0012371

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

DATA PACKAGE

SECTION

10 OF 12

012371
10 of 12

Westinghouse Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-9-90

REVIEWED BY C.J. Simiele

LABORATORY WHC 222-S

CASE # SST-241-U-110

SDG # Core 7 Seq 3
89-048

SAMPLES/MATRIX Seq# - 89-048
CAB ID#:
fusion: F0154
water digest: F0159
acid digest: F0164
untreated: F0149

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	IC	TOC	ICP
1.	Holding Times	X	X	O
2.	Calibration	O	O	~~M~~ WS X
3.	Analytical Blank	O		
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 Radiochemistry Validation done.

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 10-9-90

REVIEWED BY C.J. Simiele

LABORATORY WHC 222-S

CASE # SST-241-U-110

SDG # Core 7, Segment 3
89-048

SAMPLES/MATRIX Seq# 89-048
LAB ID
Fusion : F0154
Water leach: F0159
Acid digest: F0164
Untreated: F0149

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	pH (Duplicate Analyses)	% Water (Duplicate 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.

Summary Data Report

Reported results are wet sample weight.

Single Shell Tank Project

Tank:	241-U-110
Core:	7
Segment:	3
Customer ID:	89-048

Undigested Sample Results

	Sample	Duplicate
pH	12.54	12.79
%Water	47.20%	47.70%

Fusion Dissolution Results

	Sample		Duplicate	
Fusion Digestion	1.98	g/L	2.22	g/L
Total Alpha	3.18	uci/g	2.50	uci/g
Total Beta	1.56E+03	uci/g	1.59E+03	uci/g
GEA Cs-137	22.40	uci/g	23.30	uci/g
Uranium	<5.25E+03	ug/g	<5.00E+03	ug/g

Water Digestion Results

	Sample		Duplicate	
Water Digestion	9.32	g/L	7.78	g/L
Ion Chromatograph				
Fluoride	3.43E+03	ug/g J	2.62E+03	ug/g
Chloride	<1.08E+03	ug/g	<1.30E+03	ug/g
Nitrate	3.95E+04	ug/g	4.01E+04	ug/g
Phosphate	2.25E+04	ug/g J	1.44E+04	ug/g
Sulfate	<1.08E+04	ug/g	<1.30E+04	ug/g
Total Organic Carbon	2.09E+03	ug/g	2.44E+03	ug/g

10-9-90
C.J. Surpell

Acid Digestion

ICP Results

	Sample	Duplicate
Aluminum	76209 ug/g	91743 ug/g
Antimony	455 ug/g J	LT
Barium	45 ug/g J	17 ug/g
Beryllium	2 ug/g J	LT
Bismuth	12709 ug/g	12057 ug/g
Boron	LT	LT
Cadmium	LT	LT
Calcium	568 ug/g UJ	761 ug/g
Cerium	LT R	LT
Chromium	450 ug/g J	492 ug/g
Copper	1012 ug/g J	1357 ug/g
Europium	LT	LT
Iron	12131 ug/g	13308 ug/g
Lanthanum	LT	LT
Lead	742 ug/g J	352 ug/g
Lithium	LT	LT
Magnesium	1155 ug/g J	13743 ug/g
Manganese	5823 ug/g	5851 ug/g
Mercury	LT	LT
Molybdenum	25 ug/g	LT
Nickel	151 ug/g J	105 ug/g
Potassium	LT UJ	LT
Samarium	LT	LT
Selenium	517 ug/g U	LT
Silver	LT UJ	LT
Sodium	86006 ug/g	85640 ug/g
Strontium	578 ug/g	593 ug/g
Sulfur	321 ug/g UJ	2043 ug/g
Tantalum	LT R	LT
Thallium	783 ug/g J	LT
Thorium	162 ug/g	LT
Tin	73 ug/g L	LT
Titanium	27 ug/g UJ	LT
Uranium	6091 ug/g J	LT
Vanadium	47 ug/g	LT
Zinc	242 ug/g U	627 ug/g
Zirconium	LT UJ	LT

