WESTON Analytics Use Only
91C4L260

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse Hanford
Est. Final Proj. Sampling Date:
Work Order #: 6108-03-C1
Project Contact/Phone #:
AD Project Manager: Jesse King
QC: CLP Del: CLP TAT: 21 Day
Date Rec'd: 4/10/91 Date Due: 4/30/91
Account #: WS-Hanford

Refrigerator #:

#/Type Container		
	Liquid	2/9
	Solid	
Volume	Liquid	40
	Solid	
Preservatives		None

ANALYSES REQUESTED →

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓)	Matrix	Date Collected	ORGANIC: VOA (624H)	ORGANIC: BNA (625H)	ORGANIC: Pest/PCB	ORGANIC: Herb	INORG: Metal (Below)	INORG: CN
S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish	001	B00J11	Y	DL	4/8/91	✓	✓			✓	
	002	B00J17		DL	↓	✓	✓			✓	

Special Instructions:
624H = HSL + [illegible]
625H = HSL + Tri-butyl Phosphate
Metals = Westinghouse ICP

Samples [illegible] temperature [illegible] acceptable [illegible]

DATE/REVISIONS:
1
2
3
4
5
6

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Samples were: 1) Shipped ___ or Hand Delivered ___ Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Relinquished by	Received by	Date	Time
[illegible]	[illegible]		9:30

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21 21-001/A-8/90 L372 L373 L375 L377 L378 Ref# Na Cooler# Na 381-596a

9123412260-WSS-043

0043619

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WESTON Analytics Use Only
9104L260

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: Westinghouse Hanford
Est. Final Proj. Sampling Date:
Work Order #: 6165-03-C1
Project Contact/Phone #:
AD Project Manager: Jesse King
QC: CLP Del: CLP TAT: 21 days
Date Rec'd: 4/10/91 Date Due: 4/30/91
Account #: WS: Hanford

Refrigerator #:

#/Type Container		
	Liquid	2/G
	Solid	
Volume	Liquid	40
	Solid	
Preservatives		None

ANALYSES REQUESTED

Lab ID	Client ID/Description	Matrix QC Chosen (✓)	Matrix	Date Collected	ORGANIC VOA (624H)	ORGANIC BNA (625H)	ORGANIC Pest/PCB	ORGANIC Herb	INORG Metal	INORG CN
001	B00J11	✓	DL	4/8/91	✓	✓			✓	
002	B00J17		DL	↓	✓	✓			✓	

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
D - Drum
S - Solids
DL - Drum
L - Liquids
EP/TCLP
Leachate
WI - Wipe
X - Other
F - Fish

Special Instructions:
624H = HSL + Ethanol
625H = HSL + Tri-butyl Phosphate
Metals = Westinghouse LCP

DATE/REVISIONS:
1
2
3
4
5
6

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered
Airbill #
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	[illegible]	[illegible]

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21 21-001/A 8/90 L372 L373 L375 L377 L378 Ref# Na Cooler# Na 381 596a

6A

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 04-10-91
RFW #: 9104L260, GC/MS VOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of two (2) drum samples collected on 04-08-91.

The samples were analyzed according to criteria set forth in CLP SOW 02/88 (Rev. 05/89) for TCL Volatile target compounds on 04-15-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

1. Non-target compounds were not detected in these samples.

2. Samples B00J11 and B00J17 required 50,000-fold dilutions because they contained high levels of target compounds.

3. All obtainable surrogate recoveries were within EPA QC limits. Several surrogate recoveries could not be obtained due to the dilution required for analysis.

4. The laboratory blank contained the common contaminants acetone and methylene chloride at levels less than 5x the CRQL.

5. Internal standard area and retention time criteria were met for all samples and blanks.

Jack R. Tuschall, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

5.6.91
Date

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Roy F. Weston, Inc. - Lionville Laboratory
Volatiles by GC/MS, HSL List

RFW Batch Number: 9104L260 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000 Report Date: 05/02/91 14:17 Page: 1a

	Cust ID:	BOOJ11	BOOJ17	VBLK
Sample Information	RFW#:	001	002	91LVX057-MB1
	Matrix:	DRUM	DRUM	DRUM
	D.F.:	62500	62500	1.25
	Units:	ug/Kg	ug/Kg	ug/Kg
	Level:	MED	MED	MED

	Toluene-d8	D	%	D	%	104	%
Surrogate	Bromofluorobenzene	D	%	D	%	102	%
Recovery	1,2-Dichloroethane-d4	D	%	D	%	101	%

