Department of Energy
Carlsbad Area Office
P. O. Box 3090
Carlsbad, New Mexico 88221

September 27, 1996

RECEIVED
SEP 30 1996

Mr. Benito J. Garcia, Chief
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2044 Galisteo
Santa Fe, New Mexico 87502

Subject: Submittal of (6) SWMU data packages; Request for No-Further Action

Dear Mr. Garcia:

This letter provides validated analytical results for six Solid Waste Management Units (SWMUs) at the Waste Isolation Pilot Plant (WIPP). Results are specifically provided for soil samples collected from the following six SWMUs during the WIPP Voluntary Release Assessment (VRA) program:

SWMU 001g, H-14	SWMU 001h, P-2
SWMU 001l, WIPP-12	SWMU 001k, P-4
SWMU 001h, H-15	SWMU 001s, ERDA-9

A separate attachment is included with this letter for each of these SWMUs. In each attachment, the following information is included:

- A table comparing total metals concentrations measured in SWMU soil samples to background concentrations measured near the SWMU and to action levels proposed in 40 CFR 264.521 (Subpart S)

- A complete table of validated analytical data, presenting both total and toxicity characteristic leaching procedure (TCLP) results for samples collected at the SWMU during the VRA program

- A data review form which presents a summary of data quality for the total analyses results and the findings of an independent data validation

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The data presented in the attached tables demonstrates that total metals concentrations measured in the six SWMUs are equivalent to measured soil background concentrations and are well below applicable Subpart Saction levels. In addition, no volatile organic compounds (VOCs) were detected in any of the six SWMUs, and VOC laboratory method reporting limits are also below applicable Subpart Saction levels. Although some metals results were qualified as estimated during data validation, no results were rejected, and data quality is sufficient to demonstrate that concentrations of total metals within the SWMUs are well below the Subpart Saction levels.

Analytical results for samples collected at these SWMUs during the VRA program will be included in the final VRA report. However, based on the attached validated data, we request that a no further action (NFA) status be applied for the six SWMUs listed above. For your convenience, we have also provided this material to Mr. Rafael Casanova of EPA's Region VI office.

Please contact Craig Snider at (505) 234-7452 regarding this request at your earliest convenience.

Sincerely,

Michael H. McFadden
Assistant Manager
Office of Regulatory Compliance
Carlsbad Area Office

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Final Validated Analytical Results

SWMU #001g, H-14

Comparison of Total Metals Results to Action Levels
SWMU # 001g, H-14

Metal Analyte	Background Concentration (mg/kg) (1)(2)(7)	Maximum SWMU Concentration (mg/kg) (1)(3)(7)	Subpart S Level (mg/kg) (4)
12-24 inches bgs			
Total Arsenic (As)	0.9 J	1.2 J	80
Total Barium (Ba)	15	22	4000
Total Cadmium (Cd)	0.7 J	0.5 UJ	40
Total Chromium (Cr)	3	6	400
Total Lead (Pb)	1.9 J	3.4 J	400 (5)
Total Mercury (Hg)	0.02 UJ	0.02 U	20
Total Thallium (Tl)	20 U	20	--- (6)
60-72 inches bgs			
Total Arsenic (As)	2 J	2.3 J	80
Total Barium (Ba)	26	34	4000
Total Cadmium (Cd)	0.5 UJ	0.5 UJ	40
Total Chromium (Cr)	7	7	400
Total Lead (Pb)	2.7 J	3.4 J	400 (5)
Total Mercury (Hg)	0.02 UJ	0.04 J	20
Total Thallium (Tl)	20 U	20 U	--- (6)

mg/kg Milligrams per kilogram
bgs Below ground surface

1) Results are presented in mg/kg, wet weight.
2) Background soil concentrations as measured in upgradient borehole #1.
3) Maximum concentration measured in soil samples collected from within Mudpit H-14 (boreholes #3 and #4).
4) Action levels taken from Appendix D of proposed 40CFR 264.521(d), FR Vol.55, No. 145, VI(D), p. 30870.
5) No action levels are included in Subpart S for lead. The action level of 400 mg/kg included in the table is the residential soil cleanup level recommended by the EPA Office of Solid Waste.
6) No action levels are included in Subpart S for thallium.
7) The following data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994):

J Result should be considered an estimated value
U Analyte was not detected; value is the method reporting limit
UJ Analyte was not detected; however the reporting limit presented should be considered an estimated value

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001g, H-14

HOLE Number:	HOLE #1	HOLE #1	HOLE #2	HOLE #2	HOLE #3	HOLE #3
Depth (inches):	12-24	60-72	12-24	60-72	12-24	60-72
TCLP Sample Date:	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95
TCLP Sample Numbers:	RA-95-131	RA-95-132	RA-95-133	RA-95-134	RA-95-136	RA-95-138
Total Sample Date:	**7/2/96**	**7/2/96**			**7/2/96**	**7/2/96**
Total Sample Numbers:	**RA-96-049**	**RA-96-050**	**NA**	**NA**	**RA-96-056**	**RA-96-058**
Analytes						
Metals						
TCLP Arsenic (As)	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UB
Total Arsenic (As)	**0.9 J**	**2 J**	**NA**	**NA**	**1 J**	**2.3 J**
TCLP Barium (Ba)	0.34	1.0	0.43	0.41	0.57	0.74
Total Barium (Ba)	**15**	**26**	**NA**	**NA**	**22**	**34**
TCLP Cadmium (Cd)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Total Cadmium (Cd)	**0.7 J**	**0.5 UJ**	**NA**	**NA**	**0.5 UJ**	**0.5 UJ**
TCLP Chromium (Cr)	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Total Chromium (Cr)	**3**	**7**	**NA**	**NA**	**5**	**7**
TCLP Lead (Pb)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Total Lead (Pb)	**1.9 J**	**2.7 J**	**NA**	**NA**	**2 J**	**3.4 J**
TCLP Mercury (Hg)	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Total Mercury (Hg)	**0.02 UJ**	**0.02 UJ**	**NA**	**NA**	**0.02 U**	**0.04 J**
TCLP Thallium (Tl)	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Total Thallium (Tl)	**20 U**	**20 U**	**NA**	**NA**	**20**	**20 U**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank	EQ BLANK	Equipment Rinse Blank
J	Result should be considered an estimated value	FD BLANK	Field Blank
NA	Not analyzed	DUP	Field duplicate sample
R	Result has been rejected and is considered unusable		
U	Analyte was not detected; value is the method reporting limit		
UB	Detected in the blank and qualified as not detected		

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001g, H-14 (cont.)

HOLE Number:	HOLE #1	HOLE #1	HOLE #2	HOLE #2	HOLE #3	HOLE #3
Depth (inches):	12-24	60-72	12-24	60-72	12-24	60-72
TCLP Sample Date:	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95
TCLP Sample Numbers:	NA	NA	NA	NA	RA-95-135	RA-95-137
Total Sample Date:			**7/2/96**	**7/2/96**	**7/2/96**	**7/2/96**
Total Sample Numbers:	**NA**	**NA**	**RA-96-051**	**RA-96-053**	**RA-96-055**	**RA-96-057**
Analytes						
Volatiles						
TCLP 1,1,1-Trichloroethane	NA	NA	NA	NA	0.05 U	0.05 U
Total 1,1,1-Trichloroethane	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP 1,2-Dichloroethane	NA	NA	NA	NA	0.05 U	0.05 U
Total 1,2-Dichloroethane	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP Benzene	NA	NA	NA	NA	0.05 U	0.05 U
Total Benzene	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP Chloroform	NA	NA	NA	NA	0.05 U	0.05 U
Total Chloroform	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP Ethyl benzene	NA	NA	NA	NA	0.05 U	0.05 U
Total Ethyl benzene	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP Toluene	NA	NA	NA	NA	0.05 U	0.05 U
Total Toluene	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP Vinyl chloride	NA	NA	NA	NA	0.1 U	0.1 U
Total Vinyl chloride	**NA**	**NA**	**0.01 U**	**0.01 U**	**0.01 U**	**0.01 U**
TCLP Xylenes, total	NA	NA	NA	NA	0.05 U	0.05 U
Total Xylenes, total	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**

Data qualifiers and abbreviations:

B Analyte was detected in an associated laboratory blank
J Result should be considered an estimated value
NA Not analyzed
R Result has been rejected and is considered unusable
U Analyte was not detected; value is the method reporting limit
UB Detected in the blank and qualified as not detected

EQ BLANK Equipment Rinse Blank
FD BLANK Field Blank
DUP Field duplicate sample

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001g, H-14 (cont.)

HOLE Number:	HOLE #4	HOLE #4	EQ BLANK	FD BLANK
Depth (inches):	12-24	60-72		
TCLP Sample Date:	10/4/95	10/4/95	10/4/95	
TCLP Sample Numbers:	RA-95-142	RA-95-144	RA-95-140	NA
Total Sample Date:	**7/2/96**	**7/2/96**	**7/2/96**	**7/2/96**
Total Sample Numbers:	**RA-96-052**	**RA-96-054**	**RA-96-059**	**RA-96-060**
Analytes				
Metals				
TCLP Arsenic (As)	0.1 UB	0.1 U	0.1 U	NA
Total Arsenic (As)	**1.2 J**	**1.2 J**	**0.003 U**	**0.003 U**
TCLP Barium (Ba)	0.44	0.72	0.21	NA
Total Barium (Ba)	**22**	**24**	**0.011**	**0.01**
TCLP Cadmium (Cd)	0.005 U	0.005 U	0.005 U	NA
Total Cadmium (Cd)	**0.5 UJ**	**0.5 UJ**	**0.005 U**	**0.005 U**
TCLP Chromium (Cr)	0.02 U	0.02 U	0.02 U	NA
Total Chromium (Cr)	**6**	**7**	**0.02 U**	**0.02 U**
TCLP Lead (Pb)	0.05 U	0.05 U	0.05 U	NA
Total Lead (Pb)	**3.4 J**	**2.6 J**	**0.002 U**	**0.002 U**
TCLP Mercury (Hg)	0.0001 U	0.0001 U	0.0001 U	NA
Total Mercury (Hg)	**0.02 UJ**	**0.02 U**	**0.0001 U**	**0.0001 U**
TCLP Thallium (Tl)	0.2 U	0.2 U	0.2 U	NA
Total Thallium (Tl)	**20 U**	**20 U**	**0.2 U**	**0.2 U**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank	EQ BLANK	Equipment Rinse Blank
J	Result should be considered an estimated value	FD BLANK	Field Blank
NA	Not analyzed	DUP	Field duplicate sample
R	Result has been rejected and is considered unusable		
U	Analyte was not detected; value is the method reporting limit		
UB	Detected in the blank and qualified as not detected		

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001g, H-14 (cont.)

HOLE Number:	HOLE #4	HOLE #4	EQ BLANK	FD BLANK
Depth (inches):	12-24	60-72		
TCLP Sample Date:	10/4/95	10/4/95	10/4/95	
TCLP Sample Numbers:	RA-95-141	RA-95-143	RA-95-139	NA
Total Sample Date:				
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**
Analytes				
Volatiles				
TCLP 1,1,1-Trichloroethane	0.05 U	0.05 U	0.05 U	NA
Total 1,1,1-Trichloroethane	**NA**	**NA**	**NA**	**NA**
TCLP 1,2-Dichloroethane	0.05 U	0.05 U	0.05 U	NA
Total 1,2-Dichloroethane	**NA**	**NA**	**NA**	**NA**
TCLP Benzene	0.05 U	0.05 U	0.05 U	NA
Total Benzene	**NA**	**NA**	**NA**	**NA**
TCLP Chloroform	0.05 U	0.05 U	0.05 U	NA
Total Chloroform	**NA**	**NA**	**NA**	**NA**
TCLP Ethyl benzene	0.05 U	0.05 U	0.05 U	NA
Total Ethyl benzene	**NA**	**NA**	**NA**	**NA**
TCLP Toluene	0.05 U	0.05 U	0.05 U	NA
Total Toluene	**NA**	**NA**	**NA**	**NA**
TCLP Vinyl chloride	0.1 U	0.1 U	0.1 U	NA
Total Vinyl chloride	**NA**	**NA**	**NA**	**NA**
TCLP Xylenes, total	0.05 U	0.05 U	0.05 U	NA
Total Xylenes, total	**NA**	**NA**	**NA**	**NA**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank	EQ BLANK	Equipment Rinse Blank
J	Result should be considered an estimated value	FD BLANK	Field Blank
NA	Not analyzed	DUP	Field duplicate sample
R	Result has been rejected and is considered unusable		
U	Analyte was not detected; value is the method reporting limit		
UB	Detected in the blank and qualified as not detected		

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

WIPP Soil Samples
Data Review Form

Statement of Purpose:

To review laboratory data packages for soil samples collected at SWMUs, evaluate data package completeness, and compare analytical quality control data to program objectives.

Section 1: Data Package Identification

P.O. Number: 500101	No. Of Samples In Package: 12
Sample Collection Date: 7/2/96	Sample Receipt Date: 7/3/96
Sample Report Date: 7/29/96	Analytical Parameters: Total Metals, Volatiles
Sample Numbers in Data Package: RA-96-049, RA-96-050, RA-96-051, RA-96-052, RA-96-053, RA-96-054, RA-96-055, RA-96-056, RA-96-057, RA-96-058, RA-96-059, RA-96-060	
Data Reviewer: Kevin E. Garrett	Date of Review: 9/18/96

Symbols used in the sections below are defined as follows:

X	Included: no problem	R	Resubmission
*	Included: problems noted	NR	Not Required
O	Not Included		

Section 2. Data Summary

Data for the above listed samples are:

_____ Acceptable for use
X Acceptable for use with qualifications noted
_____ Preliminary - pending action or verification
_____ Unacceptable for use
_____ To be reviewed by senior chemist

Reviewed by: _____ Date: _____

Section 3. Data Package Completeness Review

X Chain of Custody/Request for Analysis
X Laboratory Analysis Report
X Holding Times
X Method Reporting Limits
X Dilution Factor
X Quality Control Report

Section 4. QC Review (from Laboratory Quality Control Report)

Volatiles

X Method Blank
NR Leachate Blank
X Surrogate Standard Recovery
X Matrix Spike/Matrix Spike Duplicate Samples
X Laboratory Control Sample
NR Duplicate Sample

Semivolatiles

NR Method Blank
NR Leachate Blank
NR Surrogate Standard Recovery
NR Matrix Spike/Matrix Spike Duplicate Samples
NR Laboratory Control Sample
NR Duplicate Sample

Metals

X Method Blank
NR Leachate Blank
* (1) Matrix Spike/Matrix Spike Duplicate Samples
* (2) Laboratory Control Sample
NR Duplicate Sample

Section 5. Calibration Data

Volatiles

X GC/MS Analysis Log
X GC/MS Initial Calibration Data
X GC/MS Continuing Calibration Data

Section 5. Calibration Data (continued)

Semivolatiles

NR	GC/MS Analysis Log
NR	GC/MS Initial Calibration Data
NR	GC/MS Continuing Calibration Data

Metals

X	ICP Analysis Log
X	GFAA Analysis Log
X	CVAA Analysis Log
X	ICP Initial Calibration Data
O (3)	ICP Continuing Calibration Data
X	GFAA Initial Calibration Data
O (3)	GFAA Continuing Calibration Data
X	CVAA Initial Calibration Data
O (3)	CVAA Continuing Calibration Data

Section 6. Comments

1) The matrix spike (MS) recoveries (69.0 percent, and 77.3 percent) and matrix spike duplicate (MSD) recovery (75.3 percent, and 77.3 percent) for arsenic were below the 80.4 percent lower laboratory QC limit. One of these recoveries was also below the lower QC limit of 75 percent specified by the EPA functional guidelines. Therefore, the arsenic results in the associated investigative samples (RA-96-049, RA-96-050, RA-96-052, RA-96-054, RA-96-056, RA-96-058) were qualified as estimated (J). MSD recoveries for cadmium (68.0 and 70 percent) were below the 70.2 percent lower laboratory QC limit and the EPA functional guideline lower QC limit (75 percent). Therefore, the cadmium results in the associated investigative samples (RA-96-049, RA-96-050, RA-96-052, RA-96-054, RA-96-056, RA-96-058) were qualified as estimated (J). The MS recovery for mercury (54.0 percent) was below the lower laboratory QC limit and the EPA functional guideline lower QC limit (75 percent). Therefore, the mercury results in the associated investigative sample (RA-96-059) was qualified as estimated (J). The MS recovery for lead (154 percent) exceeded the 108 percent laboratory upper QC limit as well as the upper QC limit of 125 percent established by the EPA functional guidelines. Therefore, the detections for lead in the associated investigative samples ~~were~~ (RA-96-049, RA-96-050, RA-96-052, RA-96-054, RA-96-056, RA-96-058) were qualified as estimated (J). The RPDs for cadmium (23.4 percent), lead (21.5 percent), mercury (21.5 percent, and 21.5 percent) also exceeded the 20 percent upper QC limit. mec. 9/15/

2) The laboratory control sample (LCS) recovery for mercury (74.7 percent) was below the 80.7 percent lower laboratory QC limit and the EPA functional guideline lower QC limit (80 percent). Therefore, the mercury results in the associated investigative samples (RA-96-049, RA-96-050, RA-96-052, RA-96-058) were qualified as estimated (J).

3) The initial calibration verification (ICV) and continuing calibration verification (CCV) percent recovery results for the metals analyses were incomplete. However, no problems were found with the partial ICV and CCV information that was provided. Therefore, no qualifications have been made due to the missing ICV and CCV results at this time.

Signatures below constitute validation of this record.

Validator:		
Kevin E. Garrett	Kevin E Garrett	9/18/96
Printed Name	Signature	Date
QA/QC Reviewer:		
Mark R. Colsman	Mark R Colsman	9/18/96
Printed Name	Signature	Date

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
FAX: (412) 747-2559

July 29, 1996
Report No.: 00032238
Section A Page 1

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-049
NUS SAMPLE NO: P0349438
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	15 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	0.7 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	3 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.02 mg/kg J
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	97.5 %
11	AASSA	Arsenic, Total (As)	1	0.9 mg/kg J
12	APBS	Lead, Total (Pb)	1	1.9 mg/kg J

COMMENTS:

Results are reported on a wet weight basis.

3 This sample was analyzed as a matrix spike. Recovery of the spike for lead and arsenic was outside established acceptance limits indicating the presence of a possible matrix interference.

VALIDATED

Reviewed By [signature]

Date 9/13/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
FAX: (412) 747-2559

July 29, 1996
Report No.: 00032238

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-050
NUS SAMPLE NO: P0349439
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS	
2	ABAS	Barium, Total (Ba)	1	26	mg/kg	
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg	J
4	ACRS	Chromium, Total (Cr)	1	7	mg/kg	
6	AHGS	Mercury, Total (Hg)	1	< 0.02	mg/kg	J
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg	
10	I620S	Percent Solids at 103C	1	97.1	%	
11	AASSA	Arsenic, Total (As)	1	2.0	mg/kg	J
12	APBS	Lead, Total (Pb)	2	2.7	mg/kg	J

COMMENTS:

Results are reported on a wet weight basis.

11 Arsenic was analyzed using the method of standard additions.

VALIDATED

Reviewed By [signature]

Date 7/18/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
FAX: (412) 747-2559

July 29, 1996
Report No.: 00032238

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-051
NUS SAMPLE NO: P0349440
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	97.6 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/18/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

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July 29, 1996
Report No.: 00032238
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-052
NUS SAMPLE NO: P0349441
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	22	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg J
4	ACRS	Chromium, Total (Cr)	1	6	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.02	mg/kg J
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	98.1	%
11	AASSA	Arsenic, Total (As)	2	1.2	mg/kg J
12	APBS	Lead, Total (Pb)	2	3.4	mg/kg J

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/8/96

Halliburton NUS CORPORATION

NUS LABORATORY
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July 29, 1996
Report No.: 00032238
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-053
NUS SAMPLE NO: P0349442
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	97.6 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By Ken Barnett
Date 7/18/96

Halliburton NUS CORPORATION

NUS LABORATORY
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July 29, 1996
Report No.: 00032238

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-054
NUS SAMPLE NO: P0349443
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	24 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	7 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.02 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	97.7 %
11	AASSA	Arsenic, Total (As)	1	1.2 mg/kg J
12	APBS	Lead, Total (Pb)	2	2.6 mg/kg J

COMMENTS:

Results are reported on a wet weight basis.

11 Arsenic was analyzed using the method of standard additions.

VALIDATED

Reviewed By [signature]

Date 9/8/96

Halliburton NUS CORPORATION

NUS LABORATORY
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July 29, 1996
Report No.: 00032238

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-055
NUS SAMPLE NO: P0349444
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	98.2 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/18/96

Halliburton NUS CORPORATION

NUS LABORATORY
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July 29, 1996
Report No.: 00032238
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-056
NUS SAMPLE NO: P0349445
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	22 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	5 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.02 mg/kg
7	ATLS	Thallium, Total (Tl)	1	20 mg/kg
10	I620S	Percent Solids at 103C	1	98.4 %
11	AASSA	Arsenic, Total (As)	2	1.0 mg/kg J
12	APBS	Lead, Total (Pb)	1	2.0 mg/kg J

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/18/96

Halliburton NUS CORPORATION

NUS LABORATORY
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July 29, 1996
Report No.: 00032238
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-057
NUS SAMPLE NO: P0349446
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	96.9 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By [signature]
Date 7/18/96

Halliburton NUS CORPORATION

NUS LABORATORY
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July 29, 1996
Report No.: 00032238
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-058
NUS SAMPLE NO: P0349447
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	34 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	7 mg/kg
6	AHGS	Mercury, Total (Hg)	1	0.04 mg/kg J
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	96.8 %
11	AASSA	Arsenic, Total (As)	1	2.3 mg/kg J
12	APBS	Lead, Total (Pb)	2	3.4 mg/kg J

COMMENTS:

Results are reported on a wet weight basis.

