0012371

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

DATA PACKAGE

SECTION

9 OF 12

012371

9 of 12

Westinghouse
Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-10-90

REVIEWED BY C.J. Simiele

LABORATORY WHC 222-S

CASE # SST-241-U-110

SDG # Core 7 Seq 4
89-049

SAMPLES/MATRIX Seq = 89-049
LAB ID:
fusion: F0179
waterdigest: F0183
acid digest: F0188
untreated: F0173

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	IC	TOC	ICP
1.	Holding Times	X	X	O
2.	Calibration	O	O	X
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	X	O	O
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: No Radiochemistry Validation done.

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

Westinghouse
Hanford Company

OSM RCRA LEVEL C DATA ASSESSMENT

DATE 10-10-90

REVIEWED BY C.J. Simiele

LABORATORY WHC 222-S

CASE # SST-241-U-110

SDG # Core 7, Segment 4
89-049

SAMPLES/MATRIX Seq# = 89-049
LAB ID:
Fusion : F0179
Water leach: F0183
Acid digest: F0188
Untreated: F0173

DATA ASSESSMENT SUMMARY

	QUALITY CONTROL CHECK	ANALYSIS	pH (Duplicate Analyses Only)	%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 for wet sample weight

Single Shell Tank Project

Tank:	241-U-110
Core:	7
Segment:	4
Customer ID:	89-049

Undigested Sample Results

	Sample	Duplicate
pH	11.74	11.51
%Water	35.40%	39.40%

Fusion Dissolution Results

	Sample	Duplicate
Fusion Dissolution	2.18 g/L	2.19 g/L
Total Alpha	1.28E-01 uci/g	1.33E-01 uci/g
Total Beta	1.37E+02 uci/g	1.66E+02 uci/g
GEA Cs-137	3.26E+01 uci/g	2.47E+01 uci/g
Uranium	1.59E+03 ug/g	1.77E+03 ug/g

Water Digestion Results

	Sample	Duplicate
Water Digestion	9.25 g/L	10.8 g/L
Ion Chromatograph		
Fluoride	1.32E+04 ug/g J	1.80E+04 ug/g
Chloride	<1.09E+03 ug/g	<9.35E+02 ug/g
Nitrate	3.06E+04 ug/g	2.48E+04 ug/g
Phosphate	1.19E+05 ug/g J	1.27E+05 ug/g
Sulfate	<1.09E+04 ug/g	<9.35E+03 ug/g
Total Organic Carbon	8.22E+03 ug/g J	6.53E+03 ug/g

10-10-90
C.J. Surfield

Acid Digestion Results

ICP Results

	Sample ug/g	Duplicate ug/g
Aluminum	59015 ug/g	53386 ug/g
Antimony	LT	LT
Arsenic	LT	LT
Barium	LT UJ	LT
Beryllium	LT	LT
Bismuth	34050 ug/g J	31190 ug/g
Boron	LT	LT
Cadmium	LT	LT
Calcium	382 ug/g UJ	645 ug/g
Cerium	LT UJ	LT
Chromium	190 ug/g J	154 ug/g
Copper	42 ug/g J	578 ug/g
Iron	21280 ug/g	20265 ug/g
Lanthanum	LT	LT
Lead	501 ug/g J	LT
Magnesium	332 ug/g	359 ug/g
Manganese	235 ug/g J	524 ug/g
Mercury	53 ug/g J	19 ug/g
Molybdenum	LT	LT
Nickel	LT	LT
Phosphorous	45644 ug/g	54939 ug/g
Potassium	LT	LT
Samarium	LT	LT
Selenium	LT	LT
Silver	LT	LT
Sodium	173627 ug/g J	203368 ug/g
Strontium	203 ug/g	232 ug/g
Sulfur	142 ug/g J	LT
Tantalum	LT UJ	LT
Thallium	LT	LT
Thorium	LT	LT
Tin	LT	LT
Titanium	LT	LT
Uranium	LT	LT
Vanadium	LT	LT
Zinc	143 ug/g J	199 ug/g
Zirconium	LT UJ	LT

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

RCRA LEVEL C QC

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

QC Check: Holding Time

COMMENTS: Holding times were not met for pH, IC and TOC analyses.

