0012371

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

DATA PACKAGE

SECTION

11 OF 12

012371

11 of 12

Westinghouse
Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-9-90

REVIEWED BY C.J. Simiele

LABORATORY ~~GJHC~~ 222-S

CASE # ~~3~~ST-241-U-110

SDG # Core 7 Seq. 2
89-047

SAMPLES/MATRIX Seq # 89-047
LAB ID #:
fusion: F0130
water digest: F0135
acid leach: F0140
untreated: F0125

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	IC	TOC	ICP
1.	Holding Times	X	X	O
2.	Calibration	O	O	~~MX~~ CLS
3.	Analytical Blank	O	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	O	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 Seq 2
89-047

SAMPLES/MATRIX Seq (4) 89-047
LAB ID
Fusion F0130
Water digest: F0135
Acid digest: F0140
Untreated: F0125

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	pH (Duplicate Analyses only)	% WATER	
1. —				
2. Duplicate Analyses				
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

Tank	241-U-110
Core	7
Segment	2
Customer Id:	89-047

Undigested Sample

	Sample	Duplicate
pH	12.42	12.95
%Water	34.50%	37.30%

Fusion Dissolution

	Sample		Duplicate	
Fusion Digestion	2.33	g/L	1.95	g/L
Total Alpha	1.94	uci/g	1.45	uci/g
Total Beta	9.10E+02	uci/g	7.44E+02	uci/g
GEA				
Cs-137	1.81E+01	uci/g	1.73E+01	uci/g
Uranium	1.27E+04	ug/g	1.32E+04	ug/g

Water Digestion

	Sample		Sample Duplicate	
Water Digestion	8.59	g/L	8.60	g/L
Ion Chromatograph				
Fluoride	<1.18E+03	ug/g	<1.17E+03	ug/g
Chloride	<1.18E+03	ug/g	<1.17E+03	ug/g
Nitrate	2.99E+04	ug/g	2.59E+04	ug/g
Phosphate	<1.18E+04	ug/g	<1.17E+04	ug/g
Sulfate	<1.18E+04	ug/g	<1.17E+04	ug/g
Total Organic Carbon	1.61E+03	ug/g	1.41E+03	ug/g

10-10-90 C.J. Simpkins

Acid Digestion

ICP Results

	Wet Weight Sample		Wet Weight Sample Duplicate	
	ug/g		ug/g	
Aluminum	131520	ug/g	127597	ug/g
Antimony	520	ug/g J	LT	
Barium	27	ug/g J	LT	
Beryllium	1	ug/g	LT	
Bismuth	3050	ug/g J	2205	ug/g
Boron	LT		LT	
Cadmium	LT		LT	
Calcium	321	ug/g UJ	317	ug/g
Cerium	LT	R	LT	
Chromium	267	ug/g J	194	ug/g
Copper	204	ug/g J	104	ug/g
Europium	LT		LT	
Iron	6509	ug/g J	5400	ug/g
Lanthanum	LT		LT	
Lead	630	ug/g J	168	ug/g
Lithium	LT		LT	
Magnesium	1304	ug/g J	3102	ug/g
Manganese	4172	ug/g	3644	ug/g
Mercury	LT		LT	
Molybdenum	33	ug/g J	LT	
Nickel	103	ug/g J	LT	
Potassium	LT	UJ	LT	
Samarium	LT		LT	
Selenium	582	ug/g J	LT	
Silver	LT	UJ	LT	
Sodium	53905	ug/g	44321	ug/g
Strontium	548	ug/g J	408	ug/g
Sulfur	218	ug/g UJ	163	ug/g
Tantalum	LT	R	LT	
Thallium	4420	ug/g	LT	
Thorium	LT		LT	
Tin	73	ug/g J	LT	
Titanium	49	ug/g UJ	LT	
Uranium	10546	ug/g J	LT	
Vanadium	39	ug/g	LT	
Zinc	69	ug/g UJ	183	ug/g
Zirconium	LT	UJ	LT	

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

revised Oct. 2, 1990

RCRA LEVEL C QC

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

QC Check: Holding Times

COMMENTS: Holding Times were not met for pH, IC and 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