11 Arsenic was analyzed using the method of standard additions.

VALIDATED

Reviewed By [signature]

Date 7/8/96

Halliburton NUS CORPORATION

NUS LABORATORY
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TEL: (412) 747-2500
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July 29, 1996
Report No.: 00032238

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-059
NUS SAMPLE NO: P0349448
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003 mg/L
2	ABAW	Barium, Total (Ba)	1	0.011 mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005 mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02 mg/L
5	APBA	Lead, Low Level (Pb)	1	< 0.002 mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001 mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2 mg/L

COMMENTS:

VALIDATED
Reviewed By
Date 9/18/96

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July 29, 1996
Report No.: 00032238
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-060
NUS SAMPLE NO: P0349449
P.O. NO.: 500101

DATE SAMPLED: 02-JUL-96
DATE RECEIVED: 03-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003 mg/L
2	ABAW	Barium, Total (Ba)	1	0.010 mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005 mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02 mg/L
5	APBA	Lead, Low Level (Pb)	1	< 0.002 mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001 mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2 mg/L

COMMENTS:

VALIDATED

Reviewed By [signature]
Date 9/18/96

RECEIVED
SEP 30 1996

Final Validated Analytical Results

SWMU #0011, WIPP-12

Comparison of Total Metals Results to Action Levels
SWMU # 0011, WIPP-12

Metal Analyte	Background Concentration (mg/kg) [1][2][7]	Maximum SWMU Concentration (mg/kg) [1][3][7]	Subpart S Level (mg/kg) [4]
12-24 inches bgs			
Total Arsenic (As)	0.7 J	1.3 J	80
Total Barium (Ba)	18	1700	4000
Total Cadmium (Cd)	0.5 UJ	0.5 UJ	40
Total Chromium (Cr)	2	6	400
Total Lead (Pb)	1.4 J	2.2 J	400 [5]
Total Mercury (Hg)	0.02 U	0.02 U	20
Total Thallium (Tl)	20	20 U	— [6]
60-72 inches bgs			
Total Arsenic (As)	0.9 J	1.4 J	80
Total Barium (Ba)	36	860	4000
Total Cadmium (Cd)	0.5 UJ	0.5 UJ	40
Total Chromium (Cr)	4	5	400
Total Lead (Pb)	1.8 J	1.8 J	400 [5]
Total Mercury (Hg)	0.02 U	0.02 U	20
Total Thallium (Tl)	20 U	20 U	— [6]

mg/kg Milligrams per kilogram
bgs Below ground surface

1) Results are presented in mg/kg, wet weight.
2) Background soil concentrations as measured in borehole #4.
3) Maximum concentration measured in soil samples collected from within WIPP-12 (boreholes #5 and #6).
4) Action levels taken from Appendix D of proposed 40CFR 264.521(d), FR Vol.55, No. 145, VI(D), p. 30870.
5) No action levels are included in Subpart S for lead. The action level of 400 mg/kg included in the table is the residential soil cleanup level recommended by the EPA Office of Solid Waste.
6) No action levels are included in Subpart S for thallium.
7) The following data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994):

J Result should be considered an estimated value
U Analyte was not detected; value is the method reporting limit
UJ Analyte was not detected; however the reporting limit presented should be considered an estimated value

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 0011, WIPP-12

HOLE Number:	HOLE #4	HOLE #4	HOLE #5	HOLE #5	HOLE #6	HOLE #6	EQ BLANK	FD BLANK
Depth (inches):	12-24.	60-72	12-24	60-72	12-24	60-72		
TCLP Sample Date:	11/7/95	11/7/95	11/7/95	11/7/95	11/7/95	11/7/95		11/7/95
TCLP Sample Numbers:	RA-95-252	RA-95-253	RA-95-255	RA-95-257	RA-95-259	RA-95-261	NA	RA-95-263
Total Sample Date:	**7/8/96**	**7/8/96**	**7/8/96**	**7/8/96**	**7/8/96**	**7/8/96**	**7/8/96**	**7/8/96**
Total Sample Numbers:	**RA-96-085**	**RA-96-086**	**RA-96-088**	**RA-96-090**	**RA-96-092**	**RA-96-094**	**RA-96-095**	**RA-96-096**
Analytes								
Metals								
TCLP Arsenic (As)	0.1 U	0.1 UB	0.1 U	0.2 U	0.1 UB	0.2 U	NA	0.1 U
Total Arsenic (As)	**0.7 J**	**0.9 J**	**0.7**	**0.9**	**1.3**	**1.4**	**0.003 U**	**0.003 U**
TCLP Barium (Ba)	0.34	0.34	0.43	1.4	1.4	1.7	NA	0.036
Total Barium (Ba)	**18**	**36**	**140**	**120**	**1700**	**860**	**0.057**	**0.056**
TCLP Cadmium (Cd)	0.005 U	0.005 U	0.005 U	0.02 UJ	0.005 UJ	0.02 UJ	NA	0.005 UJ
Total Cadmium (Cd)	**0.5 UJ**	**0.5 UJ**	**0.5 U**	**0.5 U**	**0.5 U**	**0.5 U**	**0.005 U**	**0.005 U**
TCLP Chromium (Cr)	0.02 U	0.02 U	0.02 U	0.04 U	0.02 U	0.04 U	NA	0.02 U
Total Chromium (Cr)	**2**	**4**	**5**	**4**	**6**	**5**	**0.02 U**	**0.02 U**
TCLP Lead (Pb)	0.05 U	0.05 U	0.05 U	0.1 U	0.05 U	0.1 U	NA	0.05 U
Total Lead (Pb)	**1.4 J**	**1.8 J**	**1.7 J**	**1.5 J**	**2.2 J**	**1.8 J**	**0.002 U**	**0.002 U**
TCLP Mercury (Hg)	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	NA	0.0001 U
Total Mercury (Hg)	**0.02 U**	**0.02 U**	**0.02 U**	**0.02 U**	**0.02 U**	**0.02 U**	**0.0001U**	**0.0001U**
TCLP Thallium (Tl)	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	0.4 U	NA	0.2 U
Total Thallium (Tl)	**20**	**20 U**	**20 U**	**20 U**	**20 U**	**20 U**	**0.2 U**	**0.2 U**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank	EQ BLANK	Equipment Rinse Blank
J	Result should be considered an estimated value	FD BLANK	Field Blank
NA	Not analyzed		
R	Result has been rejected and is considered unusable		
U	Analyte was not detected; value is the method reporting limit		
UB	Detected in the blank and qualified as not detected		

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 0011, WIPP-12 (cont.)

HOLE Number:	HOLE #4	HOLE #4	HOLE #5	HOLE #5	HOLE #6	HOLE #6	EQ BLANK	FD BLANK
Depth (inches):	12-24	60-72	12-24	60-72	12-24	60-72		
TCLP Sample Date:	11/7/95	11/7/95	11/7/95	11/7/95	11/7/95	11/7/95		11/7/95
TCLP Sample Numbers:	NA	NA	RA-95-254	RA-95-256	RA-95-258	RA-95-260	NA	RA-95-262
Total Sample Date:			**7/8/96**	**7/8/96**	**7/8/96**	**7/8/96**		
Total Sample Numbers:	**NA**	**NA**	**RA-96-087**	**RA-96-089**	**RA-96-91**	**RA-96-093**	**NA**	**NA**
Analytes								
Volatiles								
TCLP 1,1,1-Trichloroethane	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	NA	0.05 U
Total 1,1,1-Trichloroethane	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP 1,2-Dichloroethane	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	NA	0.05 U
Total 1,2-Dichloroethane	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP Benzene	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	NA	0.05 U
Total Benzene	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP Chloroform	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	NA	0.05 U
Total Chloroform	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP Ethyl benzene	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	NA	0.05 U
Total Ethyl benzene	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP Toluene	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	NA	0.05 U
Total Toluene	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP Vinyl chloride	NA	NA	0.1 U	0.1 U	0.1 U	0.1 U	NA	0.1 U
Total Vinyl chloride	**NA**	**NA**	**0.010 U**	**0.010 U**	**0.010 U**	**0.010 U**	**NA**	**NA**
Xylenes, total	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	NA	0.05 U
Xylenes, total	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank	EQ BLANK	Equipment Rinse Blank
J	Result should be considered an estimated value	FD BLANK	Field Blank
NA	Not analyzed		
R	Result has been rejected and is considered unusable		
U	Analyte was not detected; value is the method reporting limit		
UB	Detected in the blank and qualified as not detected		

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.

2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).

WIPP Soil Samples
Data Review Form

Statement of Purpose:

To review laboratory data packages for soil samples collected at SWMUs, evaluate data package completeness, and compare analytical quality control data to program objectives.

Section 1: Data Package Identification

P.O. Number: 500101	No. Of Samples In Package: 12
Sample Collection Date: 7/8/96	Sample Receipt Date: 7/9/96
Sample Report Date: 7/31/96	Analytical Parameters: Total Metals, Volatiles
Sample Numbers in Data Package: RA-96-085, RA-96-086, RA-96-087, RA-96-088, RA-96-089, RA-96-090, RA-96-091, RA-96-092, RA-96-093, RA-96-094, RA-96-095, RA-96-096	
Data Reviewer: Kevin E. Garrett	Date of Review: 9/19/96

Symbols used in the sections below are defined as follows:

X	Included: no problem	R	Resubmission
*	Included: problems noted	NR	Not Required
O	Not Included		

Section 2. Data Summary

Data for the above listed samples are:

_____ Acceptable for use
X Acceptable for use with qualifications noted
_____ Preliminary - pending action or verification
_____ Unacceptable for use
_____ To be reviewed by senior chemist

Reviewed by: _____ Date: _____

Section 3. Data Package Completeness Review

X Chain of Custody/Request for Analysis
X Laboratory Analysis Report
X Holding Times
X Method Reporting Limits
X Dilution Factor
X Quality Control Report

Section 4. QC Review (from Laboratory Quality Control Report)

Volatiles

X Method Blank
NR Leachate Blank
X Surrogate Standard Recovery
X Matrix Spike/Matrix Spike Duplicate Samples
X Laboratory Control Sample
NR Duplicate Sample

Semivolatiles

NR Method Blank
NR Leachate Blank
NR Surrogate Standard Recovery
NR Matrix Spike/Matrix Spike Duplicate Samples
NR Laboratory Control Sample
NR Duplicate Sample

Metals

X Method Blank
NR Leachate Blank
* (1) Matrix Spike/Matrix Spike Duplicate Samples
* (2) Laboratory Control Sample
NR Duplicate Sample

Section 5. Calibration Data

Volatiles

X GC/MS Analysis Log
X GC/MS Initial Calibration Data
X GC/MS Continuing Calibration Data

Section 5. Calibration Data (continued)

Semivolatiles

NR	GC/MS Analysis Log
NR	GC/MS Initial Calibration Data
NR	GC/MS Continuing Calibration Data

Metals

X	ICP Analysis Log
X	GFAA Analysis Log
X	CVAA Analysis Log
X	ICP Initial Calibration Data
O (3)	ICP Continuing Calibration Data
X	GFAA Initial Calibration Data
O (3)	GFAA Continuing Calibration Data
X	CVAA Initial Calibration Data
O (3)	CVAA Continuing Calibration Data

Section 6. Comments

1) Matrix spike (MS) recoveries and matrix spike duplicate (MSD) recoveries for arsenic (69.0, 75.3, 77.3, 77.3 percent) were below the 80.4 percent lower laboratory QC limits. One recovery was also below the EPA functional guideline lower control limit of 75 percent. Therefore, the arsenic results in the associated investigative samples (RA-96-085, RA-96-086) were qualified as estimated (J). Two MSD recoveries for cadmium (70.0 and 68.0 percent) were below the 70.2 percent lower laboratory QC limit and the EPA functional guideline lower control limit (75 percent) . Therefore, the cadmium results in the associated investigative samples (RA-96-085, RA-96-086) were qualified as estimated (J). A MS recovery for lead (154 percent) exceeded the 108 percent upper laboratory QC limit and the EPA functional guideline upper control limit of 125 percent. Therefore, the detections for lead in the associated investigative samples (RA-96-085, RA-96-086) were qualified as estimated (J). The percent recoveries for one MS and MSD pair for chromium (75.0 and 65.0 percent) were below the 76.0 percent lower laboratory QC limit and the MSD recovery for this pair was also below the EPA functional guideline lower QC limit of 75 percent. However, the laboratory noted that the sample concentration for this MS and MSD was greater than 4 times the spiking concentration. Therefore, no qualification of the associated chromium results was necessary. Relative percent differences (RPDs) for cadmium (23.4 percent), mercury (21.5 percent), and lead (21.5 percent) slightly exceeded the 20 percent upper laboratory QC limit. No additional qualifications were made due to the slightly high RPDs.

2) The laboratory control sample (LCS) percent recovery for lead (79.7 percent) were below the lower laboratory QC limits and EPA functional guideline lower QC limit (81.2 percent and 80 percent, respectively). Therefore, the lead results in the associated investigative samples (RA-96-088, RA-96-090, RA-96-092, RA-96-094) were qualified as estimated (J). The LCS percent recoveries for thallium (113 percent, 109 percent) and arsenic (104 percent) were above the upper laboratory QC limits (105 percent and 98.1 percent, respectively). However, these recoveries were below the upper QC limit of 120 percent specified in the EPA functional guidelines; therefore, no qualifications were performed to the associated investigative samples.

3) The initial calibration verification (ICV) and continuing calibration verification (CCV) percent recovery results for the metals analyses were incomplete. However, no problems were found with the partial ICV and CCV information that was provided. Therefore, no qualifications have been made due to the missing ICV and CCV results at this time.

Signatures below constitute validation of this record.

Validator:		
Kevin E. Garrett	Kevin E Garrett	9/19/96
Printed Name	Signature	Date
QA/QC Reviewer:		
Mark R. Colsman	Mark R. Colsman	9/20/96
Printed Name	Signature	Date

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July 31, 1996
Report No.: 00032283
Section A Page 13

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-085
NUS SAMPLE NO: P0350068
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS	
2	ABAS	Barium, Total (Ba)	1	18	mg/kg	
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg	J
4	ACRS	Chromium, Total (Cr)	1	2	mg/kg	
6	AHGS	Mercury, Total (Hg)	1	< 0.02	mg/kg	
7	ATLS	Thallium, Total (Tl)	1	20	mg/kg	
10	I620S	Percent Solids at 103C	1	97.6	%	
11	AASSA	Arsenic, Total (As)	1	0.7	mg/kg	J
12	APBS	Lead, Total (Pb)	1	1.4	mg/kg	J

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By Ken Wanett
Date 7/19/96

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July 31, 1996
Report No.: 00032283
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-086
NUS SAMPLE NO: P0350069
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS	
2	ABAS	Barium, Total (Ba)	1	36	mg/kg	
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg	J
4	ACRS	Chromium, Total (Cr)	1	4	mg/kg	
6	AHGS	Mercury, Total (Hg)	1	< 0.02	mg/kg	
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg	
10	I620S	Percent Solids at 103C	1	91.2	%	
11	AASSA	Arsenic, Total (As)	1	0.9	mg/kg	J
12	APBS	Lead, Total (Pb)	1	1.8	mg/kg	J

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/19/96

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July 31, 1996
Report No.: 00032283

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-087
NUS SAMPLE NO: P0350070
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
8	OVTCS	TCL - VOLATILES			
		1,1,1-trichloroethane	1	< .005	mg/kg
		1,2-dichloroethane	1	< .005	mg/kg
		benzene	1	< .005	mg/kg
		chloroform	1	< .005	mg/kg
		ethylbenzene	1	< .005	mg/kg
		toluene	1	< .005	mg/kg
		vinyl chloride	1	< .010	mg/kg
		xylenes (total)	1	< .005	mg/kg
10	I620S	Percent Solids at 103C	1	98.8	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 8/9/96

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July 31, 1996
Report No.: 00032283

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-089
NUS SAMPLE NO: P0350072
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
8	OVTCS	TCL - VOLATILES			
		1,1,1-trichloroethane	1	< .005	mg/kg
		1,2-dichloroethane	1	< .005	mg/kg
		benzene	1	< .005	mg/kg
		chloroform	1	< .005	mg/kg
		ethylbenzene	1	< .005	mg/kg
		toluene	1	< .005	mg/kg
		vinyl chloride	1	< .010	mg/kg
		xylenes (total)	1	< .005	mg/kg
10	I620S	Percent Solids at 103C	1	97.2	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By Lum Vanett
Date 9/19/96

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July 31, 1996
Report No.: 00032283

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-088
NUS SAMPLE NO: P0350071
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	140	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	5	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.02	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	99.2	%
11	AASSA	Arsenic, Total (As)	1	0.7	mg/kg
12	APBS	Lead, Total (Pb)	1	1.7	mg/kg J

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/19/96

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July 31, 1996
Report No.: 00032283

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-091
NUS SAMPLE NO: P0350074
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
8	OVTCS	TCL - VOLATILES			
		1,1,1-trichloroethane	1	< .005	mg/kg
		1,2-dichloroethane	1	< .005	mg/kg
		benzene	1	< .005	mg/kg
		chloroform	1	< .005	mg/kg
		ethylbenzene	1	< .005	mg/kg
		toluene	1	< .005	mg/kg
		vinyl chloride	1	< .010	mg/kg
		xylenes (total)	1	< .005	mg/kg
10	I620S	Percent Solids at 103C	1	97.3	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/9/96

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July 31, 1996
Report No.: 00032283

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-090
NUS SAMPLE NO: P0350073
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	120	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	4	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.02	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	98.0	%
11	AASSA	Arsenic, Total (As)	1	0.9	mg/kg
12	APBS	Lead, Total (Pb)	1	1.5	mg/kg J

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/19/96

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July 31, 1996
Report No.: 00032283
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-092
NUS SAMPLE NO: P0350075
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	1700	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	6	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.02	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	97.4	%
11	AASSA	Arsenic, Total (As)	1	1.3	mg/kg
12	APBS	Lead, Total (Pb)	2	2.2	mg/kg J

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By [signature]
Date 7/31/96

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July 31, 1996
Report No.: 00032283

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-093
NUS SAMPLE NO: P0350076
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
8	OVTCS	TCL - VOLATILES			
		1,1,1-trichloroethane	1	< .005	mg/kg
		1,2-dichloroethane	1	< .005	mg/kg
		benzene	1	< .005	mg/kg
		chloroform	1	< .005	mg/kg
		ethylbenzene	1	< .005	mg/kg
		toluene	1	< .005	mg/kg
		vinyl chloride	1	< .010	mg/kg
		xylenes (total)	1	< .005	mg/kg
10	I620S	Percent Solids at 103C	1	90.2	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/19/96

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July 31, 1996
Report No.: 00032283
Section A Page 22

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-094
NUS SAMPLE NO: P0350077
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	860	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	5	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.02	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	95.4	%
11	AASSA	Arsenic, Total (As)	1	1.4	mg/kg
12	APBS	Lead, Total (Pb)	1	1.8	mg/kg J

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By Ken Barnett
Date 5/19/96

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July 31, 1996
Report No.: 00032283

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-095
NUS SAMPLE NO: P0350078
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003	mg/L
2	ABAW	Barium, Total (Ba)	1	0.057	mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005	mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02	mg/L
5	APBA	Lead, Low Level (Pb)	1	< 0.002	mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001	mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2	mg/L

COMMENTS:

VALIDATED
Reviewed By
Date 7/9/96

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CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-096
NUS SAMPLE NO: P0350079
P.O. NO.: 500101

DATE SAMPLED: 08-JUL-96
DATE RECEIVED: 09-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003	mg/L
2	ABAW	Barium, Total (Ba)	1	0.056	mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005	mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02	mg/L
5	APBA	Lead, Low Level (Pb)	1	< 0.002	mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001	mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2	mg/L

COMMENTS:

VALIDATED
Reviewed By
Date 9/19/96

RECEIVED
SEP 30 1996

Final Validated Analytical Results

SWMU #001h, H-15

Comparison of Total Metals Results to Action Levels
SWMU # 001h, H-15

Metal Analyte	Background Concentration (mg/kg) (1)(2)(7)	Maximum SWMU Concentration (mg/kg) (1)(3)(7)	Subpart S Level (mg/kg) (4)
12-24 inches bgs			
Total Arsenic (As)	0.9	1	80
Total Barium (Ba)	21	26	4000
Total Cadmium (Cd)	0.5 U	0.5	40
Total Chromium (Cr)	4 J	5 J	400
Total Lead (Pb)	2.8 J	2.2 J	400 (5)
Total Mercury (Hg)	0.03 U	0.03 U	20
Total Thallium (Tl)	20 U	20 U	--- (6)
60-72 inches bgs			
Total Arsenic (As)	1.7	2.2	80
Total Barium (Ba)	33	140	4000
Total Cadmium (Cd)	0.5 U	0.5 U	40
Total Chromium (Cr)	5 J	7 J	400
Total Lead (Pb)	2.9 J	3.1 J	400 (5)
Total Mercury (Hg)	0.03	0.03 U	20
Total Thallium (Tl)	20 U	20 U	--- (6)

mg/kg Milligrams per kilogram
bgs Below ground surface

1) Results are presented in mg/kg, wet weight.
2) Background soil concentrations as measured in upgradient borehole #1.
3) Maximum concentration measured in soil samples collected from within Mudpit H-15 (boreholes #3 and #4).
4) Action levels taken from Appendix D of proposed 40CFR 264.521(d), FR Vol.55, No. 145, VI(D), p. 30870.
5) No action levels are included in Subpart S for lead. The action level of 400 mg/kg included in the table is the residential soil cleanup level recommended by the EPA Office of Solid Waste.
6) No action levels are included in Subpart S for thallium.
7) The following data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994):

J Result should be considered an estimated value
U Analyte was not detected; value is the method reporting limit
UJ Analyte was not detected; however the reporting limit presented should be considered an estimated value

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001h, H-15

HOLE Number:	HOLE #1	HOLE #1	HOLE #2	HOLE #2	HOLE #3	HOLE #3
Depth (inches):	12-24	60-72	12-24	25-35	12-24	60-72
TCLP Sample Date:	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
TCLP Sample Numbers:	RA-95-175	RA-95-176	RA-95-177	RA-95-178	RA-95-180	RA-95-184
Total Sample Date:	**7/9/96**	**7/9/96**	**7/9/96**	**7/9/96**	**7/9/96**	**7/9/96**
Total Sample Numbers:	**RA-96-097**	**RA-96-098**	**RA-96-099**	**RA-96-100**	**RA-96-102**	**RA-96-104**
Analytes						
Metals						
TCLP Arsenic (As)	0.2 UB	0.2 U	0.1 UB	0.2 U	0.1 UB	0.2 U
Total Arsenic (As)	**0.9**	**1.7**	**1.2**	**1.9**	**0.6**	**0.018**
TCLP Barium (Ba)	0.43 UB	1.3 B	0.79 B	0.99 B	0.44 UB	1.1 B
Total Barium (Ba)	**21**	**33**	**27**	**170**	**20**	**64**
TCLP Cadmium (Cd)	0.005 U	0.01 U	0.005 U	0.01 U	0.005 U	0.02 U
Total Cadmium (Cd)	**0.5 U**	**0.5 U**	**0.5 U**	**0.5 U**	**0.5 U**	**0.5 U**
TCLP Chromium (Cr)	0.02 U	0.04 U	0.02 U	0.04 U	0.02 U	0.04 U
Total Chromium (Cr)	**4**	**5**	**5**	**5**	**4**	**6**
TCLP Lead (Pb)	0.05 U	0.1 U	0.05 U	0.1 U	0.05 U	0.1 U
Total Lead (Pb)	**2.8 J**	**2.9 J**	**2.4 J**	**2.2 J**	**2 J**	**2.8 J**
TCLP Mercury (Hg)	0.0001 U	0.0001	0.0001 U	0.0001	0.0001 U	0.0001
Total Mercury (Hg)	**0.03 U**	**0.03**	**0.03 U**	**0.03 U**	**0.03 U**	**0.03 U**
TCLP Thallium (Tl)	0.2 U	0.4 U	0.2 U	0.4 U	0.2 U	0.4 U
Total Thallium (Tl)	**20 U**	**20 U**	**20 U**	**20 U**	**20 U**	**20 U**

Data qualifiers and abbreviations:

- B Analyte was detected in an associated laboratory blank
- J Result should be considered an estimated value
- NA Not analyzed
- R Result has been rejected and is considered unusable
- U Analyte was not detected; value is the method reporting limit
- UB Detected in the blank and qualified as not detected

- EQ BLANK Equipment Rinse Blank
- FD BLANK Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001h, H-15 (cont.)