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

Last revised 10/3/90

RCRA LEVEL C QC

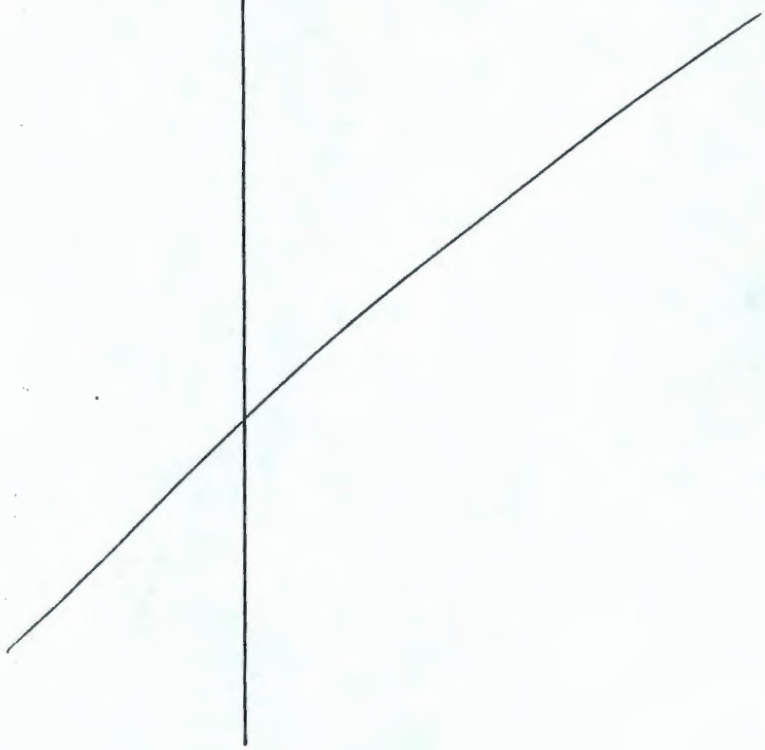
Name C.J. Simiele Date 10-9-90

QC Check: Holding Times

COMMENTS: Holding Times were not met for pH, ICS TOC analyses. All other 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 holding times, will not be qualified

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



RCRA LEVEL C QC

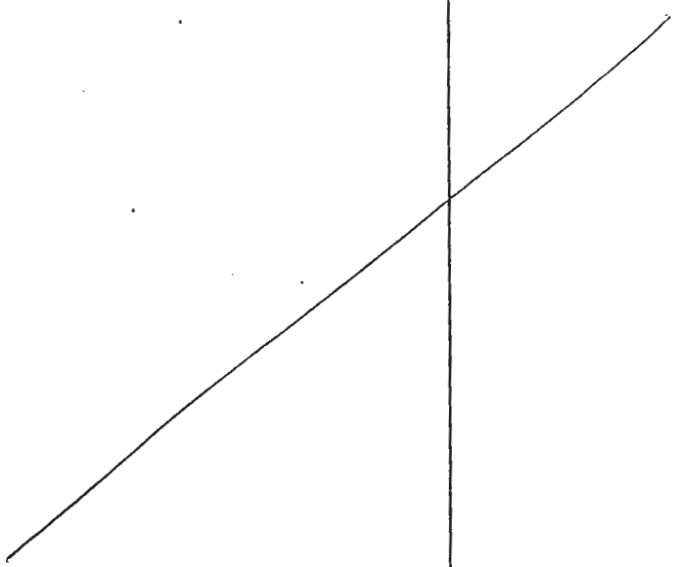
Name C.J. Simiele Date 10-9-90

QC Check: Calibration

COMMENTS: All ic initial and continuing calibration within control limits of ±10%.

ACTION: None.