Chloromethane	0.62E+08	U	0.62E+08	U	1200	U	
Bromomethane	0.62E+08	U	0.62E+08	U	1200	U	
Vinyl Chloride	0.62E+08	U	0.62E+08	U	1200	U	
Chloroethane	0.62E+08	U	0.62E+08	U	1200	U	
Methylene Chloride	0.21E+09	B	0.25E+09	B	3100		
Acetone	0.24E+09	B	0.26E+09	B	3700		
Carbon Disulfide	0.31E+08	U	0.31E+08	U	620	U	
1,1-Dichloroethene	0.31E+08	U	0.31E+08	U	620	U	
1,1-Dichloroethane	0.31E+08	U	0.31E+08	U	620	U	
1,2-Dichloroethene (total)	0.31E+08	U	0.31E+08	U	620	U	
Chloroform	0.31E+08	U	0.31E+08	U	620	U	
1,2-Dichloroethane	0.31E+08	U	0.31E+08	U	620	U	
2-Butanone	0.62E+08	U	0.62E+08	U	1200	U	
1,1,1-Trichloroethane	0.31E+08	U	0.31E+08	U	620	U	
Carbon Tetrachloride	0.31E+08	U	0.31E+08	U	620	U	
Vinyl Acetate	0.62E+08	U	0.62E+08	U	1200	U	
Bromodichloromethane	0.31E+08	U	0.31E+08	U	620	U	
1,2-Dichloropropane	0.31E+08	U	0.31E+08	U	620	U	
cis-1,3-Dichloropropene	0.31E+08	U	0.31E+08	U	620	U	
Trichloroethene	0.31E+08	U	0.31E+08	U	620	U	
Dibromochloromethane	0.31E+08	U	0.31E+08	U	620	U	
1,1,2-Trichloroethane	0.31E+08	U	0.31E+08	U	620	U	
Benzene	0.31E+08	U	0.31E+08	U	620	U	
Trans-1,3-Dichloropropene	0.31E+08	U	0.31E+08	U	620	U	
Bromoform	0.31E+08	U	0.31E+08	U	620	U	
4-Methyl-2-pentanone	0.94E+09		0.86E+09		1200	U	
2-Hexanone	0.62E+08	U	0.62E+08	U	1200	U	
Tetrachloroethene	0.31E+08	U	0.31E+08	U	620	U	
1,1,2,2-Tetrachloroethane	0.31E+08	U	0.31E+08	U	620	U	

*= Outside of EPA CLP QC limits.

Cust ID:	BOOJ11	BOOJ17	VBLK
RFW#:	001	002	91LVX057-MB1
Level:	MED	MED	MED
Toluene	0.31E+08 U	0.31E+08 U	620 U
Chlorobenzene	0.31E+08 U	0.31E+08 U	620 U
Ethylbenzene	0.31E+08 U	0.31E+08 U	620 U
Styrene	0.31E+08 U	0.31E+08 U	620 U
Xylene (total)	0.31E+08 U	0.31E+08 U	620 U

*= Outside of EPA CLP QC limits.

000005

1A

VOLATILE ORGANICS ANALYSIS SHEET 0000014

CLIENT SAMPLE NO.

BOOJ11

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L260-001

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX4F12

Level: (low/med) MED

Date Received: 04/10/91

% Moisture: not dec. 0

Date Analyzed: 04/15/91

Column: (pack/cap) CAP

Dilution Factor: 62500

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND		
74-87-3	Chloromethane	0.62E+08	U
74-83-9	Bromomethane	0.62E+08	U
75-01-4	Vinyl Chloride	0.62E+08	U
75-00-3	Chloroethane	0.62E+08	U
75-09-2	Methylene Chloride	0.21E+09	B
67-64-1	Acetone	0.24E+09	B
75-15-0	Carbon Disulfide	0.31E+08	U
75-35-4	1,1-Dichloroethene	0.31E+08	U
75-34-3	1,1-Dichloroethane	0.31E+08	U
540-59-0	1,2-Dichloroethene (total)	0.31E+08	U
67-66-3	Chloroform	0.31E+08	U
107-06-2	1,2-Dichloroethane	0.31E+08	U
78-93-3	2-Butanone	0.62E+08	U
71-55-6	1,1,1-Trichloroethane	0.31E+08	U
56-23-5	Carbon Tetrachloride	0.31E+08	U
108-05-4	Vinyl Acetate	0.62E+08	U
75-27-4	Bromodichloromethane	0.31E+08	U
78-87-5	1,2-Dichloropropane	0.31E+08	U
10061-01-5	cis-1,3-Dichloropropene	0.31E+08	U
79-01-6	Trichloroethene	0.31E+08	U
124-48-1	Dibromochloromethane	0.31E+08	U
79-00-5	1,1,2-Trichloroethane	0.31E+08	U
71-43-2	Benzene	0.31E+08	U
10061-02-6	Trans-1,3-Dichloropropene	0.31E+08	U
75-25-2	Bromoform	0.31E+08	U
108-10-1	4-Methyl-2-pentanone	0.94E+09	
591-78-6	2-Hexanone	0.62E+08	U
127-18-4	Tetrachloroethene	0.31E+08	U
79-34-5	1,1,2,2-Tetrachloroethane	0.31E+08	U
108-88-3	Toluene	0.31E+08	U
108-90-7	Chlorobenzene	0.31E+08	U
100-41-4	Ethylbenzene	0.31E+08	U
100-42-5	Styrene	0.31E+08	U
1330-20-7	Xylene (total)	0.31E+08	U