HOLE Number:	HOLE #1	HOLE #1	HOLE #2	HOLE #2	HOLE #3	HOLE #3
Depth (inches):	12-24	60-72	12-24	60-72	12-24	60-72
TCLP Sample Date:	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
TCLP Sample Numbers:	NA	NA	NA	NA	RA-95-179	RA-95-183
Total Sample Date:					**7/9/96**	**7/9/96**
Total Sample Numbers:					**RA-96-101**	**RA-96-103**
Analytes						
Volatiles						
TCLP 1,1,1-Trichloroethane	NA	NA	NA	NA	0.05 U	0.05 U
Total 1,1,1-Trichloroethane	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**
TCLP 1,2-Dichloroethane	NA	NA	NA	NA	0.05 U	0.05 U
Total 1,2-Dichloroethane	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**
TCLP Benzene	NA	NA	NA	NA	0.05 U	0.05 U
Total Benzene	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**
TCLP Chloroform	NA	NA	NA	NA	0.05 U	0.05 U
Total Chloroform	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**
TCLP Ethyl benzene	NA	NA	NA	NA	0.05 U	0.05 U
Total Ethyl benzene	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**
TCLP Toluene	NA	NA	NA	NA	0.05 U	0.05 U
Total Toluene	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**
TCLP Vinyl chloride	NA	NA	NA	NA	0.1 U	0.1 U
Total Vinyl chloride	**NA**	**NA**	**NA**	**NA**	**0.01 U**	**0.01 U**
Xylenes, total	NA	NA	NA	NA	0.05 U	0.05 U
Xylenes, total	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**

Data qualifiers and abbreviations:

B Analyte was detected in an associated laboratory blank
J Result should be considered an estimated value
NA Not analyzed
R Result has been rejected and is considered unusable
U Analyte was not detected; value is the method reporting limit
UB Detected in the blank and qualified as not detected

EQ BLANK Equipment Rinse Blank
FD BLANK Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC mpling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and i sequent EPA communications ith DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001h, H-15 (cont.)

HOLE Number:	HOLE #4	HOLE #4	EQ BLANK	FD BLANK
Depth (inches):	12-24	60-72		
TCLP Sample Date:	10/24/95	10/24/95	10/24/95	
TCLP Sample Numbers:	RA-95-186	RA-95-188	RA-95-182	NA
Total Sample Date:	**7/9/96**	**7/9/96**	**7/9/96**	**7/9/96**
Total Sample Numbers:	**RA-96-106**	**RA-96-108**	**RA-96-109**	**RA-96-110**
Analytes				
Metals				
TCLP Arsenic (As)	0.2 UB	0.5 U	0.1 U	NA
Total Arsenic (As)	**1**	**2.2**	**0.003 U**	**0.003 U**
TCLP Barium (Ba)	0.36 UB	1.2 B	0.005 U	NA
Total Barium (Ba)	**26**	**140**	**0.056**	**0.056**
TCLP Cadmium (Cd)	0.005 U	0.02 U	0.005 U	NA
Total Cadmium (Cd)	**0.5**	**0.5 U**	**0.005 U**	**0.005 U**
TCLP Chromium (Cr)	0.02 U	0.1 U	0.02 U	NA
Total Chromium (Cr)	**5**	**7**	**0.02 UJ**	**0.02 UJ**
TCLP Lead (Pb)	0.05 U	0.2 U	0.05 U	NA
Total Lead (Pb)	**2.2**	**3.1**	**0.002 U**	**0.002 U**
TCLP Mercury (Hg)	0.0001 U	0.0001	0.0001 U	NA
Total Mercury (Hg)	**0.03 U**	**0.03 U**	**0.0001 U**	**0.0001 U**
TCLP Thallium (Tl)	0.2 U	1 U	0.2 U	NA
Total Thallium (Tl)	**20 U**	**20 U**	**0.07**	**0.2 U**

Data qualifiers and abbreviations:

B Analyte was detected in an associated laboratory blank
J Result should be considered an estimated value
NA Not analyzed
R Result has been rejected and is considered unusable
U Analyte was not detected; value is the method reporting limit
UB Detected in the blank and qualified as not detected

EQ BLANK Equipment Rinse Blank
FD BLANK Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001h, H-15 (cont.)

HOLE Number:	HOLE #4	HOLE #4	EQ BLANK	FD BLANK
Depth (inches):	12-24	60-72		
TCLP Sample Date:	10/24/95	10/24/95	10/24/95	
TCLP Sample Numbers:	RA-95-185	RA-95-187	RA-95-181	NA
Total Sample Date:	**7/9/96**	**7/9/96**		
Total Sample Numbers:	**RA-96-105**	**RA-96-107**	**NA**	**NA**
Analytes				
Volatiles				
TCLP 1,1,1-Trichloroethane	0.05 U	0.05 U	0.05 UJ	NA
Total 1,1,1-Trichloroethane	**0.005 U**	**0.005 UJ**	**NA**	**NA**
TCLP 1,2-Dichloroethane	0.05 U	0.05 U	0.05 UJ	NA
Total 1,2-Dichloroethane	**0.005 U**	**0.005 UJ**	**NA**	**NA**
TCLP Benzene	0.05 U	0.05 U	0.05 UJ	NA
Total Benzene	**0.005 U**	**0.005 UJ**	**NA**	**NA**
TCLP Chloroform	0.05 U	0.05 U	0.05 UJ	NA
Total Chloroform	**0.005 U**	**0.005 UJ**	**NA**	**NA**
TCLP Ethyl benzene	0.05 U	0.05 U	0.05 UJ	NA
Total Ethyl benzene	**0.005 U**	**0.005 UJ**	**NA**	**NA**
TCLP Toluene	0.05 U	0.05 U	0.05 UJ	NA
Total Toluene	**0.005 U**	**0.005 UJ**	**NA**	**NA**
TCLP Vinyl chloride	0.1 U	0.1 U	0.1 UJ	NA
Total Vinyl chloride	**0.01 U**	**0.01 UJ**	**NA**	**NA**
Xylenes, total	0.05 U	0.05 U	0.05 UJ	NA
Xylenes, total	**0.005 U**	**0.005 UJ**	**NA**	**NA**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank	EQ BLANK	Equipment Rinse Blank
J	Result should be considered an estimated value	FD BLANK	Field Blank
NA	Not analyzed		
R	Result has been rejected and is considered unusable		
U	Analyte was not detected; value is the method reporting limit		
UB	Detected in the blank and qualified as not detected		

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications ith DOE and WID.

WIPP Soil Samples
Data Review Form

Statement of Purpose:

To review laboratory data packages for soil samples collected at SWMUs, evaluate data package completeness, and compare analytical quality control data to program objectives.

Section 1: Data Package Identification

P.O. Number: 500101	No. Of Samples In Package: 14
Sample Collection Date: 7/9/96	Sample Receipt Date: 7/10/96
Sample Report Date: 7/31/96	Analytical Parameters: Total Metals, Volatiles
Sample Numbers in Data Package: RA-96-097, RA-96-098, RA-96-099, RA-96-100, RA-96-101, RA-96-102, RA-96-103, RA-96-104, RA-96-105, RA-96-106, RA-96-107, RA-96-108, RA-96-109, RA-96-110	
Data Reviewer: Kevin E. Garrett	Date of Review: 9/19/96

Symbols used in the sections below are defined as follows:

X	Included: no problem	R	Resubmission
*	Included: problems noted	NR	Not Required
O	Not Included		

Section 2. Data Summary

Data for the above listed samples are:

_____ Acceptable for use
X Acceptable for use with qualifications noted
_____ Preliminary - pending action or verification
_____ Unacceptable for use
_____ To be reviewed by senior chemist

Reviewed by: _____ Date: _____

Section 3. Data Package Completeness Review

X Chain of Custody/Request for Analysis
X Laboratory Analysis Report
X Holding Times
X Method Reporting Limits
X Dilution Factor
X Quality Control Report

Section 4. QC Review (from Laboratory Quality Control Report)

Volatiles

X Method Blank
NR Leachate Blank
X Surrogate Standard Recovery
NR Matrix Spike/Matrix Spike Duplicate Samples
X Laboratory Control Sample
NR Duplicate Sample

Semivolatiles

NR Method Blank
NR Leachate Blank
NR Surrogate Standard Recovery
NR Matrix Spike/Matrix Spike Duplicate Samples
NR Laboratory Control Sample
NR Duplicate Sample

Metals

X Method Blank
NR Leachate Blank
* (1) Matrix Spike/Matrix Spike Duplicate Samples
* (2) Laboratory Control Sample
NR Duplicate Sample

Section 5. Calibration Data

Volatiles

X GC/MS Analysis Log
X GC/MS Initial Calibration Data
X GC/MS Continuing Calibration Data

Section 5. Calibration Data (continued)

Semivolatiles

NR GC/MS Analysis Log
NR GC/MS Initial Calibration Data
NR GC/MS Continuing Calibration Data

Metals

X ICP Analysis Log
X GFAA Analysis Log
X CVAA Analysis Log
X ICP Initial Calibration Data
O (3) ICP Continuing Calibration Data
X GFAA Initial Calibration Data
O (3) GFAA Continuing Calibration Data
X CVAA Initial Calibration Data
O (3) CVAA Continuing Calibration Data

Section 6. Comments

1) The matrix spike (MS) and matrix spike duplicate (MSD) recoveries for arsenic (77 percent, 109 percent, 111 percent) were outside the 80.4 to 104 percent laboratory QC limits. However, these recoveries were within the QC limits of 75-125 percent specified by EPA functional guidelines; therefore, no qualifications were added to the associated investigative samples. One pair of the MS and MSD recoveries for chromium (75 percent, 65 percent) were below the 76 percent lower QC limit, and the MSD recovery for this pair was also below the EPA functional guideline lower QC limit of 75 percent. Therefore, the chromium results in the associated investigative samples (RA-96-109, RA-96-110) were qualified as estimated (J).

2) The laboratory control sample (LCS) recoveries for thallium, arsenic, barium, and chromium were slightly outside the laboratory QC limits but were within the EPA functional guideline criteria of 80-120 percent. Therefore, no qualifications were added to the results for these metals. The LCS recovery for lead (79.7 percent) was below the laboratory lower QC limit of 81.2 percent and the EPA functional guideline QC limit of 80 percent. Therefore, the lead results in the associated investigative samples (RA-96-097, RA-96-098, RA-96-099, RA-96-100, RA-96-102, RA-96-104) were qualified as estimated (J).

3) The initial calibration verification (ICV) and continuing calibration verification (CCV) percent recovery results for the metals analyses were incomplete. However, no problems were found with the partial ICV and CCV information that was provided. Therefore, no qualifications have been made due to the missing ICV and CCV results at this time.

Signatures below constitute validation of this record.

Validator: Kevin E. Garrett	Kevin E. Garrett	9/17/96
Printed Name	Signature	Date
QA/QC Reviewer: Mark R. Colsman	Mark R. Colsman	9/24/96
Printed Name	Signature	Date

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
FAX: (412) 747-2559

July 31, 1996
Report No.: 00032284
Section A Page 1

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-097
NUS SAMPLE NO: P0350120
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	21 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg
4	ACRS	Chromium, Total (Cr)	1	4 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	98.8 %
11	AASSA	Arsenic, Total (As)	1	0.9 mg/kg
12	APBS	Lead, Total (Pb)	1	2.8 mg/kg J

COMMENTS:
Results are reported on a wet weight basis.
11 Arsenic was analyzed using the method of standard additions.

VALIDATED
Reviewed By
Date 9/19/96

Halliburton NUS CORPORATION

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Pittsburgh, Pennsylvania 15205

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July 31, 1996
Report No.: 00032284
Section A Page 2

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-098
NUS SAMPLE NO: P0350121
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	33	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	5	mg/kg
6	AHGS	Mercury, Total (Hg)	1	0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	96.2	%
11	AASSA	Arsenic, Total (As)	1	1.7	mg/kg
12	APBS	Lead, Total (Pb)	1	2.9	mg/kg J

COMMENTS:

Results are reported on a wet weight basis.

11 Arsenic was analyzed using the method of standard additions.

VALIDATED

Reviewed By [signature]

Date 9/19/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-099
NUS SAMPLE NO: P0350122
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	27	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	5	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	98.6	%
11	AASSA	Arsenic, Total (As)	1	1.2	mg/kg
12	APBS	Lead, Total (Pb)	1	2.4	mg/kg J

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/19/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284
Section A Page 4

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-100
NUS SAMPLE NO: P0350123
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	170	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	5	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	94.2	%
11	AASSA	Arsenic, Total (As)	1	1.9	mg/kg
12	APBS	Lead, Total (Pb)	1	2.2	mg/kg J

COMMENTS:

Results are reported on a wet weight basis.

11 Arsenic was analyzed using the method of standard additions.

VALIDATED

Reviewed By Ken Wantt

Date 7/19/96

Halliburton NUS
CORPORATION

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-101
NUS SAMPLE NO: P0350124
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
8	OVTCS	TCL - VOLATILES			
		1,1,1-trichloroethane	1	< 5	ug/kg
		1,2-dichloroethane	1	< 5	ug/kg
		benzene	1	< 5	ug/kg
		chloroform	1	< 5	ug/kg
		ethylbenzene	1	< 5	ug/kg
		toluene	1	< 5	ug/kg
		vinyl chloride	1	< 10	ug/kg
		xylenes (total)	1	< 5	ug/kg
10	I620S	Percent Solids at 103C	1	98.7	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 8/19/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284
Section A Page 6

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-102
NUS SAMPLE NO: P0350125
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	20	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	4	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	98.9	%
11	AASSA	Arsenic, Total (As)	1	0.6	mg/kg
12	APBS	Lead, Total (Pb)	1	2.0	mg/kg J

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/17/96

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-103
NUS SAMPLE NO: P0350126
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
8	OVTCS	TCL - VOLATILES			
		1,1,1-trichloroethane	1	< 5	ug/kg
		1,2-dichloroethane	1	< 5	ug/kg
		benzene	1	< 5	ug/kg
		chloroform	1	< 5	ug/kg
		ethylbenzene	1	< 5	ug/kg
		toluene	1	< 5	ug/kg
		vinyl chloride	1	< 10	ug/kg
		xylenes (total)	1	< 5	ug/kg
10	I620S	Percent Solids at 103C	1	93.9	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 3/19/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
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July 31, 1996
Report No.: 00032284
Section A Page 8

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-104
NUS SAMPLE NO: P0350127
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	64	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	6	mg/kg
6	AMGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	1620S	Percent Solids at 103C	1	95.4	%
11	AASSA	Arsenic, Total (As)	1	0.018	mg/kg
12	APBS	Lead, Total (Pb)	1	2.8	mg/kg J

COMMENTS:

Results are reported on a wet weight basis.

11 Arsenic was analyzed using the method of standard additions.

VALIDATED

Reviewed By [signature]

Date 9/19/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-105
NUS SAMPLE NO: P0350128
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	96.6 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By [signature]
Date 9/4/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284
Section A Page 10

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-106
NUS SAMPLE NO: P0350129
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	26 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	0.5 mg/kg
4	ACRS	Chromium, Total (Cr)	1	5 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	98.5 %
11	AASSA	Arsenic, Total (As)	1	1.0 mg/kg
12	APBS	Lead, Total (Pb)	1	2.2 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/29/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-107
NUS SAMPLE NO: P0350130
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	150	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	6	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	93.1	%
11	AASSA	Arsenic, Total (As)	1	1.9	mg/kg
12	APBS	Lead, Total (Pb)	3	3.2	mg/kg

COMMENTS:

Results are reported on a wet weight basis.

12 Lead was analyzed using the method of standard additions.

VALIDATED

Reviewed By [signature]

Date 8/9/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-108
NUS SAMPLE NO: P0350131
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	140	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	7	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	93.0	%
11	AASSA	Arsenic, Total (As)	1	2.2	mg/kg
12	APBS	Lead, Total (Pb)	2	3.1	mg/kg

COMMENTS:
Results are reported on a wet weight basis.
11 Arsenic was analyzed using the method of standard additions.

VALIDATED
Reviewed By
Date 7/19/96

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-109
NUS SAMPLE NO: P0350132
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003	mg/L
2	ABAW	Barium, Total (Ba)	1	0.056	mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005	mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02	mg/L J
5	APBA	Lead, Low Level (Pb)	1	< 0.002	mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001	mg/L
7	ATLW	Thallium, Total (Tl)	1	0.07	mg/L

COMMENTS:

VALIDATED
Reviewed By
Date 9/9/96

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-110
NUS SAMPLE NO: P0350133
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003 mg/L
2	ABAW	Barium, Total (Ba)	1	0.056 mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005 mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02 mg/L J
5	APBA	Lead, Low Level (Pb)	1	< 0.002 mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001 mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2 mg/L

COMMENTS:

VALIDATED
Reviewed By [signature]
Date 7/19/96

RECEIVED
SEP 30 1996

Final Validated Analytical Results

SWMU #001h, P-2

Comparison of Total Metals Results to Action Levels
SWMU # 001h, Mudpit P-2

Metal Analyte	Background Concentration (mg/kg) (1)(2)(7)	Maximum SWMU Concentration (mg/kg) (1)(3)(7)	Subpart S Level (mg/kg) (4)
12-24 inches bgs			
Total Arsenic (As)	0.8	1.3	80
Total Barium (Ba)	19	69	4000
Total Cadmium (Cd)	0.5 U	0.5 U	40
Total Chromium (Cr)	6	5	400
Total Lead (Pb)	2.1	2.3	400 (5)
Total Mercury (Hg)	0.03 U	0.03 U	20
Total Thallium (Tl)	20 U	20 U	--- (6)
60-72 inches bgs			
Total Arsenic (As)	1.4	1.9	80
Total Barium (Ba)	28	150	4000
Total Cadmium (Cd)	0.5 U	0.5 U	40
Total Chromium (Cr)	6	6	400
Total Lead (Pb)	2.6	6.5	400 (5)
Total Mercury (Hg)	0.03 U	0.03 U	20
Total Thallium (Tl)	20 U	20 U	--- (6)

mg/kg Milligrams per kilogram
bgs Below ground surface

1) Results are presented in mg/kg, wet weight.
2) Background soil concentrations as measured in borehole #1.
3) Maximum concentration measured in soil samples collected from within Mudpit P-2 (boreholes #2 and #3).
4) Action levels taken from Appendix D of proposed 40CFR 264.521(d), FR Vol.55, No. 145, VI(D), p. 30870.
5) No action levels are included in Subpart S for lead. The action level of 400 mg/kg included in the table is the residential soil cleanup level recommended by the EPA Office of Solid Waste.
6) No action levels are included in Subpart S for thallium.
7) The following data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994):

J Result should be considered an estimated value
U Analyte was not detected; value is the method reporting limit
UJ Analyte was not detected; however the reporting limit presented should be considered an estimated value

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001h, Mudpit P-2

HOLE Number:	HOLE #1	HOLE #1	HOLE #2	HOLE #2	HOLE #3	HOLE #3	EQ BLANK	FD BLANK
Depth (inches):	12-24	60-72	12-24	60-72	12-24	60-72		
TCLP Sample Date:	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	
TCLP Sample Numbers:	RA-95-189	RA-95-190	RA-95-192	RA-95-194	RA-95-196	RA-95-198	RA-95-200	NA
Total Sample Date:	**7/9/96**	**7/9/96**	**7/9/96**	**7/9/96**	**7/9/96**	**7/9/96**	**7/9/96**	**7/9/96**
Total Sample Numbers:	**RA-96-111**	**RA-96-112**	**RA-96-114**	**RA-96-116**	**RA-96-118**	**RA-96-120**	**RA-96-121**	**RA-96-122**
Analytes								
Metals								
TCLP Arsenic (As)	0.1 UB	0.5 U	0.1 UB	0.5 U	0.1 UB	0.5 U	0.1 U	NA
Total Arsenic (As)	**0.8**	**1.4**	**1**	**1.9**	**1.3**	**1.5**	**0.003 U**	**0.003 U**
TCLP Barium (Ba)	0.28 UB	1.2 B	0.39 UB	1.2 B	0.29 UB	1.1 B	0.005 U	NA
Total Barium (Ba)	**19**	**28**	**20**	**65**	**69**	**150**	**0.005 U**	**0.005 U**
TCLP Cadmium (Cd)	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	0.02 U	0.005 U	NA
Total Cadmium (Cd)	**0.5 U**	**0.5 U**	**0.5 U**	**0.5 U**	**0.5 U**	**0.5 U**	**0.005 U**	**0.005 U**
TCLP Chromium (Cr)	0.02 U	0.1 U	0.02 U	0.1 U	0.02 U	0.1 U	0.02 U	NA
Total Chromium (Cr)	**6**	**6**	**5**	**6**	**5**	**5**	**0.02 UJ**	**0.02 UJ**
TCLP Lead (Pb)	0.05 U	0.2 U	0.05 U	0.2 U	0.05 UJ	0.2 UJ	0.05 UJ	NA
Total Lead (Pb)	**2.1**	**2.6**	**2**	**6.5**	**2.3**	**2.4**	**0.002 U**	**0.002 U**
TCLP Mercury (Hg)	0.0001 U	0.0001	0.0001 U	0.0002	0.0001 U	0.0001	0.0001 U	NA
Total Mercury (Hg)	**0.03 U**	**0.03 U**	**0.03 U**	**0.03 U**	**0.03 U**	**0.03 U**	**0.0001 U**	**0.0001 U**
TCLP Thallium (Tl)	0.2 U	1 U	0.2 U	1 U	0.2 U	1 U	0.2 U	NA
Total Thallium (Tl)	**20 U**	**20 U**	**20 U**	**20 U**	**20 U**	**20 U**	**0.2 U**	**0.2 U**

d abbreviations:

- B Analyte was detected in an associated laboratory blank
- J Result should be considered an estimated value
- NA Not analyzed
- R Result has been rejected and is considered unusable
- U Analyte was not detected; value is the method reporting limit
- UB Detected in the blank and qualified as not detected

- EQ BLANK Equipment Rinse Blank
- FD BLANK Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001h, Mudpit P-2 (cont.)