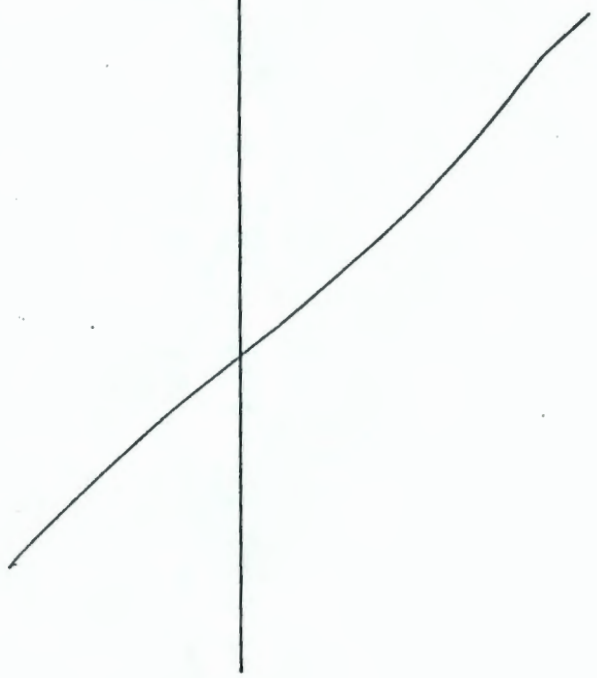
Name C.J. Simiele Date 10-9-90

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

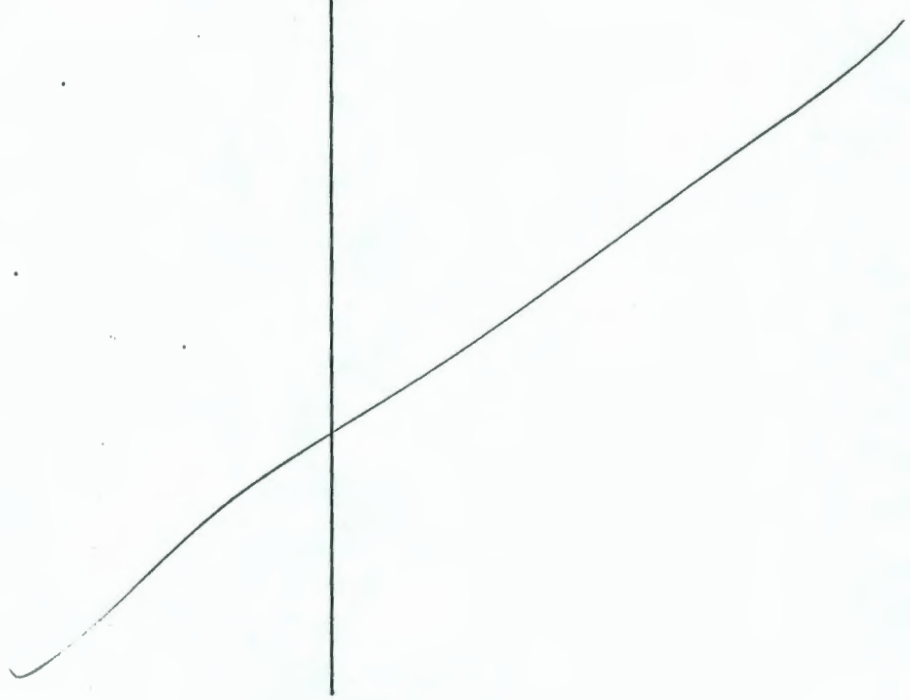
Name C.J. Simicle Date 10-9-90

QC Check: Analytical Blank

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

ACTION: None

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



___ of ___

RCRA LEVEL C QC

