, Se, Si, Ag, Na, Sr, S, Ta, Tl, Th, Sn, Ti, Tu, U, V, Zn & Zr.

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
FOZ12	Sb	U	FOZ12	S	U
	As			Ta	
	Ca			Tl	
	Ce			Th	
	Cu			Ti	
	Eu			Tu	
	La			U	
	Pb			V	
	Li			Zn	
	Mn			Zr	
	Mo				
	P				
	K				
	Sm				
	Se				
	Si				
	Ag				
	Na				
	Sr				

RCRA LEVEL C QC

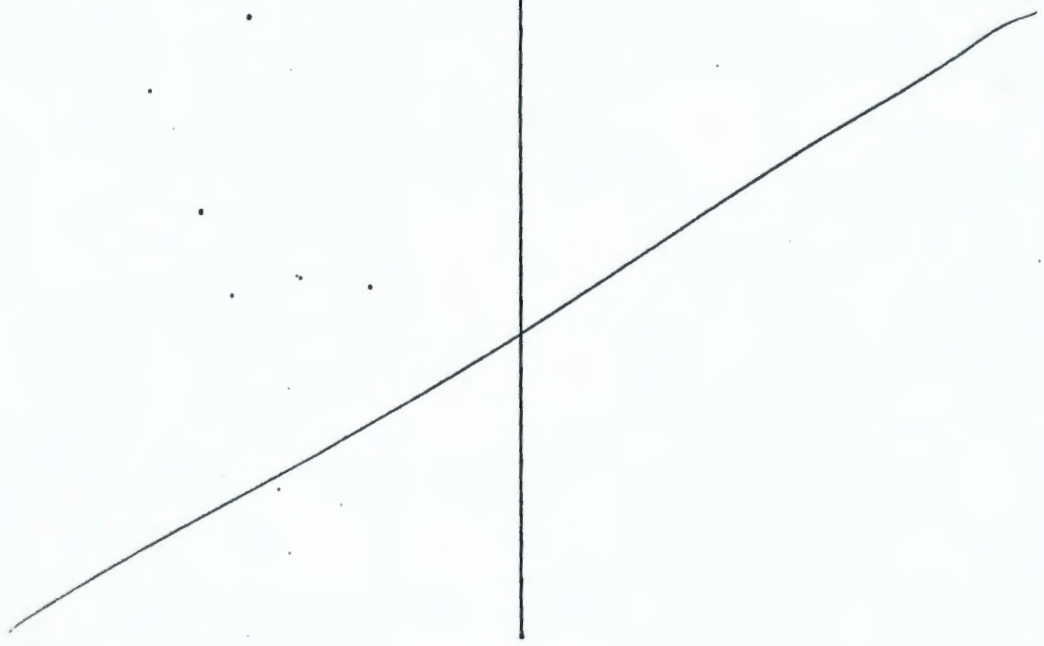
Name C.J. Simiele Date 10-9-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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



RCRA LEVEL C QC

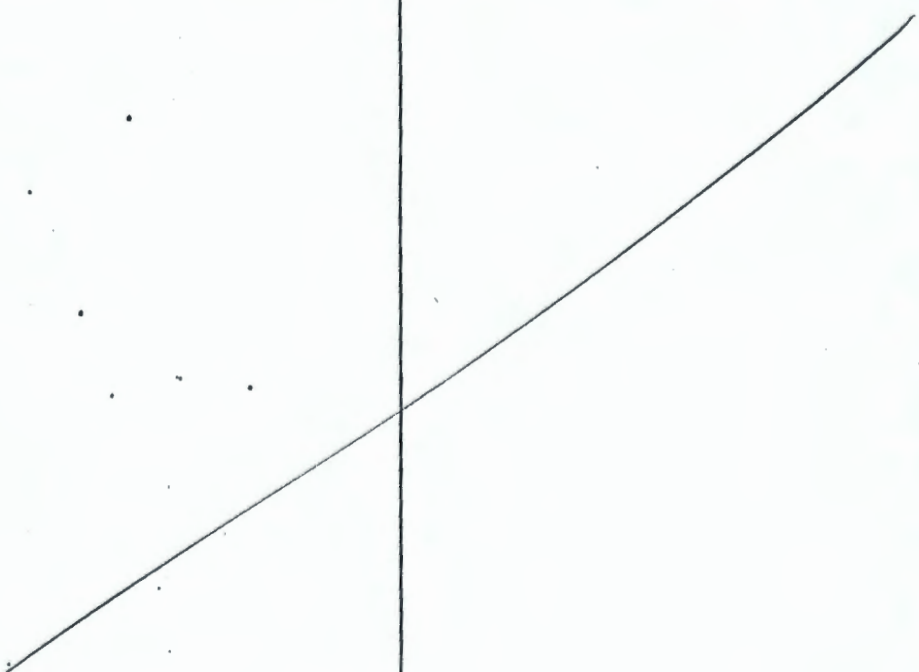
Name C. J. Simiele Date 10-9-90

QC Check: ICS

COMMENTS: No ICS data provided with data package.

ACTION: None

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



RCRA LEVEL C QC

Name C.J. Simiele Date 10-9-90

QC Check: Matrix Spike

COMMENTS: Five constituents in ICP matrix Spike out of control limits. (Ca, Pb, K, Ag, Ta) of ±25%

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0212	Ca	J			
	Pb	J			
	K	J			
	Ag	J			
	Ta	R			

RCRA LEVEL C QC

Name C.J. Simiele Date 10-9-90

QC Check: Duplicate Analyses

COMMENTS: All ICP duplicate analyse out of control limits of ±20% with exception of the following elements: Al; Ca; Mn.

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	RPD
F0212	~~Ag~~ Sb	J	141
	As	J	135
	Ba	J	159
	Be	J	200
	Bi	J	148
	B	J	43
	Cd	UJ	181
	Ce	J	144
	Cr	UJ	205
	Cu	J	144
	Eu	J	135
	Fe	J	99
	La	J	227
	Pb	J	114
	Li	J	918
	Mg	J	104
	Hg	UJ	334
	Mo	J	87
	Nd	UJ	205

sample #	constituent	value/qual	RPD
F0212	Ni	UJ	213
	K	J	96
	Sm	J	146
	Se	J	105
	~~Ag~~	J	137
	Na	J	414
	Sr	J	785
	S	J	66
	Ta	J	197
	Tl	J	72
	Th	J	83
	Sn	J	50
	Ti	J	90
	U	J	166
	V	J	87
	Zn	J	77
	Zr	J	1.26

___ of ___

RCRA LEVEL C QC

Name C.J. Simiele Date 10-9-90

QC Check: Duplicate Analyses

COMMENTS: %water Duplicate out of control limits, PH duplicate with in control limits. of ±20%

ACTION: Qualify associated data as per DSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0197	%water	J			

___ of ___