HOLE Number:	HOLE #1	HOLE #1	HOLE #2	HOLE #2	HOLE #3	HOLE #3	EQ BLANK	FD BLANK
Depth (inches):	12-24	60-72	12-24	60-72	12-24	60-72		
TCLP Sample Date:	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	
TCLP Sample Numbers:	NA	NA	RA-95-191	RA-95-193	RA-95-195	RA-95-197	RA-95-199	NA
Total Sample Date:			**7/9/96**	**7/9/96**	**7/9/96**	**7/9/96**		
Total Sample Numbers:			**RA-96-113**	**RA-96-115**	**RA-96-117**	**RA-96-119**	**NA**	**NA**
Analytes								
Volatiles								
TCLP 1,1,1-Trichloroethane	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA
Total 1,1,1-Trichloroethane	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP 1,2-Dichloroethane	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA
Total 1,2-Dichloroethane	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP Benzene	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA
Total Benzene	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP Chloroform	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA
Total Chloroform	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP Ethyl benzene	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA
Total Ethyl benzene	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP Toluene	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA
Total Toluene	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**
TCLP Vinyl chloride	NA	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	NA
Total Vinyl chloride	**NA**	**NA**	**0.01 U**	**0.01 U**	**0.01 U**	**0.01 U**	**NA**	**NA**
Xylenes, total	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA
Xylenes, total	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**	**NA**	**NA**

Data qualifiers and abbreviations:

B Analyte was detected in an associated laboratory blank
J Result should be considered an estimated value
NA Not analyzed
R Result has been rejected and is considered unusable
U Analyte was not detected; value is the method reporting limit
UB Detected in the blank and qualified as not detected

EQ BLANK Equipment Rinse Blank
FD BLANK Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA com nunications with DOE and WID.

WIPP Soil Samples
Data Review Form

Statement of Purpose:

To review laboratory data packages for soil samples collected at SWMUs, evaluate data package completeness, and compare analytical quality control data to program objectives.

Section 1: Data Package Identification

P.O. Number: 500101	No. Of Samples In Package: 12
Sample Collection Date: 7/9/96	Sample Receipt Date: 7/10/96
Sample Report Date: 7/31/96	Analytical Parameters: Total Metals, Volatiles
Sample Numbers in Data Package: RA-96-111, RA-96-112, RA-96-113, RA-96-114, RA-96-115, RA-96-116, RA-96-117, RA-96-118, RA-96-119, RA-96-120, RA-96-121, RA-96-122	
Data Reviewer: Kevin E. Garrett	Date of Review: 9/19/96

Symbols used in the sections below are defined as follows:

X	Included: no problem	R	Resubmission
*	Included: problems noted	NR	Not Required
O	Not Included		

Section 2. Data Summary

Data for the above listed samples are:

_____ Acceptable for use
X Acceptable for use with qualifications noted
_____ Preliminary - pending action or verification
_____ Unacceptable for use
_____ To be reviewed by senior chemist

Reviewed by: _____ Date: _____

Section 3. Data Package Completeness Review

X Chain of Custody/Request for Analysis
X Laboratory Analysis Report
X Holding Times
X Method Reporting Limits
X Dilution Factor
X Quality Control Report

Section 4. QC Review (from Laboratory Quality Control Report)

Volatiles

X Method Blank
NR Leachate Blank
X Surrogate Standard Recovery
NR Matrix Spike/Matrix Spike Duplicate Samples
X Laboratory Control Sample
NR Duplicate Sample

Semivolatiles

NR Method Blank
NR Leachate Blank
NR Surrogate Standard Recovery
NR Matrix Spike/Matrix Spike Duplicate Samples
NR Laboratory Control Sample
NR Duplicate Sample

Metals

X Method Blank
NR Leachate Blank
* (1) Matrix Spike/Matrix Spike Duplicate Samples
* (2) Laboratory Control Sample
NR Duplicate Sample

Section 5. Calibration Data

Volatiles

X GC/MS Analysis Log
X GC/MS Initial Calibration Data
X GC/MS Continuing Calibration Data

Section 5. Calibration Data (continued)

Semivolatiles

NR	GC/MS Analysis Log
NR	GC/MS Initial Calibration Data
NR	GC/MS Continuing Calibration Data

Metals

X	ICP Analysis Log
X	GFAA Analysis Log
X	CVAA Analysis Log
X	ICP Initial Calibration Data
O (3)	ICP Continuing Calibration Data
X	GFAA Initial Calibration Data
O (3)	GFAA Continuing Calibration Data
X	CVAA Initial Calibration Data
O (3)	CVAA Continuing Calibration Data

Section 6. Comments

1) The matrix spike (MS) and matrix spike duplicate (MSD) recoveries for arsenic (77 percent, 109 percent, 111 percent) were outside the 80.4 to 104 percent laboratory QC limits. However, these recoveries were within the QC limits of 75-125 percent specified by EPA functional guidelines; therefore, no qualifications were added to the associated investigative samples. One pair of the MS and MSD recoveries for chromium (75 percent, 65 percent) were below the 76 percent lower QC limit, and the MSD recovery for this pair was also below the EPA functional guideline lower QC limit of 75 percent. Therefore, the chromium results in the associated investigative samples (RA-96-121, RA-96-122) were qualified as estimated (J).

2) The laboratory control sample (LCS) recoveries for thallium, barium, and chromium were slightly outside the laboratory QC limits but were within the EPA functional guideline criteria of 80-120 percent. Therefore, no qualifications were added to the results for these metals.

3) The initial calibration verification (ICV) and continuing calibration verification (CCV) percent recovery results for the metals analyses were incomplete. However, no problems were found with the partial ICV and CCV information that was provided. Therefore, no qualifications have been made due to the missing ICV and CCV results at this time.

Signatures below constitute validation of this record.

Validator:

Printed Name	Signature	Date
Kevin E. Garrett	Kevin E. Garrett	9/19/96

QA/QC Reviewer:

Printed Name	Signature	Date
Mark R. Coleman	Mark R. Coleman	9/20/96

Halliburton NUS
CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
FAX: (412) 747-2559

July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-111
NUS SAMPLE NO: P0350134
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	19	mg/kg
3	ACDS	Cadmium. Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	6	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	1620S	Percent Solids at 103C	1	97.6	%
11	AASSA	Arsenic, Total (As)	1	0.8	mg/kg
12	APBS	Lead, Total (Pb)	1	2.1	mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 5/19/96

Halliburton NUS CORPORATION

NUS LABORATORY
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July 31, 1996
Report No.: 00032284
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-112
NUS SAMPLE NO: P0350135
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	28	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	6	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	96.6	%
11	AASSA	Arsenic, Total (As)	1	1.4	mg/kg
12	APBS	Lead, Total (Pb)	2	2.6	mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/29/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-113
NUS SAMPLE NO: P0350136
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	98.6 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By Tom Wanell
Date 7/7/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-114
NUS SAMPLE NO: P0350137
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	20	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	5	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	98.3	%
11	AASSA	Arsenic, Total (As)	1	1.0	mg/kg
12	APBS	Lead, Total (Pb)	3	2.0	mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/19/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-115
NUS SAMPLE NO: P0350138
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	94.1 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/17/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-116
NUS SAMPLE NO: P0350139
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	65	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	6	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	94.4	%
11	AASSA	Arsenic, Total (As)	1	1.9	mg/kg
12	APBS	Lead, Total (Pb)	5	6.5	mg/kg

COMMENTS:

Results are reported on a wet weight basis.

11 Arsenic was analyzed using the method of standard additions.

VALIDATED

Reviewed By [signature]

Date 9/19/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-117
NUS SAMPLE NO: P0350140
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	91.7 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/31/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-118
NUS SAMPLE NO: P0350141
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	69	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	5	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	94.2	%
11	AASSA	Arsenic, Total (As)	1	1.3	mg/kg
12	APBS	Lead, Total (Pb)	2	2.3	mg/kg

COMMENTS:

Results are reported on a wet weight basis.

11 Arsenic was analyzed using the method of standard additions.

VALIDATED

Reviewed By

Date 7/31/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-119
NUS SAMPLE NO: P0350142
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	1620S	Percent Solids at 103C	1	94.1 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/29/96

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-120
NUS SAMPLE NO: P0350143
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	150 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg
4	ACRS	Chromium, Total (Cr)	1	5 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	94.7 %
11	AASSA	Arsenic, Total (As)	1	1.5 mg/kg
12	APBS	Lead, Total (Pb)	2	2.4 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/29/96

Halliburton NUS CORPORATION

NUS LABORATORY
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Pittsburgh, Pennsylvania 15205

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-121
NUS SAMPLE NO: P0350144
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003 mg/L
2	ABAW	Barium, Total (Ba)	1	< 0.005 mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005 mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02 mg/L J
5	APBA	Lead, Low Level (Pb)	1	< 0.002 mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001 mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2 mg/L

COMMENTS:

VALIDATED
Reviewed By
Date 7/19/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032284

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-122
NUS SAMPLE NO: P0350145
P.O. NO.: 500101

DATE SAMPLED: 09-JUL-96
DATE RECEIVED: 10-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003 mg/L
2	ABAW	Barium, Total (Ba)	1	< 0.005 mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005 mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02 mg/L J
5	APBA	Lead, Low Level (Pb)	1	< 0.002 mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001 mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2 mg/L

COMMENTS:

VALIDATED

Reviewed By [signature]

Date 7/25/96

RECEIVED
SEP 30 1996

Final Validated Analytical Results

SWMU #001k, P-4

Comparison of Total Metals Results to Action Levels
SWMU # 001k, Mudpit P-4

Metal Analyte	Background Concentration (mg/kg) (1)(2)(7)	Maximum SWMU Concentration (mg/kg) (1)(3)(7)	Subpart S Level (mg/kg) (4)
12-24 inches bgs			
Total Arsenic (As)	0.6 J	0.5 J	80
Total Barium (Ba)	15 J	13 J	4000
Total Cadmium (Cd)	0.5 UJ	0.5 J	40
Total Chromium (Cr)	4 J	4 J	400
Total Lead (Pb)	1.4 J	1.2	400 (5)
Total Mercury (Hg)	0.06	0.03 U	20
Total Thallium (Tl)	20.0 U	20.0 U	--- (6)
60-72 inches bgs			
Total Arsenic (As)	0.7 J	0.6 J	80
Total Barium (Ba)	19 J	14 J	4000
Total Cadmium (Cd)	0.5 UJ	0.5 UJ	40
Total Chromium (Cr)	4 J	3 J	400
Total Lead (Pb)	1.4 J	1.3 J	400 (5)
Total Mercury (Hg)	0.03 U	0.05	20
Total Thallium (Tl)	20.0 U	20.0 U	--- (6)

mg/kg Milligrams per kilogram
bgs Below ground surface

1) Results are presented in mg/kg, wet weight.
2) Background soil concentrations as measured in upgradient borehole #2.
3) Maximum concentration measured in soil samples collected from within Mudpit P-4 (boreholes #3 and #4).
4) Action levels taken from Appendix D of proposed 40CFR 264.521(d), FR Vol.55, No. 145, VI(D), p. 30870.
5) No action levels are included in Subpart S for lead. The action level of 400 mg/kg included in the table is the residential soil cleanup level recommended by the EPA Office of Solid Waste.
6) No action levels are included in Subpart S for thallium.
7) The following data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994):

J Result should be considered an estimated value
U Analyte was not detected; value is the method reporting limit
UJ Analyte was not detected; however the reporting limit presented should be considered an estimated value

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001k, Mudpit P-4

HOLE Number:	HOLE #1	HOLE #1	HOLE #2	HOLE #2	HOLE #3	HOLE #3	HOLE #4	HOLE #4
Depth (Inches):	12-24	60-72	12-24	60-72	12-24	60-72	12-24	60-72
TCLP Sample Date:	10/23/95	10/23/95	10/23/95	10/23/95	10/23/95	10/23/95	10/23/95	10/23/95
TCLP Sample Numbers:	RA-95-159	RA-95-160	RA-95-161	RA-95-162	RA-95-164	RA-95-168	RA-95-170	RA-95-172
Total Sample Date:	**7/11/96**	**7/11/96**	**7/11/96**	**7/11/96**	**7/11/96**	**7/11/96**	**7/11/96**	**7/11/96**
Total Sample Numbers:	**RA-96-151**	**RA-96-152**	**RA-96-153**	**RA-96-154**	**RA-96-156**	**RA-96-158**	**RA-96-160**	**RA-96-162**
Analytes								
Metals								
TCLP Arsenic (As)	0.1 UB	0.2 UB	0.1 UB	0.1 UB	0.2 UB	0.1 UB	0.2 UB	0.1 U
Total Arsenic (As)	**0.6 J**	**0.7 J**	**0.6 J**	**0.7 J**	**0.5 J**	**0.6 J**	**0.5 J**	**0.6 J**
TCLP Barium (Ba)	0.63 B	0.59 B	0.57 B	0.74 B	0.59 B	0.59 B	0.6 B	0.76 B
Total Barium (Ba)	**14 J**	**18 J**	**15 J**	**19 J**	**13 J**	**13 J**	**13 J**	**14 J**
TCLP Cadmium (Cd)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Total Cadmium (Cd)	**0.5 UJ**	**1 J**	**0.5 UJ**	**0.5 UJ**	**0.5 UJ**	**0.5 UJ**	**0.5 J**	**0.5 UJ**
TCLP Chromium (Cr)	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Total Chromium (Cr)	**4 J**	**4 J**	**4 J**	**4 J**	**4 J**	**3 J**	**2 J**	**3 J**
TCLP Lead (Pb)	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
Total Lead (Pb)	**1.5**	**1.6**	**1.4**	**1.4**	**1.2**	**1.3**	**1.2**	**1.3**
TCLP Mercury (Hg)	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 J
Total Mercury (Hg)	**0.03 U**	**0.03 U**	**0.06**	**0.03 U**	**0.03 U**	**0.05**	**0.03 U**	**0.03 U**
TCLP Thallium (Tl)	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Total Thallium (Tl)	**20.0 U**	**20.0 U**	**20.0 U**	**20.0 U**	**20.0 U**	**20.0 U**	**20.0 U**	**20.0 U**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank	EQ BLANK	Equipment Rinse Blank
J	Result should be considered an estimated value	FD BLANK	Field Blank
NA	Not analyzed		
R	Result has been rejected and is considered unusable		
U	Analyte was not detected; value is the method reporting limit		
UB	Detected in the blank and qualified as not detected		

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001k, Mudpit P-4 (cont.)

HOLE Number:	HOLE #1	HOLE #1	HOLE #2	HOLE #2	HOLE #3	HOLE #3	HOLE #4	HOLE #4
Depth (inches):	12-24	60-72	12-24	60-72	12-24	60-72	12-24	60-72
TCLP Sample Date:	10/23/95	10/23/95	10/23/95	10/23/95	10/23/95	10/23/95	10/23/95	10/23/95
TCLP Sample Numbers:	NA	NA	NA	NA	RA-95-163	RA-95-167	RA-95-169	RA-95-171
Total Sample Date:					**7/11/96**	**7/11/96**	**7/11/96**	**7/11/96**
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**	**RA-96-155**	**RA-96-157**	**RA-96-159**	**RA-96-161**
Analytes								
Volatiles								
TCLP 1,1,1-Trichloroethane	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total 1,1,1-Trichloroethane	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP 1,2-Dichloroethane	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total 1,2-Dichloroethane	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP Benzene	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total Benzene	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP Chloroform	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total Chloroform	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP Ethyl benzene	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total Ethyl benzene	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP Toluene	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total Toluene	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**
TCLP Vinyl chloride	NA	NA	NA	NA	0.1 U	0.1 U	0.1 U	0.1 U
Total Vinyl chloride	**NA**	**NA**	**NA**	**NA**	**0.01 U**	**0.01 U**	**0.01 U**	**0.01 U**
Xylenes, total	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Xylenes, total	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 U**	**0.005 U**

Data qualifiers and abbreviations:

B Analyte was detected in an associated laboratory blank
J Result should be considered an estimated value
NA Not analyzed
R Result has been rejected and is considered unusable
U Analyte was not detected; value is the method reporting limit
UB Detected in the blank and qualified as not detected

EQ BLANK Equipment Rinse Blank
FD BLANK Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001k, Mudpit P-4 (cont.)

HOLE Number:	EQ BLANK	FD BLANK
Depth (inches):		
TCLP Sample Date:	10/23/95	10/23/95
TCLP Sample Numbers:	RA-95-166	RA-95-174
Total Sample Date:	**7/11/96**	**7/11/96**
Total Sample Numbers:	**RA-96-163**	**RA-96-164**

Analytes

Metals

TCLP Arsenic (As)	0.1 U	0.1 U
Total Arsenic (As)	**0.003 U**	**0.003 U**
TCLP Barium (Ba)	0.048 UB	0.038 UB
Total Barium (Ba)	**0.005 U**	**0.005 U**
TCLP Cadmium (Cd)	0.005 U	0.005 U
Total Cadmium (Cd)	**0.005 U**	**0.005 U**
TCLP Chromium (Cr)	0.02 U	0.02 U
Total Chromium (Cr)	**0.02 UJ**	**0.02 UJ**
TCLP Lead (Pb)	0.05 U	0.05 U
Total Lead (Pb)	**0.002 U**	**0.002 U**
TCLP Mercury (Hg)	0.0001 U	0.0001 U
Total Mercury (Hg)	**0.0001 U**	**0.0001 U**
TCLP Thallium (Tl)	0.2 U	0.2 U
Total Thallium (Tl)	**0.2 U**	**0.2 U**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank
J	Result should be considered an estimated value
NA	Not analyzed
R	Result has been rejected and is considered unusable
U	Analyte was not detected; value is the method reporting limit
UB	Detected in the blank and qualified as not detected

EQ BLANK	Equipment Rinse Blank
FD BLANK	Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001k, Mudpit P-4 (cont.)

HOLE Number:	EQ BLANK	FD BLANK
Depth (inches):		
TCLP Sample Date:	10/23/95	10/23/95
TCLP Sample Numbers:	RA-95-165	RA-95-173
Total Sample Date:	**7/11/96**	**7/11/96**
Total Sample Numbers:	**RA-96-163**	**RA-96-164**

Analytes

Volatiles

TCLP 1,1,1-Trichloroethane	0.05 U	0.05 U
Total 1,1,1-Trichloroethane	**NA**	**NA**
TCLP 1,2-Dichloroethane	0.05 U	0.05 U
Total 1,2-Dichloroethane	**NA**	**NA**
TCLP Benzene	0.05 U	0.05 U
Total Benzene	**NA**	**NA**
TCLP Chloroform	0.05 U	0.05 U
Total Chloroform	**NA**	**NA**
TCLP Ethyl benzene	0.05 U	0.05 U
Total Ethyl benzene	**NA**	**NA**
TCLP Toluene	0.05 U	0.05 U
Total Toluene	**NA**	**NA**
TCLP Vinyl chloride	0.1 U	0.1 U
Total Vinyl chloride	**NA**	**NA**
Xylenes, total	0.05 U	0.05 U
Xylenes, total	**NA**	**NA**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank	EQ BLANK	Equipment Rinse Blank
J	Result should be considered an estimated value	FD BLANK	Field Blank
NA	Not analyzed		
R	Result has been rejected and is considered unusable		
U	Analyte was not detected; value is the method reporting limit		
UB	Detected in the blank and qualified as not detected		

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

WIPP Soil Samples
Data Review Form

Statement of Purpose:

To review laboratory data packages for soil samples collected at SWMUs, evaluate data package completeness, and compare analytical quality control data to program objectives.