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VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS 0000015

CLIENT SAMPLE NO.

BOOJ11

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L260-001

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX4F12

Level: (low/med) MED

Date Received: 04/10/91

% Moisture: not dec. 0

Date Analyzed: 04/15/91

Column: (pack/cap) CAP

Dilution Factor: 62500

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

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1A

VOLATILE ORGANICS ANALYSIS SHEET 0000022

CLIENT SAMPLE NO.

BOOJ17

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L260-002

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX4F13

Level: (low/med) MED

Date Received: 04/10/91

% Moisture: not dec. 0

Date Analyzed: 04/15/91

Column: (pack/cap) CAP

Dilution Factor: 62500

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND		
74-87-3	Chloromethane	0.62E+08	U
74-83-9	Bromomethane	0.62E+08	U
75-01-4	Vinyl Chloride	0.62E+08	U
75-00-3	Chloroethane	0.62E+08	U
75-09-2	Methylene Chloride	0.25E+09	B
67-64-1	Acetone	0.26E+09	B
75-15-0	Carbon Disulfide	0.31E+08	U
75-35-4	1,1-Dichloroethene	0.31E+08	U
75-34-3	1,1-Dichloroethane	0.31E+08	U
540-59-0	1,2-Dichloroethene (total)	0.31E+08	U
67-66-3	Chloroform	0.31E+08	U
107-06-2	1,2-Dichloroethane	0.31E+08	U
78-93-3	2-Butanone	0.62E+08	U
71-55-6	1,1,1-Trichloroethane	0.31E+08	U
56-23-5	Carbon Tetrachloride	0.31E+08	U
108-05-4	Vinyl Acetate	0.62E+08	U
75-27-4	Bromodichloromethane	0.31E+08	U
78-87-5	1,2-Dichloropropane	0.31E+08	U
10061-01-5	cis-1,3-Dichloropropene	0.31E+08	U
79-01-6	Trichloroethene	0.31E+08	U
124-48-1	Dibromochloromethane	0.31E+08	U
79-00-5	1,1,2-Trichloroethane	0.31E+08	U
71-43-2	Benzene	0.31E+08	U
10061-02-6	Trans-1,3-Dichloropropene	0.31E+08	U
75-25-2	Bromoform	0.31E+08	U
108-10-1	4-Methyl-2-pentanone	0.86E+09	
591-78-6	2-Hexanone	0.62E+08	U
127-18-4	Tetrachloroethene	0.31E+08	U
79-34-5	1,1,2,2-Tetrachloroethane	0.31E+08	U
108-88-3	Toluene	0.31E+08	U
108-90-7	Chlorobenzene	0.31E+08	U
100-41-4	Ethylbenzene	0.31E+08	U
100-42-5	Styrene	0.31E+08	U
1330-20-7	Xylene (total)	0.31E+08	U

1E

VOLATILE ORGANICS ANALYSIS SHEET 0000023
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

BOOJ17

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L260-002

Sample wt/vol: 4.00 (g/mL) G

Lab File ID: AX4F13

Level: (low/med) MED

Date Received: 04/10/91

% Moisture: not dec. 0

Date Analyzed: 04/15/91

Column: (pack/cap) CAP

Dilution Factor: 62500

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

6A

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 04-10-91
RFW #: 9104L260, SEMIVOLATILE
W.O. #: 6168-02-01

NARRATIVE

The set of samples consisted of two (2) drum liquid samples collected on 04-08-91.

The samples were extracted by Waste Dilution Protocols on 04-11-91 and analyzed according to criteria set forth in CLP SOW 02/88 (Rev. 05/89) for TCL Semivolatile and Tributylphosphate target compounds on 04-22-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

1. Non-target compounds were detected in these samples.

2. The use of Waste Dilution Protocols resulted in the dilution factors and high detection limits.

3. All surrogate recoveries were within EPA QC limits.

4. Four (4) of eleven (11) blank spike recoveries were outside EPA Soil QC limits. However, these limits do not apply to drum liquids or Waste Dilution Protocols.