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



___ of ___

RCRA LEVEL C QC

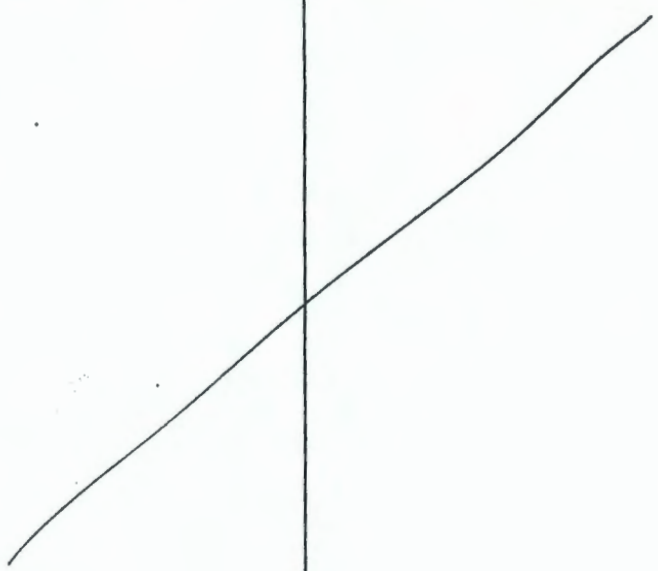
Name C.J. Simiele Date 10-9-90

QC Check: Analytical Blank

COMMENTS: No contaminants detected in IC preparation blank and associated sample.

ACTION: None

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



RCRA LEVEL C QC

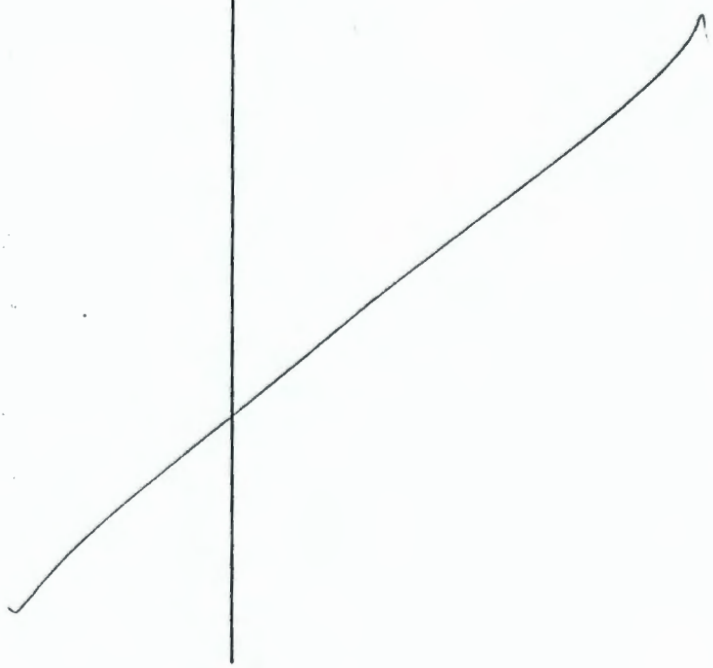
Name C.J. Simiele Date 10-9-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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