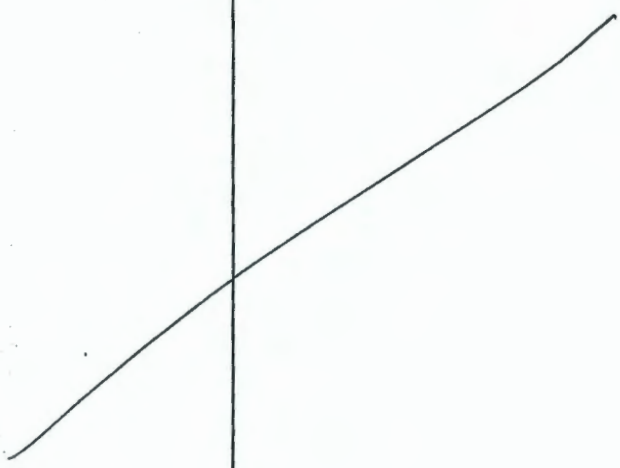
Name C.J. Simiele Date 10-9-90

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

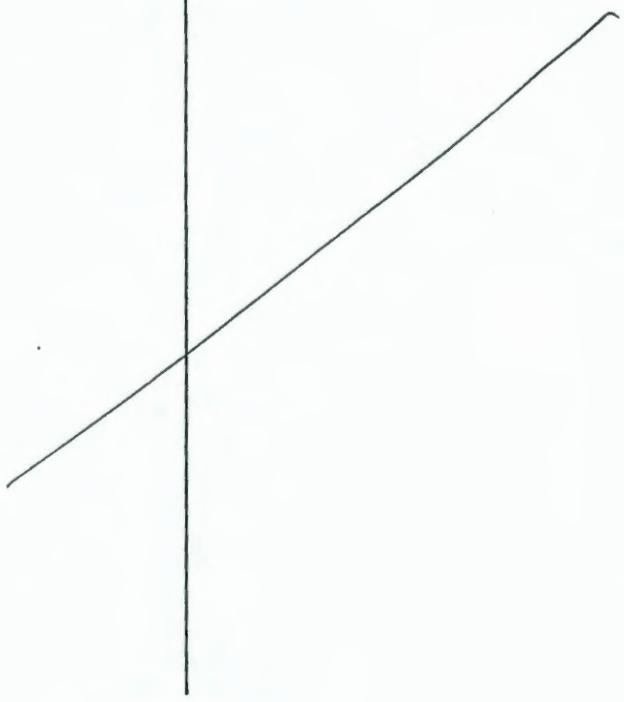
Name C.J. Simiele Date 10-9-90

QC Check: Matrix Spike

COMMENTS: All ICP matrix spike analyses with in control limits.

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: All IC duplicate analyses within control limits of ± 20%.