5. Internal standard area and retention time criteria were met for all samples and blanks.

Jack R. Tuschall, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

5.15.91
Date

Roy F. Weston, Inc. - Lionville Laboratory
Semivolatiles by GC/MS, HSL List

Report Date: 04/23/91 16:26

RFW Batch Number: 9104L260 Client: WESTINGHOUSE HANFORD Work Order: 6168-02-01-0000

	Cust ID:	BOOJ11	BOOJ17	SBLK	SBLK BS
Sample Information	RFW#:	001	002	91LE0481-MB1	91LE0481-MB1
	Matrix:	DRUM	DRUM	SOIL	SOIL
	D.F.:	100	100	100	100
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	92 %	94 %	89 %	96 %
	2-Fluorobiphenyl	98 %	98 %	98 %	102 %
	p-Terphenyl-d14	115 %	121 %	119 %	122 %
	Phenol-d5	105 %	109 %	105 %	105 %
	2-Fluorophenol	108 %	109 %	102 %	103 %
	2,4,6-Tribromophenol	78 %	81 %	84 %	98 %
Phenol		1000000 U	1000000 U	1000000 U	106 * %
bis(2-Chloroethyl)ether		1000000 U	1000000 U	1000000 U	1000000 U
2-Chlorophenol		1000000 U	1000000 U	1000000 U	107 * %
1,3-Dichlorobenzene		1000000 U	1000000 U	1000000 U	1000000 U
1,4-Dichlorobenzene		1000000 U	1000000 U	1000000 U	97 %
Benzyl alcohol		1000000 U	1000000 U	1000000 U	1000000 U
1,2-Dichlorobenzene		1000000 U	1000000 U	1000000 U	1000000 U
2-Methylphenol		1000000 U	1000000 U	1000000 U	1000000 U
bis(2-Chloroisopropyl)ether		1000000 U	1000000 U	1000000 U	1000000 U
4-Methylphenol		1000000 U	1000000 U	1000000 U	1000000 U
N-Nitroso-Di-n-propylamine		1000000 U	1000000 U	1000000 U	93 %
Hexachloroethane		1000000 U	1000000 U	1000000 U	1000000 U
Nitrobenzene		1000000 U	1000000 U	1000000 U	1000000 U
Isophorone		1000000 U	1000000 U	1000000 U	1000000 U
2-Nitrophenol		1000000 U	1000000 U	1000000 U	1000000 U
2,4-Dimethylphenol		1000000 U	1000000 U	1000000 U	1000000 U
Benzoic acid		5000000 U	5000000 U	5000000 U	5000000 U
bis(2-Chloroethoxy)methane		1000000 U	1000000 U	1000000 U	1000000 U
2,4-Dichlorophenol		1000000 U	1000000 U	1000000 U	1000000 U
1,2,4-Trichlorobenzene		1000000 U	1000000 U	1000000 U	107 %
Naphthalene		1000000 U	1000000 U	1000000 U	1000000 U
4-Chloroaniline		1000000 U	1000000 U	1000000 U	1000000 U
Hexachlorobutadiene		1000000 U	1000000 U	1000000 U	1000000 U
4-Chloro-3-methylphenol		1000000 U	1000000 U	1000000 U	110 * %
2-Methylnaphthalene		1000000 U	1000000 U	1000000 U	1000000 U
Hexachlorocyclopentadiene		1000000 U	1000000 U	1000000 U	1000000 U

*= Outside of EPA CLP QC limits.

