Westinghouse Hanford Company

Hanford Operations and Engineering Contractor for the US Department of Energy
P.O. Box 1970 Richland, Wa. 99352

9413451.1096

NONCONFORMANCE REPORT

B00V78-TMA-007

No. B 06147

0044545

START

1. MFR/ORG: WHC

ITEM/MATERIAL NAME: Envir. Sample

PART NO.: N/A

DRAWING/SPEC. NO.:

REV.: N/A

PROGRAM/PROJECT: 300-FF-5

P.O./W.O. NO.: 91-041

UNUSUAL OCCURRENCE REPORT REQUIRED: ☐ YES ☒ NO

SYSTEM/END USE:

DATE: 11/14/91

2. DESCRIPTION OF NONCONFORMANCE

- Samples B009B9 and B009C0
- Sample analysis request form for these samples was not sent to the laboratory.
- Samples were analyzed according to a separate SAR that was sent with other samples in the same sample delivery group.
- SEE ATTACHED DSI - Hulstrom to Edwards

3. REQUIREMENT VIOLATED

	DOCUMENT	REV	ZONE/PARA
• SAR must accompany sample to the laboratory	WHC-CM-7-7 EII 5.2	3	pg. 5 of 45 Sec. 6.6 C.O.C/S.A.R

Daniel L. Edwards — ORIGINATOR

28600 — ORGANIZATION

11/15/91 — DATE

4. ASME CODE ITEM(s): ☐ NO ☐ YES. NOTIFY AUTHORIZED INSPECTOR.

WHC QAR

5. CAUSE OF NONCONFORMANCE

☒ PROCEDURES ☒ PERSONNEL ☐ MATERIALS
☐ EQUIPMENT ☐ OTHERS

REMARKS:

P/S = D3

6. CORRECTIVE ACTION TO ELIMINATE CAUSE

Retrain samplers to Procedures & instruct to follow more closely and pay attention to detail. (Both WHC and TMA Personnel.)

INITIATION DATE: SERIAL NO.:

RESPONSIBLE ORG. REP. TITLE DATE

7. RECOMMENDED DISPOSITION: ☒ ACCEPT ☐ REJECT ☐ REPAIR ☐ REWORK ☐ OTHER

8A. DISPOSITION JUSTIFICATION AND INSTRUCTIONS

Analysis performed was acceptable, just lacking uranium analysis which was performed after this incident was discovered.

9. ADDITIONAL REVIEWS REQUIRED (WHC ONLY) ☐ YES ☐ NO

IF YES, IDENTIFY:

8B. SUPPLIER ENG. SUPPLIER QA

10. DISPOSITION APPROVAL (WHC ONLY)

☒ APPROVED ☐ DISAPPROVED
☐ OTHER (SEE CONTINUATION SHEET)

LC Hulstrom LC Hulstrom 3/2/92
COGNIZANT ENGINEER DATE

JR McCALLUM JR McCallum 2/24/92
COGNIZANT QA ENGINEER DATE

AUTHORIZED INSPECTOR REVIEW DATE

11. ADDITIONAL APPROVALS

NAME	TITLE	DATE	NAME	TITLE	DATE

12. DISPOSITION ACTION COMPLETE

N/A
NAME DATE

QTY. ACCEPT QTY. REJ.

FOLLOW ON NCR

QA LOG NO. EQA-92-009

The issuance and acceptance of this request in no way limits or affects the warranty provisions of the order. This request shall not establish a precedent or obligation to accept similar conditions in the future.

FOLLOW-UP LEVEL: A ☐ B ☐ C ☐

RECORD OF DISPOSITION ROD-91-00007

DATE: 11/14/91 LABORATORY: TMA

SAMPLE IDENTIFICATION NUMBERS

B00 9B9
B00 9C0

DISPOSITION OF SAMPLES

☐ CANCELLED (REASON)

NCR #BC6147

☐ DAMAGED SAMPLE CONTAINER. ANALYSIS CANCELLED

☐ BROKEN GLASS CONTAMINATING SAMPLE. ANALYSIS CANCELLED

☒ OTHER (SAR) SAMPLE ANALYSIS REQUEST FORM WAS NOT SENT TO TMA FOR THESE TWO SAMPLES. SAMPLES WERE ANALYZED FOR OTHER SAR THAT WAS PROVIDED WITH THE ADDITIONAL SAMPLES IN THE DELIVERY GROUP. LARRY HULSTROM HAS REQUESTED THAT ISOTOPIC URANIUM ANALYSIS BE DONE ON THE TWO ABOVE SAMPLES.

APPROVED [signature] 11/14/91 DKE 11/14/91 LC Hulstrom 11/14/91

PROJECT COORDINATOR DATE TECHNICAL REPRESENTATIVE DATE

9613451.1097

9613451.1098

Federal Express 2914302845

August 15, 1991

TMA/ARLI
160 Taylor Street
Monrovia, CA 91016

Attention: Dennis Wells

Quality Control Narrative

Scope

Eighteen (18) samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on July 5, 1991 from Westinghouse Hanford Company. The samples were analyzed for the USEPA CLP metals. The analysis was performed under Skinner and Sherman work order 9107045.

Methodology

The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work 7/88 (CLP SOW788).

Discussion

The submitted water sample is identified as a blank.

All quality control requirements were met for these samples with the following exceptions:

- The arsenic and thallium matrix spike recoveries exceeded control limits.
- The iron laboratory duplicate exceeded control limits.

Please feel free to call if there are any questions concerning the data package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

Richard Purdy
Contract Laboratory Program
Program Manager

TMA
Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc. will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613451.1099

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P.O. Box 4040
Richmond, CA 94804-0040
(415) 235-2633 Fax No. (415) 235-0438

July 29, 1992

Jeanette Duncan
Westinghouse Hanford Company
2355 Stevens Drive
Richland, WA 99352

Subject: TMA WO #N1-06-116-9504 **(REVISED)**

Dear Jeannette:

As per Karl Pool, I am sending you the attached data package which was originally submitted to Westinghouse on August 16, 1991.

This report now includes the supplemental information which were required in the data validation process.

Sincerely,

Dolores Sanchez
Program Coordinator

Attachment: Revised Data Package

9613451.1100

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P.O. Box 4040
Richmond, CA 94804-0040
(415) 235-2633 Fax No. (415) 235-0438

August 16, 1991

Ref. TMA/Norcal N1-06-116-9504

Mr. Dennis Wells
TMA/ARLI
160 Taylor Street
Monrovia, CA 91016

Dear Mr. Wells:

Enclosed in Section 1, Attachment 1, are the ^{90}Sr, ^{99}Tc, and Gamma Scan results for the asparagus samples we received 13 June 1991. The QA/QC results are shown on Attachment 2.

Please call if you have any questions concerning this data.

Sincerely,

D. P. Kharkar

Dinkar P. Kharkar, Ph.D.
Manager, Nuclear Programs

Sections 1 through 9

ATTACHMENT 1 DATA TABLE

Customer I.D.	TMA/Norcal Group No. 9504	Collection Date	Analysis	Results pCi/L ± 2 σ	
BOOV 78	1	(1)	^{90}Sr	<2.254	E-01
			^{99}Tc	<2.5	E-01
			Gamma Scan:		
			^{40}K	(1.350 ± 0.253)	E+01
			^{137}Cs	<1.868	E-01
			^{226}Ra	<3.423	E-01
			^{228}Th	<2.312	E-01
			^{232}Th	<7.500	E-01
BOOV 79	2	(1)	^{90}Sr	<2.108	E-01
			^{99}Tc	<2.25	E-01
			Gamma Scan:		
			^{40}K	(2.401 ± 0.357)	E+01
			^{137}Cs	<1.680	E-01
			^{226}Ra	<3.242	E-01
			^{228}Th	<2.208	E-01
			^{232}Th	<8.093	E-01
BOOV 80	3	(1)	^{90}Sr	<2.172	E-01
			^{99}Tc	(3.7 ± 1.6)	E-01
			Gamma Scan:		
			^{40}K	(1.943 ± 0.351)	E+01
			^{137}Cs	<1.816	E-01
			^{226}Ra	<3.493	E-01
			^{228}Th	<2.349	E-01
			^{232}Th	<8.174	E-01
BOOV 81	4	(1)	^{90}Sr	<2.160	E-01
			^{99}Tc	(2.5 ± 1.2)	E-01
			Gamma Scan:		
			^{40}K	(2.330 ± 0.404)	E+01
			^{137}Cs	<2.613	E-01
			^{226}Ra	<4.956	E-01
			^{228}Th	(4.261 ± 3.959)	E-01
			^{232}Th	<1.118	E-01
BOOV 82	5	(1)	^{90}Sr	<2.137	E-01
			^{99}Tc	(3.2 ± 2.6)	E-01
			Gamma Scan:		
			^{40}K	(2.075 ± 0.307)	E+01
			^{137}Cs	<1.415	E-01
			^{226}Ra	<2.961	E-01
			^{228}Th	(2.969 ± 2.087)	E-01
			^{232}Th	<6.531	E-01

ATTACHMENT 1 DATA TABLE (cont'd, page two)

Customer I.D.	TMA/Norcal Group No. 9504	Collection Date	Analysis	Results pCi/L ± 2 σ	
BOOV 83	6	(1)	^{90}Sr	<2.001	E-01
			^{99}Tc	<3.3	E-01
			Gamma Scan:		
			^{40}K	(2.147 ± 0.338)	E+01
			^{137}Cs	<1.950	E-01
			^{226}Ra	<4.072	E-01
			^{228}Th	<2.658	E-01
			^{232}Th	<8.272	E-01
BOOV 84	7	(1)	^{90}Sr	<2.290	E-01
			^{99}Tc	<4.1	E-01
			Gamma Scan:		
			^{40}K	(1.553 ± 0.192)	E+01
			^{137}Cs	<9.720	E-02
			^{226}Ra	<1.639	E-01
			^{228}Th	<1.387	E-01
			^{232}Th	<4.583	E-01
BOOV 85	8	(1)	^{90}Sr	<1.992	E-01
			^{99}Tc	<3.7	E-01
			Gamma Scan:		
			^{40}K	(2.109 ± 0.235)	E+01
			^{137}Cs	<1.323	E-01
			^{226}Ra	<2.421	E-01
			^{228}Th	<1.971	E-01
			^{232}Th	<5.487	E-01
BOOV 86	9	(1)	^{90}Sr	<2.241	E-01
			^{99}Tc	<2.2	E-01
			Gamma Scan:		
			^{40}K	(2.055 ± 0.319)	E+01
			^{137}Cs	<1.589	E-01
			^{226}Ra	<2.825	E-01
			^{228}Th	<2.184	E-01
			^{232}Th	<7.065	E-01
BOOV 87	10	(1)	^{90}Sr	<2.270	E-01
			^{99}Tc	<1.2	E-01
			Gamma Scan:		
			^{40}K	(2.042 ± 0.404)	E+01
			^{137}Cs	<2.297	E-01
			^{226}Ra	<4.975	E-01
			^{228}Th	<3.421	E-01
			^{232}Th	<1.109	E+00

ATTACHMENT 1 DATA TABLE (cont'd, page three)

Customer I.D.	TMA/Norcal Group No. 9504	Collection Date	Analysis	Results pCi/L ± 2 σ	
BOOV 88	11	(1)	^{90}Sr	<2.162	E-01
			^{99}Tc	<2.8	E-01
			Gamma Scan:		
			^{40}K	(1.552 ± 0.243)	E+01
			^{137}Cs	<1.082	E-01
			^{226}Ra	<3.845	E-01
			^{228}Th	<1.891	E-01
			^{232}Th	<5.007	E-01
BOOV 89	12	(1)	^{90}Sr	<2.812	E-01
			^{99}Tc	<2.4	E-01
			Gamma Scan:		
			^{40}K	(1.165 ± 0.302)	E+01
			^{137}Cs	<1.914	E-01
			^{226}Ra	<3.674	E-01
			^{228}Th	<2.736	E-01
			^{232}Th	<8.009	E-01
BOOV 90	13	(1)	^{90}Sr	<1.478	E-01
			^{99}Tc	<2.9	E-01
			Gamma Scan:		
			^{40}K	(1.716 ± 0.429)	E+01
			^{137}Cs	<2.666	E-01
			^{226}Ra	(4.756 ± 4.683)	E-01
			^{228}Th	<3.190	E-01
			^{232}Th	<1.248	E+00
BOOV 91	14	(1)	^{90}Sr	<1.538	E-01
			^{99}Tc	<2.2	E-01
			Gamma Scan:		
			^{40}K	(2.521 ± 0.367)	E+01
			^{137}Cs	<1.690	E-01
			^{226}Ra	<3.284	E-01
			^{228}Th	<2.402	E-01
			^{232}Th	<7.303	E-01
BOO9 B9	15	6/4/91	^{90}Sr	<1.465	E-01
			^{99}Tc	(2.2 ± 1.4)	E-01
			Gamma Scan:		
			^{40}K	(1.300 ± 0.219)	E+01
			^{137}Cs	<1.169	E-01
			^{226}Ra	<2.777	E-01
			^{228}Th	<2.026	E-01
			^{232}Th	<5.905	E-01

ck
6-2-94

ATTACHMENT 1 DATA TABLE (cont'd, page four)

Customer I.D.	TMA/Norcal Group No. 9504	Collection Date	Analysis	Results pCi/L ± 2 σ	
B009 CO	16	6/4/91	^{90}Sr	<1.641	E-01
			^{99}Tc	<2.1	E-01
			Gamma Scan:		
			^{40}K	(1.499 ± 0.275)	E+01
			^{137}Cs	<1.974	E-01
			^{226}Ra	<3.248	E-01
			^{228}Th	<3.060	E-01
			^{232}Th	<8.522	E-01

(1) Chain-of-Custody does not have date of collection.

9613451.1105

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P.O. Box 4040
Richmond, CA 94804-0040

(415) 235-2633 Fax No. (415) 235-0438

FEB 1992
RECEIVED
OSM DMO

REVISED REPORT
SENT BY FEDERAL EXPRESS

February 21, 1992

Ref: TMA/Norcal N1-11-125-9564

Mr. John Bourgeault
Westinghouse Hanford Company
2355 Stevens Drive
Richland, WA 99352

Dear Mr. Bourgeault:

The concentration of uranium isotopes for the asparagus samples we received 14 November 1991 are reported. This report replaces the report of 3 January 1991 where we reported less than values. The report is sent to you in its entirety for the sake of continuity.

Please call if you have any questions concerning this data.

Sincerely,

D. P. Kharkar

Dinkar P. Kharkar, Ph.D.
Manager, Nuclear Programs

Enclosures: Attachments 1, 2, and 3
Data Sheets

ATTACHMENT 1 DATA TABLE

Collection date: 8/16/91

Customer I.D.	TMA/Norcal Group No. 9564	Collection Date	Analysis	Results pCi/g ± 2 σ
B009B9	1	6/4/91	^{234}U	(2.3 ± 0.8 E-01
			^{235}U	(0 ± 3) E-02
			^{238}U	(4.5 ± 0.3) E-02
B009C0	2	6/4/91	^{234}U	(8.4 ± 5.1) E-02
			^{235}U	(-1 ± 2) E-02
			^{238}U	(9.7 ± 4.3) E-02

9613451.1107

OSM INORGANIC DATA ASSESSMENT

DATE 11/5/91

REVIEWED BY JA Lerch

LABORATORY TMA

CASE # N106116

SDG # BLANKA

SAMPLES/MATRIX B009B9 B00V81 B00V86 B00V91
B009C0 B00V82 B00V87
B00V78 B00V83 B00V88
B00V79 B00V84 B00V89
B00V80 B00V85 B00V90
-all asparagus

DATA ASSESSMENT SUMMARY

	ICP	AA	Hg	CN
1. Calibrations (Form II)	O	O	O	NR
2. Blanks (III)	X	O	O	
3. ICS (IV)	X			
4. Matrix Spike (V)	O	M	O	
5. Duplicate Analysis (VI)	X	O	O	
6. LCS (VII)	O	O		
7. Serial Dilution (IX)	O			
8. GFAA		X		
9. Holding Times (XIV)	O	O	X	
10. Other QC	see attachment			

O = data had no problems
X = data qualified due to minor problems
M = data qualified due to major problems/some data may be unusable

OVERALL ASSESSSMENT: Tl results unusable due to very low spike recovery - all other results acceptable w/attached qualifiers

NOTES: CN not requested & Delivery group contains 300-FF-1 & 100-HR-3 samples (see "Other QC")

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

9613451.1108

INORGANIC QC - Calibrations

Name JA Lerch Date 11/5/91

COMMENTS: -all ICV + CCV % recoveries within limits for ICP, GFAA metals and Hg
- analytical sequence ok
- Hg correlation ok

ACTION: none

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

INORGANIC QC - Blanks

Name JA Lerch Date 11/5/91

COMMENTS: Al, Sb, Be, Cd, Ca, Co, Mg, Zn, Na, Ba detected in blanks at levels <CRDL

ACTION: qualify associated results as per OSM guidelines

sample #	constituent	value/qual
~~B00G39~~		
All	Al, Ba, Na, Zn	U
- with the following exceptions		
B00V79	Al	acceptable
B00V80	Al	acceptable
	~~Ba~~	~~tl~~
	Na	acceptable
B00V83	Cd	U
B00V90	Be	U

sample #	constituent	value/qual

INORGANIC QC - ICS

Name JA Lerch Date 11/5/91

COMMENTS: -all ICS solution recoveries within limits
- false positives may exist for Na

ACTION: qualify associated results as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
all	Na	acceptable			
-with the following exception					
B00V80	Na	355.0 J			

INORGANIC QC - Matrix Spike

Name JA Lerch Date 11/5/91

COMMENTS: B00V78S – all ICP spike recoveries within control limits; As, Tl recoveries low, all other GFAA Zr ok; Hg recovery ok

ACTION: qualify associated results as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
all	As	UJ			
	Tl	R			

INORGANIC QC - Duplicate Analysis

Name JA Lerch Date 11/5/91

COMMENTS: B00V78D – Fe dup RPD high; all other RPD's within applicable control limits

ACTION: qualify associated data as per BSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
all	Fe	J			

INORGANIC QC - LCS

Name JA Lerch Date 11/5/91

COMMENTS: all aqueous + all solid LCS results within control limits

ACTION: none

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

INORGANIC QC - Serial Dilution

Name JA Lerch Date 11/5/91

COMMENTS: BLANKWL - all dilution %D within applicable limits
B00V78L - all dilution %D within control limits

ACTION: none

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

INORGANIC QC - Holding Times

Name JA Lerch Date 11/5/91

COMMENTS: All ICP & GFAA holding time reqs met; all samples exceeded the 28 day Hg holding time criteria established for water samples - effect on asparagus unknown

ACTION: qualify associated results as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
all	Hg	UJ			

INORGANIC QC - GFAA

Name JA Lerch Date 11/5/91

COMMENTS: - no MSA required or performed
- GFAA analytical sequence ok
- analytical spikes outside limits for As, Tl, Se, Pb on sev samples (see below)

ACTION: qualify associated results as per OSM guidelines

sample #	constituent	value/qual
B009B9	Pb	J
	Se	UJ
	Tl	UJ
B009C0	Tl	UJ
	Se	UJ
B00878	As, Tl	UJ
	Pb	J
B00V79	As, Tl, Se	UJ
	Pb	J
B00V80	As, Se, Tl	UJ
	Pb	J
B00V81	As, Se, Tl	UJ
	Pb	J
B00V82	As, Se, Tl	UJ
	Pb	J
B00V83	As, Tl	UJ
	Pb	J
B00V84	As, Se, Tl	UJ
	Pb	J
B00V85	As, Tl	UJ
	Pb	J
B00V86	As, Se, Tl	UJ
	Pb	J
B00V87	As, Se, Tl	UJ
	Pb	J
B00V88	As, Tl	UJ
	Pb	J
B00V89	As, Se, Tl	UJ
B00V90	As, Se, Tl	UJ
	Pb	J
B00V91	As, Tl	UJ
	Pb	J

note: all Tl results previously qualified as unusable (R) - overrides estimated (UJ) qualification

INORGANIC QC - other

Name JA Lerch Date 11/5/91

COMMENTS: delivery group contains samples from 100-HR-3 and 300-FF-1 projects (B009B9, B009C0 300FF-1; all others HR-3) -only those samples associated with each project reported to EEG

ACTION:

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

9613451.1118

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

BLANKA

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-17S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 95.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	235.00	U		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	4.00	~~U~~	NW UJ	F
7440-39-3	Barium	4.60	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	4150.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	13.70			P
7439-89-6	Iron	118.00	J	*	P
7439-92-1	Lead	0.33	B		F
7439-95-4	Magnesium	1900.00			P
7439-96-5	Manganese	29.60			P
7439-97-6	Mercury	0.09	UJ		CV
7440-02-0	Nickel	4.20	B		P
7440-09-7	Potassium	37900.00			P
7782-49-2	Selenium	4.00	U		F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	558.00	~~B~~ J		P
7440-28-0	Thallium	0.60	~~U~~	NW R	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	72.90			P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS
ASPARAGUS BLANK

000002

9613451.1119

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

BLANKW

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): WATER Lab Sample ID: 07045-18S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	27.00	U		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	4.00	~~N~~	UJ	F
7440-39-3	Barium	2.30	~~B~~	U	P
7440-41-7	Beryllium	1.30	~~B~~	U	P
7440-43-9	Cadmium	3.00	U		P
7440-70-2	Calcium	464.00	B		P
7440-47-3	Chromium	7.00	U		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	11.00	U		P
7439-89-6	Iron	18.00	UJ		P
7439-92-1	Lead	1.00	U		F
7439-95-4	Magnesium	46.50	~~B~~	U	P
7439-96-5	Manganese	9.00	U		P
7439-97-6	Mercury	0.20	UJ		CV
7440-02-0	Nickel	6.00	U		P
7440-09-7	Potassium	251.00	U		P
7782-49-2	Selenium	4.00	U		F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	1350.00	~~B~~	J	P
7440-28-0	Thallium	3.00	~~N~~	W R	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	12.60	~~B~~	U	P
	Cyanide				NR

11/6/91

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

WATER BLANK

000003

9613451.1120

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B00989

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-09-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-15S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.9

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18.70	~~R~~	U	P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.78	~~N~~	N UJ	F
7440-39-3	Barium	5.90	~~R~~	U	P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	3010.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	6.00			P
7439-89-6	Iron	55.40	J	*	P
7439-92-1	Lead	0.37	~~R~~	W J	F
7439-95-4	Magnesium	1160.00			P
7439-96-5	Manganese	14.90			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	19500.00			P
7782-49-2	Selenium	0.78	UJ	MW	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	113.00	~~R~~	U	P
7440-28-0	Thallium	0.59	~~N~~	NW R	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	33.50	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000004

9613451.1121

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

8009C0

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-09-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-16S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 95.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	21.30	~~B~~	U	P
7440-36-0	Antimony	3.30	U		P
7440-38-2	Arsenic	0.79	UJ	N	F
7440-39-3	Barium	7.90	~~B~~	U	P
7440-41-7	Beryllium	0.19	U		P
7440-43-9	Cadmium	0.58	U		P
7440-70-2	Calcium	3290.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.78	U		P
7440-50-8	Copper	5.10			P
7439-89-6	Iron	54.60	J	*	P
7439-92-1	Lead	0.28	B		F
7439-95-4	Magnesium	1110.00			P
7439-96-5	Manganese	12.50			P
7439-97-6	Mercury	0.09	UJ		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	17400.00			P
7782-49-2	Selenium	0.79	UJ	W	F
7440-22-4	Silver	0.78	U		P
7440-23-5	Sodium	85.90	~~B~~	U	P
7440-28-0	Thallium	2.90	~~U~~	NW R	F
7440-62-2	Vanadium	0.58	U		P
7440-66-6	Zinc	28.60	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000005

FORM I - IN

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V78

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-01S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	49.00	U		P
7440-36-0	Antimony	3.60	U		P
7440-38-2	Arsenic	0.84	UJ	NW	F
7440-39-3	Barium	3.50	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	1360.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.84	U		P
7440-50-8	Copper	9.00			P
7439-89-6	Iron	112.00	J	*	P
7439-92-1	Lead	0.38	~~B~~	W	F
7439-95-4	Magnesium	1180.00			P
7439-96-5	Manganese	11.40			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.50	B		P
7440-09-7	Potassium	25900.00			P
7782-49-2	Selenium	0.84	U	W	F
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium	162.00	~~B~~ U		P
7440-28-0	Thallium	3.10	~~U~~	NW R	F
7440-62-2	Vanadium	0.63	U		P
7440-66-6	Zinc	50.30	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000013

9613451.1123

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

800V79

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-02S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 93.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5.60	U		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.83	UJ	NW	F
7440-39-3	Barium	3.00	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	1320.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	7.70			P
7439-89-6	Iron	37.20	J	*	P
7439-92-1	Lead	0.23	~~B~~	W J	F
7439-95-4	Magnesium	1160.00			P
7439-96-5	Manganese	9.90			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.70	B		P
7440-09-7	Potassium	22200.00			P
7782-49-2	Selenium	0.83	UJ	W	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	104.00	~~B~~ U		P
7440-28-0	Thallium	3.10	~~N~~	NW R	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	45.80	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000007

9613451.1124

WP - FINCHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 800V80

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINEP Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-03S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 93.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5.80	U		P
7440-36-0	Antimony	3.70	U		P
7440-38-2	Arsenic	0.80	~~N~~	NW W	F
7440-39-3	Barium	2.30	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.64	U		P
7440-70-2	Calcium	1050.00	B		P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.86	U		P
7440-50-8	Copper	8.10			P
7439-89-6	Iron	32.20	J	*	P
7439-92-1	Lead	0.28	~~B~~	W J	F
7439-95-4	Magnesium	812.00	B		P
7439-96-5	Manganese	7.70			P
7439-97-6	Mercury	0.10	U J		CV
7440-02-0	Nickel	1.30	U		P
7440-09-7	Potassium	17200.00			P
7782-49-2	Selenium	0.80	U J	W	F
7440-22-4	Silver	0.86	U		P
7440-23-5	Sodium	355.00	~~B~~ J		P
7440-28-0	Thallium	0.60	~~N~~	NW R	F
7440-62-2	Vanadium	0.64	U		P
7440-66-6	Zinc	36.30	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000013

FORM I - IN

9613451.1125

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

800V81

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-04S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 92.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5.60	~~B~~	U	P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.85	UJ	NW	F
7440-39-3	Barium	1.90	~~B~~	U	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	1350.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.79	U		P
7440-50-8	Copper	6.90			P
7439-89-6	Iron	27.30	J	*	P
7439-92-1	Lead	0.38	~~B~~	W J	F
7439-95-4	Magnesium	1020.00			P
7439-96-5	Manganese	7.70			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.20	B		P
7440-09-7	Potassium	23800.00			P
7782-49-2	Selenium	0.85	UJ	MW	F
7440-22-4	Silver	0.79	U		P
7440-23-5	Sodium	91.50	~~B~~	U	P
7440-28-0	Thallium	3.20	~~N~~	NW R	F
7440-62-2	Vanadium	0.60	U		P
7440-66-6	Zinc	40.30	U		P
	Cyanide				NP

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000019

FORM I - IN

9613451.1126

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B00V82

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-05S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.0

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	24.70	~~B~~	U	P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.83	UJ	NW	F
7440-39-3	Barium	4.80	~~B~~	U	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.61	U		P
7440-70-2	Calcium	1620.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.82	U		P
7440-50-8	Copper	8.70			P
7439-89-6	Iron	68.10	J	*	P
7439-92-1	Lead	0.29	~~B~~ J	W	F
7439-95-4	Magnesium	1140.00			P
7439-96-5	Manganese	12.20			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	21900.00			P
7782-49-2	Selenium	0.83	UJ	W	F
7440-22-4	Silver	0.82	U		P
7440-23-5	Sodium	95.10	~~B~~	U	P
7440-28-0	Thallium	3.10	~~U~~	NW R	F
7440-62-2	Vanadium	0.76	B		P
7440-66-6	Zinc	40.60	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

0000.0

FORM I - IN

9613451.1127

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 800V83

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-06S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 92.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	27.30	~~B~~	U	P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.81	UJ	NW	F
7440-39-3	Barium	2.20	~~B~~	U	P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	~~B~~	U	P
7440-70-2	Calcium	925.00	B		P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.84	U		P
7440-50-8	Copper	6.60			P
7439-89-6	Iron	85.00	J	*	P
7439-92-1	Lead	0.62	J	MW	F
7439-95-4	Magnesium	1310.00			P
7439-96-5	Manganese	9.70			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	2.70	B		P
7440-09-7	Potassium	24900.00			P
7782-49-2	Selenium	0.81	U		F
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium	161.00	~~B~~	U	P
7440-28-0	Thallium	0.61	~~N~~	NW R	F
7440-62-2	Vanadium	0.63	U		P
7440-66-6	Zinc	50.30	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

0009:1

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 800V84

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-07S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 93.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.90	~~B~~ U		P
7440-36-0	Antimony	3.60	U		P
7440-38-2	Arsenic	4.00	U J	NW	F
7440-39-3	Barium	1.90	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	1330.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.85	U		P
7440-50-8	Copper	5.20	B		P
7439-89-6	Iron	55.20	J	*	P
7439-92-1	Lead	0.35	~~B~~	MW J	F
7439-95-4	Magnesium	1210.00			P
7439-96-5	Manganese	10.20			P
7439-97-6	Mercury	0.10	U J		CV
7440-02-0	Nickel	1.60	B		P
7440-09-7	Potassium	25400.00			P
7782-49-2	Selenium	0.79	U J	MW	F
7440-22-4	Silver	0.85	U		P
7440-23-5	Sodium	122.00	~~B~~ U		P
7440-28-0	Thallium	3.00	~~U~~	NW R	F
7440-62-2	Vanadium	0.63	U		P
7440-66-6	Zinc	43.00	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

9613451.1129

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V85

Lab Name: SKINNER & SHERMAN LABS Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-088

Level (low/med): LOW Date Received: 07/05/91

% Solids: 95.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	143.00	U		P
7440-36-0	Antimony	3.60	U		P
7440-38-2	Arsenic	4.20	UJ	NW	F
7440-39-3	Barium	6.00	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	1570.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.84	U		P
7440-50-8	Copper	5.50			P
7439-89-6	Iron	294.00	J	*	P
7439-92-1	Lead	0.80	J	W	F
7439-95-4	Magnesium	1260.00			P
7439-96-5	Manganese	15.20			P
7439-97-6	Mercury	0.09	UJ		CV
7440-02-0	Nickel	1.40	B		P
7440-09-7	Potassium	23200.00			P
7782-49-2	Selenium	4.30	U		F
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium	194.00	~~B~~ U		P
7440-28-0	Thallium	3.10	~~U~~	NW R	F
7440-62-2	Vanadium	0.65	B		P
7440-66-6	Zinc	50.10	U		P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

0000J

FORM I - IN

9613451.1130

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

800V86

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-09S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	33.60	~~B~~	U	P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	4.00	UJ	NW	F
7440-39-3	Barium	3.90	~~B~~	U	P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	1580.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	5.10	B		P
7439-89-6	Iron	81.80	J	*	P
7439-92-1	Lead	0.41	~~B~~	W J	F
7439-95-4	Magnesium	1310.00			P
7439-96-5	Manganese	13.90			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	2.10	B		P
7440-09-7	Potassium	23900.00			P
7782-49-2	Selenium	0.80	UJ	W	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	145.00	~~B~~	U	P
7440-28-0	Thallium	3.00	~~U~~	NW R	F
7440-62-2	Vanadium	0.77	B		P
7440-66-6	Zinc	49.00	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000014

FORM I - IN

9613451.1131 WESTINGHOUSE HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V87

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-10S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 92.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18.60	~~B~~	U	P
7440-36-0	Antimony	3.70	U		P
7440-38-2	Arsenic	0.82	U J	NW	F
7440-39-3	Barium	2.10	~~B~~	U	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	0.64	U		P
7440-70-2	Calcium	1080.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.86	U		P
7440-50-8	Copper	6.30			P
7439-89-6	Iron	50.00	J	*	P
7439-92-1	Lead	0.34	~~B~~	W J	F
7439-95-4	Magnesium	1030.00	B		P
7439-96-5	Manganese	11.00			P
7439-97-6	Mercury	0.09	U J		CV
7440-02-0	Nickel	1.30	U		P
7440-09-7	Potassium	22700.00			P
7782-49-2	Selenium	0.82	U J	MW	F
7440-22-4	Silver	0.86	U		P
7440-23-5	Sodium	102.00	~~B~~	U	P
7440-28-0	Thallium	3.10	~~N~~	NW R	F
7440-62-2	Vanadium	0.80	B		P
7440-66-6	Zinc	39.00	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000015

FORM I - IN 7/89

9613451.1132 WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 300V28

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-09-0088

Lab Code: SKINEP Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-11S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	35.70	~~B~~	U	P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.84	U J	NW	F
7440-39-3	Barium	5.60	~~B~~	U	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	1550.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.79	U		P
7440-50-8	Copper	5.50			P
7439-89-6	Iron	65.40	J	*	P
7439-92-1	Lead	0.40	~~B~~	W J	F
7439-95-4	Magnesium	984.00	B		P
7439-96-5	Manganese	8.80			P
7439-97-6	Mercury	0.09	U J		CV
7440-02-0	Nickel	1.30	B		P
7440-09-7	Potassium	20300.00			P
7782-49-2	Selenium	0.84	U		F
7440-22-4	Silver	0.79	U		P
7440-23-5	Sodium	116.00	~~B~~	U	P
7440-28-0	Thallium	0.63	~~N~~	NW R	F
7440-62-2	Vanadium	0.60	U		P
7440-66-6	Zinc	41.70	U		P
	Cyanide				NR

J 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

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1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V39

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-12S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.10	~~B~~ U		P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.85	U J	NW	F
7440-39-3	Barium	2.90	~~B~~ U		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.59	U		P
7440-70-2	Calcium	1050.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.79	U		P
7440-50-8	Copper	6.00			P
7439-89-6	Iron	64.80	J	*	P
7439-92-1	Lead	0.40	B		F
7439-95-4	Magnesium	1010.00			P
7439-96-5	Manganese	3.80			P
7439-97-6	Mercury	0.09	U J		CV
7440-02-0	Nickel	1.20	B		P
7440-09-7	Potassium	19500.00			P
7782-49-2	Selenium	0.85	U J	W	F
7440-22-4	Silver	0.79	U		P
7440-23-5	Sodium	168.00	~~B~~ U		P
7440-28-0	Thallium	0.64	~~N~~	NW R	F
7440-62-2	Vanadium	0.59	U		P
7440-66-6	Zinc	43.90	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

9613451.1134

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V90

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0023

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-13S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.60	~~B~~	U	P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.83	U J	NW	F
7440-39-3	Barium	4.80	~~B~~	U	P
7440-41-7	Beryllium	0.25	~~B~~	U	P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	2040.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.80	U		P
7440-50-8	Copper	5.90			P
7439-89-6	Iron	50.60	J	*	P
7439-92-1	Lead	0.42	~~B~~	W J	F
7439-95-4	Magnesium	976.00	B		P
7439-96-5	Manganese	9.50			P
7439-97-6	Mercury	0.10	U J		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	20600.00			P
7782-49-2	Selenium	0.83	U J	W	F
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	141.00	~~B~~	U	P
7440-28-0	Thallium	0.62	~~U~~	NW R	F
7440-62-2	Vanadium	0.60	U		P
7440-66-6	Zinc	32.40	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

00003

FORM I - IN

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 800V91

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-14S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 88.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.00	~~B~~	U	P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.90	U	J NW	F
7440-39-3	Barium	1.70	~~B~~	U	P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	1880.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	7.20			P
7439-89-6	Iron	40.40	J	*	P
7439-92-1	Lead	0.64	~~B~~	W J	F
7439-95-4	Magnesium	1120.00			P
7439-96-5	Manganese	17.80			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	2.20	B		P
7440-09-7	Potassium	25900.00			P
7782-49-2	Selenium	4.50	U		F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	106.00	~~B~~	U	P
7440-28-0	Thallium	0.67	~~B~~	NW R	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	39.50	U		P
	Cyanide				NR

JJ 1/6/92

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000013

CASE NARRATIVE

The asparagus sample was dried at 110°C for a day. The ash was pulverized and packed in appropriate geometry for Ge(Li) count.

An aliquot of the dry asparagus was analyzed for ^{90}Sr and ^{99}Tc. The results are reported pCi/gram dry.

For the blank sample, the asparagus was purchased from a supermarket and treated the same way as the sample.

9613451.1137

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B009B9

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-15S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.9

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18.70	B		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.78	U	N	F
7440-39-3	Barium	5.90	B		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	3010.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	6.00			P
7439-89-6	Iron	55.40		*	P
7439-92-1	Lead	0.37	B	W	F
7439-95-4	Magnesium	1160.00			P
7439-96-5	Manganese	14.90			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	19500.00			P
7782-49-2	Selenium	0.78	U	MW	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	113.00	B		P
7440-28-0	Thallium	0.59	U	NW	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	33.50			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000004

FORM I - IN 7/88

04

9613451.1138

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B009C0

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-16S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 95.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	21.30	B		P
7440-36-0	Antimony	3.30	U		P
7440-38-2	Arsenic	0.79	U	N	F
7440-39-3	Barium	7.90	B		P
7440-41-7	Beryllium	0.19	U		P
7440-43-9	Cadmium	0.58	U		P
7440-70-2	Calcium	3290.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.78	U		P
7440-50-8	Copper	5.10			P
7439-89-6	Iron	54.60		*	P
7439-92-1	Lead	0.28	B		F
7439-95-4	Magnesium	1110.00			P
7439-96-5	Manganese	12.50			P
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	17400.00			P
7782-49-2	Selenium	0.79	U	W	F
7440-22-4	Silver	0.78	U		P
7440-23-5	Sodium	85.90	B		P
7440-28-0	Thallium	2.90	U	NW	F
7440-62-2	Vanadium	0.58	U		P
7440-66-6	Zinc	28.60			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000005

FORM I - IN 7/88

9613451.1139

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V78

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-01S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	49.00			P
7440-36-0	Antimony	3.60	U		P
7440-38-2	Arsenic	0.84	U	NW	F
7440-39-3	Barium	3.50	B		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	1360.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.84	U		P
7440-50-8	Copper	9.00			P
7439-89-6	Iron	112.00		*	P
7439-92-1	Lead	0.38	B	W	F
7439-95-4	Magnesium	1180.00			P
7439-96-5	Manganese	11.40			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.50	B		P
7440-09-7	Potassium	25900.00			P
7782-49-2	Selenium	0.84	U	W	F
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium	162.00	B		P
7440-28-0	Thallium	3.10	U	NW	F
7440-62-2	Vanadium	0.63	U		P
7440-66-6	Zinc	50.30			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000016

FORM I - IN 7/88

9613451.1140

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V79

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-02S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 93.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5.60	U		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.83	U	NW	F
7440-39-3	Barium	3.00	B		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	1320.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	7.70			P
7439-89-6	Iron	37.20		*	P
7439-92-1	Lead	0.23	B	W	F
7439-95-4	Magnesium	1160.00			P
7439-96-5	Manganese	9.90			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.70	B		P
7440-09-7	Potassium	22200.00			P
7782-49-2	Selenium	0.83	U	W	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	104.00	B		P
7440-28-0	Thallium	3.10	U	NW	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	45.80			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000017

FORM I - IN 7/88

9613451.1141

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V80

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-03S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 93.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5.80	U		P
7440-36-0	Antimony	3.70	U		P
7440-38-2	Arsenic	0.80	U	NW	F
7440-39-3	Barium	2.30	B		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.64	U		P
7440-70-2	Calcium	1050.00	B		P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.86	U		P
7440-50-8	Copper	8.10			P
7439-89-6	Iron	32.20		*	P
7439-92-1	Lead	0.28	B	W	F
7439-95-4	Magnesium	812.00	B		P
7439-96-5	Manganese	7.70			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.30	U		P
7440-09-7	Potassium	17200.00			P
7782-49-2	Selenium	0.80	U	W	F
7440-22-4	Silver	0.86	U		P
7440-23-5	Sodium	355.00	B		P
7440-28-0	Thallium	0.60	U	NW	F
7440-62-2	Vanadium	0.64	U		P
7440-66-6	Zinc	36.30			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000008

FORM I - IN 7/88

9613451.1142

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V81

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-04S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 92.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5.60	B		P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.85	U	NW	F
7440-39-3	Barium	1.90	B		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	1350.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.79	U		P
7440-50-8	Copper	6.90			P
7439-89-6	Iron	27.30		*	P
7439-92-1	Lead	0.38	B	W	F
7439-95-4	Magnesium	1020.00			P
7439-96-5	Manganese	7.70			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.20	B		P
7440-09-7	Potassium	23800.00			P
7782-49-2	Selenium	0.85	U	MW	F
7440-22-4	Silver	0.79	U		P
7440-23-5	Sodium	91.50	B		P
7440-28-0	Thallium	3.20	U	NW	F
7440-62-2	Vanadium	0.60	U		P
7440-66-6	Zinc	40.30			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000009

FORM I - IN 7/88

9613451.1143

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 800V82

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-05S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.0

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	24.70	B		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.83	U	NW	F
7440-39-3	Barium	4.80	B		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.61	U		P
7440-70-2	Calcium	1620.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.82	U		P
7440-50-8	Copper	8.70			P
7439-89-6	Iron	68.10		*	P
7439-92-1	Lead	0.29	B	W	F
7439-95-4	Magnesium	1140.00			P
7439-96-5	Manganese	12.20			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	21900.00			P
7782-49-2	Selenium	0.83	U	W	F
7440-22-4	Silver	0.82	U		P
7440-23-5	Sodium	95.10	B		P
7440-28-0	Thallium	3.10	U	NW	F
7440-62-2	Vanadium	0.76	B		P
7440-66-6	Zinc	40.60			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

0000.0

FORM I - IN 7/88

10 10

9613451.1144

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V83

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-06S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 92.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	27.30	B		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.81	U	NW	F
7440-39-3	Barium	2.20	B		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	B		P
7440-70-2	Calcium	925.00	B		P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.84	U		P
7440-50-8	Copper	6.60			P
7439-89-6	Iron	85.00		*	P
7439-92-1	Lead	0.62		MW	F
7439-95-4	Magnesium	1310.00			P
7439-96-5	Manganese	9.70			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.70	B		P
7440-09-7	Potassium	24900.00			P
7782-49-2	Selenium	0.81	U		F
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium	161.00	B		P
7440-28-0	Thallium	0.61	U	NW	F
7440-62-2	Vanadium	0.63	U		P
7440-66-6	Zinc	50.30			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000011

FORM I - IN 7/88

9613451.1145

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B00V84

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-07S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 93.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.90	B		P
7440-36-0	Antimony	3.60	U		P
7440-38-2	Arsenic	4.00	U	NW	F
7440-39-3	Barium	1.90	B		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	1330.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.85	U		P
7440-50-8	Copper	5.20	B		P
7439-89-6	Iron	55.20		*	P
7439-92-1	Lead	0.35	B	MW	F
7439-95-4	Magnesium	1210.00			P
7439-96-5	Manganese	10.20			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.60	B		P
7440-09-7	Potassium	25400.00			P
7782-49-2	Selenium	0.79	U	MW	F
7440-22-4	Silver	0.85	U		P
7440-23-5	Sodium	122.00	B		P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	0.63	U		P
7440-66-6	Zinc	43.00			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000012

FORM I - IN 7/88

9613451.1146

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V85

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-08S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 95.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	143.00			P
7440-36-0	Antimony	3.60	U		P
7440-38-2	Arsenic	4.20	U	NW	F
7440-39-3	Barium	6.00	B		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	1570.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.84	U		P
7440-50-8	Copper	5.50			P
7439-89-6	Iron	294.00		*	P
7439-92-1	Lead	0.80		W	F
7439-95-4	Magnesium	1260.00			P
7439-96-5	Manganese	15.20			P
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel	1.40	B		P
7440-09-7	Potassium	23200.00			P
7782-49-2	Selenium	4.20	U		F
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium	194.00	B		P
7440-28-0	Thallium	3.10	U	NW	F
7440-62-2	Vanadium	0.65	B		P
7440-66-6	Zinc	50.10			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000013

FORM I - IN 7/88

9613451.1147

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V86

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-09S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	33.60	B		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	4.00	U	NW	F
7440-39-3	Barium	3.90	B		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	1580.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	5.10	B		P
7439-89-6	Iron	81.80		*	P
7439-92-1	Lead	0.41	B	W	F
7439-95-4	Magnesium	1310.00			P
7439-96-5	Manganese	13.90			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.10	B		P
7440-09-7	Potassium	23900.00			P
7782-49-2	Selenium	0.80	U	W	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	145.00	B		P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	0.77	B		P
7440-66-6	Zinc	49.00			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000014

FORM I - IN 7/88

9613451.1148

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V87

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-10S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 92.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18.60	B		P
7440-36-0	Antimony	3.70	U		P
7440-38-2	Arsenic	0.82	U	NW	F
7440-39-3	Barium	2.10	B		P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	0.64	U		P
7440-70-2	Calcium	1080.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.86	U		P
7440-50-8	Copper	6.30			P
7439-89-6	Iron	50.00		*	P
7439-92-1	Lead	0.34	B	W	F
7439-95-4	Magnesium	1030.00	B		P
7439-96-5	Manganese	11.00			P
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel	1.30	U		P
7440-09-7	Potassium	22700.00			P
7782-49-2	Selenium	0.82	U	MW	F
7440-22-4	Silver	0.86	U		P
7440-23-5	Sodium	102.00	B		P
7440-28-0	Thallium	3.10	U	NW	F
7440-62-2	Vanadium	0.80	B		P
7440-66-6	Zinc	39.00			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

OC0015

FORM I - IN 7/88

9613451.1149

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V88

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-11S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	35.70	B		P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.84	U	NW	F
7440-39-3	Barium	5.60	B		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	1550.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.79	U		P
7440-50-8	Copper	5.50			P
7439-89-6	Iron	65.40		*	P
7439-92-1	Lead	0.40	B	W	F
7439-95-4	Magnesium	984.00	B		P
7439-96-5	Manganese	8.80			P
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel	1.30	B		P
7440-09-7	Potassium	20300.00			P
7782-49-2	Selenium	0.84	U		F
7440-22-4	Silver	0.79	U		P
7440-23-5	Sodium	116.00	B		P
7440-28-0	Thallium	0.63	U	NW	F
7440-62-2	Vanadium	0.60	U		P
7440-66-6	Zinc	41.70			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

OC0016

FORM I - IN 7/88

9613451.1150

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V89

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-12S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.10	B		P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.85	U	NW	F
7440-39-3	Barium	2.90	B		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.59	U		P
7440-70-2	Calcium	1050.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.79	U		P
7440-50-8	Copper	6.00			P
7439-89-6	Iron	64.80		*	P
7439-92-1	Lead	0.40	B		F
7439-95-4	Magnesium	1010.00			P
7439-96-5	Manganese	8.80			P
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel	1.20	B		P
7440-09-7	Potassium	19500.00			P
7782-49-2	Selenium	0.85	U	W	F
7440-22-4	Silver	0.79	U		P
7440-23-5	Sodium	168.00	B		P
7440-28-0	Thallium	0.64	U	NW	F
7440-62-2	Vanadium	0.59	U		P
7440-66-6	Zinc	43.90			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000017

FORM I - IN 7/88

17

17

9613451.1151

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V90

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-13S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.60	B		P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.83	U	NW	F
7440-39-3	Barium	4.80	B		P
7440-41-7	Beryllium	0.25	B		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	2040.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.80	U		P
7440-50-8	Copper	5.90			P
7439-89-6	Iron	50.60		*	P
7439-92-1	Lead	0.42	B	W	F
7439-95-4	Magnesium	976.00	B		P
7439-96-5	Manganese	9.50			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	20600.00			P
7782-49-2	Selenium	0.83	U	W	F
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	141.00	B		P
7440-28-0	Thallium	0.62	U	NW	F
7440-62-2	Vanadium	0.60	U		P
7440-66-6	Zinc	32.40			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000018

FORM I - IN 7/88

9613451.1152

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V91

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-14S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 88.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.00	B		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.90	U	NW	F
7440-39-3	Barium	1.70	B		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	1880.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	7.20			P
7439-89-6	Iron	40.40		*	P
7439-92-1	Lead	0.64	B	W	F
7439-95-4	Magnesium	1120.00			P
7439-96-5	Manganese	17.80			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.20	B		P
7440-09-7	Potassium	25900.00			P
7782-49-2	Selenium	4.50	U		F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	106.00	B		P
7440-28-0	Thallium	0.67	U	NW	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	39.50			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

UC6019

FORM I - IN 7/88

Westinghouse Hanford Company 9613451.1153

CHAIN OF CUSTODY

Custody Form Initiator: C.E. Heiden

Company Contact: Chris Kemp — Telephone: 376-1630

Project Designation/Sampling Locations: 100-HR-3 — Collection Date:

Project # 91-031

Ice Chest No. — Field Logbook No.

Bill of Lading/Airbill No. — Offsite Property No.

Method of Shipment:

Shipped to: TMA / NORCAL Richmond, CA

Possible Sample Hazards/Remarks: N/A

Sample Identification

B00V78
B00V79
B00V80
B00V81
B00V82
B00V83
B00V84
B00V85
B00V86
B00V87
} Asparagus

B00V88
B00V89
B00V90
B00V91
} Asparagus

NOTE: Enclosed samples are the total available quanity.

☐ Field Transfer of Custody

CHAIN OF POSSESSION (Sign and Print Names)		
Relinquished by: C.E. Heiden C.E. Heiden	Received by: C.S. McClellan C.S. McClellan 1976	Date/Time: 0935 6-4-91
Relinquished by: C.S. McClellan C.S. McClellan	Received by: Dot Honaker	Date/Time: 6-4-91 1300
Relinquished by: Dot Honaker	Received by: J.G. HOGAN J.G. Hogan	Date/Time: 6-6-91 / 1130
Relinquished by: J.G. HOGAN J.G. Hogan	Received by: Kermit Blum	Date/Time: 6-13-91 1330

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90)

44

9613451.1154

Battelle
Pacific Northwest Laboratories

CHAIN OF CUSTODY

CAB 030

Company Contact: Robert J Fellows Telephone: 375-2247

Samples Collected by: C. Brandt Date: 6/4/91 Time: 15:00

Sample Location: Rm 1416 LSL II

Ice Chest No.: Field Logbook Page No.:

Remarks: PROJECT # 91-041

Method of Shipment: WHC TRANSPORT / SML

Sample Identification

B009B9 - Ground Asparagus - (2) 88.77 gms.
B009C0 - " " (2) 50.06 gms

(TOTAL QUANITY AVAILABLE)

Chain of Possession

Relinquished by:	Received by:	Date/Time:
Robert J Fellows	[signature]	6/4/91 15:00
[signature]	R.J. Stuff	6-11-91 09:00
R.J. Stuff	Vida Johansen	6/11/91 0900
Vida Johansen	R.J. Stuff	6-12-91 10:22
R.J. Stuff	Kermit Blum	6-13-91 1330

PNL-MA-567, AD2

BC-1200-345 (02/90)

9613451.1155

OSM INORGANIC DATA ASSESSMENT

DATE 11/5/91

REVIEWED BY JA Lerch

LABORATORY TMA

CASE # N1061116

SDG # BLANKA

SAMPLES/MATRIX B009B9 B00V81 B00V86 B00V91
B009C0 B00V82 B00V87
B00V78 B00V83 B00V88
B00V79 B00V84 B00V89
B00V80 B00V85 B00V90
-all asparagus

DATA ASSESSMENT SUMMARY

	ICP	AA	Hg	CN
1. Calibrations (Form II)	O	O	O	NR
2. Blanks (III)	X	O	O	
3. ICS (IV)	X			
4. Matrix Spike (V)	O	M	O	
5. Duplicate Analysis (VI)	X	O	O	
6. LCS (VII)	O	O		
7. Serial Dilution (IX)	O			
8. GFAA		X		
9. Holding Times (XIV)	O	O	X	
10. Other QC	see attachment			

O = data had no problems
X = data qualified due to minor problems
M = data qualified due to major problems/some data may be unusable

OVERALL ASSESSSMENT: TL results unusable due to very low spike recovery - all other results acceptable w/attached qualifiers

NOTES: CN not requested & Delivery group contains 300-FF-1 & 100-HR-3 samples (see "Other QC")

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

9613451.1156

INORGANIC QC - Calibrations

Name JA Lerch Date 11/5/91

COMMENTS: -all ICV + CCV % recoveries within limits for ICP, GFAA metals and Hg
- analytical sequence ok
- Hg correlation ok

ACTION: none

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

INORGANIC QC - Blanks

Name JA Lerch Date 11/5/91

COMMENTS: Al, Sb, Be, Cd, Ca, Co, Mg, Zn, Na, Ba detected in blanks at levels <CRDL

ACTION: qualify associated results as per OSM guidelines

sample #	constituent	value/qual
~~B00989~~		
All	Al, Ba, Na, Zn	U
- with the following exceptions		
B00V79	Al	acceptable
B00V80	Al	acceptable
	~~Ba~~	~~U~~
	Na	acceptable
B00V83	Cd	U
B00V90	Be	U

sample #	constituent	value/qual

9613451.1158

INORGANIC QC - ICS

Name JA Lerch Date 11/5/91

COMMENTS: -all ICS solution recoveries within limits
- false positives may exist for Na

ACTION: qualify associated results as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
all	Na	acceptable			
-with the following exception					
B00V80	Na	355.0 J			

INORGANIC QC - Matrix Spike

Name JA Lerch Date 11/5/91

COMMENTS: B00V78S – all ICP spike recoveries within control limits; As, Tl recoveries low, all other GFAA Zn ok; Hg recovery ok

ACTION: qualify associated results as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
all	As	UJ			
	Tl	R			

INORGANIC QC - Duplicate Analysis

Name JA Lerch Date 11/5/91

COMMENTS: B00V78D – Fe dup RPD high; all other RPD's within applicable control limits

ACTION: qualify associated data as per BSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
all	Fe	J			

INORGANIC QC - LCS

Name JA Lerch Date 11/5/91

COMMENTS: all aqueous + all solid LCS results within control limits

ACTION: none

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

9613451.1162

INORGANIC QC - Serial Dilution

Name JA Lerch Date 11/5/91

COMMENTS: BLANKWL - all dilution %D within applicable limits
B00V78L - all dilution %D within control limits

ACTION: none

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

INORGANIC QC - Holding Times

Name JA Lerch Date 11/5/91

COMMENTS: All ICP & GFAA holding time reqs met; all samples exceeded the 28 day Hg holding time criteria established for water samples - effect on asparagus unknown

ACTION: qualify associated results as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
all	Hg	UJ			

INORGANIC QC - GFAA

Name JA Lerch Date 11/5/91

COMMENTS: - no MSA required or performed
- GFAA analytical sequence ok
- analytical spikes outside limits for As, Tl, Se, Pb on Sev samples (see below)

ACTION: qualify associated results as per OSM guidelines

sample #	constituent	value/qual
B009B9	Pb	J
	Se	UJ
	Tl	UJ
B009C0	Tl	UJ
	Se	UJ
B009T8	As, Tl	UJ
	Pb	J
B00V79	As, Tl, Se	UJ
	Pb	J
B00V80	As, Se, Tl	UJ
	Pb	J
B00V81	As, Se, Tl	UJ
	Pb	J
B00V82	As, Se, Tl	UJ
	Pb	J
B00V83	As, Tl	UJ
	Pb	J
B00V84	As, Se, Tl	UJ
	Pb	J
B00V85	As, Tl	UJ
	Pb	J
B00V86	As, Se, Tl	UJ
	Pb	J
B00V87	As, Se, Tl	UJ
	Pb	J
B00V88	As, Tl	UJ
	Pb	J
B00V89	As, Se, Tl	UJ
B00V90	As, Se, Tl	UJ
	Pb	J
B00V91	As, Tl	UJ
	Pb	J

note: all Tl results previously qualified as unusable (R) - overrides estimated (UJ) qualification

INORGANIC QC - other

Name JA Lerch Date 11/5/91

COMMENTS: delivery group contains samples from 100-HR-3 and 300-FF-1 projects (B009B9, B009C0 300FF-1 ; all others HR-3) -only those samples associated with each project reported to EEG

ACTION:

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

9613451.1166

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: BLANKA

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-17S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 95.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	235.00	U		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	4.00	~~N~~	NW UJ	F
7440-39-3	Barium	4.60	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	4150.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	13.70			P
7439-89-6	Iron	118.00	J	*	P
7439-92-1	Lead	0.33	B		F
7439-95-4	Magnesium	1900.00			P
7439-96-5	Manganese	29.60			P
7439-97-6	Mercury	0.09	UJ		CV
7440-02-0	Nickel	4.20	B		P
7440-09-7	Potassium	37900.00			P
7782-49-2	Selenium	4.00	U		F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	558.00	~~B~~ J		P
7440-28-0	Thallium	0.60	~~N~~	NW R	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	72.90			P
	Cyanide				NP

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS
ASPARAGUS BLANK

000202

9613451.1167

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: BLANKW

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): WATER Lab Sample ID: 07045-18S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	27.00	U		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	4.00	~~N~~	UJ	F
7440-39-3	Barium	2.30	~~B~~	U	P
7440-41-7	Beryllium	1.30	~~B~~	U	P
7440-43-9	Cadmium	3.00	U		P
7440-70-2	Calcium	464.00	B		P
7440-47-3	Chromium	7.00	U		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	11.00	U		P
7439-89-6	Iron	18.00	U	J	P
7439-92-1	Lead	1.00	U		F
7439-95-4	Magnesium	46.50	~~B~~	U	P
7439-96-5	Manganese	9.00	U		P
7439-97-6	Mercury	0.20	U	J	CV
7440-02-0	Nickel	6.00	U		P
7440-09-7	Potassium	251.00	U		P
7782-49-2	Selenium	4.00	U		F
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	1350.00	~~B~~	J	P
7440-28-0	Thallium	3.00	~~N~~	UJ R	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	12.60	~~B~~	U	P
	Cyanide				NR

11/6/91

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

WATER BLANK

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9613451.1168

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B00989

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-09-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-15S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.9

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18.70	~~B~~	U	P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.78	~~N~~	N UJ	F
7440-39-3	Barium	5.90	~~B~~	U	P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	3010.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	6.00			P
7439-89-6	Iron	55.40	J	*	P
7439-92-1	Lead	0.37	~~B~~	W J	F
7439-95-4	Magnesium	1160.00			P
7439-96-5	Manganese	14.90			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	19500.00			P
7782-49-2	Selenium	0.78	UJ	MW	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	113.00	~~B~~	U	P
7440-28-0	Thallium	0.59	~~N~~	NW R	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	33.50	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000004

FORM I - IN

9613451.1169

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B009C0

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-09-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-16S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 95.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	21.30	~~B~~	U	P
7440-36-0	Antimony	3.30	U		P
7440-38-2	Arsenic	0.79	UJ	N	F
7440-39-3	Barium	7.90	~~B~~	U	P
7440-41-7	Beryllium	0.19	U		P
7440-43-9	Cadmium	0.58	U		P
7440-70-2	Calcium	3290.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.78	U		P
7440-50-8	Copper	5.10			P
7439-89-6	Iron	54.60	J	*	P
7439-92-1	Lead	0.28	B		F
7439-95-4	Magnesium	1110.00			P
7439-96-5	Manganese	12.50			P
7439-97-6	Mercury	0.09	UJ		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	17400.00			P
7782-49-2	Selenium	0.79	UJ	W	F
7440-22-4	Silver	0.78	U		P
7440-23-5	Sodium	85.90	~~B~~	U	P
7440-28-0	Thallium	2.90	~~U~~	NW R	F
7440-62-2	Vanadium	0.58	U		P
7440-66-6	Zinc	28.60	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000005

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V78

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-01S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	49.00	U		P
7440-36-0	Antimony	3.60	U		P
7440-38-2	Arsenic	0.84	UJ	NW	F
7440-39-3	Barium	3.50	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	1360.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.84	U		P
7440-50-8	Copper	9.00			P
7439-89-6	Iron	112.00	J	*	P
7439-92-1	Lead	0.38	~~B~~	W J	F
7439-95-4	Magnesium	1180.00			P
7439-96-5	Manganese	11.40			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.50	B		P
7440-09-7	Potassium	25900.00			P
7782-49-2	Selenium	0.84	U	W	F
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium	162.00	~~B~~ U		P
7440-28-0	Thallium	3.10	~~U~~	NW R	F
7440-62-2	Vanadium	0.63	U		P
7440-66-6	Zinc	50.30	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000013

9613451.1171

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 800V79

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-02S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 93.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5.60	U		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.83	UJ	NW	F
7440-39-3	Barium	3.00	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	1320.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	7.70			P
7439-89-6	Iron	37.20	J	*	P
7439-92-1	Lead	0.23	~~B~~	W J	F
7439-95-4	Magnesium	1160.00			P
7439-96-5	Manganese	9.90			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.70	B		P
7440-09-7	Potassium	22200.00			P
7782-49-2	Selenium	0.83	UJ	W	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	104.00	~~B~~ U		P
7440-28-0	Thallium	3.10	~~N~~	NW R	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	45.80	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000007

9613451.1172

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B00V80

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-03S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 93.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5.80	U		P
7440-36-0	Antimony	3.70	U		P
7440-38-2	Arsenic	0.80	~~N~~	NW UJ	F
7440-39-3	Barium	2.30	~~B~~	U	P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.64	U		P
7440-70-2	Calcium	1050.00	B		P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.86	U		P
7440-50-8	Copper	8.10			P
7439-89-6	Iron	32.20	J	*	P
7439-92-1	Lead	0.28	~~B~~	W J	F
7439-95-4	Magnesium	812.00	B		P
7439-96-5	Manganese	7.70			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.30	U		P
7440-09-7	Potassium	17200.00			P
7782-49-2	Selenium	0.80	UJ	W	F
7440-22-4	Silver	0.86	U		P
7440-23-5	Sodium	355.00	~~B~~	J	P
7440-28-0	Thallium	0.60	~~N~~	NW R	F
7440-62-2	Vanadium	0.64	U		P
7440-66-6	Zinc	36.30	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000003

FORM I - IN

961345I.1173

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

800V81

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-04S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 92.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5.60	~~R~~	U	P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.85	UJ	NW	F
7440-39-3	Barium	1.90	~~R~~	U	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	1350.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.79	U		P
7440-50-8	Copper	6.90			P
7439-89-6	Iron	27.30	J	*	P
7439-92-1	Lead	0.38	~~R~~	W J	F
7439-95-4	Magnesium	1020.00			P
7439-96-5	Manganese	7.70			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.20	B		P
7440-09-7	Potassium	23800.00			P
7782-49-2	Selenium	0.85	UJ	MW	F
7440-22-4	Silver	0.79	U		P
7440-23-5	Sodium	91.50	~~R~~	U	P
7440-28-0	Thallium	3.20	~~R~~	NW R	F
7440-62-2	Vanadium	0.60	U		P
7440-66-6	Zinc	40.30	U		P
	Cyanide				NP

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000013

FORM I - IN

9613451.1174

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V82

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-05S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.0

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	24.70	~~B~~	U	P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.83	UJ	NW	F
7440-39-3	Barium	4.80	~~B~~	U	P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.61	U		P
7440-70-2	Calcium	1620.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.82	U		P
7440-50-8	Copper	8.70			P
7439-89-6	Iron	68.10	J	*	P
7439-92-1	Lead	0.29	~~B~~ J	W	F
7439-95-4	Magnesium	1140.00			P
7439-96-5	Manganese	12.20			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	21900.00			P
7782-49-2	Selenium	0.83	UJ	W	F
7440-22-4	Silver	0.82	U		P
7440-23-5	Sodium	95.10	~~B~~	U	P
7440-28-0	Thallium	3.10	~~U~~	NW R	F
7440-62-2	Vanadium	0.76	B		P
7440-66-6	Zinc	40.60	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

0000.0

9613451.1175

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V83

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-06S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 92.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	27.30	~~B~~	U	P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.81	U	J NW	F
7440-39-3	Barium	2.20	~~B~~	U	P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	~~B~~	U	P
7440-70-2	Calcium	925.00	B		P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.84	U		P
7440-50-8	Copper	6.60			P
7439-89-6	Iron	85.00	J	*	P
7439-92-1	Lead	0.62	J	MW	F
7439-95-4	Magnesium	1310.00			P
7439-96-5	Manganese	9.70			P
7439-97-6	Mercury	0.10	U	J	CV
7440-02-0	Nickel	2.70	B		P
7440-09-7	Potassium	24900.00			P
7782-49-2	Selenium	0.81	U		F
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium	161.00	~~B~~	U	P
7440-28-0	Thallium	0.61	~~N~~	NW R	F
7440-62-2	Vanadium	0.63	U		P
7440-66-6	Zinc	50.30	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

00001

FORM I - IN

9613451.1176

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 200V84

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-07S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 93.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.90	~~B~~ U		P
7440-36-0	Antimony	3.60	U		P
7440-38-2	Arsenic	4.00	U J	NW	F
7440-39-3	Barium	1.90	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	1330.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.85	U		P
7440-50-8	Copper	5.20	B		P
7439-89-6	Iron	55.20	J	*	P
7439-92-1	Lead	0.35	~~B~~	MW J	F
7439-95-4	Magnesium	1210.00			P
7439-96-5	Manganese	10.20			P
7439-97-6	Mercury	0.10	U J		CV
7440-02-0	Nickel	1.60	B		P
7440-09-7	Potassium	25400.00			P
7782-49-2	Selenium	0.79	U J	MW	F
7440-22-4	Silver	0.85	U		P
7440-23-5	Sodium	122.00	~~B~~ U		P
7440-28-0	Thallium	3.00	~~U~~	NW R	F
7440-62-2	Vanadium	0.63	U		P
7440-66-6	Zinc	43.00	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

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9613451.1177

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 800V95

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-08S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 95.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	143.00	U		P
7440-36-0	Antimony	3.60	U		P
7440-38-2	Arsenic	4.20	UJ	NW	F
7440-39-3	Barium	6.00	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.63	U		P
7440-70-2	Calcium	1570.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.84	U		P
7440-50-8	Copper	5.50			P
7439-89-6	Iron	294.00	J	*	P
7439-92-1	Lead	0.80	J	W	F
7439-95-4	Magnesium	1260.00			P
7439-96-5	Manganese	15.20			P
7439-97-6	Mercury	0.09	UJ		CV
7440-02-0	Nickel	1.40	B		P
7440-09-7	Potassium	23200.00			P
7782-49-2	Selenium	4.30	U		F
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium	194.00	~~B~~ U		P
7440-28-0	Thallium	3.10	~~N~~	NW R	F
7440-62-2	Vanadium	0.65	B		P
7440-66-6	Zinc	50.10	U		P
	Cyanide				NR

JH 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

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1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V86

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-09S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	33.60	~~B~~ U		P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	4.00	UJ	NW	F
7440-39-3	Barium	3.90	~~B~~ U		P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	1580.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	5.10	B		P
7439-89-6	Iron	81.80	J	*	P
7439-92-1	Lead	0.41	~~B~~	W J	F
7439-95-4	Magnesium	1310.00			P
7439-96-5	Manganese	13.90			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	2.10	B		P
7440-09-7	Potassium	23900.00			P
7782-49-2	Selenium	0.80	UJ	W	F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	145.00	~~B~~ U		P
7440-28-0	Thallium	3.00	~~U~~	NW R	F
7440-62-2	Vanadium	0.77	B		P
7440-66-6	Zinc	49.00	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

9613451.1179

WESTINGHOUSE HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 800V87

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-10S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 92.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18.60	~~R~~	U	P
7440-36-0	Antimony	3.70	U		P
7440-38-2	Arsenic	0.82	UJ	NW	F
7440-39-3	Barium	2.10	~~R~~	U	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	0.64	U		P
7440-70-2	Calcium	1080.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.86	U		P
7440-50-8	Copper	6.30			P
7439-89-6	Iron	50.00	J	*	P
7439-92-1	Lead	0.34	~~R~~	W J	F
7439-95-4	Magnesium	1030.00	B		P
7439-96-5	Manganese	11.00			P
7439-97-6	Mercury	0.09	UJ		CV
7440-02-0	Nickel	1.30	U		P
7440-09-7	Potassium	22700.00			P
7782-49-2	Selenium	0.82	UJ	MW	F
7440-22-4	Silver	0.86	U		P
7440-23-5	Sodium	102.00	~~R~~	U	P
7440-28-0	Thallium	3.10	~~R~~	NW R	F
7440-62-2	Vanadium	0.30	B		P
7440-66-6	Zinc	39.00	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

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FORM I - IN

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WP-FINDHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: 800V88

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-11S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	35.70	~~B~~ U		P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.84	U J	NW	F
7440-39-3	Barium	5.60	~~B~~ U		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	1550.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.79	U		P
7440-50-8	Copper	5.50			P
7439-89-6	Iron	65.40	J	*	P
7439-92-1	Lead	0.40	~~B~~	W J	F
7439-95-4	Magnesium	984.00	B		P
7439-96-5	Manganese	8.80			P
7439-97-6	Mercury	0.09	UJ		CV
7440-02-0	Nickel	1.30	B		P
7440-09-7	Potassium	20300.00			P
7782-49-2	Selenium	0.84	U		F
7440-22-4	Silver	0.79	U		P
7440-23-5	Sodium	116.00	~~B~~ U		P
7440-28-0	Thallium	0.63	~~B~~	NW R	F
7440-62-2	Vanadium	0.60	U		P
7440-66-6	Zinc	41.70	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

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FORM I - IN

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WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B00V39

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-12S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.10	~~B~~ U		P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.85	UJ	NW	F
7440-39-3	Barium	2.90	~~B~~ U		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.59	U		P
7440-70-2	Calcium	1050.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.79	U		P
7440-50-8	Copper	6.00			P
7439-89-6	Iron	64.80	J	*	P
7439-92-1	Lead	0.40	B		F
7439-95-4	Magnesium	1010.00			P
7439-96-5	Manganese	8.80			P
7439-97-6	Mercury	0.09	UJ		CV
7440-02-0	Nickel	1.20	B		P
7440-09-7	Potassium	19500.00			P
7782-49-2	Selenium	0.85	UJ	W	F
7440-22-4	Silver	0.79	U		P
7440-23-5	Sodium	168.00	~~B~~ U		P
7440-28-0	Thallium	0.64	~~U~~	NW R	F
7440-62-2	Vanadium	0.59	U		P
7440-66-6	Zinc	43.90	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000017

FORM I - IN

9613451.1182

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B00V90

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0023

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-13S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 94.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.60	~~B~~	U	P
7440-36-0	Antimony	3.40	U		P
7440-38-2	Arsenic	0.83	UJ	NW	F
7440-39-3	Barium	4.80	~~B~~	U	P
7440-41-7	Beryllium	0.25	~~B~~	U	P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	2040.00			P
7440-47-3	Chromium	1.40	U		P
7440-48-4	Cobalt	0.80	U		P
7440-50-8	Copper	5.90			P
7439-89-6	Iron	50.60	J	*	P
7439-92-1	Lead	0.42	~~B~~	W J	F
7439-95-4	Magnesium	976.00	B		P
7439-96-5	Manganese	9.50			P
7439-97-6	Mercury	0.10	UJ		CV
7440-02-0	Nickel	1.20	U		P
7440-09-7	Potassium	20600.00			P
7782-49-2	Selenium	0.83	UJ	W	F
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	141.00	~~B~~	U	P
7440-28-0	Thallium	0.62	~~B~~	NW R	F
7440-62-2	Vanadium	0.60	U		P
7440-66-6	Zinc	32.40	U		P
	Cyanide				NR

11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

000013

FORM I - IN

9613451.1183

WESTINGHOUSE/HANFORD

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B00V91

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: N106116 SAS No.: SDG No.: BLANKA

Matrix (soil/water): SOIL Lab Sample ID: 07045-14S

Level (low/med): LOW Date Received: 07/05/91

% Solids: 88.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.00	~~B~~	U	P
7440-36-0	Antimony	3.50	U		P
7440-38-2	Arsenic	0.90	U J	NW	F
7440-39-3	Barium	1.70	~~B~~	U	P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	1880.00			P
7440-47-3	Chromium	1.50	U		P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	7.20			P
7439-89-6	Iron	40.40	J	*	P
7439-92-1	Lead	0.64	~~B~~	W J	F
7439-95-4	Magnesium	1120.00			P
7439-96-5	Manganese	17.80			P
7439-97-6	Mercury	0.10	U J		CV
7440-02-0	Nickel	2.20	B		P
7440-09-7	Potassium	25900.00			P
7782-49-2	Selenium	4.50	U		F
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	106.00	~~B~~	U	P
7440-28-0	Thallium	0.67	~~U~~	NW R	F
7440-62-2	Vanadium	0.62	U		P
7440-66-6	Zinc	39.50	U		P
	Cyanide				NR

JJ 11/6/91

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

WOOD CHIPS

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FORM I - IN