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

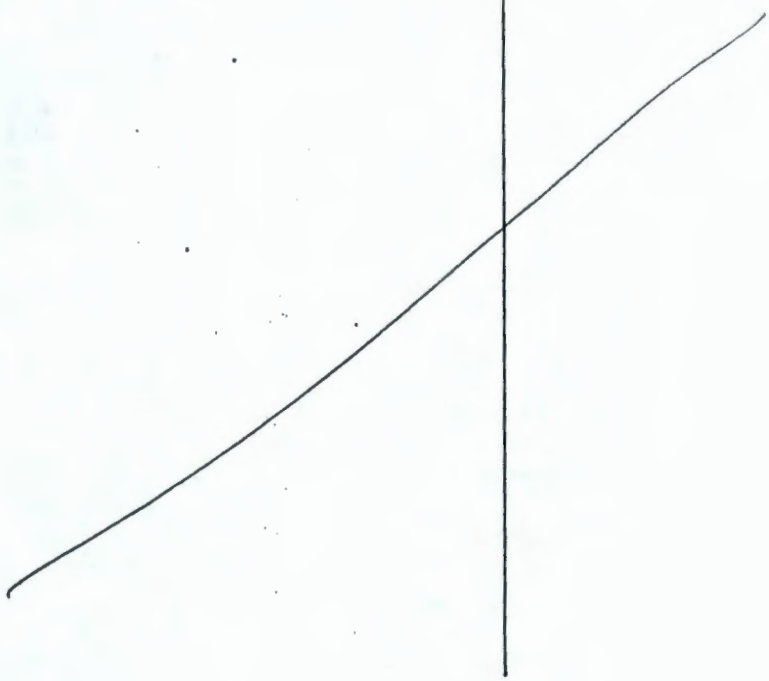
Name C J. Simiele Date 10-10-90

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



RCRA LEVEL C QC

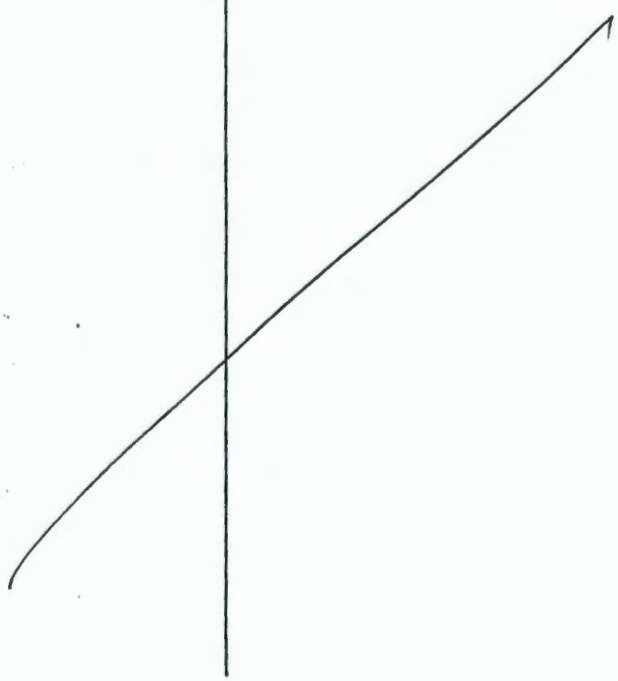
Name C.J. Simiele Date 10-16-90

QC Check: Analytical Blank

COMMENTS: No Contaminants detected in Preparation blank and associated IC samples.