___ of ___

RCRA LEVEL C QC

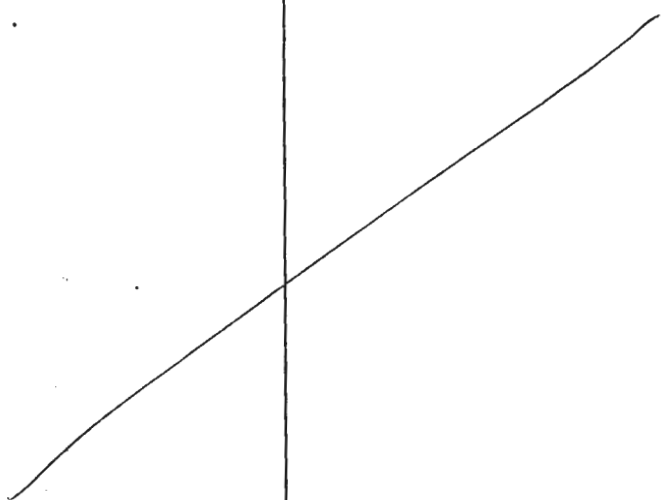
Name C.J. Simiele Date 10-9-90

QC Check: Matrix Spike

COMMENTS: All IC matrix spike analyses within 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: 1C duplicate analyses out of ±20% Control Limits for the following anions: F (24%); PO4 (36%).

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0159	F	J			
V	PO4	J			

___ of ___

RCRA LEVEL C QC

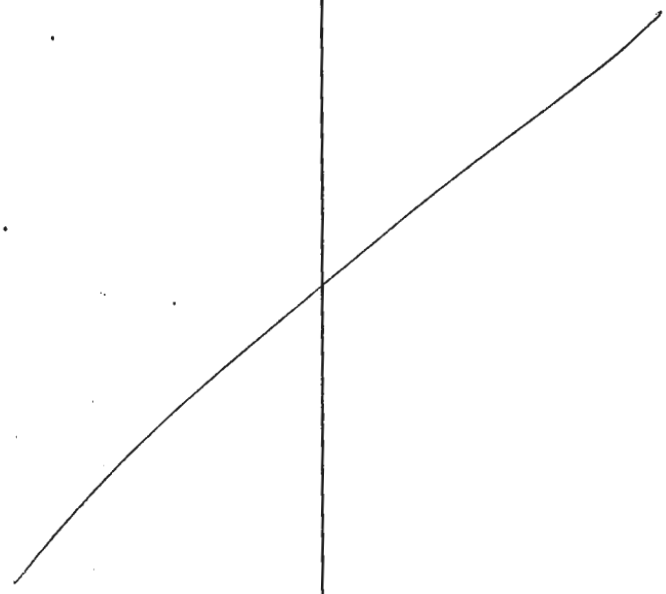
Name C.J. Simiele Date 10-9-90

QC Check: Calibration

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

ACTION: None

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



RCRA LEVEL C QC

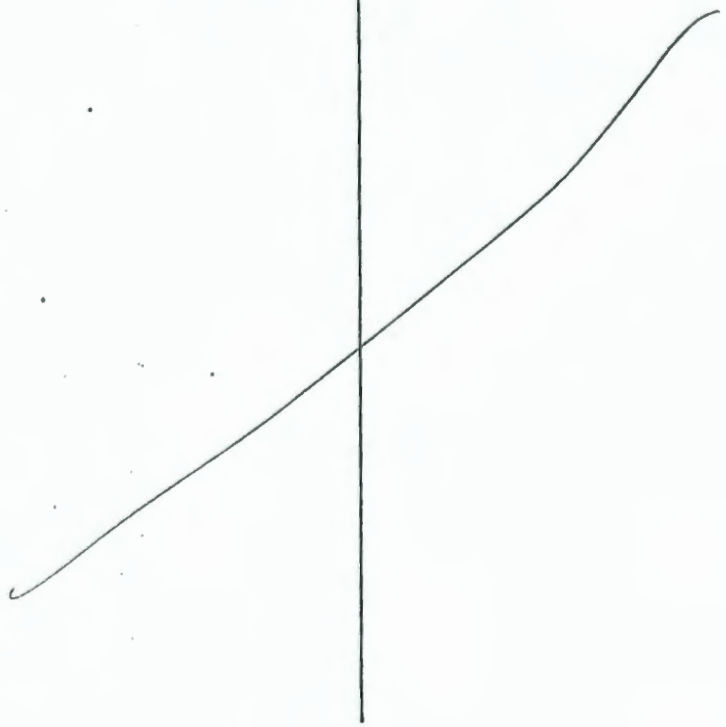
Name C.J. Simiele Date 10-9-90

QC Check: Analytical Blank

COMMENTS: No contaminants detected in TOC preparation blank and associated sample.