ACTION: None

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

___ of ___

RCRA LEVEL C QC

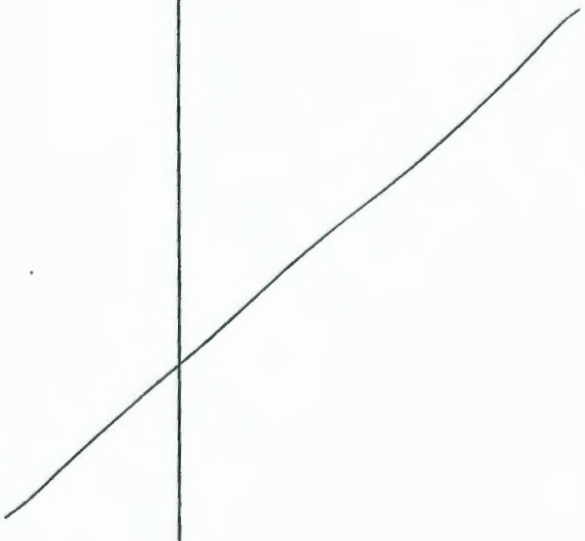
Name C. J. Simiele Date 10-9-90

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

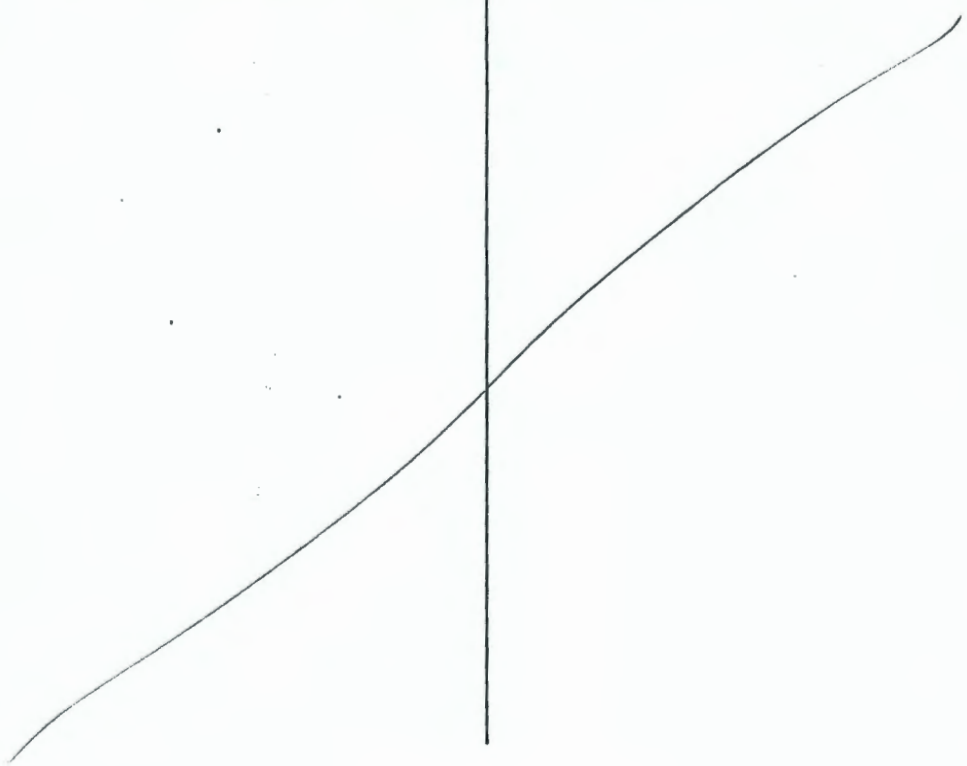
Name C.J. Simiele Date 10-9-90

QC Check: Analytical Blank

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

ACTION: None

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



___ of ___

RCRA LEVEL C QC

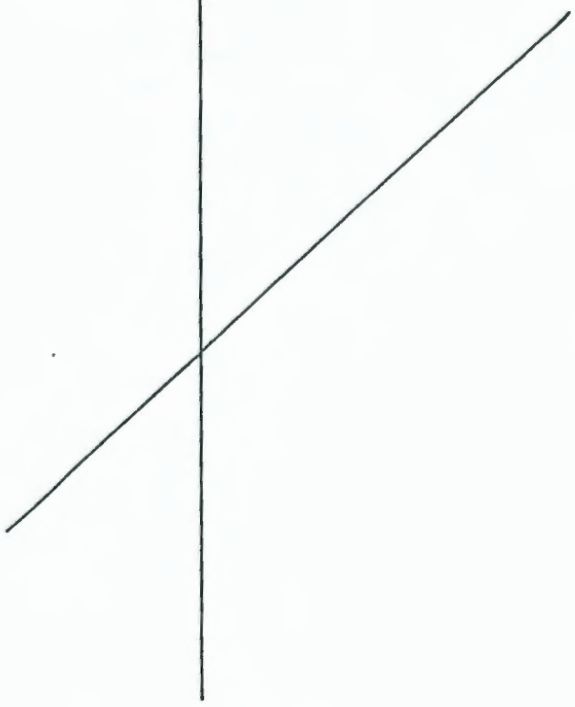
Name C.J. Simiele Date 10-9-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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