Section 1: Data Package Identification

P.O. Number: 500101	No. Of Samples In Package: 14
Sample Collection Date: 7/11/96	Sample Receipt Date: 7/13/96
Sample Report Date: 7/31/96	Analytical Parameters: Total Metals, Volatiles
Sample Numbers in Data Package: RA-96-151, RA-96-152, RA-96-153, RA-96-154, RA-96-155, RA-96-156, RA-96-157, RA-96-158, RA-96-159, RA-96-160, RA-96-161, RA-96-162, RA-96-163, RA-96-164	
Data Reviewer: Kevin E. Garrett	Date of Review: 9/19/96

Symbols used in the sections below are defined as follows:

X	Included: no problem	R	Resubmission
*	Included: problems noted	NR	Not Required
O	Not Included		

Section 2. Data Summary

Data for the above listed samples are:

_____	Acceptable for use
X (1)	Acceptable for use with qualifications noted
_____	Preliminary - pending action or verification
_____	Unacceptable for use
_____	To be reviewed by senior chemist

Reviewed by: _____ Date: _____

Section 3. Data Package Completeness Review

X	Chain of Custody/Request for Analysis
X	Laboratory Analysis Report
X	Holding Times
X	Method Reporting Limits
X	Dilution Factor
X	Quality Control Report

Section 4. QC Review (from Laboratory Quality Control Report)

Volatiles

X	Method Blank
NR	Leachate Blank
X	Surrogate Standard Recovery
X	Matrix Spike/Matrix Spike Duplicate Samples
X	Laboratory Control Sample
NR	Duplicate Sample

Semivolatiles

NR	Method Blank
NR	Leachate Blank
NR	Surrogate Standard Recovery
NR	Matrix Spike/Matrix Spike Duplicate Samples
NR	Laboratory Control Sample
NR	Duplicate Sample

Metals

X	Method Blank
NR	Leachate Blank
X (2)	Matrix Spike/Matrix Spike Duplicate Samples
X (3)	Laboratory Control Sample
NR	Duplicate Sample

Section 5. Calibration Data

Volatiles

O (4)	GC/MS Analysis Log
O (4)	GC/MS Initial Calibration Data
O (4)	GC/MS Continuing Calibration Data

Section 5. Calibration Data (continued)

Semivolatiles

NR	GC/MS Analysis Log
NR	GC/MS Initial Calibration Data
NR	GC/MS Continuing Calibration Data

Metals

X	ICP Analysis Log
X	GFAA Analysis Log
X	CVAA Analysis Log
X	ICP Initial Calibration Data
O (5)	ICP Continuing Calibration Data
X	GFAA Initial Calibration Data
O (5)	GFAA Continuing Calibration Data
X	CVAA Initial Calibration Data
O (5)	CVAA Initial Calibration Data

Section 6. Comments

1) The laboratory did not include the chain of custody (COC) forms for most of the samples in this data package. In addition, many of the QC summary results and the raw data were not included. However, the COC forms, QC summary, and raw data were available in a different data package. These COCs, QC summary, and raw data were reviewed and found to be acceptable. Problems that were found on the these QC summary forms and in these missing raw data are included in the discussions below.

2) MSD recovery for chromium (65.5 percent) was below the lower laboratory QC limits (76.0 percent), and was also below the EPA functional guideline QC limit of 75 percent. Therefore, the chromium results in the associated investigative samples (RA-96-163, RA-96-164) were qualified as estimated (J). A MS recovery for arsenic (71.3 percent) was below the lower laboratory QC limits (76.0 percent), and was also below the EPA functional guideline QC limit of 75 percent. Therefore, the arsenic results in the associated investigative samples (RA-96-151, RA-96-152, RA-96-153, RA-96-154, RA-96-156, RA-96-158, RA-96-160, RA-96-162) were qualified as estimated (J).

3) The LCS percent recovery for barium (79.6 percent), cadmium (79.8 percent), chromium (79.4 percent), and arsenic (78.0 percent) were below the lower laboratory QC limits of 92.2 percent for barium, 83.8 percent for cadmium, 86.2 percent for chromium, and 84.3 percent for arsenic. These recoveries were also below the EPA functional guideline QC limit of 80 percent for LCS. Therefore, the barium, cadmium, chromium, and arsenic results in the associated investigative samples (RA-96-151, RA-96-152, RA-96-153, RA-96-154, RA-96-156, RA-96-158, RA-96-160, RA-96-162) were qualified as estimated (J).

4) No calibration raw data for the volatile organic analyses (VOA) were provided in the data package. The laboratory has been requested to submit the missing VOA raw data. However, VOA calibration performance appears to be generally acceptable based on the review of the VOA calibration data from other data packages. Therefore, no qualifications to the VOA results have been made at this time based on the missing calibration data.

5) The initial calibration verification (ICV) and continuing calibration verification (CCV) percent recovery results for the metals analyses were incomplete. However, no problems were found with the partial ICV and CCV information that was provided. Therefore, no qualifications have been made due to the missing ICV and CCV results at this time.

Signatures below constitute validation of this record.

Validator:		
Kevin E. Garrett	Kevin E. Garrett	9/19/96
Printed Name	Signature	Date
QA/QC Reviewer:		
Mark R. Colsman	Mark R. Colsman	9/20/96
Printed Name	Signature	Date

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July 31, 1996
Report No.: 00032286
Section A Page 1

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-151
NUS SAMPLE NO: P0350295
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS	
2	ABAS	Barium, Total (Ba)	1	14	mg/kg	J
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg	J
4	ACRS	Chromium, Total (Cr)	1	4	mg/kg	J
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg	
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg	
10	I620S	Percent Solids at 103C	1	98.9	%	
11	AASSA	Arsenic, Total (As)	1	0.6	mg/kg	J
12	APBS	Lead, Total (Pb)	1	1.5	mg/kg	

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By [signature]
Date 9/19/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-152
NUS SAMPLE NO: P0350296
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	18	mg/kg J
3	ACDS	Cadmium, Total (Cd)	1	1.0	mg/kg J
4	ACRS	Chromium, Total (Cr)	1	4	mg/kg J
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	98.8	%
11	AASSA	Arsenic, Total (As)	1	0.7	mg/kg J
12	APBS	Lead, Total (Pb)	1	1.6	mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/17/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-153
NUS SAMPLE NO: P0350297
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	15 mg/kg J
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	4 mg/kg J
6	AHGS	Mercury, Total (Hg)	1	0.06 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	97.7 %
11	AASSA	Arsenic, Total (As)	1	0.6 mg/kg J
12	APBS	Lead, Total (Pb)	1	1.4 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/5/96

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July 31, 1996
Report No.: 00032286
Section A Page 4

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-154
NUS SAMPLE NO: P0350298
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	19 mg/kg J
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	4 mg/kg J
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	97.8 %
11	AASSA	Arsenic, Total (As)	1	0.7 mg/kg J
12	APBS	Lead, Total (Pb)	1	1.4 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/19/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-155
NUS SAMPLE NO: P0350299
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1.1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	99.1 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 8/7/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-156
NUS SAMPLE NO: P0350300
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	13 mg/kg J
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	4 mg/kg J
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	99.1 %
11	AASSA	Arsenic, Total (As)	1	0.5 mg/kg J
12	APBS	Lead, Total (Pb)	1	1.2 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/19/96

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July 31, 1996
Report No.: 00032286
Section A Page 7

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-157
NUS SAMPLE NO: P0350301
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	98.3 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/7/96

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July 31, 1996
Report No.: 00032286
Section A Page 8

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
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ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-158
NUS SAMPLE NO: P0350302
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS	
2	ABAS	Barium, Total (Ba)	1	13	mg/kg	J
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg	J
4	ACRS	Chromium, Total (Cr)	1	3	mg/kg	J
6	AHGS	Mercury, Total (Hg)	1	0.05	mg/kg	
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg	
10	I620S	Percent Solids at 103C	1	98.5	%	
11	AASSA	Arsenic, Total (As)	1	0.6	mg/kg	J
12	APBS	Lead, Total (Pb)	1	1.3	mg/kg	

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/19/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-159
NUS SAMPLE NO: P0350303
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
8	OVTCS	TCL - VOLATILES			
		1,1,1-trichloroethane	1	< 5	ug/kg
		1,2-dichloroethane	1	< 5	ug/kg
		benzene	1	< 5	ug/kg
		chloroform	1	< 5	ug/kg
		ethylbenzene	1	< 5	ug/kg
		toluene	1	< 5	ug/kg
		vinyl chloride	1	< 10	ug/kg
		xylenes (total)	1	< 5	ug/kg
10	I620S	Percent Solids at 103C	1	98.9	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/19/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
FAX: (412) 747-2559

July 31, 1996
Report No.: 00032286
Section A Page 10

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-160
NUS SAMPLE NO: P0350304
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	13 mg/kg J
3	ACDS	Cadmium, Total (Cd)	1	0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	2 mg/kg J
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	98.9 %
11	AASSA	Arsenic, Total (As)	1	0.5 mg/kg J
12	APBS	Lead, Total (Pb)	1	1.2 mg/kg

COMMENTS:

Results are reported on a wet weight basis.

12 Result was obtained by method of standard addition. A linear correlation was unable to be established. Matrix interference is suspected. This should be considered when evaluating the data.

VALIDATED

Reviewed By

Date 7/19/96

Halliburton NUS CORPORATION

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Pittsburgh, Pennsylvania 15205

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-161
NUS SAMPLE NO: P0350305
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	95.7 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/7/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-162
NUS SAMPLE NO: P0350306
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	14 mg/kg J
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	3 mg/kg J
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	98.5 %
11	AASSA	Arsenic, Total (As)	1	0.6 mg/kg J
12	APBS	Lead, Total (Pb)	1	1.3 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/17/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-163
NUS SAMPLE NO: P0350307
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joann

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003 mg/L
2	ABAW	Barium, Total (Ba)	1	< 0.005 mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005 mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02 mg/L J
5	APBA	Lead, Low Level (Pb)	1	< 0.002 mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001 mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2 mg/L

COMMENTS:

VALIDATED
Reviewed By
Date 7/17/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-164
NUS SAMPLE NO: P0350308
P.O. NO.: 500101

DATE SAMPLED: 11-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003 mg/L
2	ABAW	Barium, Total (Ba)	1	< 0.005 mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005 mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02 mg/L J
5	APBA	Lead, Low Level (Pb)	1	< 0.002 mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001 mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2 mg/L

COMMENTS:

VALIDATED
Reviewed By
Date 7/19/96

RECEIVED
SEP 30 1996

Final Validated Analytical Results

SWMU #001s, ERDA-9

Comparison of Total Metals Results to Action Levels
SWMU # 001s ERDA-9

Metal Analyte	Background Concentration (mg/kg) [1][3][7]	Maximum SWMU Concentration (mg/kg) [1][3][7]	Subpart S Level (mg/kg) [4]
12-24 inches bgs			
Total Arsenic (As)	1.4 J	1.1 J	80
Total Barium (Ba)	110 J	71	4000
Total Cadmium (Cd)	0.5 UJ	0.6 J	40
Total Chromium (Cr)	4 J	8	400
Total Lead (Pb)	1.9 J	2.1	400 [5]
Total Mercury (Hg)	0.03	0.03 U	20
Total Thallium (Tl)	20 U	20 U	--- [6]
60-72 inches bgs			
Total Arsenic (As)	0.5 J	0.6J	80
Total Barium (Ba)	15 J	19	4000
Total Cadmium (Cd)	0.5 U	0.5 U	40
Total Chromium (Cr)	4	3	400
Total Lead (Pb)	1.8	1.4	400 [5]
Total Mercury (Hg)	0.03 U	0.03 U	20
Total Thallium (Tl)	20 U	20 U	--- [6]

mg/kg Milligrams per kilogram
bgs Below ground surface

1) Results are presented in mg/kg, wet weight.
2) Background soil concentrations as measured in upgradient borehole #1.
3) Maximum concentration measured in soil samples collected from within ERDA-9 (boreholes #3 and #4).
4) Action levels taken from Appendix D of proposed 40CFR 264.521(d), FR Vol.55, No. 145, VI(D), p. 30870.
5) No action levels are included in Subpart S for lead. The action level of 400 mg/kg included in the table is the residential soil cleanup level recommended by the EPA Office of Solid Waste.
6) No action levels are included in Subpart S for thallium.
7) The following data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994):

J Result should be considered an estimated value
U Analyte was not detected; value is the method reporting limit
UJ Analyte was not detected; however the reporting limit presented should be considered an estimated value

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001s ERDA-9

HOLE Number:	HOLE #1	HOLE #1	HOLE #2	HOLE #2	HOLE #3	HOLE #3	BORE #4	BORE #4
Depth (inches):	12-24	60-72	12-24	60-72	12-24	60-72	12-24	60-72
TCLP Sample Date:	11/9/95	11/13/95	11/9/95	11/13/95	11/9/95	11/13/95	11/9/95	11/13/95
TCLP Sample Numbers:	RA-95-201	RA-95-264	RA-95-202	RA-95-265	RA-95-204	RA-95-267	RA-95-207	RA-95-269
Total Sample Date:	7/12/96	7/15/96	7/12/96	7/15/96	7/12/96	7/15/96	7/12/96	7/15/96
Total Sample Numbers:	RA-96-179	RA-96-180	RA-96-181	RA-96-182	RA-96-184	RA-96-186	RA-96-188	RA-96-190
Analytes								
Metals								
TCLP Arsenic (As)	0.2 UB	0.2 U	0.2 UB	0.1 UB	0.1 UB	0.1 U	0.1 UB	0.1 U
Total Arsenic (As)	**1.4 J**	**0.5 J**	**0.5 J**	**1.2 J**	**0.5 J**	**0.4 J**	**1.1 J**	**0.6 J**
TCLP Barium (Ba)	0.66	0.71	0.54	0.64	0.59	0.6	0.53	0.66
Total Barium (Ba)	**110 J**	**15**	**24 J**	**39**	**44 J**	**19**	**71**	**11**
TCLP Cadmium (Cd)	0.01 U	0.02 UJ	0.005 U	0.01 UJ	0.005 U	0.01 UJ	0.005 U	0.005 UJ
Total Cadmium (Cd)	**0.5 UJ**	**0.5 U**	**0.5 UJ**	**0.5 U**	**0.6 J**	**0.5 U**	**0.5 U**	**0.5 U**
TCLP Chromium (Cr)	0.02 U	0.04 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Total Chromium (Cr)	**4 J**	**4**	**4 J**	**4**	**4 J**	**3**	**8**	**2**
TCLP Lead (Pb)	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Total Lead (Pb)	**1.9**	**1.8**	**1.5**	**2.2**	**1.8**	**1.3**	**2.1**	**1.4**
TCLP Mercury (Hg)	0.0001 U	0.0001 U	0.0001	0.0004	0.0001 U	0.0004	0.0001 U	0.0003
Total Mercury (Hg)	**0.03 U**	**0.03 U**	**0.03**	**0.03 U**	**0.03 U**	**0.03 U**	**0.03 U**	**0.03 U**
TCLP Thallium (Tl)	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Total Thallium (Tl)	**20 U**	**20 U**	**20 U**	**20 U**	**20 U**	**20 U**	**20 U**	**20 U**

Data qualifiers and abbreviations:

- B Analyte was detected in an associated laboratory blank
- J Result should be considered an estimated value
- NA Not analyzed
- R Result has been rejected and is considered unusable
- U Analyte was not detected; value is the method reporting limit
- UB Detected in the blank and qualified as not detected

- EQ BLANK Equipment Rinse Blank
- FD BLANK Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001s ERDA-9 (cont.)

HOLE Number:	HOLE #1	HOLE #1	HOLE #2	HOLE #2	HOLE #3	HOLE #3	BORE #4	BORE #4
Depth (inches):	12-24	60-72	12-24	60-72	12-24	60-72	12-24	60-72
TCLP Sample Date:	11/9/95	11/13/95	11/9/95	11/13/95	11/9/95	11/13/95	11/9/95	11/13/95
TCLP Sample Numbers:	NA	NA	NA	NA	RA-95-203	RA-95-266	RA-95-206	RA-95-268
Total Sample Date:					**7/12/96**	**7/15/96**	**7/12/96**	**7/15/96**
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**	**RA-96-183**	**RA-96-185**	**RA-96-187**	**RA-96-189**
Analytes								
Volatiles								
TCLP 1,1,1-Trichloroethane	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total 1,1,1-Trichloroethane	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 UJ**	**0.005 U**
TCLP 1,2-Dichloroethane	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total 1,2-Dichloroethane	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 UJ**	**0.005 U**
TCLP Benzene	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total Benzene	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 UJ**	**0.005 U**
TCLP Chloroform	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total Chloroform	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 UJ**	**0.005 U**
TCLP Ethyl benzene	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total Ethyl benzene	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 UJ**	**0.005 U**
TCLP Toluene	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Total Toluene	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 UJ**	**0.005 U**
TCLP Vinyl chloride	NA	NA	NA	NA	0.1 U	0.1 U	0.1 U	0.1 U
Total Vinyl chloride	**NA**	**NA**	**NA**	**NA**	**0.01 U**	**0.01 U**	**0.01 UJ**	**0.01 U**
Xylenes, total	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U
Xylenes, total	**NA**	**NA**	**NA**	**NA**	**0.005 U**	**0.005 U**	**0.005 UJ**	**0.005 U**

Data qualifiers and abbreviations:

- B Analyte was detected in an associated laboratory blank
- J Result should be considered an estimated value
- NA Not analyzed
- R Result has been rejected and is considered unusable
- U Analyte was not detected; value is the method reporting limit
- UB Detected in the blank and qualified as not detected

- EQ BLANK Equipment Rinse Blank
- FD BLANK Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001s ERDA-9 (cont.)

HOLE Number:	EQ BLANK	FD BLANK
Depth (inches):		
TCLP Sample Date:	11/9/95	11/13/95
TCLP Sample Numbers:	RA-95-205b	RA-95-271
Total Sample Date:	**7/15/96**	**7/15/96**
Total Sample Numbers:	**RA-96-191**	**RA-96-192**

Analytes

Metals

TCLP Arsenic (As)	0.1 U	0.1 U
Total Arsenic (As)	**0.003 U**	**0.003 U**
TCLP Barium (Ba)	0.027	0.051
Total Barium (Ba)	**0.046**	**0.053**
TCLP Cadmium (Cd)	0.005 U	0.005 UJ
Total Cadmium (Cd)	**0.005 U**	**0.005 U**
TCLP Chromium (Cr)	0.02 U	0.02 U
Total Chromium (Cr)	**0.02 U**	**0.02 U**
TCLP Lead (Pb)	0.05 U	0.05 U
Total Lead (Pb)	**0.002 UJ**	**0.002 UJ**
TCLP Mercury (Hg)	0.0001 U	0.0001 U
Total Mercury (Hg)	**0.0001 U**	**0.0001 U**
TCLP Thallium (Tl)	0.2 U	0.2 U
Total Thallium (Tl)	**0.2 U**	**0.2 U**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank
J	Result should be considered an estimated value
NA	Not analyzed
R	Result has been rejected and is considered unusable
U	Analyte was not detected; value is the method reporting limit
UB	Detected in the blank and qualified as not detected

EQ BLANK	Equipment Rinse Blank
FD BLANK	Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 001s ERDA-9 (cont.)

HOLE Number:	EQ BLANK	FD BLANK
Depth (inches):		
TCLP Sample Date:	11/9/95	11/13/95
TCLP Sample Numbers:	RA-95-205a	RA-95-271
Total Sample Date:		
Total Sample Numbers:	**NA**	**NA**

Analytes

Volatiles

TCLP 1,1,1-Trichloroethane	0.05 U	0.05 U
Total 1,1,1-Trichloroethane	**NA**	**NA**
TCLP 1,2-Dichloroethane	0.05 U	0.05 U
Total 1,2-Dichloroethane	**NA**	**NA**
TCLP Benzene	0.05 U	0.05 U
Total Benzene	**NA**	**NA**
TCLP Chloroform	0.05 U	0.05 U
Total Chloroform	**NA**	**NA**
TCLP Ethyl benzene	0.05 U	0.05 U
Total Ethyl benzene	**NA**	**NA**
TCLP Toluene	0.05 U	0.05 U
Total Toluene	**NA**	**NA**
TCLP Vinyl chloride	0.1 U	0.1 U
Total Vinyl chloride	**NA**	**NA**
TCLP Xylenes, total	0.05 U	0.05 U
Total Xylenes, total	**NA**	**NA**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank
J	Result should be considered an estimated value
NA	Not analyzed
R	Result has been rejected and is considered unusable
U	Analyte was not detected; value is the method reporting limit
UB	Detected in the blank and qualified as not detected

EQ BLANK	Equipment Rinse Blank
FD BLANK	Field Blank

Notes:

1) Soil TCLP results, EQ BLANK results, and FD BLANK results are presented in mg/L. Soil total results are presented in mg/kg, wet weight.
2) Data qualifiers are used as defined in the USEPA National Functional Guidelines for Organic and Inorganic Data Review (EPA, 1994).
3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications to DOE and WID.

WIPP Soil Samples
Data Review Form

Statement of Purpose:

To review laboratory data packages for soil samples collected at SWMUs, evaluate data package completeness, and compare analytical quality control data to program objectives.

Section 1: Data Package Identification

P.O. Number: 500101	No. Of Samples In Package: 14
Sample Collection Date: 7/12/96	Sample Receipt Date: 7/13/96
Sample Report Date: 7/31/96	Analytical Parameters: Total Metals, Volatiles
Sample Numbers in Data Package: RA-96-179, RA-96-180, RA-96-181, RA-96-182, RA-96-183, RA-96-184, RA-96-185, RA-96-186, RA-96-187, RA-96-188, RA-96-189, RA-96-190, RA-96-191, RA-96-192	
Data Reviewer: Kevin E. Garrett	Date of Review: 9/19/96

Symbols used in the sections below are defined as follows:

X	Included: no problem	R	Resubmission
*	Included: problems noted	NR	Not Required
O	Not Included		

Section 2. Data Summary

Data for the above listed samples are:

_____	Acceptable for use
X (1)	Acceptable for use with qualifications noted
_____	Preliminary - pending action or verification
_____	Unacceptable for use
_____	To be reviewed by senior chemist

Reviewed by: _____ Date: _____

Section 3. Data Package Completeness Review

X	Chain of Custody/Request for Analysis
X	Laboratory Analysis Report
X	Holding Times
X	Method Reporting Limits
X	Dilution Factor
X	Quality Control Report

Section 4. QC Review (from Laboratory Quality Control Report)

Volatiles

X	Method Blank
NR	Leachate Blank
X	Surrogate Standard Recovery
X	Matrix Spike/Matrix Spike Duplicate Samples
X	Laboratory Control Sample
NR	Duplicate Sample

Semivolatiles

NR	Method Blank
NR	Leachate Blank
NR	Surrogate Standard Recovery
NR	Matrix Spike/Matrix Spike Duplicate Samples
NR	Laboratory Control Sample
NR	Duplicate Sample

Metals

X	Method Blank
NR	Leachate Blank
X (2)	Matrix Spike/Matrix Spike Duplicate Samples
X (3)	Laboratory Control Sample
NR	Duplicate Sample

Section 5. Calibration Data

Volatiles

O (4)	GC/MS Analysis Log
O (4)	GC/MS Initial Calibration Data
O (4)	GC/MS Continuing Calibration Data

Section 5. Calibration Data (continued)

Semivolatiles

NR	GC/MS Analysis Log
NR	GC/MS Initial Calibration Data
NR	GC/MS Continuing Calibration Data

Metals

X	ICP Analysis Log
X	GFAA Analysis Log
X	CVAA Analysis Log
X	ICP Initial Calibration Data
O (5)	ICP Continuing Calibration Data
X	GFAA Initial Calibration Data
O (5)	GFAA Continuing Calibration Data
X	CVAA Initial Calibration Data
O (5)	CVAA Initial Calibration Data

Section 6. Comments

1) The laboratory did not include the chain of custody (COC) forms for most of the samples in this data package. In addition, many of the QC summary results and the raw data were not included. However, the COC forms, QC summary, and raw data were available in a different data package. These COCs, QC summary, and raw data were reviewed and found to be acceptable. Problems that were found on the these QC summary forms and in these missing raw data are included in the discussions below.