ACTION: None

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



RCRA LEVEL C QC

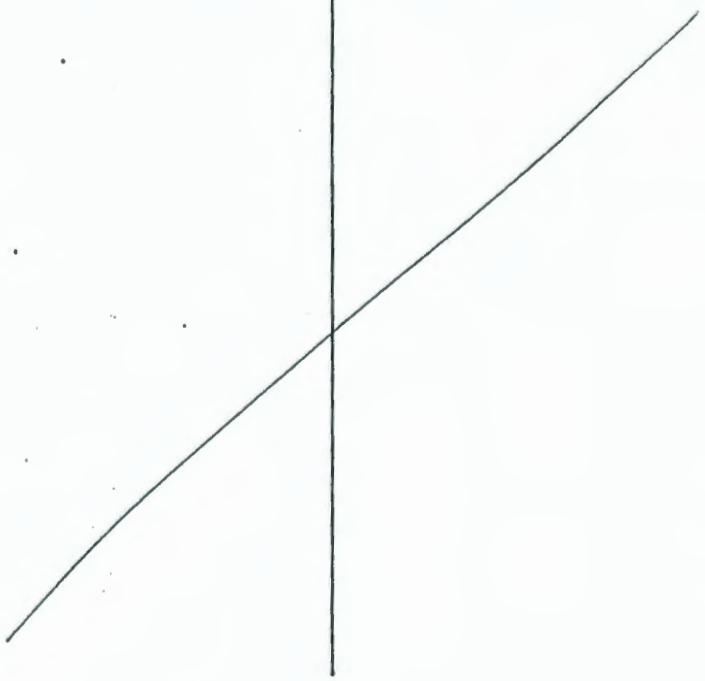
Name C.J. Simiele Date 10-9-90

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

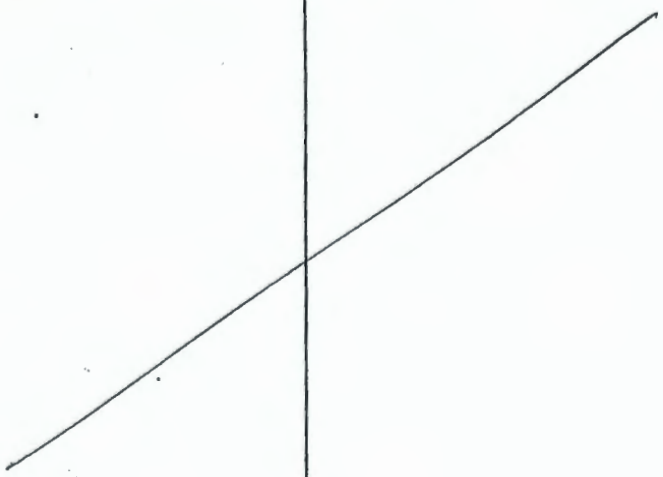
Name C.J. Simiele Date 10-9-90

QC Check: Matrix Spike

COMMENTS: TOC matrix spike analyses within control limits of ±25%.