ACTION: None

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



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RCRA LEVEL C QC

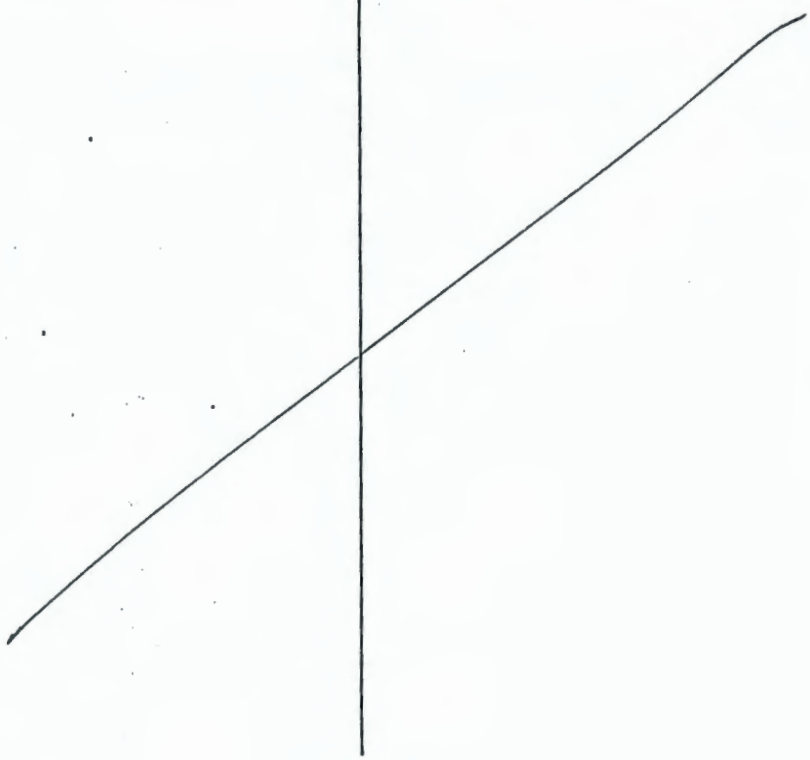
Name C.J. Simiele Date 10-10-90

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 10-10-90

QC Check: Matrix Spike

COMMENTS: Two anions (F, PO4) in IC matrix spike out of control limits of ±25%.

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual
F0183	F	J
L	PO4	J

sample #	constituent	value/qual

___ of ___

RCRA LEVEL C QC

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

QC Check: Duplicate Analyses

COMMENTS: One anion (F) in 10 duplicate analyses out of control limits of ±20%.