Cust ID:	BOOJ11	BOOJ17	SBLK	SBLK BS
RFW#:	001	002	91LE0481-MB1	91LE0481-MB1
2,4,6-Trichlorophenol	1000000 U	1000000 U	1000000 U	1000000 U
2,4,5-Trichlorophenol	5000000 U	5000000 U	5000000 U	5000000 U
2-Chloronaphthalene	1000000 U	1000000 U	1000000 U	1000000 U
2-Nitroaniline	5000000 U	5000000 U	5000000 U	5000000 U
Dimethylphthalate	1000000 U	1000000 U	1000000 U	1000000 U
Acenaphthylene	1000000 U	1000000 U	1000000 U	1000000 U
2,6-Dinitrotoluene	1000000 U	1000000 U	1000000 U	1000000 U
3-Nitroaniline	5000000 U	5000000 U	5000000 U	5000000 U
Acenaphthene	1000000 U	1000000 U	1000000 U	114 %
2,4-Dinitrophenol	5000000 U	5000000 U	5000000 U	5000000 U
4-Nitrophenol	5000000 U	5000000 U	5000000 U	97 %
Dibenzofuran	1000000 U	1000000 U	1000000 U	1000000 U
2,4-Dinitrotoluene	1000000 U	1000000 U	1000000 U	103 * %
Diethylphthalate	1000000 U	1000000 U	1000000 U	1000000 U
4-Chlorophenyl-phenylether	1000000 U	1000000 U	1000000 U	1000000 U
Fluorene	1000000 U	1000000 U	1000000 U	1000000 U
4-Nitroaniline	5000000 U	5000000 U	5000000 U	5000000 U
4,6-Dinitro-2-methylphenol	5000000 U	5000000 U	5000000 U	5000000 U
N-Nitrosodiphenylamine (1)	1000000 U	1000000 U	1000000 U	1000000 U
4-Bromophenyl-phenylether	1000000 U	1000000 U	1000000 U	1000000 U
Hexachlorobenzene	1000000 U	1000000 U	1000000 U	1000000 U
Pentachlorophenol	5000000 U	5000000 U	5000000 U	89 %
Phenanthrene	1000000 U	1000000 U	1000000 U	1000000 U
Anthracene	1000000 U	1000000 U	1000000 U	1000000 U
Di-n-Butylphthalate	1000000 U	1000000 U	1000000 U	1000000 U
Fluoranthene	1000000 U	1000000 U	1000000 U	1000000 U
Pyrene	1000000 U	1000000 U	1000000 U	123 %
Butylbenzylphthalate	1000000 U	1000000 U	1000000 U	1000000 U
3,3'-Dichlorobenzidine	2000000 U	2000000 U	2000000 U	2000000 U
Benzo(a)anthracene	1000000 U	1000000 U	1000000 U	1000000 U
Chrysene	1000000 U	1000000 U	1000000 U	1000000 U
bis(2-Ethylhexyl)phthalate	1000000 U	1000000 U	1000000 U	1000000 U
Di-n-Octyl phthalate	1000000 U	1000000 U	1000000 U	1000000 U
Benzo(b)fluoranthene	1000000 U	1000000 U	1000000 U	1000000 U
Benzo(k)fluoranthene	1000000 U	1000000 U	1000000 U	1000000 U
Benzo(a)pyrene	1000000 U	1000000 U	1000000 U	1000000 U
Indeno(1,2,3-cd)pyrene	1000000 U	1000000 U	1000000 U	1000000 U
Dibenzo(a,h)anthracene	1000000 U	1000000 U	1000000 U	1000000 U
Benzo(g,h,i)perylene	1000000 U	1000000 U	1000000 U	1000000 U
Tributylphosphate	1000000 U	1000000 U	1000000 U	1000000 U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000015

CLIENT SAMPLE NO.

BOOJ11

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L260-001

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: S042210

Level: (low/med) LOW

Date Received: 04/10/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/11/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 04/22/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 100

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND		
108-95-2	Phenol	1000000	U
111-44-4	bis(2-Chloroethyl)ether	1000000	U
95-57-8	2-Chlorophenol	1000000	U
541-73-1	1,3-Dichlorobenzene	1000000	U
106-46-7	1,4-Dichlorobenzene	1000000	U
100-51-6	Benzyl alcohol	1000000	U
95-50-1	1,2-Dichlorobenzene	1000000	U
95-48-7	2-Methylphenol	1000000	U
108-60-1	bis(2-Chloroisopropyl)ether	1000000	U
106-44-5	4-Methylphenol	1000000	U
621-64-7	N-Nitroso-Di-n-propylamine	1000000	U
67-72-1	Hexachloroethane	1000000	U
98-95-3	Nitrobenzene	1000000	U
78-59-1	Isophorone	1000000	U
88-75-5	2-Nitrophenol	1000000	U
105-67-9	2,4-Dimethylphenol	1000000	U
65-85-0	Benzoic acid	5000000	U
111-91-1	bis(2-Chloroethoxy)methane	1000000	U
120-83-2	2,4-Dichlorophenol	1000000	U
120-82-1	1,2,4-Trichlorobenzene	1000000	U
91-20-3	Naphthalene	1000000	U
106-47-8	4-Chloroaniline	1000000	U
87-68-3	Hexachlorobutadiene	1000000	U
59-50-7	4-Chloro-3-methylphenol	1000000	U
91-57-6	2-Methylnaphthalene	1000000	U
77-47-4	Hexachlorocyclopentadiene	1000000	U
88-06-2	2,4,6-Trichlorophenol	1000000	U
95-95-4	2,4,5-Trichlorophenol	5000000	U
91-58-7	2-Chloronaphthalene	1000000	U
88-74-4	2-Nitroaniline	5000000	U
131-11-3	Dimethylphthalate	1000000	U
208-96-8	Acenaphthylene	1000000	U
606-20-2	2,6-Dinitrotoluene	1000000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000016

CLIENT SAMPLE NO.