ACTION: None

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



RCRA LEVEL C QC

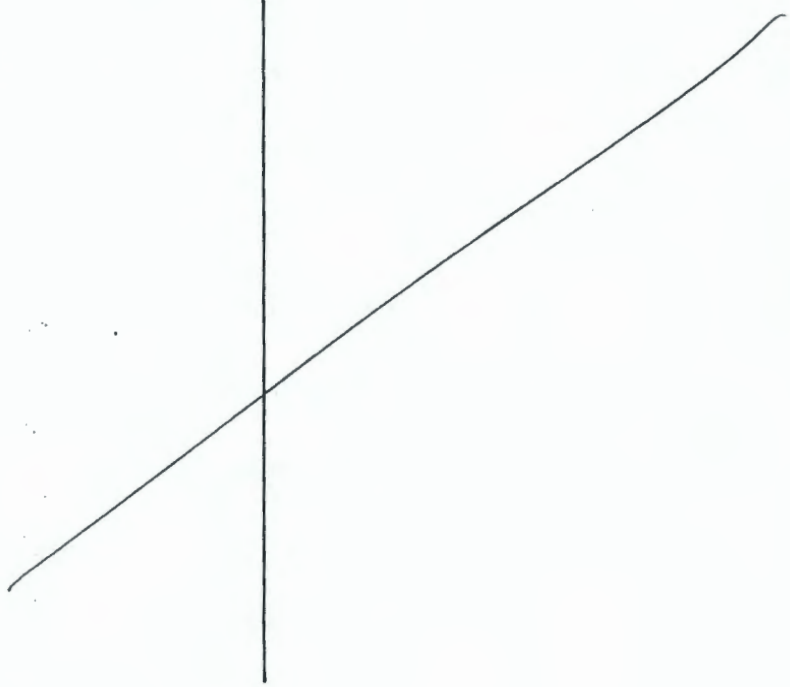
Name C.J. Simiele Date 10-9-90

QC Check: Duplicate Analyses

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

ACTION: None

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 ICP non-digested initial and continuing calibration with in control limits. Four constituents in digested ICP inital and continuing calibration out of control limits, (Ce, Cr, K & Ta) of ±10%.

ACTION: Qualify assouated data as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
F0104	Ce	UJ			
	Cr	J			
	K	UJ			
	Ta	RJ UJ			

___ of ___

RCRA LEVEL C QC

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

QC Check: Analytical Blank

COMMENTS: Contaminants detected in ICP preparation blank and associated sample for following elements: Ca, Se, S, Ti, and Zn.

ACTION: Qualify assouated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0164	Ca	U			
	Se				
	S				
	Ti				
	Zn				