2) MS recoveries and MSD recoveries for arsenic (65 and 72 percent) and lead (53.5 percent and 56.0 percent) were below the lower laboratory QC limits (80.4 percent for arsenic, and 75.2 percent for lead), and were also below the EPA functional guideline QC limit of 75 percent. Therefore, the arsenic and lead results in the MLL, 9/26/96 associated investigative samples (RA-96-180, RA-96-182, RA-96-186, RA-96-188, RA-96-190, RA-96-179, RA-96-181, RA-96-184, RA-96-187 for arsenic and RA-96-191, RA-96-192 for lead) were qualified as estimated (J). One pair of MS and MSD recoveries for chromium (150 percent, 150 percent) exceeded the 117 percent upper QC limit. However, the laboratory indicated that the sample concentration was greater than 4 times the spiking concentration. Therefore, no additional qualifications to the associated investigative samples were necessary. Other MS and MSD recoveries for arsenic were slightly above the laboratory upper QC limits but were below the EPA functional guideline upper control limit of 125 percent. Therefore, no additional qualifications were necessary.

3) The LCS percent recovery for barium (79.6 percent), cadmium (79.8 percent), chromium (79.4 percent), and arsenic (78.0 percent) were below the lower laboratory QC limits of 92.2 percent for barium, 83.8 percent for cadmium, 86.2 percent for chromium, and 84.3 percent for arsenic. These recoveries were also below the EPA functional guideline QC limit of 80 percent for LCS. Therefore, the barium, cadmium, chromium, and arsenic results in the associated investigative samples (RA-96-179, RA-96-181, RA-96-184, RA-96-187) were qualified as estimated (J). Other LCS percent recoveries for barium and lead were slightly above the upper laboratory QC limits for these analytes but were below the upper EPA functional guideline QC limit of 120 percent. Therefore, no qualification of the associated investigative samples was necessary.

4) No calibration raw data for the volatile organic analyses (VOA) were provided in the data package. The laboratory has been requested to submit the missing VOA raw data. However, VOA calibration performance appears to be generally acceptable based on the review of the VOA calibration data from other data packages. Therefore, no qualifications to the VOA results have been made at this time based on the missing calibration data.

5) The initial calibration verification (ICV) and continuing calibration verification (CCV) percent recovery results for the metals analyses were incomplete. However, no problems were found with the partial ICV and CCV information that was provided. Therefore, no qualifications have been made due to the missing ICV and CCV results at this time.

Signatures below constitute validation of this record.

Validator:		
Kevin E. Garrett	Kevin Garrett	9/19/96
Printed Name	Signature	Date
QA/QC Reviewer:		
Mark R. Colsman	Mark R. Colsman	9/20/96
Printed Name	Signature	Date

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 00-3
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-179
NUS SAMPLE NO: P0350323
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	110 mg/kg J
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	4 mg/kg J
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	97.5 %
11	AASSA	Arsenic, Total (As)	1	1.4 mg/kg J
12	APBS	Lead, Total (Pb)	1	1.9 mg/kg

COMMENTS:
Results are reported on a wet weight basis.
11 Arsenic was analyzed using the method of standard additions.

VALIDATED
Reviewed By [signature]
Date 7/19/96

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July 31, 1996
Report No.:

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-180
NUS SAMPLE NO: P0350452
P.O. NO.: 500101

DATE SAMPLED: 15-JUL-96
DATE RECEIVED: 17-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNIT	
2	ABAS	Barium, Total (Ba)	1	15	mg/kg	
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg	
4	ACRS	Chromium, Total (Cr)	1	4	mg/kg	
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg	
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg	
10	I620S	Percent Solids at 103C	1	91.0	%	
11	AASSA	Arsenic, Total (As)	1	0.5	mg/kg	J
12	APBS	Lead, Total (Pb)	1	1.8	mg/kg	

COMMENTS:

Results are reported on a wet weight basis.

11 The result for this sample analysis was determined by a single-point method of standard additions.

VALIDATED

Reviewed By [signature]

Date 7/19/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-181
NUS SAMPLE NO: P0350324
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	24 mg/kg J
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	4 mg/kg J
6	AHGS	Mercury, Total (Hg)	1	0.03 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	99.3 %
11	AASSA	Arsenic, Total (As)	1	0.5 mg/kg J
12	APBS	Lead, Total (Pb)	1	1.5 mg/kg

COMMENTS:

Results are reported on a wet weight basis.

11 The result for this sample analysis was determined by a single-point method of standard additions.

VALIDATED

Reviewed By [signature]

Date 7/19/96

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July 31, 1996
Report No.:
Section A Page 2

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-182
NUS SAMPLE NO: P0350453
P.O. NO.: 500101

DATE SAMPLED: 15-JUL-96
DATE RECEIVED: 17-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	39	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	4	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	90.2	%
11	AASSA	Arsenic, Total (As)	1	1.2	mg/kg J
12	APBS	Lead, Total (Pb)	1	2.2	mg/kg

COMMENTS:

Results are reported on a wet weight basis.

11 Analyzed by the method of standard additions.

VALIDATED

Reviewed By

Date 7/7/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-183
NUS SAMPLE NO: P0350325
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
8	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		benzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		ethylbenzene	1	< 5 ug/kg
		toluene	1	< 5 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes (total)	1	< 5 ug/kg
10	I620S	Percent Solids at 103C	1	98.2 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/13/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-184
NUS SAMPLE NO: P0350326
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	44	mg/kg J
3	ACDS	Cadmium, Total (Cd)	1	0.6	mg/kg J
4	ACRS	Chromium, Total (Cr)	1	4	mg/kg J
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	98.1	%
11	AASSA	Arsenic, Total (As)	1	0.5	mg/kg J
12	APBS	Lead, Total (Pb)	1	1.8	mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/1/96

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July 31, 1996
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LABORATORY ANALYSIS REPORT

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ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-185
NUS SAMPLE NO: P0350454
P.O. NO.: 500101

DATE SAMPLED: 15-JUL-96
DATE RECEIVED: 17-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
8	OVTCS	TCL - VOLATILES			
		1,1,1-trichloroethane	1	< .005	mg/kg
		1,2-dichloroethane	1	< .005	mg/kg
		benzene	1	< .005	mg/kg
		chloroform	1	< .005	mg/kg
		ethylbenzene	1	< .005	mg/kg
		toluene	1	< .005	mg/kg
		vinyl chloride	1	< .010	mg/kg
		xylenes (total)	1	< .005	mg/kg
10	I620S	Percent Solids at 103C	1	89.5	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/19/96

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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
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ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-186
NUS SAMPLE NO: P0350455
P.O. NO.: 500101

DATE SAMPLED: 15-JUL-96
DATE RECEIVED: 17-JUL-96
APPROVED BY: Simanic, Joann

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	19	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	3	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	91.4	%
11	AASSA	Arsenic, Total (As)	1	0.4	mg/kg J
12	APBS	Lead, Total (Pb)	1	1.3	mg/kg

COMMENTS:

Results are reported on a wet weight basis.

11 The result for this sample analysis was determined by a single-point method of standard additions.

VALIDATED

Reviewed By

Date 7/31/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-187
NUS SAMPLE NO: P0350327
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
2	ABAS	Barium, Total (Ba)	1	40 mg/kg J
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg J
4	ACRS	Chromium, Total (Cr)	1	4 mg/kg J
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
10	I620S	Percent Solids at 103C	1	98.5 %
11	AASSA	Arsenic, Total (As)	1	0.6 mg/kg J
12	APBS	Lead, Total (Pb)	1	2.1 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By [signature]
Date 7/9/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-188
NUS SAMPLE NO: P0350328
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	71	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	8	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	97.2	%
11	AASSA	Arsenic, Total (As)	1	1.1	mg/kg J
12	APBS	Lead, Total (Pb)	1	2.1	mg/kg

COMMENTS:

Results are reported on a wet weight basis.

11 This sample was analyzed as a matrix spike. Recovery of the spike was outside established acceptance limits indicating the presence of a possible matrix interference.
Analyzed by the method of standard additions.

VALIDATED
Reviewed By
Date 7/15/96

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July 31, 1996
Report No.:
Section A Page 5

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-189
NUS SAMPLE NO: P0350456
P.O. NO.: 500101

DATE SAMPLED: 15-JUL-96
DATE RECEIVED: 17-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
8	OVTCS	TCL - VOLATILES			
		1,1,1-trichloroethane	1	< .005	mg/kg
		1,2-dichloroethane	1	< .005	mg/kg
		benzene	1	< .005	mg/kg
		chloroform	1	< .005	mg/kg
		ethylbenzene	1	< .005	mg/kg
		toluene	1	< .005	mg/kg
		vinyl chloride	1	< .010	mg/kg
		xylenes (total)	1	< .005	mg/kg
10	I620S	Percent Solids at 103C	1	86.0	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/19/96

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July 31, 1996
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-190
NUS SAMPLE NO: P0350457
P.O. NO.: 500101

DATE SAMPLED: 15-JUL-96
DATE RECEIVED: 17-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
2	ABAS	Barium, Total (Ba)	1	11	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	2	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
10	I620S	Percent Solids at 103C	1	88.9	%
11	AASSA	Arsenic, Total (As)	1	0.6	mg/kg J
12	APBS	Lead, Total (Pb)	1	1.4	mg/kg

COMMENTS:

Results are reported on a wet weight basis.

11 The result for this sample analysis was determined by a single-point method of standard additions.

VALIDATED

Reviewed By [signature]

Date 7/19/96

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July 31, 1996
Report No.:
Section A Page 7

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-191
NUS SAMPLE NO: P0350458
P.O. NO.: 500101

DATE SAMPLED: 15-JUL-96
DATE RECEIVED: 17-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003	mg/L
2	ABAW	Barium, Total (Ba)	1	0.046	mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005	mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02	mg/L
5	APBA	Lead, Low Level (Pb)	1	< 0.002	mg/L J
6	AHGW	Mercury, Total (Hg)	1	< 0.0001	mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2	mg/L

COMMENTS:

VALIDATED

Reviewed By [signature]
Date 7/29/96

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July 31, 1996
Report No.:
Section A Page 8

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATION, WID/WIPP
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-192
NUS SAMPLE NO: P0350459
P.O. NO.: 500101

DATE SAMPLED: 15-JUL-96
DATE RECEIVED: 17-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILN	RESULT	UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003	mg/L
2	ABAW	Barium, Total (Ba)	1	0.053	mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005	mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02	mg/L
5	APBA	Lead, Low Level (Pb)	1	< 0.002	mg/L J
6	AHGW	Mercury, Total (Hg)	1	< 0.0001	mg/L
7	ATLW	Thallium, Total (Tl)	1	< 0.2	mg/L

COMMENTS:

VALIDATED
Reviewed By
Date 7/15/96

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 004a Portacamp (cont.)

HOLE Number:	HOLE #5	HOLE #5	EQ BLANK	FD BLANK
Depth (inches):	12-24	36-48		
TCLP Sample Date:	11/6/95	11/6/95	11/6/95	11/6/95
TCLP Sample Numbers:	NA	NA	RA-95-223	RA-95-237
Total Sample Date:				
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**
Analytes				
Volatiles				
TCLP 1,1,1-Trichloroethane	NA	NA	0.05 U	0.05 U
Total 1,1,1-Trichloroethane	**NA**	**NA**	**NA**	**NA**
TCLP 1,1,2,2-Tetrachloroethane	NA	NA	0.05 U	0.05 U
Total 1,1,2,2-Tetrachloroethane	**NA**	**NA**	**NA**	**NA**
TCLP 1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.05 U	0.05 U
Total 1,1,2-Trichloro-1,2,2-trifluoroethane	**NA**	**NA**	**NA**	**NA**
TCLP 1,1,2-Trichloroethane	NA	NA	0.05 U	0.05 U
Total 1,1,2-Trichloroethane	**NA**	**NA**	**NA**	**NA**
TCLP 1,1-Dichloroethane	NA	NA	0.05 U	0.05 U
Total 1,1-Dichloroethane	**NA**	**NA**	**NA**	**NA**
TCLP 1,1-Dichloroethene	NA	NA	0.05 U	0.05 U
Total 1,1-Dichloroethene	**NA**	**NA**	**NA**	**NA**
TCLP 1,2-Dichloroethane	NA	NA	0.05 U	0.05 U
Total 1,2-Dichloroethane	**NA**	**NA**	**NA**	**NA**

Data qualifiers and abbreviations:

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J Result should be considered an estimated value
NA Not analyzed
R Result has been rejected and is considered unusable
U Analyte was not detected; value is the method reporting limit
UB Detected in the blank and qualified as not detected

EQ BLANK Equipment Rinse Blank
FD BLANK Field Blank

Notes:

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Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 004a Portacamp (cont.)

HOLE Number:	HOLE #5	HOLE #5	EQ BLANK	FD BLANK
Depth (inches):	12-24	36-48		
TCLP Sample Date:	11/6/95	11/6/95	11/6/95	11/6/95
TCLP Sample Numbers:	NA	NA	RA-95-223	RA-95-237
Total Sample Date:				
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**
Analytes				
Volatiles				
TCLP 2-Butanone	NA	NA	0.5 U	0.5 U
Total 2-Butanone	**NA**	**NA**	**NA**	**NA**
TCLP 4-Methyl-2-pentanone	NA	NA	0.5 U	0.5 U
Total 4-Methyl-2-pentanone	**NA**	**NA**	**NA**	**NA**
TCLP Acetone	NA	NA	0.5 U	0.5 U
Total Acetone	**NA**	**NA**	**NA**	**NA**
TCLP Benzene	NA	NA	0.05 U	0.05 U
Total Benzene	**NA**	**NA**	**NA**	**NA**
TCLP Carbon tetrachloride	NA	NA	0.05 U	0.05 U
Total Carbon tetrachloride	**NA**	**NA**	**NA**	**NA**
TCLP Chlorobenzene	NA	NA	0.05 U	0.05 U
Total Chlorobenzene	**NA**	**NA**	**NA**	**NA**
TCLP Chloroform	NA	NA	0.05 U	0.05 U
Total Chloroform	**NA**	**NA**	**NA**	**NA**

Data qualifiers and abbreviations:

B	Analyte was detected in an associated laboratory blank	EQ BLANK	Equipment Rinse Blank
J	Result should be considered an estimated value	FD BLANK	Field Blank
NA	Not analyzed		
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U	Analyte was not detected; value is the method reporting limit		
UB	Detected in the blank and qualified as not detected		

Notes:

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Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 004a Portacamp (cont.)

HOLE Number:	HOLE #5	HOLE #5	EQ BLANK	FD BLANK
Depth (inches):	12-24	36-48		
TCLP Sample Date:	11/6/95	11/6/95	11/6/95	11/6/95
TCLP Sample Numbers:	NA	NA	RA-95-223	RA-95-237
Total Sample Date:				
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**
Analytes				
Volatiles				
TCLP cis-1,2-Dichloroethene	NA	NA	0.05 U	0.05 U
Total cis-1,2-Dichloroethene	**NA**	**NA**	**NA**	**NA**
TCLP Cyclohexane	NA	NA	0.1 UJ	0.1 UJ
Total Cyclohexane	**NA**	**NA**	**NA**	**NA**
TCLP Cyclohexanone	NA	NA	0.5 U	0.5 U
Total Cyclohexanone	**NA**	**NA**	**NA**	**NA**
TCLP Ethyl acetate	NA	NA	0.1 U	0.1 U
Total Ethyl acetate	**NA**	**NA**	**NA**	**NA**
TCLP Ethyl benzene	NA	NA	0.05 U	0.05 U
Total Ethyl benzene	**NA**	**NA**	**NA**	**NA**
TCLP Toluene	NA	NA	0.05 U	0.05 U
Total Toluene	**NA**	**NA**	**NA**	**NA**

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U Analyte was not detected; value is the method reporting limit
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Notes:

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Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 004a Portacamp (cont.)

HOLE Number:	HOLE #5	HOLE #5	EQ BLANK	FD BLANK
Depth (inches):	12-24	36-48		
TCLP Sample Date:	11/6/95	11/6/95	11/6/95	11/6/95
TCLP Sample Numbers:	NA	NA	RA-95-223	RA-95-237
Total Sample Date:				
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**
Analytes				
Volatiles				
TCLP Methylene chloride	NA	NA	0.05 U	0.05 U
Total Methylene chloride	**NA**	**NA**	**NA**	**NA**
TCLP Tetrachloroethene	NA	NA	0.05 U	0.05 U
Total Tetrachloroethene	**NA**	**NA**	**NA**	**NA**
TCLP Tribromomethane	NA	NA	0.05 U	0.05 U
Total Tribromomethane	**NA**	**NA**	**NA**	**NA**
TCLP Trichloroethene	NA	NA	0.05 U	0.05 U
Total Trichloroethene	**NA**	**NA**	**NA**	**NA**
TCLP Trichloroflouromethane	NA	NA	0.1 UJ	0.1 UJ
Total Trichloroflouromethane	**NA**	**NA**	**NA**	**NA**
TCLP Vinyl chloride	NA	NA	0.1 U	0.1 U
Total Vinyl chloride	**NA**	**NA**	**NA**	**NA**

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U Analyte was not detected; value is the method reporting limit
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Notes:

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3) NA denotes background soil samples and volatile organic compound (VOC) soil samples that were not analyzed. Background and VOC sampling was reduced as recommended by EPA in a letter to DOE dated December 19, 1995, and in subsequent EPA communications with DOE and WID.

Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 004a Portacamp (cont.)

HOLE Number:	HOLE #5	HOLE #5	EQ BLANK	FD BLANK
Depth (inches):	12-24	36-48		
TCLP Sample Date:	11/6/95	11/6/95	11/6/95	11/6/95
TCLP Sample Numbers:	NA	NA	RA-95-223	RA-95-237
Total Sample Date:				
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**
Analytes				
Volatiles				
TCLP Xylenes, total	NA	NA	0.05 U	0.05 U
Total Xylenes, total	**NA**	**NA**	**NA**	**NA**
TCLP 2-Ethoxyethanol	NA	NA	50 UJ	50 UJ
Total 2-Ethoxyethanol	**NA**	**NA**	**NA**	**NA**
TCLP Isobutanol	NA	NA	10 UJ	10 UJ
Total Isobutanol	**NA**	**NA**	**NA**	**NA**
TCLP Methanol	NA	NA	10 UJ	10 UJ
Total Methanol	**NA**	**NA**	**NA**	**NA**
TCLP n-Butanol	NA	NA	10 UJ	10 UJ
Total n-Butanol	**NA**	**NA**	**NA**	**NA**

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Notes:

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Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 004a Portacamp (cont.)

HOLE Number:	HOLE #5	HOLE #5	EQ BLANK	FD BLANK
Depth (inches):	12-24	36-48		
TCLP Sample Date:	11/6/95	11/6/95	11/6/95	11/6/95
TCLP Sample Numbers:	NA	NA	RA-95-227	RA-95-238
Total Sample Date:				
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**
Analytes				
Semivolatiles				
TCLP 1,2-Dichlorobenzene	NA	NA	0.1 UJ	0.1 UJ
Total 1,2-Dichlorobenzene	**NA**	**NA**	**NA**	**NA**
TCLP 1,4-Dichlorobenzene	NA	NA	0.1 UJ	0.1 UJ
Total 1,4-Dichlorobenzene	**NA**	**NA**	**NA**	**NA**
TCLP 2,4,5-Trichlorophenol	NA	NA	0.5 UJ	0.5 UJ
Total 2,4,5-Trichlorophenol	**NA**	**NA**	**NA**	**NA**
TCLP 2,4,6-Trichlorophenol	NA	NA	0.1 UJ	0.1 UJ
Total 2,4,6-Trichlorophenol	**NA**	**NA**	**NA**	**NA**
TCLP 2,4-Dinitrotoluene	NA	NA	0.1 UJ	0.1 UJ
Total 2,4-Dinitrotoluene	**NA**	**NA**	**NA**	**NA**
TCLP 2-Methylphenol	NA	NA	0.1 UJ	0.1 UJ
Total 2-Methylphenol	**NA**	**NA**	**NA**	**NA**
TCLP 3/4-Methylphenol	NA	NA	0.1 UJ	0.1 UJ
Total 3/4-Methylphenol	**NA**	**NA**	**NA**	**NA**

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Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 004a Portacamp (cont.)

HOLE Number:	HOLE #5	HOLE #5	EQ BLANK	FD BLANK
Depth (inches):	12-24	36-48		
TCLP Sample Date:	11/6/95	11/6/95	11/6/95	11/6/95
TCLP Sample Numbers:	NA	NA	RA-95-227	RA-95-238
Total Sample Date:				
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**
Analytes				
Semivolatiles				
TCLP Hexachlorobenzene	NA	NA	0.1 UJ	0.1 UJ
Total Hexachlorobenzene	**NA**	**NA**	**NA**	**NA**
TCLP Hexachlorobutadiene	NA	NA	0.1 UJ	0.1 UJ
Total Hexachlorobutadiene	**NA**	**NA**	**NA**	**NA**
TCLP Hexachloroethane	NA	NA	0.1 UJ	0.1 UJ
Total Hexachloroethane	**NA**	**NA**	**NA**	**NA**
TCLP Nitrobenzene	NA	NA	0.1 UJ	0.1 UJ
Total Nitrobenzene	**NA**	**NA**	**NA**	**NA**
TCLP Pentachlorophenol	NA	NA	0.5 UJ	0.5 UJ
Total Pentachlorophenol	**NA**	**NA**	**NA**	**NA**
TCLP Pyridine	NA	NA	0.1 UJ	0.1 UJ
Total Pyridine	**NA**	**NA**	**NA**	**NA**

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Final Soil TCLP and Total Analytical Results
Voluntary Release Assessment
SWMU # 004a Portacamp (cont.)

HOLE Number:	HOLE #5	HOLE #5	EQ BLANK	FD BLANK
Depth (inches):	12-24	36-48		
TCLP Sample Date:	11/6/95	11/6/95	11/6/95	11/6/95
TCLP Sample Numbers:	NA	NA	RA-95-227	RA-95-238
Total Sample Date:				
Total Sample Numbers:	**NA**	**NA**	**NA**	**NA**

Analytes

PCBs

TCLP PCB-1221	NA	NA	0.5 UJ	0.5 UJ
Total PCB-1221	**NA**	**NA**	**NA**	**NA**
TCLP PCB-1232	NA	NA	0.5 UJ	0.5 UJ
Total PCB-1232	**NA**	**NA**	**NA**	**NA**
TCLP PCB-1242/1016	NA	NA	0.5 UJ	0.5 UJ
Total PCB-1242/1016	**NA**	**NA**	**NA**	**NA**
TCLP PCB-1248	NA	NA	0.5 UJ	0.5 UJ
Total PCB-1248	**NA**	**NA**	**NA**	**NA**
TCLP PCB-1254	NA	NA	0.5 UJ	0.5 UJ
Total PCB-1254	**NA**	**NA**	**NA**	**NA**
TCLP PCB-1260	NA	NA	0.5 UJ	0.5 UJ
Total PCB-1260	**NA**	**NA**	**NA**	**NA**

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WIPP Soil Samples
Data Review Form

Statement of Purpose:

To review laboratory data packages for soil samples collected at SWMUs, evaluate data package completeness, and compare analytical quality control data to program objectives.

Section 1: Data Package Identification

P.O. Number: 500101	No. Of Samples In Package: 28
Sample Collection Date: 7/11/96, 7/12/96	Sample Receipt Date: 7/12/96
Sample Report Date: 7/31/96	Analytical Parameters: Total Metals, Volatiles, Alcohols, Semivolatiles, PCBs
Sample Numbers in Data Package: RA-96-193, RA-96-194, RA-96-195, RA-96-196, RA-96-197, RA-96-198, RA-96-199, RA-96-200, RA-96-201, RA-96-202, RA-96-203, RA-96-204, RA-96-205, RA-96-206, RA-96-207, RA-96-208, RA-96-209, RA-96-210, RA-96-211, RA-96-212, RA-96-213, RA-96-214, RA-96-215, RA-96-216, RA-96-217, RA-96-218, RA-96-219, RA-96-220	
Data Reviewer: Kevin E. Garrett	Date of Review: 9/25/96

Symbols used in the sections below are defined as follows:

X	Included: no problem	R	Resubmission
*	Included: problems noted	NR	Not Required
O	Not Included		

Section 2. Data Summary

Data for the above listed samples are:

_____ Acceptable for use
X Acceptable for use with qualifications noted
_____ Preliminary - pending action or verification
_____ Unacceptable for use
_____ To be reviewed by senior chemist

Reviewed by: _____ Date: _____

Section 3. Data Package Completeness Review

X Chain of Custody/Request for Analysis
X Laboratory Analysis Report
X Holding Times
X Method Reporting Limits
X Dilution Factor
X Quality Control Report

Section 4. QC Review (from Laboratory Quality Control Report)

Volatiles (1)

X Method Blank
NR Leachate Blank
X Surrogate Standard Recovery
* (2) Matrix Spike/Matrix Spike Duplicate Samples
* (3) Laboratory Control Sample
NR Duplicate Sample

Semivolatiles (4)

X Method Blank
NR Leachate Blank
X Surrogate Standard Recovery
NR Matrix Spike/Matrix Spike Duplicate Samples
X Laboratory Control Sample
NR Duplicate Sample

Metals

X Method Blank
NR Leachate Blank
* (5) Matrix Spike/Matrix Spike Duplicate Samples
* (6) Laboratory Control Sample
NR Duplicate Sample

Section 5. Calibration Data

Volatiles (1)

O (7) GC/MS Analysis Log
O (7) GC/MS Initial Calibration Data
O (7) GC/MS Continuing Calibration Data

Section 5. Calibration Data (continued)

Semivolatiles (4)

X	GC/MS Analysis Log
X	GC/MS Initial Calibration Data
X	GC/MS Continuing Calibration Data

Metals

X	ICP Analysis Log
X	GFAA Analysis Log
X	CVAA Analysis Log
X	ICP Initial Calibration Data
O (8)	ICP Continuing Calibration Data
X	GFAA Initial Calibration Data
O (8)	GFAA Continuing Calibration Data
X	CVAA Initial Calibration Data
O (8)	CVAA Continuing Calibration Data

Section 6. Comments

1) This section includes the review of the target compound list (TCL) volatiles and alcohol results.

2) The matrix spike duplicate (MSD) recovery for chlorobenzene (82 percent) was below the lower QC limit. Since the matrix spike (MS) recovery and relative percent difference (RPD) were within the QC limits and since the MSD recovery was within the QC limits specified by the EPA functional guidelines for volatile aromatics (66-142 percent), no qualifications were necessary.

3) The laboratory control sample (LCS) percent recovery for acetone (44 percent) was below the 50 percent lower QC limit. Therefore, the acetone results in the associated investigative samples (RA-96-193, RA-96-196, RA-96-199, RA-96-202, RA-96-205, RA-96-208, RA-96-211, RA-96-214) were qualified as estimated (J).

4) This section includes the review of the TCL semivolatile, PCB, and 2-ethoxyethanol results.

5) MS/MSD recoveries for arsenic (72.0percent, 65 percent) and chromium (65.5 percent) were below the lower laboratory QC limits (80.4 percent for arsenic, and 76.0 percent for chromium) and also below the EPA functional guideline QC limit of 75 percent. Therefore, the arsenic and chromium results in the associated investigative samples (samples RA-96-195, RA-96-198, RA-96-201, RA-96-204, RA-96-207, RA-96-210, RA-96-213, RA-96-216, RA-96-217, RA-96-218 for arsenic, and samples RA-96-219, RA-96-220 for chromium) were qualified as estimated (J). Other MS and MSD recoveries for arsenic and selenium were slightly above the laboratory upper QC limits but were below the EPA functional guideline upper control limit of 125 percent. Therefore, no additional qualifications were necessary.

6) LCS percent recoveries for barium, lead, and selenium were slightly above the upper laboratory QC limits for these analytes but were below the upper EPA functional guideline QC limit of 120 percent. Therefore, no additional qualification was necessary.

7) No calibration raw data for the volatile organic analyses (VOA) were provided in the data package. The laboratory has been requested to submit the missing VOA raw data. However, VOA calibration performance

appears acceptable based on the review of the VOA calibration data from other data packages. Therefore, no qualifications to the VOA results have been made at this time based on the missing calibration data.

8) The initial calibration verification (ICV) and continuing calibration verification (CCV) percent recovery results for the metals analyses were incomplete. However, no problems were found with the partial ICV and CCV information that was provided. Therefore, no qualifications have been made due to the missing ICV and CCV results at this time.

Signatures below constitute validation of this record.

Validator: Kevin E. Garrett	Kevin E. Garrett	9/25/96
Printed Name	Signature	Date
QA/QC Reviewer: Mark R. Clemmer	Mark R. Clemmer	9/26/96
Printed Name	Signature	Date

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
FAX: (412) 747-2559

July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-193
NUS SAMPLE NO: P0350329
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
15	OVTCS	TCL - VOLATILES			
		1,1,1-trichloroethane	1	< 5	ug/kg
		1,1,2,2-tetrachloroethane	1	< 5	ug/kg
		1,1,2-trichloro-1,2,2-trifluoroethane	1	< 10	ug/kg
		1,1,2-trichloroethane	1	< 5	ug/kg
		1,1-dichloroethane	1	< 5	ug/kg
		1,1-dichloroethene [1,1-dichloroethylene]	1	< 5	ug/kg
		1,2-dichloroethane	1	< 5	ug/kg
		2-butanone [methylethyl ketone] [MEK]	1	< 50	ug/kg
		4-methyl-2-pentanone [methyl isobutyl ketone] [MIBK]	1	< 50	ug/kg
		acetone	1	< 50	ug/kg J
		benzene	1	< 5	ug/kg
		carbon tetrachloride	1	< 5	ug/kg
		chlorobenzene	1	< 5	ug/kg
		chloroform	1	< 5	ug/kg
		cis-1,2-dichloroethene	1	< 5	ug/kg
		cyclohexane	1	< 10	ug/kg
		cyclohexanone	1	< 10	ug/kg
		dichloromethane [methylene chloride]	1	< 5	ug/kg
		ethyl acetate	1	< 10	ug/kg
		ethylbenzene	1	< 5	ug/kg
		methylbenzene [toluene]	1	< 5	ug/kg
		tetrachloroethene [tetrachloroethylene]	1	< 5	ug/kg
		tribromomethane [bromoform]	1	< 5	ug/kg
		trichloroethene [trichloroethylene]	1	< 5	ug/kg
		trichlorofluoromethane	1	< 10	ug/kg
		vinyl chloride	1	< 10	ug/kg
		xylenes, total	1	< 5	ug/kg
19	I620S	Percent Solids at 103C	1	96.6	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By [signature]
Date 9/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
FAX: (412) 747-2559

July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-194
NUS SAMPLE NO: P0350330
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
11	G122S	PCB ANALYSIS		
		PCB-1221	1	< 100 mg/kg
		PCB-1232	1	< 100 mg/kg
		PCB-1242/1016	1	< 100 mg/kg
		PCB-1248	1	< 100 mg/kg
		PCB-1254	1	< 100 mg/kg
		PCB-1260	1	< 100 mg/kg
13	OSVTCS	TCL - SEMIVOLATILE EXTRACTABLES		
		1,2-dichlorobenzene [o-dichlorobenzene]	1	< 330 ug/kg
		1,4-dichlorobenzene [p-dichlorobenzene]	1	< 330 ug/kg
		2,4,5-trichlorophenol	1	< 1700 ug/kg
		2,4,6-trichlorophenol	1	< 330 ug/kg
		2,4-dinitrotoluene	1	< 330 ug/kg
		2-methylphenol [o-cresol]	1	< 330 ug/kg
		3/4-methylphenol [m-cresol/p-cresol]	1	< 330 ug/kg
		hexachlorobenzene	1	< 330 ug/kg
		hexachlorobutadiene	1	< 330 ug/kg
		hexachloroethane	1	< 330 ug/kg
		nitrobenzene	1	< 330 ug/kg
		pentachlorophenol	1	< 1700 ug/kg
		pyridene	1	< 330 ug/kg
17	G200S	ALCOHOLS		
		isobutanol	1	< 2 mg/kg
		methanol	1	< 2 mg/kg
		n-butanol	1	< 2 mg/kg
19	I620S	Percent Solids at 103C	1	97.3 %
20	G210S	CELLOSOLVES		
		2-ethoxyethanol	1	< 10 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
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July 31, 1996
Report No.: 00032286
Section A Page 37

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-195
NUS SAMPLE NO: P0350331
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASSA	Arsenic, Total (As)	1	0.6 mg/kg J
2	ABAS	Barium, Total (Ba)	1	48 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg
4	ACRS	Chromium, Total (Cr)	1	15 mg/kg
5	APBS	Lead, Total (Pb)	1	1.6 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ANIS	Nickel, Total (Ni)	1	6 mg/kg
8	ASESA	Selenium, Total (Se)	1	< 0.4 mg/kg
9	AAGS	Silver, Total (Ag)	1	< 1 mg/kg
10	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
19	1620S	Percent Solids at 103C	1	97.8 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By [signature]
Date 9/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-196
NUS SAMPLE NO: P0350332
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
15	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,1,2,2-tetrachloroethane	1	< 5 ug/kg
		1,1,2-trichloro-1,2,2-trifluoroethane	1	< 10 ug/kg
		1,1,2-trichloroethane	1	< 5 ug/kg
		1,1-dichloroethane	1	< 5 ug/kg
		1,1-dichloroethene [1,1-dichloroethylene]	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		2-butanone [methylethyl ketone] [MEK]	1	< 50 ug/kg
		4-methyl-2-pentanone [methyl isobutyl ketone] [MIBK]	1	< 50 ug/kg
		acetone	1	< 50 ug/kg J
		benzene	1	< 5 ug/kg
		carbon tetrachloride	1	< 5 ug/kg
		chlorobenzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		cis-1,2-dichloroethene	1	< 5 ug/kg
		cyclohexane	1	< 10 ug/kg
		cyclohexanone	1	< 10 ug/kg
		dichloromethane [methylene chloride]	1	< 5 ug/kg
		ethyl acetate	1	< 10 ug/kg
		ethylbenzene	1	< 5 ug/kg
		methylbenzene [toluene]	1	< 5 ug/kg
		tetrachloroethene [tetrachloroethylene]	1	< 5 ug/kg
		tribromomethane [bromoform]	1	< 5 ug/kg
		trichloroethene [trichloroethylene]	1	< 5 ug/kg
		trichlorofluoromethane	1	< 10 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes, total	1	< 5 ug/kg
19	I620S	Percent Solids at 103C	1	97.4 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/25/96

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-197
NUS SAMPLE NO: P0350333
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
11	G122S	PCB ANALYSIS		
		PCB-1221	1	< 100 mg/kg
		PCB-1232	1	< 100 mg/kg
		PCB-1242/1016	1	< 100 mg/kg
		PCB-1248	1	< 100 mg/kg
		PCB-1254	1	< 100 mg/kg
		PCB-1260	1	< 100 mg/kg
13	OSVTCS	TCL - SEMIVOLATILE EXTRACTABLES		
		1,2-dichlorobenzene [o-dichlorobenzene]	1	< 330 ug/kg
		1,4-dichlorobenzene [p-dichlorobenzene]	1	< 330 ug/kg
		2,4,5-trichlorophenol	1	< 1700 ug/kg
		2,4,6-trichlorophenol	1	< 330 ug/kg
		2,4-dinitrotoluene	1	< 330 ug/kg
		2-methylphenol [o-cresol]	1	< 330 ug/kg
		3/4-methylphenol [m-cresol/p-cresol]	1	< 330 ug/kg
		hexachlorobenzene	1	< 330 ug/kg
		hexachlorobutadiene	1	< 330 ug/kg
		hexachloroethane	1	< 330 ug/kg
		nitrobenzene	1	< 330 ug/kg
		pentachlorophenol	1	< 1700 ug/kg
		pyridene	1	< 330 ug/kg
17	G200S	ALCOHOLS		
		isobutanol	1	< 2 mg/kg
		methanol	1	< 2 mg/kg
		n-butanol	1	< 2 mg/kg
19	I620S	Percent Solids at 103C	1	97.3 %
20	G210S	CELLOSOLVES		
		2-ethoxyethanol	1	< 10 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-198
NUS SAMPLE NO: P0350334
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
1	AASSA	Arsenic, Total (As)	1	0.5	mg/kg J
2	ABAS	Barium, Total (Ba)	1	35	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	25	mg/kg
5	APBS	Lead, Total (Pb)	1	1.5	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ANIS	Nickel, Total (Ni)	1	12	mg/kg
8	ASESA	Selenium, Total (Se)	1	< 0.4	mg/kg
9	AAGS	Silver, Total (Ag)	1	< 1	mg/kg
10	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
19	1620S	Percent Solids at 103C	1	97.8	%

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-199
NUS SAMPLE NO: P0350335
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
15	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,1,2,2-tetrachloroethane	1	< 5 ug/kg
		1,1,2-trichloro-1,2,2-trifluoroethane	1	< 10 ug/kg
		1,1,2-trichloroethane	1	< 5 ug/kg
		1,1-dichloroethane	1	< 5 ug/kg
		1,1-dichloroethene [1,1-dichloroethylene]	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		2-butanone [methylethyl ketone] [MEK]	1	< 50 ug/kg
		4-methyl-2-pentanone [methyl isobutyl ketone] [MIBK]	1	< 50 ug/kg
		acetone	1	< 50 ug/kg J
		benzene	1	< 5 ug/kg
		carbon tetrachloride	1	< 5 ug/kg
		chlorobenzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		cis-1,2-dichloroethene	1	< 5 ug/kg
		cyclohexane	1	< 10 ug/kg
		cyclohexanone	1	< 10 ug/kg
		dichloromethane [methylene chloride]	1	< 5 ug/kg
		ethyl acetate	1	< 10 ug/kg
		ethylbenzene	1	< 5 ug/kg
		methylbenzene [toluene]	1	< 5 ug/kg
		tetrachloroethene [tetrachloroethylene]	1	< 5 ug/kg
		tribromomethane [bromoform]	1	< 5 ug/kg
		trichloroethene [trichloroethylene]	1	< 5 ug/kg
		trichlorofluoromethane	1	< 10 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes, total	1	< 5 ug/kg
19	1620S	Percent Solids at 103C	1	97.0 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

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July 31, 1996
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-200
NUS SAMPLE NO: P0350336
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
11	G122S	PCB ANALYSIS		
		PCB-1221	1	< 100 mg/kg
		PCB-1232	1	< 100 mg/kg
		PCB-1242/1016	1	< 100 mg/kg
		PCB-1248	1	< 100 mg/kg
		PCB-1254	1	< 100 mg/kg
		PCB-1260	1	< 100 mg/kg
13	OSVTCS	TCL - SEMIVOLATILE EXTRACTABLES		
		1,2-dichlorobenzene [o-dichlorobenzene]	1	< 330 ug/kg
		1,4-dichlorobenzene [p-dichlorobenzene]	1	< 330 ug/kg
		2,4,5-trichlorophenol	1	< 1700 ug/kg
		2,4,6-trichlorophenol	1	< 330 ug/kg
		2,4-dinitrotoluene	1	< 330 ug/kg
		2-methylphenol [o-cresol]	1	< 330 ug/kg
		3/4-methylphenol [m-cresol/p-cresol]	1	< 330 ug/kg
		hexachlorobenzene	1	< 330 ug/kg
		hexachlorobutadiene	1	< 330 ug/kg
		hexachloroethane	1	< 330 ug/kg
		nitrobenzene	1	< 330 ug/kg
		pentachlorophenol	1	< 1700 ug/kg
		pyridene	1	< 330 ug/kg
17	G200S	ALCOHOLS		
		isobutanol	1	< 2 mg/kg
		methanol	1	< 2 mg/kg
		n-butanol	1	< 2 mg/kg
19	I620S	Percent Solids at 103C	1	97.6 %
20	G210S	CELLOSOLVES		
		2-ethoxyethanol	1	< 10 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
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Pittsburgh, Pennsylvania 15205

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July 31, 1996
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-201
NUS SAMPLE NO: P0350337
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASSA	Arsenic, Total (As)	1	0.7 mg/kg J
2	ABAS	Barium, Total (Ba)	1	59 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg
4	ACRS	Chromium, Total (Cr)	1	4 mg/kg
5	APBS	Lead, Total (Pb)	1	1.7 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ANIS	Nickel, Total (Ni)	1	3 mg/kg
8	ASESA	Selenium, Total (Se)	1	< 0.5 mg/kg
9	AAGS	Silver, Total (Ag)	1	< 1 mg/kg
10	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
19	I620S	Percent Solids at 103C	1	96.6 %

COMMENTS:

Results are reported on a wet weight basis.

5 Analyzed by the method of standard additions.

8 The result for this sample analysis was determined by a single-point method of standard additions.

VALIDATED

Reviewed By

Date 7/25/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-202
NUS SAMPLE NO: P0350338
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
15	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,1,2,2-tetrachloroethane	1	< 5 ug/kg
		1,1,2-trichloro-1,2,2-trifluoroethane	1	< 10 ug/kg
		1,1,2-trichloroethane	1	< 5 ug/kg
		1,1-dichloroethane	1	< 5 ug/kg
		1,1-dichloroethene [1,1-dichloroethylene]	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		2-butanone [methylethyl ketone] [MEK]	1	< 50 ug/kg
		4-methyl-2-pentanone [methyl isobutyl ketone] [MIBK]	1	< 50 ug/kg
		acetone	1	< 50 ug/kg J
		benzene	1	< 5 ug/kg
		carbon tetrachloride	1	< 5 ug/kg
		chlorobenzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		cis-1,2-dichloroethene	1	< 5 ug/kg
		cyclohexane	1	< 10 ug/kg
		cyclohexanone	1	< 10 ug/kg
		dichloromethane [methylene chloride]	1	< 5 ug/kg
		ethyl acetate	1	< 10 ug/kg
		ethylbenzene	1	< 5 ug/kg
		methylbenzene [toluene]	1	< 5 ug/kg
		tetrachloroethene [tetrachloroethylene]	1	< 5 ug/kg
		tribromomethane [bromoform]	1	< 5 ug/kg
		trichloroethene [trichloroethylene]	1	< 5 ug/kg
		trichlorofluoromethane	1	< 10 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes, total	1	< 5 ug/kg
19	I620S	Percent Solids at 103C	1	97.8 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/25/96

Halliburton NUS CORPORATION

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July 31, 1996
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-203
NUS SAMPLE NO: P0350339
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
11	G122S	PCB ANALYSIS		
		PCB-1221	1	< 100 mg/kg
		PCB-1232	1	< 100 mg/kg
		PCB-1242/1016	1	< 100 mg/kg
		PCB-1248	1	< 100 mg/kg
		PCB-1254	1	< 100 mg/kg
		PCB-1260	1	< 100 mg/kg
13	OSVTCS	TCL - SEMIVOLATILE EXTRACTABLES		
		1,2-dichlorobenzene [o-dichlorobenzene]	1	< 330 ug/kg
		1,4-dichlorobenzene [p-dichlorobenzene]	1	< 330 ug/kg
		2,4,5-trichlorophenol	1	< 1700 ug/kg
		2,4,6-trichlorophenol	1	< 330 ug/kg
		2,4-dinitrotoluene	1	< 330 ug/kg
		2-methylphenol [o-cresol]	1	< 330 ug/kg
		3/4-methylphenol [m-cresol/p-cresol]	1	< 330 ug/kg
		hexachlorobenzene	1	< 330 ug/kg
		hexachlorobutadiene	1	< 330 ug/kg
		hexachloroethane	1	< 330 ug/kg
		nitrobenzene	1	< 330 ug/kg
		pentachlorophenol	1	< 1700 ug/kg
		pyridene	1	< 330 ug/kg
17	G200S	ALCOHOLS		
		isobutanol	1	< 2 mg/kg
		methanol	1	< 2 mg/kg
		n-butanol	1	< 2 mg/kg
19	I620S	Percent Solids at 103C	1	97.0 %
20	G210S	CELLOSOLVES		
		2-ethoxyethanol	1	< 10 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/25/96

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TEL: (412) 747-2500
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July 31, 1996
Report No.: 00032286
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LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-204
NUS SAMPLE NO: P0350340
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
1	AASSA	Arsenic, Total (As)	1	0.4	mg/kg J
2	ABAS	Barium, Total (Ba)	1	14	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	8	mg/kg
5	APBS	Lead, Total (Pb)	1	1.2	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ANIS	Nickel, Total (Ni)	1	5	mg/kg
8	ASESA	Selenium, Total (Se)	1	< 0.4	mg/kg
9	AAGS	Silver, Total (Ag)	1	< 1	mg/kg
10	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
19	I620S	Percent Solids at 103C	1	97.7	%

COMMENTS:
Results are reported on a wet weight basis.
5 Analyzed by the method of standard additions.

VALIDATED
Reviewed By
Date 7/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
FAX: (412) 747-2559

July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-205
NUS SAMPLE NO: P0350341
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
15	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,1,2,2-tetrachloroethane	1	< 5 ug/kg
		1,1,2-trichloro-1,2,2-trifluoroethane	1	< 10 ug/kg
		1,1,2-trichloroethane	1	< 5 ug/kg
		1,1-dichloroethane	1	< 5 ug/kg
		1,1-dichloroethene [1,1-dichloroethylene]	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		2-butanone [methylethyl ketone] [MEK]	1	< 50 ug/kg
		4-methyl-2-pentanone [methyl isobutyl ketone] [MIBK]	1	< 50 ug/kg
		acetone	1	< 50 ug/kg J
		benzene	1	< 5 ug/kg
		carbon tetrachloride	1	< 5 ug/kg
		chlorobenzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		cis-1,2-dichloroethene	1	< 5 ug/kg
		cyclohexane	1	< 10 ug/kg
		cyclohexanone	1	< 10 ug/kg
		dichloromethane [methylene chloride]	1	< 5 ug/kg
		ethyl acetate	1	< 10 ug/kg
		ethylbenzene	1	< 5 ug/kg
		methylbenzene [toluene]	1	< 5 ug/kg
		tetrachloroethene [tetrachloroethylene]	1	< 5 ug/kg
		tribromomethane [bromoform]	1	< 5 ug/kg
		trichloroethene [trichloroethylene]	1	< 5 ug/kg
		trichlorofluoromethane	1	< 10 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes, total	1	< 5 ug/kg
19	I620S	Percent Solids at 103C	1	95.0 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By [signature]
Date 5/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-206
NUS SAMPLE NO: P0350342
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
11	G122S	PCB ANALYSIS		
		PCB-1221	1	< 100 mg/kg
		PCB-1232	1	< 100 mg/kg
		PCB-1242/1016	1	< 100 mg/kg
		PCB-1248	1	< 100 mg/kg
		PCB-1254	1	< 100 mg/kg
		PCB-1260	1	< 100 mg/kg
13	OSVTCS	TCL - SEMIVOLATILE EXTRACTABLES		
		1,2-dichlorobenzene [o-dichlorobenzene]	1	< 330 ug/kg
		1,4-dichlorobenzene [p-dichlorobenzene]	1	< 330 ug/kg
		2,4,5-trichlorophenol	1	< 1700 ug/kg
		2,4,6-trichlorophenol	1	< 330 ug/kg
		2,4-dinitrotoluene	1	< 330 ug/kg
		2-methylphenol [o-cresol]	1	< 330 ug/kg
		3/4-methylphenol [m-cresol/p-cresol]	1	< 330 ug/kg
		hexachlorobenzene	1	< 330 ug/kg
		hexachlorobutadiene	1	< 330 ug/kg
		hexachloroethane	1	< 330 ug/kg
		nitrobenzene	1	< 330 ug/kg
		pentachlorophenol	1	< 1700 ug/kg
		pyridene	1	< 330 ug/kg
17	G200S	ALCOHOLS		
		isobutanol	1	< 2 mg/kg
		methanol	1	< 2 mg/kg
		n-butanol	1	< 2 mg/kg
19	I620S	Percent Solids at 103C	1	93.8 %
20	G210S	CELLOSOLVES		
		2-ethoxyethanol	1	< 10 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-207
NUS SAMPLE NO: P0350343
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASSA	Arsenic, Total (As)	1	0.6 mg/kg J
2	ABAS	Barium, Total (Ba)	1	16 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg
4	ACRS	Chromium, Total (Cr)	1	50 mg/kg
5	APBS	Lead, Total (Pb)	2	4.2 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ANIS	Nickel, Total (Ni)	1	22 mg/kg
8	ASESA	Selenium, Total (Se)	1	< 0.4 mg/kg
9	AAGS	Silver, Total (Ag)	1	< 1 mg/kg
10	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
19	I620S	Percent Solids at 103C	1	96.0 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-208
NUS SAMPLE NO: P0350344
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
15	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,1,2,2-tetrachloroethane	1	< 5 ug/kg
		1,1,2-trichloro-1,2,2-trifluoroethane	1	< 10 ug/kg
		1,1,2-trichloroethane	1	< 5 ug/kg
		1,1-dichloroethane	1	< 5 ug/kg
		1,1-dichloroethene [1,1-dichloroethylene]	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		2-butanone [methylethyl ketone] [MEK]	1	< 50 ug/kg
		4-methyl-2-pentanone [methyl isobutyl ketone] [MIBK]	1	< 50 ug/kg
		acetone	1	< 50 ug/kg J
		benzene	1	< 5 ug/kg
		carbon tetrachloride	1	< 5 ug/kg
		chlorobenzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		cis-1,2-dichloroethene	1	< 5 ug/kg
		cyclohexane	1	< 10 ug/kg
		cyclohexanone	1	< 10 ug/kg
		dichloromethane [methylene chloride]	1	< 5 ug/kg
		ethyl acetate	1	< 10 ug/kg
		ethylbenzene	1	< 5 ug/kg
		methylbenzene [toluene]	1	< 5 ug/kg
		tetrachloroethene [tetrachloroethylene]	1	< 5 ug/kg
		tribromomethane [bromoform]	1	< 5 ug/kg
		trichloroethene [trichloroethylene]	1	< 5 ug/kg
		trichlorofluoromethane	1	< 10 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes, total	1	< 5 ug/kg
19	I620S	Percent Solids at 103C	1	95.9 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-209
NUS SAMPLE NO: P0350345
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
11	G122S	PCB ANALYSIS		
		PCB-1221	1	< 100 mg/kg
		PCB-1232	1	< 100 mg/kg
		PCB-1242/1016	1	< 100 mg/kg
		PCB-1248	1	< 100 mg/kg
		PCB-1254	1	< 100 mg/kg
		PCB-1260	1	< 100 mg/kg
13	OSVTCS	TCL - SEMIVOLATILE EXTRACTABLES		
		1,2-dichlorobenzene [o-dichlorobenzene]	1	< 330 ug/kg
		1,4-dichlorobenzene [p-dichlorobenzene]	1	< 330 ug/kg
		2,4,5-trichlorophenol	1	< 1700 ug/kg
		2,4,6-trichlorophenol	1	< 330 ug/kg
		2,4-dinitrotoluene	1	< 330 ug/kg
		2-methylphenol [o-cresol]	1	< 330 ug/kg
		3/4-methylphenol [m-cresol/p-cresol]	1	< 330 ug/kg
		hexachlorobenzene	1	< 330 ug/kg
		hexachlorobutadiene	1	< 330 ug/kg
		hexachloroethane	1	< 330 ug/kg
		nitrobenzene	1	< 330 ug/kg
		pentachlorophenol	1	< 1700 ug/kg
		pyridene	1	< 330 ug/kg
17	G200S	ALCOHOLS		
		isobutanol	1	< 2 mg/kg
		methanol	1	42 mg/kg
		n-butanol	1	< 2 mg/kg
19	I620S	Percent Solids at 103C	1	94.9 %
20	G210S	CELLOSOLVES		
		2-ethoxyethanol	1	< 10 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

Halliburton NUS CORPORATION

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-210
NUS SAMPLE NO: P0350346
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASSA	Arsenic, Total (As)	1	0.6 mg/kg J
2	ABAS	Barium, Total (Ba)	1	27 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg
4	ACRS	Chromium, Total (Cr)	1	120 mg/kg
5	APBS	Lead, Total (Pb)	1	2.4 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ANIS	Nickel, Total (Ni)	1	54 mg/kg
8	ASESA	Selenium, Total (Se)	1	< 0.4 mg/kg
9	AAGS	Silver, Total (Ag)	1	< 1 mg/kg
10	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
19	I620S	Percent Solids at 103C	1	94.0 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-211
NUS SAMPLE NO: P0350347
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
15	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,1,2,2-tetrachloroethane	1	< 5 ug/kg
		1,1,2-trichloro-1,2,2-trifluoroethane	1	< 10 ug/kg
		1,1,2-trichloroethane	1	< 5 ug/kg
		1,1-dichloroethane	1	< 5 ug/kg
		1,1-dichloroethene [1,1-dichloroethylene]	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		2-butanone [methylethyl ketone] [MEK]	1	< 50 ug/kg
		4-methyl-2-pentanone [methyl isobutyl ketone] [MIBK]	1	< 50 ug/kg
		acetone	1	< 50 ug/kg J
		benzene	1	< 5 ug/kg
		carbon tetrachloride	1	< 5 ug/kg
		chlorobenzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		cis-1,2-dichloroethene	1	< 5 ug/kg
		cyclohexane	1	< 10 ug/kg
		cyclohexanone	1	< 10 ug/kg
		dichloromethane [methylene chloride]	1	< 5 ug/kg
		ethyl acetate	1	< 10 ug/kg
		ethylbenzene	1	< 5 ug/kg
		methylbenzene [toluene]	1	< 5 ug/kg
		tetrachloroethene [tetrachloroethylene]	1	< 5 ug/kg
		tribromomethane [bromoform]	1	< 5 ug/kg
		trichloroethene [trichloroethylene]	1	< 5 ug/kg
		trichlorofluoromethane	1	< 10 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes, total	1	< 5 ug/kg
19	I620S	Percent Solids at 103C	1	98.5 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-212
NUS SAMPLE NO: P0350348
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
11	G122S	PCB ANALYSIS		
		PCB-1221	1	< 100 mg/kg
		PCB-1232	1	< 100 mg/kg
		PCB-1242/1016	1	< 100 mg/kg
		PCB-1248	1	< 100 mg/kg
		PCB-1254	1	< 100 mg/kg
		PCB-1260	1	< 100 mg/kg
13	OSVTCS	TCL - SEMIVOLATILE EXTRACTABLES		
		1,2-dichlorobenzene [o-dichlorobenzene]	1	< 330 ug/kg
		1,4-dichlorobenzene [p-dichlorobenzene]	1	< 330 ug/kg
		2,4,5-trichlorophenol	1	< 1700 ug/kg
		2,4,6-trichlorophenol	1	< 330 ug/kg
		2,4-dinitrotoluene	1	< 330 ug/kg
		2-methylphenol [o-cresol]	1	< 330 ug/kg
		3/4-methylphenol [m-cresol/p-cresol]	1	< 330 ug/kg
		hexachlorobenzene	1	< 330 ug/kg
		hexachlorobutadiene	1	< 330 ug/kg
		hexachloroethane	1	< 330 ug/kg
		nitrobenzene	1	< 330 ug/kg
		pentachlorophenol	1	< 1700 ug/kg
		pyridene	1	< 330 ug/kg
17	G200S	ALCOHOLS		
		isobutanol	1	< 2 mg/kg
		methanol	1	200 mg/kg
		n-butanol	1	< 2 mg/kg
19	I620S	Percent Solids at 103C	1	98.2 %
20	G210S	CELLOSOLVES		
		2-ethoxyethanol	1	< 10 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
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July 31, 1996
Report No.: 00032286
Section A Page 55

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-213
NUS SAMPLE NO: P0350349
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASSA	Arsenic, Total (As)	1	0.7 mg/kg J
2	ABAS	Barium, Total (Ba)	1	29 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg
4	ACRS	Chromium, Total (Cr)	1	140 mg/kg
5	APBS	Lead, Total (Pb)	1	2.6 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ANIS	Nickel, Total (Ni)	1	66 mg/kg
8	ASESA	Selenium, Total (Se)	1	< 0.4 mg/kg
9	AAGS	Silver, Total (Ag)	1	< 1 mg/kg
10	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
19	I620S	Percent Solids at 103C	1	97.9 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 7/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
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July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-214
NUS SAMPLE NO: P0350350
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
15	OVTCS	TCL - VOLATILES		
		1,1,1-trichloroethane	1	< 5 ug/kg
		1,1,2,2-tetrachloroethane	1	< 5 ug/kg
		1,1,2-trichloro-1,2,2-trifluoroethane	1	< 10 ug/kg
		1,1,2-trichloroethane	1	< 5 ug/kg
		1,1-dichloroethane	1	< 5 ug/kg
		1,1-dichloroethene [1,1-dichloroethylene]	1	< 5 ug/kg
		1,2-dichloroethane	1	< 5 ug/kg
		2-butanone [methylethyl ketone] [MEK]	1	< 50 ug/kg
		4-methyl-2-pentanone [methyl isobutyl ketone] [MIBK]	1	< 50 ug/kg
		acetone	1	< 50 ug/kg J
		benzene	1	< 5 ug/kg
		carbon tetrachloride	1	< 5 ug/kg
		chlorobenzene	1	< 5 ug/kg
		chloroform	1	< 5 ug/kg
		cis-1,2-dichloroethene	1	< 5 ug/kg
		cyclohexane	1	< 10 ug/kg
		cyclohexanone	1	< 10 ug/kg
		dichloromethane [methylene chloride]	1	< 5 ug/kg
		ethyl acetate	1	< 10 ug/kg
		ethylbenzene	1	< 5 ug/kg
		methylbenzene [toluene]	1	< 5 ug/kg
		tetrachloroethene [tetrachloroethylene]	1	< 5 ug/kg
		tribromomethane [bromoform]	1	< 5 ug/kg
		trichloroethene [trichloroethylene]	1	< 5 ug/kg
		trichlorofluoromethane	1	< 10 ug/kg
		vinyl chloride	1	< 10 ug/kg
		xylenes, total	1	< 5 ug/kg
19	I620S	Percent Solids at 103C	1	98.6 %

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED
Reviewed By
Date 9/25/96

Halliburton NUS CORPORATION

NUS LABORATORY
5350 Campbells Run Road
Pittsburgh, Pennsylvania 15205

TEL: (412) 747-2500
FAX: (412) 747-2559

July 31, 1996
Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-215
NUS SAMPLE NO: P0350351
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
11	G122S	PCB ANALYSIS		
		PCB-1221	1	< 100 mg/kg
		PCB-1232	1	< 100 mg/kg
		PCB-1242/1016	1	< 100 mg/kg
		PCB-1248	1	< 100 mg/kg
		PCB-1254	1	< 100 mg/kg
		PCB-1260	1	< 100 mg/kg
13	OSVTCS	TCL - SEMIVOLATILE EXTRACTABLES		
		1,2-dichlorobenzene [o-dichlorobenzene]	1	< 330 ug/kg
		1,4-dichlorobenzene [p-dichlorobenzene]	1	< 330 ug/kg
		2,4,5-trichlorophenol	1	< 1700 ug/kg
		2,4,6-trichlorophenol	1	< 330 ug/kg
		2,4-dinitrotoluene	1	< 330 ug/kg
		2-methylphenol [o-cresol]	1	< 330 ug/kg
		3/4-methylphenol [m-cresol/p-cresol]	1	< 330 ug/kg
		hexachlorobenzene	1	< 330 ug/kg
		hexachlorobutadiene	1	< 330 ug/kg
		hexachloroethane	1	< 330 ug/kg
		nitrobenzene	1	< 330 ug/kg
		pentachlorophenol	1	< 1700 ug/kg
		pyridene	1	< 330 ug/kg
17	G200S	ALCOHOLS		
		isobutanol	1	< 2 mg/kg
		methanol	1	200 mg/kg
		n-butanol	1	< 2 mg/kg
19	I620S	Percent Solids at 103C	1	98.5 %
20	G210S	CELLOSOLVES		
		2-ethoxyethanol	1	< 10 mg/kg

COMMENTS:
Results are reported on a wet weight basis.

VALIDATED

Reviewed By [signature]
Date 9/25/96

Halliburton NUS CORPORATION

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July 31, 1996
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ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-216
NUS SAMPLE NO: P0350352
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASSA	Arsenic, Total (As)	1	1.1 mg/kg J
2	ABAS	Barium, Total (Ba)	1	43 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg
4	ACRS	Chromium, Total (Cr)	1	4 mg/kg
5	APBS	Lead, Total (Pb)	5	4.8 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ANIS	Nickel, Total (Ni)	1	< 2 mg/kg
8	ASESA	Selenium, Total (Se)	1	< 0.4 mg/kg
9	AAGS	Silver, Total (Ag)	1	< 1 mg/kg
10	ATLS	Thallium, Total (Tl)	1	< 20 mg/kg
19	I620S	Percent Solids at 103C	1	97.5 %

COMMENTS:
Results are reported on a wet weight basis.
1 Analyzed by the method of standard additions.

VALIDATED
Reviewed By
Date 7/25/96

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Report No.: 00032286

LABORATORY ANALYSIS REPORT

CLIENT NAME: WESTINGHOUSE ELECTRIC CORPORATIO
ADDRESS: P.O. BOX 2078
CARLSBAD, NM 88221-2078
ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-217
NUS SAMPLE NO: P0350353
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASSA	Arsenic, Total (As)	1	0.7 mg/kg J
2	ABAS	Barium, Total (Ba)	1	14 mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5 mg/kg
4	ACRS	Chromium, Total (Cr)	1	2 mg/kg
5	APBS	Lead, Total (Pb)	1	1.4 mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03 mg/kg
7	ANIS	Nickel, Total (Ni)	1	< 2 mg/kg
8	ASESA	Selenium, Total (Se)	1	< 0.4 mg/kg
9	AAGS	Silver, Total (Ag)	1	< 1 mg/kg
10	ATLS	Thallium, Total (Tl)	1	30 mg/kg
19	I620S	Percent Solids at 103C	1	98.7 %

COMMENTS:

Results are reported on a wet weight basis.

1 The result for this sample analysis was determined by a single-point method of standard additions.

VALIDATED

Reviewed By [signature]

Date 7/25/96

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ADDRESS: P.O. BOX 2078
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ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-218
NUS SAMPLE NO: P0350354
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT	UNITS
1	AASSA	Arsenic, Total (As)	1	0.7	mg/kg J
2	ABAS	Barium, Total (Ba)	1	14	mg/kg
3	ACDS	Cadmium, Total (Cd)	1	< 0.5	mg/kg
4	ACRS	Chromium, Total (Cr)	1	4	mg/kg
5	APBS	Lead, Total (Pb)	1	1.5	mg/kg
6	AHGS	Mercury, Total (Hg)	1	< 0.03	mg/kg
7	ANIS	Nickel, Total (Ni)	1	< 2	mg/kg
8	ASESA	Selenium, Total (Se)	1	< 0.4	mg/kg
9	AAGS	Silver, Total (Ag)	1	< 1	mg/kg
10	ATLS	Thallium, Total (Tl)	1	< 20	mg/kg
19	I620S	Percent Solids at 103C	1	98.3	%

COMMENTS:

Results are reported on a wet weight basis.

1 The result for this sample analysis was determined by a single-point method of standard additions.
This sample was analyzed as a matrix spike. Recovery of the spike was outside established acceptance limits indicating the presence of a possible matrix interference.

VALIDATED

Reviewed By

Date 7/25/96

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CORPORATION

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ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-219
NUS SAMPLE NO: P0350355
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003 mg/L
2	ABAW	Barium, Total (Ba)	1	< 0.005 mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005 mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02 mg/L J
5	APBA	Lead, Low Level (Pb)	1	< 0.002 mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001 mg/L
7	ANIW	Nickel, Total (Ni)	1	< 0.02 mg/L
8	ASEA	Selenium, Total (Se)	1	< 0.004 mg/L
9	AAGW	Silver, Total (Ag)	1	< 0.01 mg/L
10	ATLW	Thallium, Total (Tl)	1	0.2 mg/L

COMMENTS:

VALIDATED
Reviewed By
Date 7/25/96

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ATTENTION: MS. PATTY LOUGHMILLER

NUS CLIENT NO: 1783 0003
WORK ORDER NO: 55830
VENDOR NO: 01830727

SAMPLE ID: RA-96-220
NUS SAMPLE NO: P0350356
P.O. NO.: 500101

DATE SAMPLED: 12-JUL-96
DATE RECEIVED: 13-JUL-96
APPROVED BY: Simanic, Joanne

LN	TEST CODE	DETERMINATION	DILUTION FACTOR	RESULT UNITS
1	AASA	Arsenic, Total (As)	1	< 0.003 mg/L
2	ABAW	Barium, Total (Ba)	1	< 0.005 mg/L
3	ACDW	Cadmium, Total (Cd)	1	< 0.005 mg/L
4	ACRW	Chromium, Total (Cr)	1	< 0.02 mg/L J
5	APBA	Lead, Low Level (Pb)	1	< 0.002 mg/L
6	AHGW	Mercury, Total (Hg)	1	< 0.0001 mg/L
7	ANIW	Nickel, Total (Ni)	1	< 0.02 mg/L
8	ASEA	Selenium, Total (Se)	1	< 0.004 mg/L
9	AAGW	Silver, Total (Ag)	1	< 0.01 mg/L
10	ATLW	Thallium, Total (Tl)	1	< 0.2 mg/L

COMMENTS:

VALIDATED
Reviewed By
Date 7/25/96