RCRA LEVEL C QC

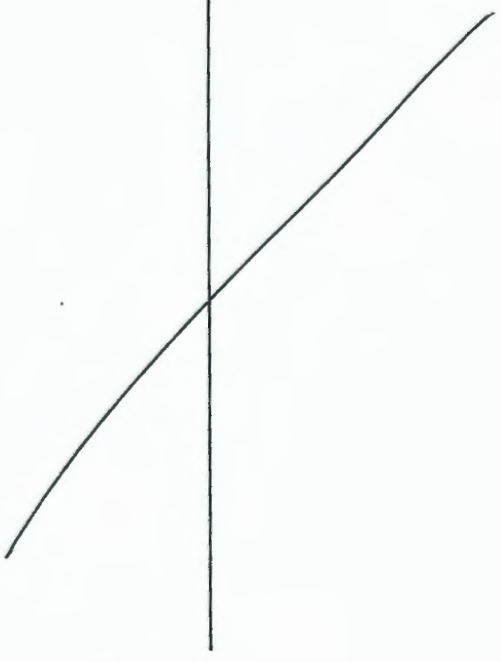
Name C.J. Simiele Date 10-9-90

QC Check: Matrix Spike

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

ACTION: None

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



RCRA LEVEL C QC

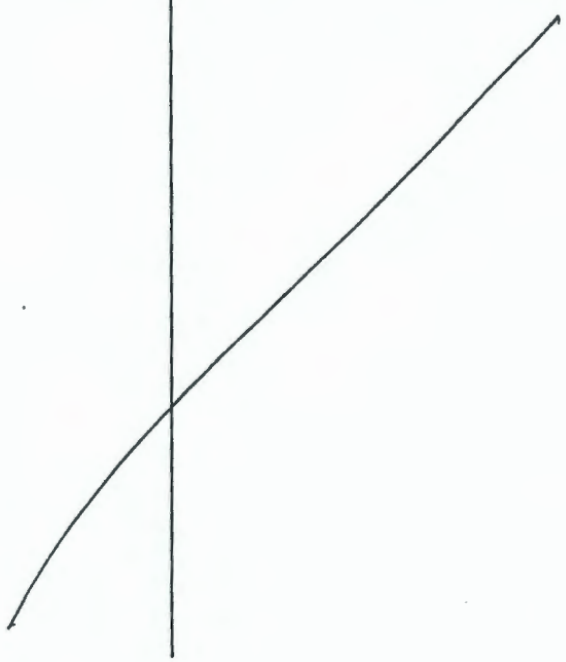
Name C.J. Simiele Date 10-9-90

QC Check: Duplicate Analyses

COMMENTS: TOC duplicate analyses within 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 ICP digested initial and continuing calibration out of control limits. (Ca, Cr, K, Ta) of ±10%.

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual
F0140	Ca	UJ
	Cr	J
	K	UJ
	Ta	RUJ (K)

sample #	constituent	value/qual

___ of ___

RCRA LEVEL C QC

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

QC Check: Analytical Blanks

COMMENTS: Contaminants detected in preparation blank and associated sample for: Ca, Si, S, Ti, Zn.

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0140	Ca	U			
	Si				
	S				
	Ti				
	Zn				

___ of ___

RCRA LEVEL C QC

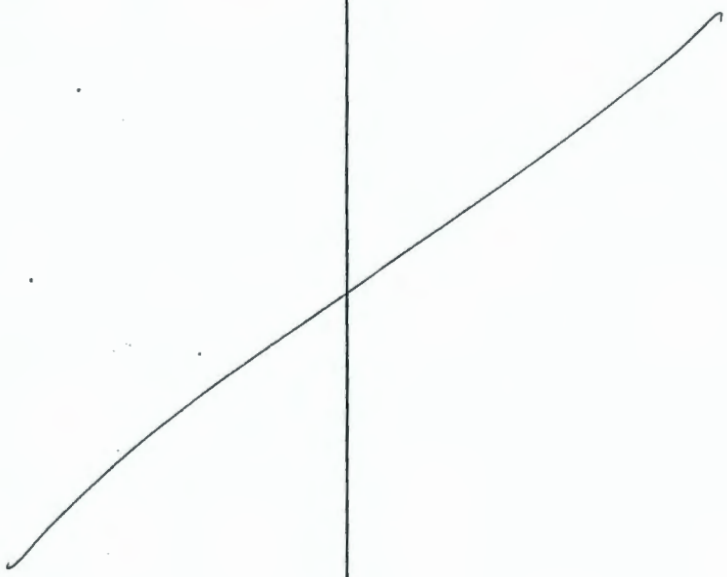
Name C.J. Simiele Date 10-9-90

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

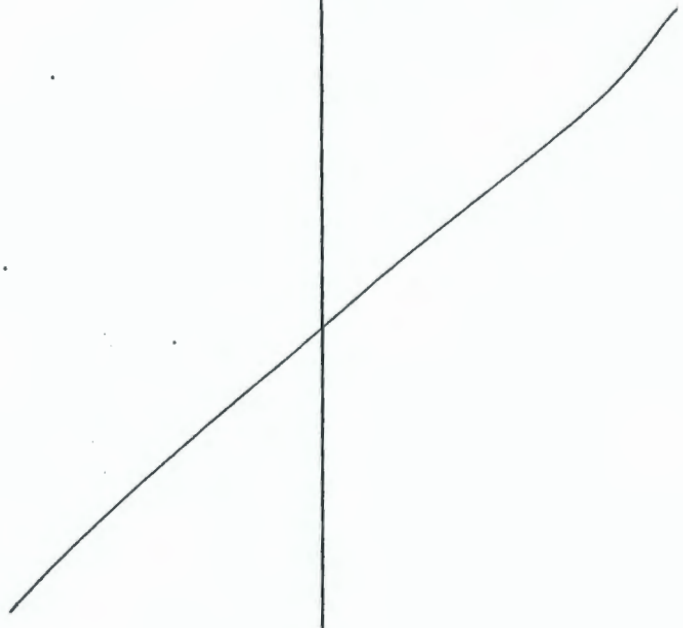
Name C.J. Simiele Date 10-9-90

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 ±25%.

ACTION: Qualify associated data as per QSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0140	B	acceptable			
	Ca	J			
	Ce	R			
	Cr	J			
	Mg	J			
	K	UJ			
	Ag	UJ			
	Ta	R			
	Zn	J			
	Zr	UJ			

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 include: An (99%); Ba (80%); B (28%); Cr (27%); Cu (49%); Fe (17%); Pb (73%); Mg (138%); Mo (69%); Ni (70%); Se (77%); Sr (26%); S (26%); ~~T~~ Tl (97%); Sn (59%); Ti (86%); U (77%); Zn (16~~5~~8).

ACTION: Qualify associated samples as per OSHguidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0140	As (JS) Sb	J			
	Ba				
	Bi				
	Cr				
	Cu				
	Fe				
	Pb				
	Mg				
	Mo				
	Ni				
	Se				
	Sr				
	S				
	Tl				
	Sn				
	Ti				
	U				
	Zn				

RCRA LEVEL C QC

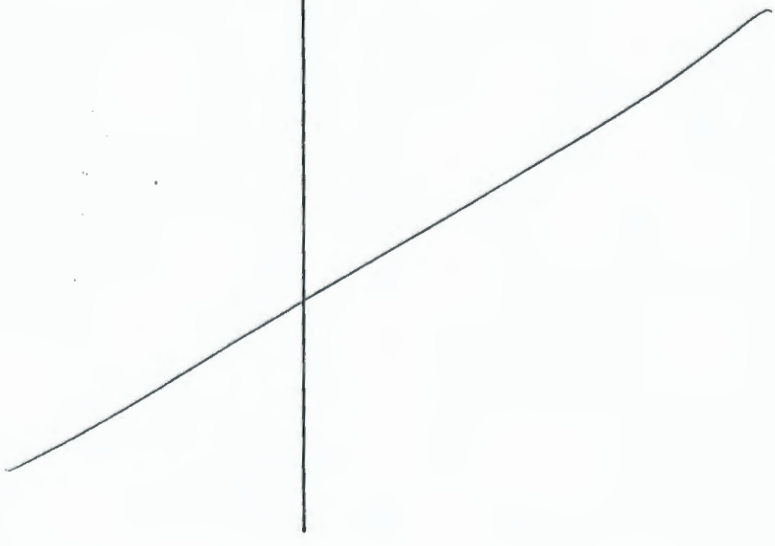
Name C.J. Simiele Date 10-9-90

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 ___