ACTION: ~~Non~~ Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0183	F	J			

RCRA LEVEL C QC

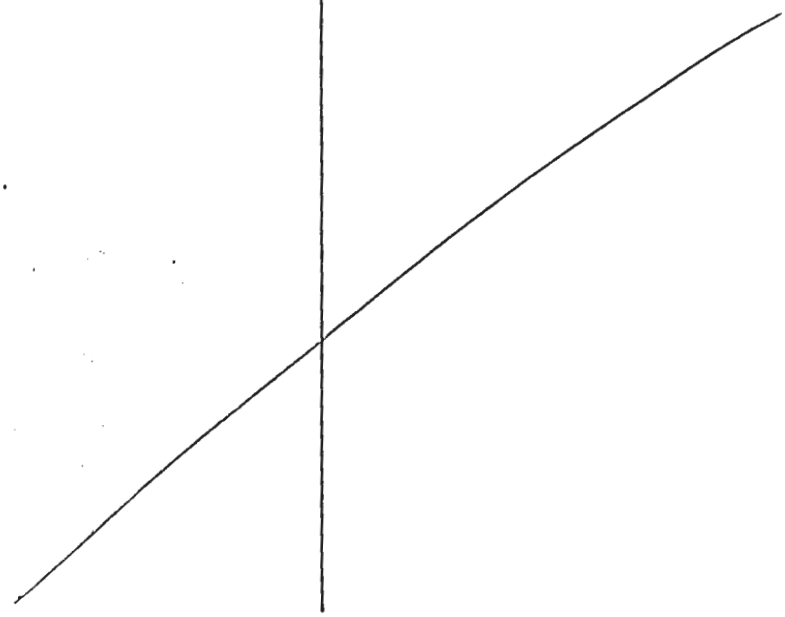
Name C.J. Simiele Date 10-10-90

QC Check: Calibration

COMMENTS: 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

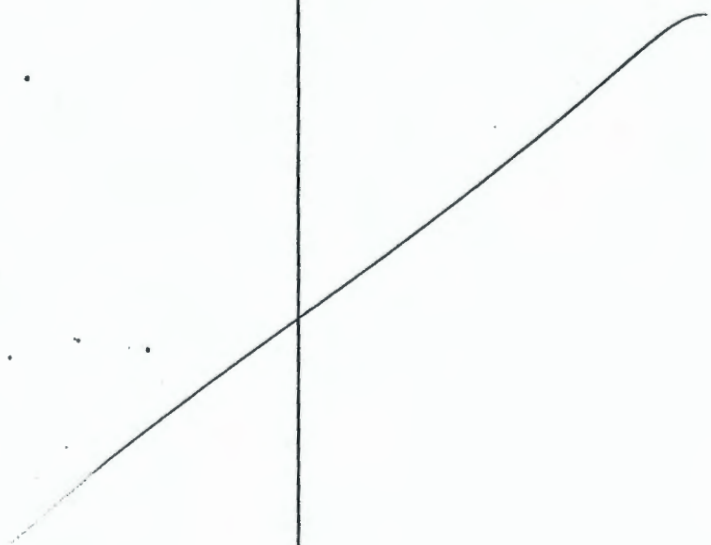
Name C. J. Simiele Date 10-9-90

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

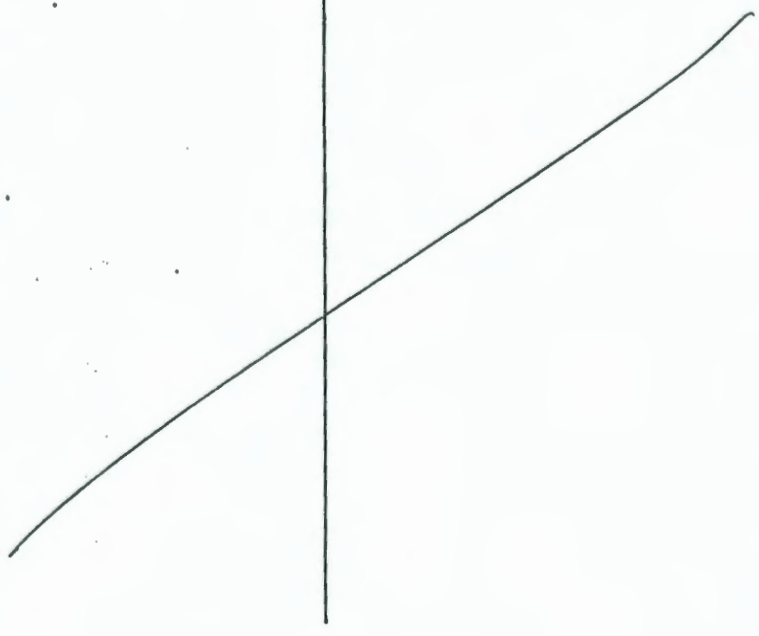
Name C.J. Simiele Date 10-10-90

QC Check: LCS

COMMENTS: No LCS data provided with data package.

ACTION: None

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



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RCRA LEVEL C QC

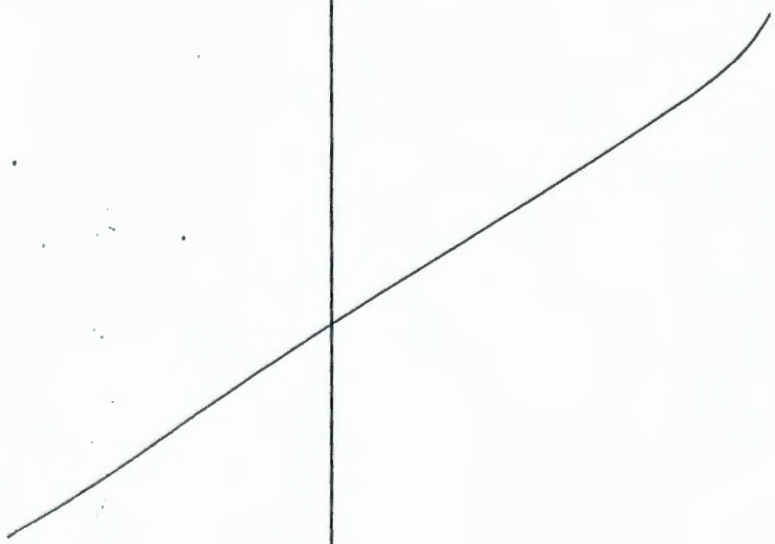
Name C.J. Simiele Date 10-10-90

QC Check: Matrix Spike

COMMENTS: TOC. Matrix spike 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 10-10-90