BOOJ11

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L260-001

Sample wt/vol: 1.00 (g/mL) G Lab File ID: S042210

Level: (low/med) LOW Date Received: 04/10/91

% Moisture: not dec. 0 dec. Date Extracted: 04/11/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 04/22/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	5000000	U
83-32-9	Acenaphthene	1000000	U
51-28-5	2,4-Dinitrophenol	5000000	U
100-02-7	4-Nitrophenol	5000000	U
132-64-9	Dibenzofuran	1000000	U
121-14-2	2,4-Dinitrotoluene	1000000	U
84-66-2	Diethylphthalate	1000000	U
7005-72-3	4-Chlorophenyl-phenylether	1000000	U
86-73-7	Fluorene	1000000	U
100-01-6	4-Nitroaniline	5000000	U
534-52-1	4,6-Dinitro-2-methylphenol	5000000	U
86-30-6	N-Nitrosodiphenylamine (1)	1000000	U
101-55-3	4-Bromophenyl-phenylether	1000000	U
118-74-1	Hexachlorobenzene	1000000	U
87-86-5	Pentachlorophenol	5000000	U
85-01-8	Phenanthrene	1000000	U
120-12-7	Anthracene	1000000	U
84-74-2	Di-n-Butylphthalate	1000000	U
206-44-0	Fluoranthene	1000000	U
129-00-0	Pyrene	1000000	U
85-68-7	Butylbenzylphthalate	1000000	U
91-94-1	3,3'-Dichlorobenzidine	2000000	U
56-55-3	Benzo(a)anthracene	1000000	U
218-01-9	Chrysene	1000000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1000000	U
117-84-0	Di-n-Octyl phthalate	1000000	U
205-99-2	Benzo(b)fluoranthene	1000000	U
207-08-9	Benzo(k)fluoranthene	1000000	U
50-32-8	Benzo(a)pyrene	1000000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1000000	U
53-70-3	Dibenzo(a,h)anthracene	1000000	U
191-24-2	Benzo(g,h,i)perylene	1000000	U

(1) - Cannot be separated from Diphenylamine

1D

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0000017

CLIENT SAMPLE NO.

BOOJ11

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L260-001

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: S042210

Level: (low/med) LOW

Date Received: 04/10/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/11/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 04/22/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 100

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND		
126-73-8	Tributylphosphate	1000000	U

FORM 1 SV-3

12/88 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0100013

CLIENT SAMPLE NO.

BOOJ11

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L260-001

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: S042210

Level: (low/med) LOW

Date Received: 04/10/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/11/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 04/22/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 100

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1B

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0100025

CLIENT SAMPLE NO.

BOOJ17

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L260-002

Sample wt/vol: 1.00 (g/mL) G Lab File ID: S042211

Level: (low/med) LOW Date Received: 04/10/91

% Moisture: not dec. 0 dec. Date Extracted: 04/11/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 04/22/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND		
108-95-2	Phenol	1000000	U
111-44-4	bis(2-Chloroethyl)ether	1000000	U
95-57-8	2-Chlorophenol	1000000	U
541-73-1	1,3-Dichlorobenzene	1000000	U
106-46-7	1,4-Dichlorobenzene	1000000	U
100-51-6	Benzyl alcohol	1000000	U
95-50-1	1,2-Dichlorobenzene	1000000	U
95-48-7	2-Methylphenol	1000000	U
108-60-1	bis(2-Chloroisopropyl)ether	1000000	U
106-44-5	4-Methylphenol	1000000	U
621-64-7	N-Nitroso-Di-n-propylamine	1000000	U
67-72-1	Hexachloroethane	1000000	U
98-95-3	Nitrobenzene	1000000	U
78-59-1	Isophorone	1000000	U
88-75-5	2-Nitrophenol	1000000	U
105-67-9	2,4-Dimethylphenol	1000000	U
65-85-0	Benzoic acid	5000000	U
111-91-1	bis(2-Chloroethoxy)methane	1000000	U
120-83-2	2,4-Dichlorophenol	1000000	U
120-82-1	1,2,4-Trichlorobenzene	1000000	U
91-20-3	Naphthalene	1000000	U
106-47-8	4-Chloroaniline	1000000	U
87-68-3	Hexachlorobutadiene	1000000	U
59-50-7	4-Chloro-3-methylphenol	1000000	U
91-57-6	2-Methylnaphthalene	1000000	U
77-47-4	Hexachlorocyclopentadiene	1000000	U
88-06-2	2,4,6-Trichlorophenol	1000000	U
95-95-4	2,4,5-Trichlorophenol	5000000	U
91-58-7	2-Chloronaphthalene	1000000	U
88-74-4	2-Nitroaniline	5000000	U
131-11-3	Dimethylphthalate	1000000	U
208-96-8	Acenaphthylene	1000000	U
606-20-2	2,6-Dinitrotoluene	1000000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS SHEET 0 0 0 0 2 6

CLIENT SAMPLE NO.