___ of ___

RCRA LEVEL C QC

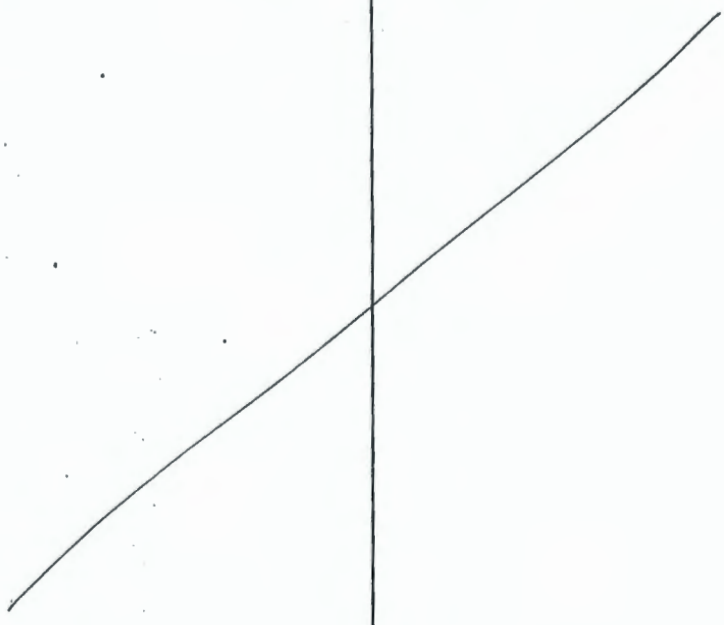
Name C.J. Simiele Date 10-9-90

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

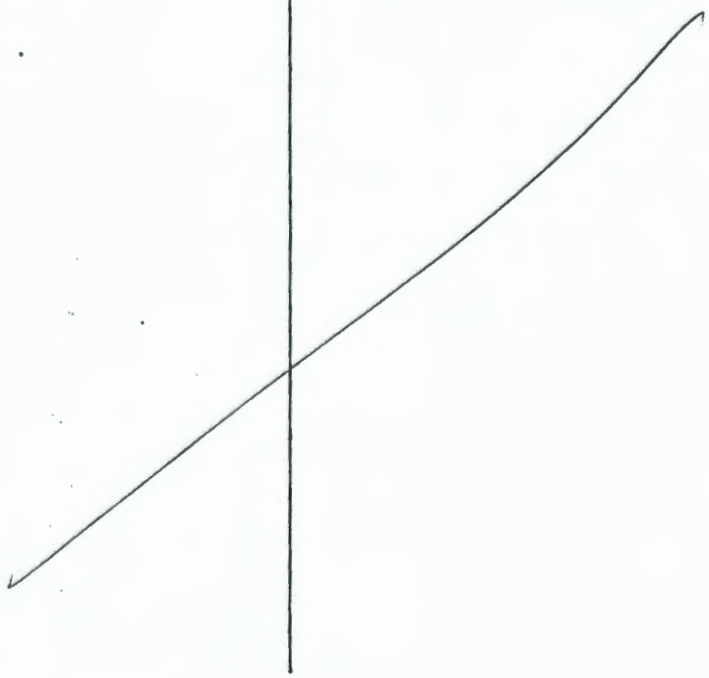
Name C.J. Simiele Date 10-9-90

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: Ten constituents in ICP matrix spike out of control limits. (B, Ca, Ce, Cr, Mg, K, Ag, Ta, Zn & Zr) of ±75%.

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual
F0164	B	acceptable
	Ca	J
	Ce	R
	Cr	J
	Mg	J
	K	UJ
	Ag	UJ
	Ta	R
	Zn	J
	Zr	UJ

sample #	constituent	value/qual

___ of ___

RCRA LEVEL C QC

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

QC Check: Duplicate Analyses

COMMENTS: ICP duplicate analyses out of ±20% control limits for the following elements: An (34%); Ba (62); Be (40%); Ca (34%); Cu (34%); Pb (53%); Mg (1090%); Ni (31%); Se (74%); S (536%); Tl (83%); Th (84%); Sn (59%); Ti (73%); U (63%); Zn (159%).

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0164	~~An~~ Sb	J			
	Ba				
	Be				
	Ca				
	Cu				
	Pb				
	Mg				
	Ni				
	Se				
	S				
	Tl				
	Th				
	Sn				
	Ti				
	U				
	Zn				

RCRA LEVEL C QC

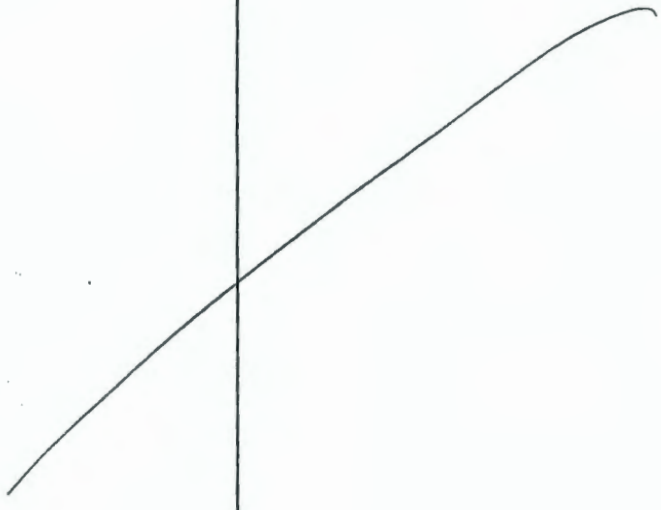
Name C.J. Simiele Date 10-9-90

QC Check: Duplicate Analyses

COMMENTS: All pH and % water duplicate analyses with in control limits of ± 20%.

ACTION: None

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



___ of ___