QC Check: Duplicate Analyses

COMMENTS: TOC duplicate analyses out of control limits of ±20%.

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0183	TOC	J			

___ of ___

RCRA LEVEL C QC

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

QC Check: Calibration

COMMENTS: All ICP non-digested initial and continuing calibration with in control limits. Eight Constituents in ICP digested initial and continuing calibration out of control limits of ±10%

ACTION: Qualify associated data as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0188	Ba	UJ			
	Bi	J			
	Ca	J			
	Ce	UJ			
	Cr	J			
	Na	J			
	Ta	UJ			
	Zr	UJ			

RCRA LEVEL C QC

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

QC Check: Analytical Blank

COMMENTS: Contaminants detected in ICP preparation blank and associated sample for the following elements: Ca & Si.

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0188	Ca	u			
V	Si	u			

___ of ___

RCRA LEVEL C QC

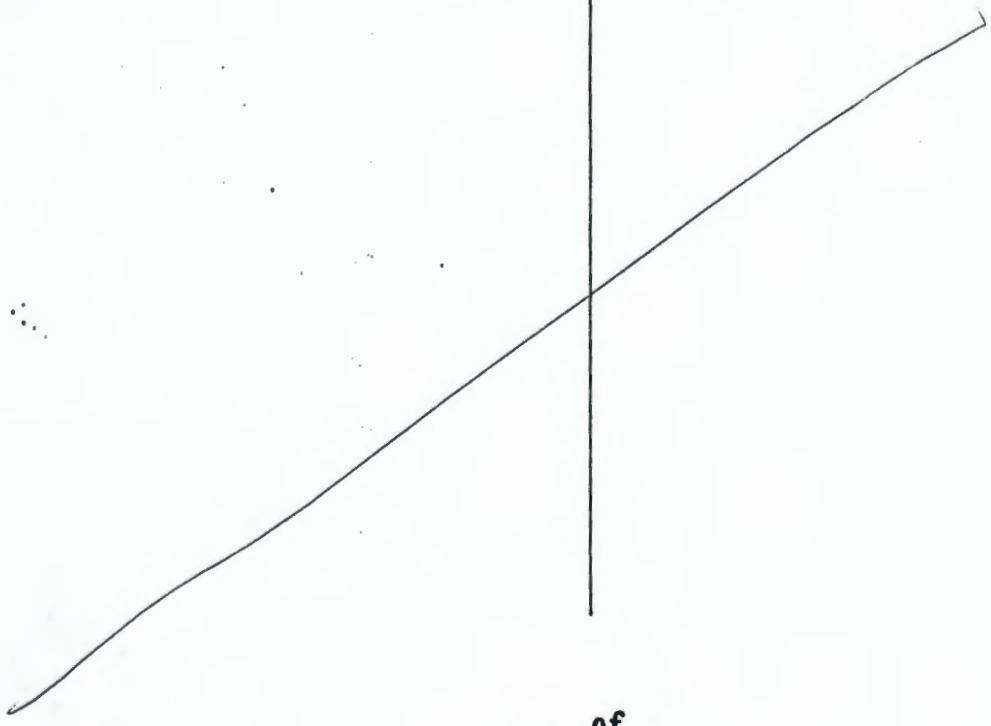
Name C.J. Simiele Date 10-10-90

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

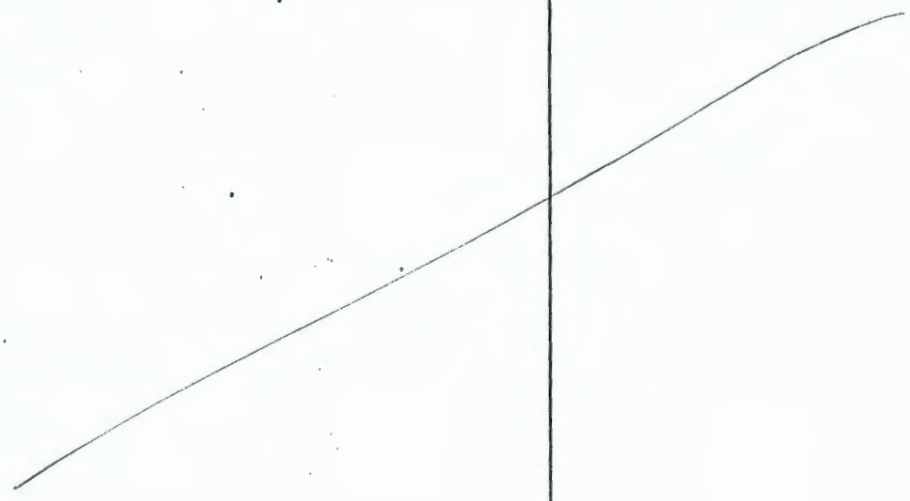
Name C.J. Simiele Date 10-10-90

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 10-10-90

QC Check: Matrix Spike

COMMENTS: All matrix spike analyse 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 10-10-90

QC Check: Duplicate Analyses

COMMENTS: ICP duplicate analyses out of control limits of ±20% include the following elements: Ca(69%) Cu(127%6%); Pb(89%); Mn(123%); Hg(~~6~~4%); S(76%); Zn(39%).

ACTION: Qualify associated samples as per OSM guidelines.

sample #	constituent	value/qual	sample #	constituent	value/qual
F0188	Ca	J			
	Cu				
	Pb				
	Mn				
	Hg				
	S				
	Zn				

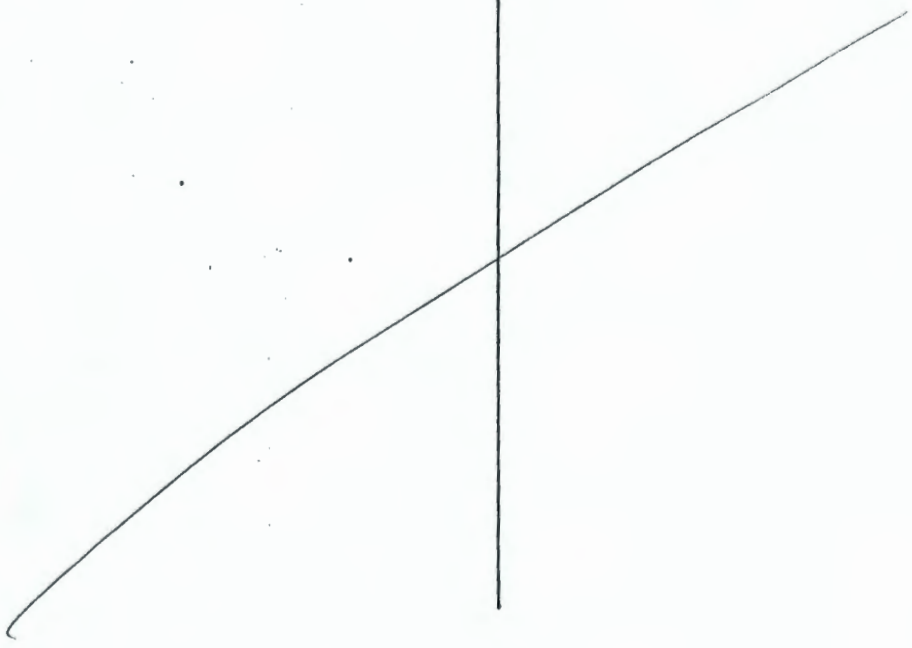
___ of ___

RCRA LEVEL C QC

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

QC Check: Duplicate Analyses

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

ACTION: None

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