B00J17

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM Lab Sample ID: 9104L260-002

Sample wt/vol: 1.00 (g/mL) G Lab File ID: S042211

Level: (low/med) LOW Date Received: 04/10/91

% Moisture: not dec. 0 dec. Date Extracted: 04/11/91

Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 04/22/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 100

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	5000000	U
83-32-9	Acenaphthene	1000000	U
51-28-5	2,4-Dinitrophenol	5000000	U
100-02-7	4-Nitrophenol	5000000	U
132-64-9	Dibenzofuran	1000000	U
121-14-2	2,4-Dinitrotoluene	1000000	U
84-66-2	Diethylphthalate	1000000	U
7005-72-3	4-Chlorophenyl-phenylether	1000000	U
86-73-7	Fluorene	1000000	U
100-01-6	4-Nitroaniline	5000000	U
534-52-1	4,6-Dinitro-2-methylphenol	5000000	U
86-30-6	N-Nitrosodiphenylamine (1)	1000000	U
101-55-3	4-Bromophenyl-phenylether	1000000	U
118-74-1	Hexachlorobenzene	1000000	U
87-86-5	Pentachlorophenol	5000000	U
85-01-8	Phenanthrene	1000000	U
120-12-7	Anthracene	1000000	U
84-74-2	Di-n-Butylphthalate	1000000	U
206-44-0	Fluoranthene	1000000	U
129-00-0	Pyrene	1000000	U
85-68-7	Butylbenzylphthalate	1000000	U
91-94-1	3,3'-Dichlorobenzidine	2000000	U
56-55-3	Benzo(a)anthracene	1000000	U
218-01-9	Chrysene	1000000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1000000	U
117-84-0	Di-n-Octyl phthalate	1000000	U
205-99-2	Benzo(b)fluoranthene	1000000	U
207-08-9	Benzo(k)fluoranthene	1000000	U
50-32-8	Benzo(a)pyrene	1000000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1000000	U
53-70-3	Dibenzo(a,h)anthracene	1000000	U
191-24-2	Benzo(g,h,i)perylene	1000000	U

(1) - Cannot be separated from Diphenylamine

1D
SEMIVOLATILE ORGANICS ANALYSIS SHEET 0400027

CLIENT SAMPLE NO.

BOOJ17

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L260-002

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: S042211

Level: (low/med) LOW

Date Received: 04/10/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/11/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 04/22/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	
126-73-8	Tributylphosphate	1000000	U

FORM 1 SV-3 12/88 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0100028

CLIENT SAMPLE NO.

BOOJ17

Lab Name: Roy F. Weston, Inc. Work Order: 6168-02-01-0000

Client: WESTINGHOUSE HANFORD

Matrix: DRUM

Lab Sample ID: 9104L260-002

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: S042211

Level: (low/med) LOW

Date Received: 04/10/91

% Moisture: not dec. 0 dec.

Date Extracted: 04/11/91

Extraction: (SepF/Cont/Sonc) N/A

Date Analyzed: 04/22/91

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 100

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.98	400000	J

WESTON

Roy F. Weston, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 4/10/91
RFW #: 9104L260 METALS
W.O.#: 6168-02-01

METALS NARRATIVE

The set of samples consisted of (2) drum liquid samples collected on 4/8/91.

The samples were analyzed according to criteria set forth in CLP SOW 7/87.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

1. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures Laboratory.

2. All ICV and CCV values were within control limits.

3. All ICB and CCB values were within control limits.

4. All preparation blank values were within control limits.

5. All LCS results were within the 80-120% control limits.

   Note: The USEPA has dropped control limits for antimony and silver due to documented difficulties in obtaining reliable results. WESTON Analytics has adopted the same policy.

6. All matrix spike recoveries were within the 75-125% control limits with the exception of Ag. All corresponding samples were flagged with an "N" according to CLP protocol.

7. All duplicate analyses were within the 20% RPD control limits with the exception of Cu and Zn. All corresponding samples were flagged with an "*" according to CLP protocol.

WESTON

8. First quarter linear range data are applicable to this data set. A few days from the first quarter will extend into the second quarter. Second quarter determinations are in progress.

Jack R. Tuschall, Ph.D.
Laboratory Manager
WESTON Analytical Laboratories

5.13.91
Date

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOJ11

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP260

Matrix (soil/water):WATER Lab Sample ID:9104260001

Level (low/med): LOW Date Received:04/10/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.0	U		P
7440-36-0	Antimony	22.9	B		P
7440-38-2	Arsenic				
7440-39-3	Barium	6.20	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	352	B		P
7440-47-3	Chromium	3.00	U		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	66.4		*	P
7439-89-6	Iron	140			P
7439-92-1	Lead				
7439-95-4	Magnesium	84.0	U		P
7439-96-5	Manganese	2.00	B		P
7439-97-6	Mercury				
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	1010	U		P
7782-49-2	Selenium				
7440-22-4	Silver	4.00	U	N	P
7440-23-5	Sodium	256	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	118		*	P
	Cyanide				

Color Before:COLORLESS Clarity Before:CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOJ17

Lab Name:Roy F. Weston, Inc. Contract:6168-02-01

Lab Code:WESTON Case No:WEST SAS No.: SDG No.:CLP260

Matrix (soil/water):WATER Lab Sample ID:9104260002

Level (low/med): LOW Date Received:04/10/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.0	U		P
7440-36-0	Antimony	19.0	U		P
7440-38-2	Arsenic				
7440-39-3	Barium	5.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	688	B		P
7440-47-3	Chromium	3.40	B		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	68.5		*	P
7439-89-6	Iron	221			P
7439-92-1	Lead				
7439-95-4	Magnesium	84.0	U		P
7439-96-5	Manganese	3.40	B		P
7439-97-6	Mercury				
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	1010	U		P
7782-49-2	Selenium				
7440-22-4	Silver	4.00	U	N	P
7440-23-5	Sodium	409	B		P
7440-28-0	Thallium				
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	264		*	P
	Cyanide				

Color Before:COLORLESS Clarity Before:CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Roy F. Weston, INC.
Lionville Laboratory

CLIENT: WESTINGHOUSE HANFORD **SAMPLES RECEIVED:** 4/10/91
RFW #: 9104L260
W.O. #: 6168-02-01

METALS NARRATIVE

The set of samples consisted of two (2) water samples collected on 4/8/91.

The samples were analyzed according to criteria set forth in CLP SOW 3/90.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

1. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures Laboratory.
2. All ICV and CCV values were within control limits.
3. All ICB and CCB values were within control limits.
4. All preparation blank values were within control limits.
5. All LCS results were within the 80-120% control limits.
6. All matrix spike recoveries were within the 75-125% control limits with the exception of Ag. All corresponding samples were flagged with an "N" according to CLP protocol.
7. All duplicate analyses were within the 20% RPD control limit with the exception of Cu and Zn. All corresponding samples were flagged with an "*" according to CLP protocol.
8. Quarterly Detection Limits for IC2 are included in this package.

Jack R. Tuschall, Ph.D.
Laboratory Manager
Lionville Analytical Laboratories

10.30.91.
Date

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOJ11

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP260

Matrix (soil/water): WATER Lab Sample ID: 910426001

Level (low/med): LOW Date Received: 4/10/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	22.90	B		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	6.20	B		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	352.00	B		P
7440-47-3	Chromium	3.00	U		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	66.40		*	P
7439-89-6	Iron	140.00			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	84.00	U		P
7439-96-5	Manganese	2.00			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	1010.00	U		P
7782-49-2	Selenium				NR
7440-22-4	Silver	4.00	U	N	P
7440-23-5	Sodium	256.00	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	118.00		*	P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP 000009

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOJ17

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.: SDG No.: CLP260

Matrix (soil/water): WATER Lab Sample ID: 910426002

Level (low/med): LOW Date Received: 4/10/91

% Solids:

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	77.00	U		P
7440-36-0	Antimony	19.00	U		P
7440-38-2	Arsenic				NR
7440-39-3	Barium	5.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.00	U		P
7440-70-2	Calcium	688.00	B		P
7440-47-3	Chromium	3.40	B		P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	68.50		*	P
7439-89-6	Iron	221.00			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	84.00	U		P
7439-96-5	Manganese	3.40	B		P
7439-97-6	Mercury				NR
7440-02-0	Nickel	7.00	U		P
7440-09-7	Potassium	1010.00	U		P
7782-49-2	Selenium				NR
7440-22-4	Silver	4.00	U	N	P
7440-23-5	Sodium	409.00	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	264.00		*	P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments: