B00HY7-K25-086

MARTIN MARIETTA

0045335

MARTIN MARIETTA ENERGY SYSTEMS, INC.

POST OFFICE BOX 2003
OAK RIDGE, TENNESSEE 37831-7440

June 12, 1991

Ms. Joan Kessner
Westinghouse Hanford Company
2355 Stevens Drive
Richland, Washington 99352

Dear Ms. Kessner:

AnaLis Data Reports for Project 91-013: 300-FF-1 Nonhazardous Source Characterization

Attached are the AnaLis data reports for two (2) 300-FF-1 Nonhazardous Source Characterization samples, Project 91-013, received into the K-25 Site Analytical Chemistry Department (ACD) laboratories on March 19, and April 1, 1991. Full CLP format was requested for the data deliverables package and is being generated at this time. However, since the CLP packaging of data requires a substantial delay in returning data, I am releasing the data available at this time in AnaLis report format. The AA metals and the mercury data is not entered into the AnaLis database at all for analyses performed to CLP protocol. That data will not be available until the full CLP package is completed.

Sincerely,

Deborah L. Amburgey

Deborah L. Amburgey
Program Manager
Hanford Support Program

JUN 1991
RECEIVED
DATA RECEIPT

Attachments
cc/attach: D.L.Amburgey
S.R.Smith - RC

SEP 1996
RECEIVED
EDMC

1

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
7-JUN-1991 10:58

AnaLIS ID: 910320-106 Project: G132 013 Customer Sample ID: BOOHY7
Customer: KESSNER/KRAMER Requisition Number:
Date Sampled: 14-MAR-1991 Date Sample Received: 19-MAR-1991
Sampled By: Date Sample Completed: 31-MAY-1991
Material Description: SOIL FOR CLP [] : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Units	Analyst	QA File Number	Date Completed
	EPA CLP SOW EPA-204.2(CLP)	Arsenic	--------	mg/Kg	KM COOLEY	10403Y	11-APR-1991
	EPA CLP SOW EPA-239.2(CLP)	Lead	--------	mg/Kg	KM COOLEY	10403Z1	20-APR-1991
	EPA-245.5(CLP)	Mercury	--------	mg/Kg	SA BURGESS	10403AC	23-APR-1991
	EPA CLP SOW EPA-270.2(CLP)	Selenium	--------	mg/Kg	KM COOLEY	10403AA1	20-APR-1991
	EPA CLP SOW EPA-279.2(CLP)	Thallium	--------	mg/Kg	KM COOLEY	10403AB	18-APR-1991
090703	EPA-3050 EPA-200.7	Boron	111	mg/Kg	VF BELT	10531Y	31-MAY-1991
	EPA-3050 EPA-200.7	Uranium	<6.0	mg/Kg	VF BELT	10531Y	31-MAY-1991
135003	CLP10/86 SVD10	Prep (BNA- CLP)	R CC		JM MAHER	2646/2745	9-APR-1991

Prep (BNA- CLP)

Analyst = JM MAHER
Date Extracted = 9-APR-1991
Sample Weight Extracted (g) = 10
Percent Solids = 56.43
Calculated Dried Weight (g) = 5.64
Extraction Method = Soxhlet
Extraction Solvent = Methlylene Chloride/Acetone
Extraction Cleanup = Sodium Sulfate
Final Volume of Extract (mL) = 1
Associated Blank = 910401-175

Spike Recovery Data

Analysis	Unspike Result	Amount Spike	Spike Result	Units	Amount Recovered	Percent Recovered
ANTIMONY	0.0123	0.120	0.108	mg/L	0.096	79.8
SILVER	0.00200	0.0500	0.0490	mg/L	0.0470	94.0
BARIUM	1.94	2.00	3.75	mg/L	1.81	90.5
BERYLLIUM	0.00280	0.0500	0.0483	mg/L	0.0455	91.0
CADMIUM	0.0	0.0500	0.0454	mg/L	0.0454	90.8
COBALT	0.0130	0.500	0.477	mg/L	0.464	92.8
CHROMIUM	0.0210	0.200	0.211	mg/L	0.190	95.0
COPPER	0.121	0.250	0.345	mg/L	0.224	89.6
MANGANESE	0.0816	0.500	0.541	mg/L	0.459	91.9

NICKEL	0.114	0.500	0.566 mg/L	0.452	90.4
VANADIUM	0.378	0.500	0.808 mg/L	0.430	86.0
ZINC	0.113	0.500	0.555 mg/L	0.442	88.4

Program Manager: D. L. Amburgey
Date Approved:

ANALYSIS DATA REPORT

Date Printed:
7-JUN-1991 10:58

AnaLIS ID: 910320-106
Laboratory: Organic Mass Spectroscopy Laboratory
File ID: >11285
Instrument ID: 5970-3
Authorized By: D. C. Canada

Customer Sample ID: BOOHY7
Customer: KESSNER/KRAMER
Sample Matrix: SOIL
Requisition Number:
Date Sample Received: 19-MAR-1991

BNA - Base/Neutral/Acid Compounds (CLP)

Date Extracted/Prepared: 8-APR-1991
Preparation Procedure Number: CLP10/86 SVD10
Percent Moisture: 43.6
Percent Moisture (decanted):
Associated Blank: 910401-175

Date Analyzed: 11-APR-1991
Analysis Procedure Number: ACD 2470
Dilution Factor: 2.0
Analyst: C MEEHAN
QA File Number: 910411CM-0088

[] : Result has been Corrected for Spike

CAS		ug/Kg	CAS		ug/Kg
108-95-2	Phenol	3500U	106-47-8	4-Chloroaniline	3500U
111-44-4	bis(2-Chloroethyl)ether	3500U	87-68-3	Hexachlorobutadiene	3500U
95-57-8	2-Chlorophenol	3500U	59-50-7	4-Chloro-3-methylphenol	3500U
541-73-1	1,3-Dichlorobenzene	3500U	91-57-6	2-Methylnaphthalene	1800 J
106-46-7	1,4-Dichlorobenzene	3500U	77-47-4	Hexachlorocyclopentadiene	3500U
100-51-6	Benzyl Alcohol	3500U	88-06-2	2,4,6-Trichlorophenol	3500U
95-50-1	1,2-Dichlorobenzene	3500U	95-95-4	2,4,5-Trichlorophenol	17000U
95-48-7	2-Methylphenol	3500U	91-58-7	2-Chloronaphthalene	3500U
108-60-1	bis(2-Chloroisopropyl)ether	3500U	88-74-4	2-Nitroaniline	17000U
106-44-5	4-Methylphenol	3500U	131-11-3	Dimethylphthalate	3500U
621-64-7	N-Nitroso-di-n-propylamine	3500U	208-96-8	Acenaphthylene	3500U
67-72-1	Hexachloroethane	3500U	99-09-2	3-Nitroaniline	17000U
98-95-3	Nitrobenzene	3500U	83-32-9	Acenaphthene	3500U
78-59-1	Isophorone	3500U	51-28-5	2,4-Dinitrophenol	17000U
88-75-5	2-Nitrophenol	3500U	100-02-7	4-Nitrophenol	17000U
105-67-9	2,4-Dimethylphenol	3500U	132-64-9	Dibenzofuran	3500U
65-85-0	Benzoic Acid	17000U	121-14-2	2,4-Dinitrotoluene	3500U
111-91-1	bis(2-Chloroethoxy)methane	3500U	606-20-2	2,6-Dinitrotoluene	3500U
120-83-2	2,4-Dichlorophenol	3500U	84-66-2	Diethylphthalate	3500U
120-82-1	1,2,4-Trichlorobenzene	3500U	7005-72-3	4-Chlorophenyl-phenylether	3500U
91-20-3	Naphthalene	920 J	86-73-7	Fluorene	3500U

Data Reporting Qualifiers:

U - Compound was analyzed for but not detected. The number is the attainable detection limit for the sample.
B - Analyte was found in the reagent blank as well as the sample.
J - Indicates an estimated value.
ND - Not detected.
A - Aldol condensation product.
D - Secondary dilution.
E - Exceeds initial calibration range.

ANALYSIS DATA REPORT

Date Printed:
7-JUN-1991 10:58

AnaLIS ID: 910320-106
Laboratory: Organic Mass Spectroscopy Laboratory
File ID: >11285
Instrument ID: 5970-3
Authorized By: D. C. Canada

Customer Sample ID: BOOHY7
Customer: KESSNER/KRAMER
Sample Matrix: SOIL
Requisition Number:
Date Sample Received: 19-MAR-1991

BNA - Base/Neutral/Acid Compounds (CLP)

Date Extracted/Prepared: 8-APR-1991
Preparation Procedure Number: CLP10/86 SVD10
Percent Moisture: 43.6
Percent Moisture (decanted):
Associated Blank: 910401-175
[] : Result has been Corrected for Spike

Date Analyzed: 11-APR-1991
Analysis Procedure Number: ACD 2470
Dilution Factor: 2.0
Analyst: C MEEHAN
QA File Number: 910411CM-0088

CAS		ug/Kg	CAS		ug/Kg
100-01-6	4-Nitroaniline	17000U	53-70-3	Dibenz(a,h)anthracene	3500U
534-52-1	4,6-Dinitro-2-methylphenol	17000U	191-24-2	Benzo(g,h,i)perylene	3500U
86-30-6	N-Nitrosodiphenylamine	3500U			
101-55-3	4-Bromophenyl-phenylether	3500U			
118-74-1	Hexachlorobenzene	3500U			
87-86-5	Pentachlorophenol	17000U			
85-01-8	Phenanthrene	3500U			
120-12-7	Anthracene	3500U			
84-74-2	Di-n-butylphthalate	3500U			
206-44-0	Fluoranthene	3500U			
129-00-0	Pyrene	3500U			
85-68-7	Butylbenzylphthalate	3500U			
91-94-1	3,3'-Dichlorobenzidine	7000U			
56-55-3	Benzo(a)anthracene	3500U			
117-81-7	bis(2-Ethylhexyl)phthalate	530 JB			
218-01-9	Chrysene	3500U			
117-84-0	Di-n-octylphthalate	3500U			
205-99-2	Benzo(b)fluoranthene	3500U			
207-08-9	Benzo(k)fluoranthene	3500U			
50-32-8	Benzo(a)pyrene	3500U			
193-39-5	Indeno(1,2,3-cd)pyrene	3500U			

Data Reporting Qualifiers:

U - Compound was analyzed for but not detected. The number is the attainable detection limit for the sample.
B - Analyte was found in the reagent blank as well as the sample.
J - Indicates an estimated value.
ND - Not detected.
A - Aldol condensation product.
D - Secondary dilution.
E - Exceeds initial calibration range.

Oak Ridge K-25 Site
Analytical Chemistry Department

Date Printed:
7-JUN-1991 10:58

BNA (CLP) SOIL ORGANICS ANALYSIS DATA SHEETS
TENTATIVELY IDENTIFIED COMPOUNDS

AnaLIS ID: 910320-106
Laboratory: Organic Mass Spectroscopy Laboratory
Sample Matrix: SOIL
Level: (low/med): LOW
Dilution Factor: 2.0
% Moisture: not dec. 43.6 dec.
Extraction: (SepF/Cont/Sonc) SoxH
GPC Cleanup: (Y/N) N

Number TICs found: 19

Customer Sample ID: BOOHY7
Customer: KESSNER/KRAMER
File ID: >11285
Date Received: 19-MAR-1991
Date Analyzed: 11-APR-1991
Date Extracted: 8-APR-1991
pH:

Concentration Units
(ug/L or ug/Kg): ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-methy	6.33	150000	JAB
2.		NAPHTHALENE, DIMETHYL	16.37	4500	JY
3.		SAT'D HYDROCARBON	16.72	5200	J
4.		NAPHTHALENE, TRIMETHYL	18.25	8000	J
5.		NAPHTHALENE, TRIMETHYL	18.59	3000	J
6.		UNKNOWN (ALKYL AZULENE?)	19.65	6800	J
7.		ALKYL HYDROCARBON	19.77	15000	J
8.		UNKNOWN (ALKYL AZULENE)	20.38	3800	J
9.	57-10-3	Hexadecanoic acid	22.56	3400	JB
10.		SAT'D HYDROCARBON	25.78	4700	J
11.		ALKYL HYDROCARBON	26.65	5700	J
12.		ALKYL HYDROCARBON	27.49	7700	J
13.		ALKYL HYDROCARBON	28.29	6000	J
14.		SAT'D HYDROCARBON	29.06	12000	J
15.		SAT'D HYDROCARBON	29.86	4700	J
16.		SAT'D HYDROCARBON	30.71	7000	J
17.		SAT'D HYDROCARBON	32.77	5700	J
18.		UNKNOWN (BENZENAMINE?)	33.73	4700	J
19.		UNKNOWN	35.00	4000	J
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Data Reporting Qualifiers:

U - Compound was analyzed for but not detected. The number is the attainable detection limit for the sample.
B - Analyte was found in the reagent blank as well as the sample.
J - Indicates an estimated value.
ND - Not detected.
A - Aldol condensation product.
D - Secondary dilution.
E - Exceeds initial calibration range.

P - Probable Identification.

ANALYSIS DATA REPORT

Date Printed:
7-JUN-1991 10:58

AnaLIS ID: 910320-106
Laboratory: Inductively Coupled Plasma Laboratory
File ID:
Instrument ID:
Authorized By: M. J. Scheuer

Customer Sample ID: BOOHY7
Customer: KESSNER/KRAMER
Sample Matrix: SOIL
Requisition Number:
Date Sample Received:

18 Element Scan by ICP Spectrometry - CLP

Date Extracted/Prepared:
Preparation Procedure Number: EPA-3050
Percent Moisture:
Percent Moisture (decanted):
Associated Blank:

Date Analyzed: 31-MAY-1991
Analysis Procedure Number: EPA-200.7
Dilution Factor:
Analyst: VF BELT
QA File Number: 10531Y

[] : Result has been Corrected for Spike

CAS		mg/Kg	CAS		mg/Kg
7429-90-5	Aluminum	6810			
7440-36-0	Antimony	10.0U			
7440-39-3	Barium	388			
7440-41-7	Beryllium	0.56			
7440-43-9	Cadmium	0.60U			
7440-70-2	Calcium	4680			
7440-47-3	Chromium	4.2			
7440-48-4	Cobalt	2.6			
7440-50-8	Copper	24.1			
7439-89-6	Iron	5750			
7439-95-4	Magnesium	627			
7439-96-5	Manganese	16.3			
7440-02-0	Nickel	22.7			
7440-09-7	Potassium	371			
7440-22-4	Silver	1.2U			
7440-23-5	Sodium	703			
7440-62-2	Vanadium	75.5			
7440-66-6	Zinc	22.6			

Oak Ridge K-25 Site
Analytical Chemistry Department
Results of Analyses

Date Printed:
7-JUN-1991 11:08

AnaLIS ID: 910408-131 Project: G132 013 Customer Sample ID: B00HZ3
Customer: KESSNER/KRAMER Requisition Number:
Date Sampled: 1-APR-1991 Date Sample Received: 6-APR-1991
Sampled By: Date Sample Completed:
Material Description: SOIL FOR CLP ☐ : Result has been Corrected for Spike

Activ. Number	Procedure No.	Analysis	Result	Units	Analyst	QA File Number	Date Completed
	EPA CLP SOW	Arsenic	--------	mg/Kg			
	EPA CLP SOW	Lead	--------	mg/Kg			
	EPA-245.5(CLP)	Mercury	--------	mg/Kg	SA BURGESS	10411U	23-APR-1991
	EPA CLP SOW	Selenium	--------	mg/Kg			
	EPA CLP SOW	Thallium	--------	mg/Kg			
090703	EPA-3050	Boron	1.0	mg/Kg	VF BELT	10531Y	31-MAY-1991
	EPA-200.7						
	EPA-3050	Uranium	6.2	mg/Kg	VF BELT	10531Y	31-MAY-1991
	EPA-200.7						
135003	CLP10/86 SVD10	Prep (BNA- CLP)	C		JM MAHER	2745	9-APR-1991

Prep (BNA- CLP)

Analyst = JM MAHER
Date Extracted = 9-APR-1991
Sample Weight Extracted (g) = 10
Percent Solids = 77.36
Calculated Dried Weight (g) = 7.74
Extraction Method = Soxhlet
Extraction Solvent = Methlylene Chloride/Acetone
Extraction Cleanup = Sodium Sulfate
Final Volume of Extract (mL) = 1
Associated Blank = 910401-175

Program Manager: D. L. Amburgey
Date Approved:

ANALYSIS DATA REPORT

Date Printed:
7-JUN-1991 11:08

AnaLIS ID: 910408-131
Laboratory: Organic Mass Spectroscopy Laboratory
File ID: >11288
Instrument ID: 5970-3
Authorized By: D. C. Canada

Customer Sample ID: BOOHZ3
Customer: KESSNER/KRAMER
Sample Matrix: SOIL
Requisition Number:
Date Sample Received: 6-APR-1991

BNA - Base/Neutral/Acid Compounds (CLP)

Date Extracted/Prepared: 8-APR-1991
Preparation Procedure Number: CLP10/86 SVD10
Percent Moisture: 32.6
Percent Moisture (decanted):
Associated Blank: 910401-175
[] : Result has been Corrected for Spike

Date Analyzed: 11-APR-1991
Analysis Procedure Number: ACD 2470
Dilution Factor: 1.0
Analyst: C MEEHAN
QA File Number: 910411CM-0088

CAS		ug/Kg	CAS		ug/Kg
108-95-2	Phenol	1500U	106-47-8	4-Chloroaniline	1500U
111-44-4	bis(2-Chloroethyl)ether	1500U	87-68-3	Hexachlorobutadiene	1500U
95-57-8	2-Chlorophenol	1500U	59-50-7	4-Chloro-3-methylphenol	1500U
541-73-1	1,3-Dichlorobenzene	1500U	91-57-6	2-Methylnaphthalene	1500U
106-46-7	1,4-Dichlorobenzene	1500U	77-47-4	Hexachlorocyclopentadiene	1500U
100-51-6	Benzyl Alcohol	1500U	88-06-2	2,4,6-Trichlorophenol	1500U
95-50-1	1,2-Dichlorobenzene	1500U	95-95-4	2,4,5-Trichlorophenol	7100U
95-48-7	2-Methylphenol	1500U	91-58-7	2-Chloronaphthalene	1500U
108-60-1	bis(2-Chloroisopropyl)ether	1500U	88-74-4	2-Nitroaniline	7100U
106-44-5	4-Methylphenol	1500U	131-11-3	Dimethylphthalate	1500U
621-64-7	N-Nitroso-di-n-propylamine	1500U	208-96-8	Acenaphthylene	1500U
67-72-1	Hexachloroethane	1500U	99-09-2	3-Nitroaniline	7100U
98-95-3	Nitrobenzene	1500U	83-32-9	Acenaphthene	1500U
78-59-1	Isophorone	1500U	51-28-5	2,4-Dinitrophenol	7100U
88-75-5	2-Nitrophenol	1500U	100-02-7	4-Nitrophenol	7100U
105-67-9	2,4-Dimethylphenol	1500U	132-64-9	Dibenzofuran	1500U
65-85-0	Benzoic Acid	7100U	121-14-2	2,4-Dinitrotoluene	1500U
111-91-1	bis(2-Chloroethoxy)methane	1500U	606-20-2	2,6-Dinitrotoluene	1500U
120-83-2	2,4-Dichlorophenol	1500U	84-66-2	Diethylphthalate	1500U
120-82-1	1,2,4-Trichlorobenzene	1500U	7005-72-3	4-Chlorophenyl-phenylether	1500U
91-20-3	Naphthalene	1500U	86-73-7	Fluorene	1500U

Data Reporting Qualifiers:

U - Compound was analyzed for but not detected. The number is the attainable detection limit for the sample.
B - Analyte was found in the reagent blank as well as the sample.
J - Indicates an estimated value.
ND - Not detected.
A - Aldol condensation product.
D - Secondary dilution.
E - Exceeds initial calibration range.

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ANALYSIS DATA REPORT

Date Printed:
7-JUN-1991 11:08

AnaLIS ID: 910408-131
Laboratory: Organic Mass Spectroscopy Laboratory
File ID: >11288
Instrument ID: 5970-3
Authorized By: D. C. Canada

Customer Sample ID: BOOHZ3
Customer: KESSNER/KRAMER
Sample Matrix: SOIL
Requisition Number:
Date Sample Received: 6-APR-1991

BNA - Base/Neutral/Acid Compounds (CLP)

Date Extracted/Prepared: 8-APR-1991
Preparation Procedure Number: CLP10/86 SVD10
Percent Moisture: 32.6
Percent Moisture (decanted):
Associated Blank: 910401-175

Date Analyzed: 11-APR-1991
Analysis Procedure Number: ACD 2470
Dilution Factor: 1.0
Analyst: C MEEHAN
QA File Number: 910411CM-0088

[] : Result has been Corrected for Spike

CAS		ug/Kg	CAS		ug/Kg
100-01-6	4-Nitroaniline	7100U	53-70-3	Dibenz(a,h)anthracene	1500U
534-52-1	4,6-Dinitro-2-methylphenol	7100U	191-24-2	Benzo(g,h,i)perylene	1500U
86-30-6	N-Nitrosodiphenylamine	1500U			
101-55-3	4-Bromophenyl-phenylether	1500U			
118-74-1	Hexachlorobenzene	1500U			
87-86-5	Pentachlorophenol	7100U			
85-01-8	Phenanthrene	1500U			
120-12-7	Anthracene	1500U			
84-74-2	Di-n-butylphthalate	1500U			
206-44-0	Fluoranthene	1500U			
129-00-0	Pyrene	1500U			
85-68-7	Butylbenzylphthalate	1500U			
91-94-1	3,3'-Dichlorobenzidine	2900U			
56-55-3	Benzo(a)anthracene	1500U			
117-81-7	bis(2-Ethylhexyl)phthalate	660 J			
218-01-9	Chrysene	1500U			
117-84-0	Di-n-octylphthalate	1500U			
205-99-2	Benzo(b)fluoranthene	1500U			
207-08-9	Benzo(k)fluoranthene	1500U			
50-32-8	Benzo(a)pyrene	1500U			
193-39-5	Indeno(1,2,3-cd)pyrene	1500U			

Data Reporting Qualifiers:

U - Compound was analyzed for but not detected. The number is the attainable detection limit for the sample.
B - Analyte was found in the reagent blank as well as the sample.
J - Indicates an estimated value.
ND - Not detected.
A - Aldol condensation product.
D - Secondary dilution.
E - Exceeds initial calibration range.

Oak Ridge K-25 Site
Analytical Chemistry Department

Date Printed:
7-JUN-1991 11:08

BNA (CLP) SOIL ORGANICS ANALYSIS DATA SHEETS
TENTATIVELY IDENTIFIED COMPOUNDS

AnaLIS ID: 910408-131
Laboratory: Organic Mass Spectroscopy Laboratory
Sample Matrix: SOIL
Level: (low/med): LOW
Dilution Factor: 1.0
% Moisture: not dec. 32.6 dec.
Extraction: (SepF/Cont/Sonc) SoxH
GPC Cleanup: (Y/N) N

Number TICs found: 8

Customer Sample ID: B00HZ3
Customer: KESSNER/KRAMER
File ID: >11288
Date Received: 6-APR-1991
Date Analyzed: 11-APR-1991
Date Extracted: 8-APR-1991
pH:

Concentration Units
(ug/L or ug/Kg): ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	141-79-7	3-Penten-2-one, 4-methyl-	5.35	690	JAB
2.	123-42-2	2-Pentanone, 4-hydroxy-4-methy	6.49	120000	JAB
3.		UNKNOWN (HYDROCARBON)	22.07	3500	JB
4.	57-10-3	Hexadecanoic acid	22.57	1300	JB
5.		UNKNOWN	24.34	1700	JB
6.		UNKNOWN	26.95	8400	J
7.		UNKNOWN	30.18	750	JB
8.		UNKNOWN	31.26	650	J
9.					
10.					
11.					
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13.					
14.					
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30.					

Data Reporting Qualifiers:

U - Compound was analyzed for but not detected. The number is the attainable detection limit for the sample.
B - Analyte was found in the reagent blank as well as the sample.
J - Indicates an estimated value.
ND - Not detected.
A - Aldol condensation product.
D - Secondary dilution.
E - Exceeds initial calibration range.

P - Probable Identification.

ANALYSIS DATA REPORT

Date Printed:
7-JUN-1991 11:08

AnaLIS ID: 910408-131
Laboratory: Inductively Coupled Plasma Laboratory
File ID:
Instrument ID:
Authorized By: M. J. Scheuer

Customer Sample ID: BOOHZ3
Customer: KESSNER/KRAMER
Sample Matrix: SOIL
Requisition Number:
Date Sample Received:

18 Element Scan by ICP Spectrometry - CLP

Date Extracted/Prepared:
Preparation Procedure Number: EPA-3050
Percent Moisture:
Percent Moisture (decanted):
Associated Blank:

Date Analyzed: 31-MAY-1991
Analysis Procedure Number: EPA-200.7
Dilution Factor:
Analyst: VF BELT
QA File Number: 10531Y

[] : Result has been Corrected for Spike

CAS		mg/Kg	CAS		mg/Kg
7429-90-5	Aluminum	9890			
7440-36-0	Antimony	8.7U			
7440-39-3	Barium	69.5			
7440-41-7	Beryllium	0.37			
7440-43-9	Cadmium	0.52U			
7440-70-2	Calcium	3960			
7440-47-3	Chromium	11.9			
7440-48-4	Cobalt	8.9			
7440-50-8	Copper	40.2			
7439-89-6	Iron	15800			
7439-95-4	Magnesium	4500			
7439-96-5	Manganese	350			
7440-02-0	Nickel	9.2			
7440-09-7	Potassium	982			
7440-22-4	Silver	1.0U			
7440-23-5	Sodium	206			
7440-62-2	Vanadium	36.9			
7440-66-6	Zinc	68.8			

MARTIN MARIETTA

MARTIN MARIETTA ENERGY SYSTEMS, INC.

POST OFFICE BOX 2003
OAK RIDGE, TENNESSEE 37831

December 6, 1991

Ms. Joan Kessner
Westinghouse Hanford Company
Office of Sample Management
2355 Stevens Drive
Richland, Washington, 99352

Dear Ms. Kessner:

Inorganic Analysis CLP Package on Project 91-013: 300-FF-1 Nonhazardous Source Characterization

Attached are the results of the inorganic analyses on the 300-FF-1 Nonhazardous Source Characterization samples, SDG# BOOHY7/BOOHZ3, Project 91-013, received into the K-25 Site Analytical Chemistry Department (ACD) laboratories on March 19, 1991, and April 6, 1991. Also attached are copies of the Chain of Custody records for the samples, and a sample identification table The results are reported in CLP format for the inorganic analyses. All data quality objectives were satisfied on this project.

I certify that this data package is in compliance with the terms and conditions of the OSM's revised Statement of Work and letter dated December 20, 1990, both technically and for completeness, for other than any conditions detailed in the forms. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Sincerely,

Deborah L. Amburgey
Deborah L. Amburgey
Program Manager
Hanford Support Program

Clarence R. Kirkpatrick
Clarence R. Kirkpatrick
Program Manager
Waste Management Analysis

Roy W. Morrow
Department Manager
K-25 Site Analytical Chemistry Department

Attachments
cc/attach: D.L.Amburgey
S.R.Smith - RC
cc: N.P.Buddin
H.H.Sullivan

Copies w/ missing signatures received by OSM on Dec. 7, 1991. Those pages are attached to the letter dated Jan. 23, 1992.
Doris Ayres
3-15-94

December 05, 1991

Joan Kessner
Project Manager
Westinghouse Hanford Company
Richland, WA 99336

Dear Ms. Kessner:

Between March 19 and April 6, 1991 the K-25 (ORK25P) Analytical Chemistry Department received the following soil samples for analysis:

Laboratory ID	Customer Sample ID	EPA ID
910320-106	BOOHY7	BOOHY7
910408-131	BOOHZ3	BOOHZ3

The above samples were designated as ICP SDG number BOOHY7.

ICP calibration verifications	SPEX Multielement Standards (SPEX QC-19, SPEX QC-7)
ICP interference check standards	UNLV-QAL ICS-A(1084) and ICS-B(1084)
ICP soil laboratory control std	UNLV-QAL LCS(0287)
ICP CRDL standard	Perkin Elmer Multielement Standard (PE Pure No. N930-0225)

ICP Calibration Standards

A. STD1 = Matrix Matched Standard Blank
B. STD2 = SPEX Multielement Standard (XORNL30)
C. STD3 = SPEX Multielement Standard (XORNL31)
D. STD4 = SPEX Multielement Standard (XORNL19, XORNL32)
E. STD5 = SPEX Multielement Standard (XORNL23)
F. STD6 = SPEX Multielement Standard (XORNL25)
G. STD7 = SPEX Multielement Standard (XORNL26)
H. STD8 = SPEX Multielement Standard (XORNL21)

All associated QA/QC was within the criteria specified by CLP. However these two samples were incorrectly digested and analyzed as one Sample Delivery Group(SDG). CLP protocol requires that samples received more than fourteen days apart must be grouped in separate SDG's. These samples were received within a period of eighteen days.

Sincerely

M.J. Scheuer

cc: M.S. Dill
R.W. Morrow
File - MJS - NoRC

This data has been reviewed and is approved for release.

R.W. Morrow, Dept. Head

M.S. Dill, Methodology and QA

December 5, 1991

Joan Kessner
Project Manager
Westinghouse Hanford Company
Richland, WA 99336

Dear Ms. Kessner,

On April 6, 1991 the Oak Ridge K-25 Site (K-25) Analytical Chemistry Department (ACD) received 1 soil sample from Westinghouse Hanford Company. This sample was grouped into a Sample Delivery Group following EPA CLP protocols. The K-25 sample identification number was assigned as follows:

Laboratory ID	Customer ID	EPA Sample Number
910408-131	BOOHZ3	BOOHZ3

A narrative of the Atomic Spectrometry and Mercury Analysis laboratories experiences and problems in the preparation and analysis of the sample is given below:

> The one (1) sample within this Sample Delivery Group was prepared and analyzed following EPA-CLP protocols. The Inorganic Analysis Data Sheet, Form I, the arsenic and lead analyte results are flagged with "S" and "N" Q flags, respectively. The arsenic result was derived from method of standard additions and is therefore flagged "S", the lead pre-digest spike recovery is not within the 25% QC range and is flagged "N" according to CLP protocol. There is no analytical explanation for the low lead recovery, as other QC samples recovered within required ranges. Due to another problem with the form generation software, the Analysis Run Log, Form XIV, graphite furnace analytical spike recoveries were hand entered. The analytical spike recoveries have been transcribed from the software directly on the forms for all the appropriate Form XIV's. No other unusual problems were encountered with this sample set.
>
> The following quality control solutions were used for the analysis of these materials:

GFAAS initial calibration verification	EPA ICV-2 (0590) and ICV-4 (0389)
GFAAS continuing calibration verification	Perkin-Elmer CLP standard N930-0221
GFAAS solid laboratory control sample	EPA LCS (0287)
Hg calibration verification	EPA ICV-5 (0788)
Hg continuing calibration verification	J.T. Baker Hg standard 6934-01
Hg solid laboratory control sample	EPA LCS (0287)

All values on all forms have been rounded to the appropriate number of significant figures in

accordance with the 10/89 revision of the EPA CLP statement of work, SOW 7/88. All data qualifier flags, C and Q field, are consistent with requirements of SOW 7/88. All calculated results shown on forms are derived from the rounded values given on the forms, not from the original raw data.

Sincerely,

Thomas J. Oatts

cc: M. S. Dill
R. W. Morrow
File - TJO - NoRC

This data has been reviewed and is approved for release.

R. W. Morrow, Dept. Head

M. S. Dill, Methodology and QA

December 5, 1991

Joan Kessner
Project Manager
Westinghouse Hanford Company
Richland, WA 99336

Dear Ms. Kessner,

On March 19, 1991 the Oak Ridge K-25 Site (K-25) Analytical Chemistry Department (ACD) received 1 soil sample from Westinghouse Hanford Company. This sample was grouped into a Sample Delivery Group following EPA CLP protocols. The K-25 sample identification number was assigned as follows:

Laboratory ID	Customer ID	EPA Sample Number
910320-106	BOOHY7	BOOHY7

A narrative of the Atomic Spectrometry and Mercury Analysis laboratories experiences and problems in the preparation and analysis of the sample is given below:

> The one (1) sample within this Sample Delivery Group was prepared and analyzed following EPA-CLP protocols. The Inorganic Analysis Data Sheet, Form I, the lead and selenium analyte results are flagged with Q flags. The lead result was derived from method of standard additions and is therefore flagged "S" and the duplicate precision was outside the CLP allowable range which generates a "*" flag. The selenium pre-digest spike recovery was outside the 25% QC range and is flagged "N" according to CLP protocol and the sample result was derived from a MSA run which creates the "S" flag. Because CLP run protocols are specific, the analytical sample and duplicate are subject to possible MSA determinations, whereas the pre-digest spike sample is not. Therefore the Form I values which are derived from MSA determinations are compared to non-MSA results for the spike. This may yield low pre-digest spike recoveries like those reported with this sample. The lead pre-digest spike did not recover, however due to the high analyte concentration no Q flag is required.
>
> Form II (Part 1), Initial and Continuing Calibration Verification, shows that two different initial calibration verification (ICV) standards were used for lead determinations. The percent recoveries on Form II are correct for the two Pb ICV's. Form VI, Duplicates, shows Q flags for lead and mercury duplicates. The lead value is flagged correctly, however the mercury is flagged with a "*" flag incorrectly. The Q flag on Form I has been removed to reflect the correct analytical result however the flag on Form VI could not be altered in the software. Please disregard this flag. Due to another problem with the form generation software, the Analysis Run Log, Form XIV, graphite furnace analytical spike

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recoveries were hand entered. The analytical spike recoveries have been transcribed from the software directly on the forms for all the appropriate Form XIV's. No other unusual problems were encountered with this sample set.

The following quality control solutions were used for the analysis of these materials:

GFAAS initial calibration verification	EPA ICV-2 (0590), ICV-4 (0389), and Perkin-Elmer CLP standard N930-0224
GFAAS continuing calibration verification	Perkin-Elmer CLP standard N930-0221
GFAAS solid laboratory control sample	EPA LCS (0287)
Hg calibration verification	EPA ICV-5 (0788)
Hg continuing calibration verification	J.T. Baker Hg standard 6934-01
Hg solid laboratory control sample	EPA LCS (0287)

All values on all forms have been rounded to the appropriate number of significant figures in accordance with the 10/89 revision of the EPA CLP statement of work, SOW 7/88. All data qualifier flags, C and Q field, are consistent with requirements of SOW 7/88. All calculated results shown on forms are derived from the rounded values given on the forms, not from the original raw data.

Sincerely,

Thomas J. Oatts

Thomas J. Oatts

cc: M. S. Dill
R. W. Morrow
File - TJO - NoRC

This data has been reviewed and is approved for release.

R. W. Morrow, Dept. Head

M. S. Dill, Methodology and QA

SAMPLE IDENTIFICATION TABLE FOR SDG# BOOHY7/BOOHZ3

300-FF-1 NONHAZARDOUS SOURCE CHARACTERIZATION SAMPLES

Date Sample Received	OSM Sample ID	Lab Sample ID	Matrix	Comments
3/19/91	BOOHY7	910320-106	fly ash	Matrix determination obtained from Chain of Custody information
4/06/91	BOOHZ3	910408-131	soil	Matrix determination obtained from Chain of Custody information

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: MARTIN MARIETTA Contract:

Lab Code: K25 Case No.: SAS No.: SDG No.: BOOHY7

SOW No.: 7/88

Sample No.	Lab Sample ID.
BOOHY7	910320-106
BOOHY7D	910320-106
BOOHY7S	910320-106
BOOHZ3	910408-131

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes, were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms, and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mark J. Scheuer Name: Mark J. Scheuer

Date: 12/5/91 Title: ICP Lab Supervisor

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Oak Ridge K-25 Site Contract:

Lab Code: SPEC Case No.: SAS No.: SDG No.: BOOHY7

SOW No.: 7/88

Sample No.	Lab Sample ID.
BOOHY7	910320-106
BOOHY7D	Duplicate
BOOHY7S	13

Were ICP interelement corrections applied? Yes/No NO

Were ICP background corrections applied? Yes/No NO

If yes, were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms, and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Thomas J. Potts Name: Thomas J. Potts

Date: 12-5-91 Title: Supervisor

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Oak Ridge K-25 Site Contract:

Lab Code: SPEC Case No.: SAS No.: SDG No.: BOOHZ3

SOW No.: 7/88

Sample No.	Lab Sample ID.
BOOHZ3	910408-131
BOOHZ3D	duplicate
BOOHZ3S	spike

Were ICP interelement corrections applied? Yes/No NO

Were ICP background corrections applied? Yes/No NO
If yes, were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms, and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Thomas J. Ratts Name: Thomas J. Ratts

Date: 12-5-91 Title: Supervisor

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BOOHY7

Lab Name: MARTIN MARIETTA Contract:

Lab Code: K25 Case No.: SAS No.: SDG No.: BOOHY7

Matrix (soil/water): SOIL Lab Sample ID: 910320-106

Level (low/med): LOW Date Received: 03/19/91

% Solids: 70.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9650			P
7440-36-0	Antimony	14.1	U	N	P
7440-39-3	Barium	550			P
7440-41-7	Beryllium	0.79	B		P
7440-43-9	Cadmium	0.85	U		P
7440-70-2	Calcium	6640			P
7440-47-3	Chromium	5.9			P
7440-48-4	Cobalt	3.7	B		P
7440-50-8	Copper	34.1			P
7439-89-6	Iron	8140			P
7439-95-4	Magnesium	892	B		P
7439-96-5	Manganese	23.1			P
7440-02-0	Nickel	32.1			P
7440-09-7	Potassium	526	B		P
7440-22-4	Silver	* 1.7	U		P
7440-23-5	Sodium	1040	B		P
7440-62-2	Vanadium	107			P
7440-66-6	Zinc	32.9		E	P
	Uranium	8.5	U		P
	Boron	158			P

Color Before: BLACK Clarity Before: Texture: COURSE

Color After: GREY Clarity After: CLEAR Artifacts:

Comments:
K-25 Analytical Chemistry Department AnaLIS ID; 910320-106

ENVIROFORMS/CLP 788

SAMPLE NO.

BOOHY7

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Oak Ridge K-25 Site - Contract:

Lab Code: SPEC Case No.: SAS No.: SDG No.: BOOHY7

Matrix (soil/water): SOIL Lab Sample ID: 910320-106

Level (low/med): LOW Date Received: 03/19/91

% Solids: 70.6

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.8			F
7439-92-1	Lead	47.4		S*	F
7782-49-2	Selenium	2.7		NS	F
7440-28-0	Thallium	1.5	U		F
7439-97-6	Mercury	0.14	U		CV

Color Before: BLACK Clarity Before: N/A Texture: COARSE

Color After: BLACK Clarity After: N/A Artifacts: YES

Comments:
Sample contained rocks
K-25 ACD AnaLIS ID number 910320-106
Run under EPA CLP QC protocol. Package generated following CLP format

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BOOHZ3

Lab Name: MARTIN MARIETTA Contract:

Lab Code: K25 Case No.: SAS No.: SDG No.: BOOHY7

Matrix (soil/water): SOIL Lab Sample ID: 910408-131

Level (low/med): LOW Date Received: 04/06/91

% Solids: 80.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12100			P
7440-36-0	Antimony	10.8	U	N	P
7440-39-3	Barium	85.9			P
7440-41-7	Beryllium	0.47	B		P
7440-43-9	Cadmium	0.65	U		P
7440-70-2	Calcium	4900			P
7440-47-3	Chromium	14.8			P
7440-48-4	Cobalt	11.0			P
7440-50-8	Copper	49.7			P
7439-89-6	Iron	19500			P
7439-95-4	Magnesium	5570			P
7439-96-5	Manganese	432			P
7440-02-0	Nickel	11.4			P
7440-09-7	Potassium	1210			P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	288	B		P
7440-62-2	Vanadium	45.6			P
7440-66-6	Zinc	85.8		E	P
	Uranium	7.6			P
	Boron	1.3			P

Color Before: BROWN Clarity Before: Texture: COURSE

Color After: GREY Clarity After: CLOUDY Artifacts:

Comments:
K-25 Analytical Chemistry Department AnaLIS ID; 910408-131

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BOOHZ3

Lab Name: Oak Ridge K-25 Site Contract:

Lab Code: SPEC Case No.: SAS No.: SDG No.: BOOHZ3

Matrix (soil/water): SOIL Lab Sample ID: 910408-131

Level (low/med): LOW Date Received: 04/06/91

% Solids: 80.9

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	4.1		S	F
7439-92-1	Lead	6.4		N	F
7782-49-2	Selenium	0.49	U		F
7440-28-0	Thallium	1.4	U		F
7439-97-6	Mercury	0.12	U		CV

Color Before: BROWN Clarity Before: N/A Texture: COARSE

Color After: BROWN Clarity After: N/A Artifacts: YES

Comments:
Sample contained rocks
K-25 ACD AnaLIS ID number 910408-131
Run under EPA-CLP Quality Control protocol, reported as CLP package

CASE NARRATIVE
for GC/MS data

Laboratory Name: MARTIN MARIETTA (K-25 SITE)
Case # : G132-013
BNA SDG # : BOOHY7
Contract # : 0288

Sample Identification:

EPA SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	MATRIX	COMMENT
Semivolatile soil samples (SDG # BOOHY7)				
SBLKJM	910401-175	>11231	soil	method blank
BOOHY7	910320-106	>11232	soil	sample
BOOHYMS	910401-176	>11233	soil	sample matrix spike
BOOHYMSD	910401-177	>11234	soil	sample matrix spike dup
BOOHZ3	910408-131	>11288	soil	sample
SBLKJM2	910401-175	>11284	soil	rerun method blank
BOOHY7RE	910320-106	>11285	soil	rerun sample
BOOHY7REMS	910401-176	>11286	soil	rerun matrix spike
BOOHY7REMSD	910401-177	>11287	soil	rerun matrix spike dup

SEMIVOLATILE WATER SDG # BOOHY7 COMMENTS:

The values of the surrogates for samples BOOHY7, BOOHY7MS and BOOHY7MSD with the original prep were outside of contract required QC limits (see Form 2D). Therefore the samples were reprepared and reanalyzed. All surrogate standards for the reanalyzed samples were within percent recovery acceptance criteria. No pH analyses were performed or reported for the samples. All other QC, DFTPP tune, "CCC" and "SPCC" components and internal standard areas were within acceptance criteria.

This GC/MS hardcopy data package is in compliance with the terms and conditions of the 2/88 organic CLP SOW, both technically and for completeness, to the best of my knowledge, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

SIGNATURE Cyrus Meehan DATE 11/3/91

Cyrus Meehan, Ph.D
Chemist, GC/MS Laboratory

November 3, 1991

0088

15

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOHY7

Lab Name: MARTIN MARIETTA Contract: 0288

Lab Code: K25 Case No.: G132-013SAS No.: NA SDG No.: ~~NA~~ BOOHY7 5/15/91

Matrix: (soil/water) SOIL Lab Sample ID: 910320-106

Sample wt/vol: 10 (g/mL) G Lab File ID: >11232

Level: (low/med) LOW Date Received: 03/19/91

% Moisture: not dec. 43.6 dec. NA Date Extracted: 03/27/91

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 4/02/91

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/KG	Q
108-95-2	Phenol	1800.	U
111-44-4	bis(2-Chloroethyl)Ether	1800.	U
95-57-8	2-Chlorophenol	1800.	U
541-73-1	1,3-Dichlorobenzene	1800.	U
106-46-7	1,4-Dichlorobenzene	1800.	U
100-51-6	Benzyl alcohol	1800.	U
95-50-1	1,2-Dichlorobenzene	1800.	U
95-48-7	2-Methylphenol	1800.	U
39638-32-9	bis(2-chloroisopropyl)ether	1800.	U
106-44-5	4-Methylphenol	1800.	U
621-64-7	N-Nitroso-Di-n-propylamine	1800.	U
67-72-1	Hexachloroethane	1800.	U
98-95-3	Nitrobenzene	1800.	U
78-59-1	Isophorone	1800.	U
88-75-5	2-Nitrophenol	1800.	U
105-67-9	2,4-Dimethylphenol	1800.	U
65-85-0	Benzoic acid	8900.	U
111-91-1	bis(2-Chloroethoxy)methane	1800.	U
120-83-2	2,4-Dichlorophenol	1800.	U
120-82-1	1,2,4-Trichlorobenzene	1800.	U
91-20-3	Naphthalene	360.	J
106-47-8	4-Chloroaniline	1800.	U
87-68-3	Hexachlorobutadiene	1800.	U
59-50-7	4-Chloro-3-methylphenol	1800.	U
91-57-6	2-Methylnaphthalene	670.	J
77-47-4	Hexachlorocyclopentadiene	1800.	U
88-06-2	2,4,6-Trichlorophenol	1800.	U
95-95-4	2,4,5-Trichlorophenol	8900.	U
91-58-7	2-Chloronaphthalene	1800.	U
88-74-4	2-Nitroaniline	8900.	U
131-11-3	Dimethylphthalate	1800.	U
208-96-8	Acenaphthylene	1800.	U
606-20-2	2,6-Dinitrotoluene	1800.	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOHY7

Lab Name: MARTIN MARIETTA Contract: 0288

Lab Code: K25 Case No.: G132-013SAS No.: NA SDG No.: ~~NA~~ BOOHY7 5/12/91

Matrix: (soil/water) SOIL Lab Sample ID: 910320-106

Sample wt/vol: 10 (g/mL) G Lab File ID: >11232

Level: (low/med) LOW Date Received: 03/19/91

% Moisture: not dec. 43.6 dec. NA Date Extracted: 03/27/91

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 4/02/91

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/KG	Q
99-09-2	3-Nitroaniline	8900.	U
83-32-9	Acenaphthene	1800.	U
51-28-5	2,4-Dinitrophenol	8900.	U
100-02-7	4-Nitrophenol	8900.	U
132-64-9	Dibenzofuran	1800.	U
121-14-2	2,4-Dinitrotoluene	1800.	U
84-66-2	Diethylphthalate	1800.	U
7005-72-3	4-Chlorophenyl-phenylether	1800.	U
86-73-7	Fluorene	1800.	U
100-01-6	4-Nitroaniline	8900.	U
534-52-1	4,6-Dinitro-2-methylphenol	8900.	U
86-30-6	N-Nitrosodiphenylamine (1)	1800.	U
101-55-3	4-Bromophenyl-phenylether	1800.	U
118-74-1	Hexachlorobenzene	1800.	U
87-86-5	Pentachlorophenol	8900.	U
85-01-8	Phenanthrene	1800.	U
120-12-7	Anthracene	1800.	U
84-74-2	Di-n-butylphthalate	1800.	U
206-44-0	Fluoranthene	1800.	U
129-00-0	Pyrene	1800.	U
85-68-7	Butylbenzylphthalate	1800.	U
91-94-1	3,3'-Dichlorobenzidine	3500.	U
56-55-3	Benzo(a)anthracene	1800.	U
218-01-9	Chrysene	1800.	U
117-81-7	bis(2-Ethylhexyl)phthalate	1800.	U
117-84-0	Di-n-octylphthalate	1800.	U
205-99-2	Benzo(b)fluoranthene	1800.	U
207-08-9	Benzo(k)fluoranthene	1800.	U
50-32-8	Benzo(a)pyrene	1800.	U
193-39-5	Indeno(1,2,3-cd)pyrene	1800.	U
53-70-3	Dibenz(a,h)anthracene	1800.	U
191-24-2	Benzo(g,h,i)perylene	1800.	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOOHY7

Lab Name: MARTIN MARIETTA Contract: 0288

Lab Code: K25 Case No.: G132-013SAS No.: NA SDG No.: ~~NA~~ BOOHY7 5/15/91

Matrix: (soil/water) SOIL Lab Sample ID: 910320-106

Sample wt/vol: 10 (g/mL) G Lab File ID: >11232

Level: (low/med) LOW Date Received: 03/19/91

% Moisture: not dec. 43.6 dec. NA Date Extracted: 03/27/91

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 4/02/91

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-Hydroxy-4-methyl-	6.49	64,000	JAB
2.		Naphthalene, dimethyl	16.41	1100	JY
3.		UNKNOWN (Alkyl Hydrocarbon)	16.75	1400	J
4.		Naphthalene, Trimethyl	18.30	2000	JY
5.		Naphthalene, Alkyl	19.30	800	J
6.	489849	Azulene, 1,4-dimethyl-7-(1-methyle	19.68	1700	J
7.		UNKNOWN (Alkyl Hydrocarbon)	19.80	3600	J
8.		Azulene, 7-ethyl-1,4-dimethyl-	20.41	830	J
9.		UNKNOWN (Sat'd Hydrocarbon)	25.82	2000	JB
10.		UNKNOWN	26.45	1500	JB
11.		UNKNOWN (Sat'd Hydrocarbon)	26.70	2200	JB
12.		UNKNOWN (Sat'd Hydrocarbon)	27.53	3600	JB
13.		UNKNOWN (Sat'd Hydrocarbon)	28.33	2700	JB
14.		UNKNOWN (Sat'd Hydrocarbon)	29.10	4600	JB
15.		UNKNOWN (Sat'd Hydrocarbon)	29.89	2800	J
16.		UNKNOWN (Sat'd Hydrocarbon)	30.77	4200	J
17.		UNKNOWN (Sat'd Hydrocarbon)	32.83	3300	J
18.		UNKNOWN (Mixture of two?)	33.38	1800	J
19.		UNKNOWN	33.78	1800	J
20.		UNKNOWN	35.07	2100	J
21.				DM	
22.				11/2/91	
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

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48

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOHY7RE

Lab Name: MARTIN MARIETTA Contract: 0288

Lab Code: K25 Case No.: G132-013SAS No.: NA SDG No.: ~~NA~~ BOOHY7 SJS 12/5/91

Matrix: (soil/water) SOIL Lab Sample ID: 910320-106

Sample wt/vol: 10 (g/mL) G Lab File ID: >11285

Level: (low/med) LOW Date Received: 03/19/91

% Moisture: not dec. 43.6 dec. NA Date Extracted: 04/08/91

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 4/11/91

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 2.0

BLK : 910401-175

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/KG	Q	
108-95-2	Phenol	3600.	U	
111-44-4	bis(2-Chloroethyl)Ether	3600.	U	
95-57-8	2-Chlorophenol	3600.	U	
541-73-1	1,3-Dichlorobenzene	3600.	U	
106-46-7	1,4-Dichlorobenzene	3600.	U	
100-51-6	Benzyl alcohol	3600.	U	
95-50-1	1,2-Dichlorobenzene	3600.	U	
95-48-7	2-Methylphenol	3600.	U	
39638-32-9	bis(2-chloroisopropyl)ether	3600.	U	
106-44-5	4-Methylphenol	3600.	U	
621-64-7	N-Nitroso-Di-n-propylamine	3600.	U	
67-72-1	Hexachloroethane	3600.	U	
98-95-3	Nitrobenzene	3600.	U	
78-59-1	Isophorone	3600.	U	
88-75-5	2-Nitrophenol	3600.	U	
105-67-9	2,4-Dimethylphenol	3600.	U	
65-85-0	Benzoic acid	18000.	U	
111-91-1	bis(2-Chloroethoxy)methane	3600.	U	
120-83-2	2,4-Dichlorophenol	3600.	U	
120-82-1	1,2,4-Trichlorobenzene	3600.	U	
91-20-3	Naphthalene	3300 ~~920~~.	J	am 11/20/91
106-47-8	4-Chloroaniline	3600.	U	
87-68-3	Hexachlorobutadiene	3600.	U	
59-50-7	4-Chloro-3-methylphenol	3600.	U	
91-57-6	2-Methylnaphthalene	6300 ~~1800~~.	J	am 11/20/91
77-47-4	Hexachlorocyclopentadiene	3600.	U	
88-06-2	2,4,6-Trichlorophenol	3600.	U	
95-95-4	2,4,5-Trichlorophenol	18000.	U	
91-58-7	2-Chloronaphthalene	3600.	U	
88-74-4	2-Nitroaniline	18000.	U	
131-11-3	Dimethylphthalate	3600.	U	
208-96-8	Acenaphthylene	3600.	U	
606-20-2	2,6-Dinitrotoluene	3600.	U	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOHY7RE

Lab Name: MARTIN MARIETTA Contract: 0288

Lab Code: K25 Case No.: G132-013SAS No.: NA SDG No.: ~~NA~~ BOOHY7 SAS 12/5/91

Matrix: (soil/water) SOIL Lab Sample ID: 910320-106

Sample wt/vol: 10 (g/mL) G Lab File ID: >11285

Level: (low/med) LOW Date Received: 03/19/91

% Moisture: not dec. 43.6 dec. NA Date Extracted: 04/08/91

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 4/11/91

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/KG	Q
99-09-2	3-Nitroaniline	18000.	U
83-32-9	Acenaphthene	3600.	U
51-28-5	2,4-Dinitrophenol	18000.	U
100-02-7	4-Nitrophenol	18000.	U
132-64-9	Dibenzofuran	3600.	U
121-14-2	2,4-Dinitrotoluene	3600.	U
84-66-2	Diethylphthalate	3600.	U
7005-72-3	4-Chlorophenyl-phenylether	3600.	U
86-73-7	Fluorene	3600.	U
100-01-6	4-Nitroaniline	18000.	U
534-52-1	4,6-Dinitro-2-methylphenol	18000.	U
86-30-6	N-Nitrosodiphenylamine (1)	3600.	U
101-55-3	4-Bromophenyl-phenylether	3600.	U
118-74-1	Hexachlorobenzene	3600.	U
87-86-5	Pentachlorophenol	18000.	U
85-01-8	Phenanthrene	3600.	U
120-12-7	Anthracene	3600.	U
84-74-2	Di-n-butylphthalate	3600.	U
206-44-0	Fluoranthene	3600.	U
129-00-0	Pyrene	3600.	U
85-68-7	Butylbenzylphthalate	3600.	U
91-94-1	3,3'-Dichlorobenzidine	7200.	U
56-55-3	Benzo(a)anthracene	3600.	U
218-01-9	Chrysene	3600.	U
117-81-7	bis(2-Ethylhexyl)phthalate	1900. ~~530.~~	JB
117-84-0	Di-n-octylphthalate	3600.	U
205-99-2	Benzo(b)fluoranthene	3600.	U
207-08-9	Benzo(k)fluoranthene	3600.	U
50-32-8	Benzo(a)pyrene	3600.	U
193-39-5	Indeno(1,2,3-cd)pyrene	3600.	U
53-70-3	Dibenz(a,h)anthracene	3600.	U
191-24-2	Benzo(g,h,i)perylene	3600.	U

GM 11/20/91

(1) - Cannot be separated from Diphenylamine

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EPA SAMPLE NO.

BOOHY7RE

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: MARTIN MARIETTA Contract: 0288

Lab Code: K25 Case No.: G132-013SAS No.: NA SDG No.: ~~NA~~ BOOHY7 SDS 12/5/91

Matrix: (soil/water) SOIL Lab Sample ID: 910320-106

Sample wt/vol: 10 (g/mL) G Lab File ID: >11285

Level: (low/med) LOW Date Received: 03/19/91

% Moisture: not dec. 43.6 dec. NA Date Extracted: 04/08/91

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 4/11/91

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 2.00000

Number TICs found: 19

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	Diacetone Alcohol	6.33	150,000	JAB
2.		Naphthalene, Dimethyl	16.37	4500	JY
3.		Sat'D Hydrocarbon	16.72	5200	J
4.		Naphthalene, Trimethyl	18.25	8000	J
5.		" " "	18.59	3000	J
6.		UNKNOWN (Alkyl Azulene ?)	19.65	6800	J
7.		Alkyl Hydrocarbon	19.77	15000	J
8.		UNKNOWN (Alkyl Azulene)	20.38	3800	J
9.	57-10-3	Hexadecanoic Acid	22.56	3400	JB
10.		SAT'D Hydrocarbon	25.78	4700	J
11.		Alkyl Hydrocarbon	26.65	5700	J
12.		Alkyl Hydrocarbon	27.49	7700	J
13.		Alkyl Hydrocarbon	28.29	6000	J
14.		SAT'D Hydrocarbon	29.06	12000	J
15.		SAT'D Hydrocarbon	29.86	4700	J
16.		SAT'D Hydrocarbon	30.71	7000	J
17.		SAT'D Hydrocarbon	32.77	5700	J
18.		UNKNOWN (Benzenamine ?)	33.73	4700	J
19.		UNKNOWN	35.00	4000	J
20.					
21.				CM	
22.				4/16/91	
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOHZ3

Lab Name: MARTIN MARIETTA Contract: 0288

Lab Code: K25 Case No.: G132-013SAS No.: NA SDG No.: ~~NA~~ BOOHY7 SR 12/5/9

Matrix: (soil/water) SOIL Lab Sample ID: 910408-131

Sample wt/vol: 10 (g/mL) G Lab File ID: >11288

Level: (low/med) LOW Date Received: 04/06/91

% Moisture: not dec. 32.6 dec. NA Date Extracted: 04/08/91

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 4/11/91

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

BLK : 910401-175

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/KG	Q
108-95-2	Phenol	1500.	U
111-44-4	bis(2-Chloroethyl)Ether	1500.	U
95-57-8	2-Chlorophenol	1500.	U
541-73-1	1,3-Dichlorobenzene	1500.	U
106-46-7	1,4-Dichlorobenzene	1500.	U
100-51-6	Benzyl alcohol	1500.	U
95-50-1	1,2-Dichlorobenzene	1500.	U
95-48-7	2-Methylphenol	1500.	U
39638-32-9	bis(2-chloroisopropyl)ether	1500.	U
106-44-5	4-Methylphenol	1500.	U
621-64-7	N-Nitroso-Di-n-propylamine	1500.	U
67-72-1	Hexachloroethane	1500.	U
98-95-3	Nitrobenzene	1500.	U
78-59-1	Isophorone	1500.	U
88-75-5	2-Nitrophenol	1500.	U
105-67-9	2,4-Dimethylphenol	1500.	U
65-85-0	Benzoic acid	7400.	U
111-91-1	bis(2-Chloroethoxy)methane	1500.	U
120-83-2	2,4-Dichlorophenol	1500.	U
120-82-1	1,2,4-Trichlorobenzene	1500.	U
91-20-3	Naphthalene	1500.	U
106-47-8	4-Chloroaniline	1500.	U
87-68-3	Hexachlorobutadiene	1500.	U
59-50-7	4-Chloro-3-methylphenol	1500.	U
91-57-6	2-Methylnaphthalene	1500.	U
77-47-4	Hexachlorocyclopentadiene	1500.	U
88-06-2	2,4,6-Trichlorophenol	1500.	U
95-95-4	2,4,5-Trichlorophenol	7400.	U
91-58-7	2-Chloronaphthalene	1500.	U
88-74-4	2-Nitroaniline	7400.	U
131-11-3	Dimethylphthalate	1500.	U
208-96-8	Acenaphthylene	1500.	U
606-20-2	2,6-Dinitrotoluene	1500.	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOOHZ3

Lab Name: MARTIN MARIETTA Contract: 0288

Lab Code: K25 Case No.: G132-013SAS No.: NA SDG No.: ~~NA~~ B00HY7 12/5/9

Matrix: (soil/water) SOIL Lab Sample ID: 910408-131

Sample wt/vol: 10 (g/mL) G Lab File ID: >11288

Level: (low/med) LOW Date Received: 04/06/91

% Moisture: not dec. 32.6 dec. NA Date Extracted: 04/08/91

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 4/11/91

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/KG	Q
99-09-2	3-Nitroaniline	7400.	U
83-32-9	Acenaphthene	1500.	U
51-28-5	2,4-Dinitrophenol	7400.	U
100-02-7	4-Nitrophenol	7400.	U
132-64-9	Dibenzofuran	1500.	U
121-14-2	2,4-Dinitrotoluene	1500.	U
84-66-2	Diethylphthalate	1500.	U
7005-72-3	4-Chlorophenyl-phenylether	1500.	U
86-73-7	Fluorene	1500.	U
100-01-6	4-Nitroaniline	7400.	U
534-52-1	4,6-Dinitro-2-methylphenol	7400.	U
86-30-6	N-Nitrosodiphenylamine (1)	1500.	U
101-55-3	4-Bromophenyl-phenylether	1500.	U
118-74-1	Hexachlorobenzene	1500.	U
87-86-5	Pentachlorophenol	7400.	U
85-01-8	Phenanthrene	1500.	U
120-12-7	Anthracene	1500.	U
84-74-2	Di-n-butylphthalate	1500.	U
206-44-0	Fluoranthene	1500.	U
129-00-0	Pyrene	1500.	U
85-68-7	Butylbenzylphthalate	1500.	U
91-94-1	3,3'-Dichlorobenzidine	3000.	U
56-55-3	Benzo(a)anthracene	1500.	U
218-01-9	Chrysene	1500.	U
117-81-7	bis(2-Ethylhexyl)phthalate	660 ~~1500.~~	~~U~~ JB
117-84-0	Di-n-octylphthalate	1500.	U
205-99-2	Benzo(b)fluoranthene	1500.	U
207-08-9	Benzo(k)fluoranthene	1500.	U
50-32-8	Benzo(a)pyrene	1500.	U
193-39-5	Indeno(1,2,3-cd)pyrene	1500.	U
53-70-3	Dibenz(a,h)anthracene	1500.	U
191-24-2	Benzo(g,h,i)perylene	1500.	U

CM 4/16

(1) - Cannot be separated from Diphenylamine

84

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B00HZ3

Lab Name: MARTIN MARIETTA Contract: 0288

Lab Code: K25 Case No.: G132-013SAS No.: NA SDG No.: ~~NA~~ B00HY7 SMG 12/6/91

Matrix: (soil/water) SOIL Lab Sample ID: 910408-131

Sample wt/vol: 10 (g/mL) G Lab File ID: >11288

Level: (low/med) LOW Date Received: 04/06/91

% Moisture: not dec. 32.6 dec. NA Date Extracted: 04/08/91

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 4/11/91

GPC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.00000

Number TICs found: 8

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	141-79-7	3-Pentenen-2-one, 4-methyl-	5.35	690	JAB
2.	123-42-2	Diacetone Alcohol	6.49	120,000	JAB
3.		UNKNOWN (Hydrocarbon)	22.07	3500	JB
4.		Hexadecanoic Acid	22.57	1300	JB
5.		UNKNOWN	24.34	1700	JB
6.		"	26.95	840	J
7.		"	30.18	750	JB
8.		"	31.26	650	J
9.					
10.				CM 4/16/91	
11.					
12.					
13.					
14.					
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MARTIN MARIETTA

MARTIN MARIETTA ENERGY SYSTEMS, INC.

CHAIN OF CUSTODY RECORD

SAMPLING AND ENVIRONMENTAL SUPPORT DEPARTMENT

SES/COC NO. 000187

PROJECT NUMBER: 91-013

PROJECT NAME: 300-FF-1 Nonhazardous Source Characterization

SAMPLERS (SIGNATURE): C.D. Kramer

CUSTOMER NUMBER	LAB NUMBER	SAMPLING DATE	SAMPLING TIME	SAMPLE TYPE	NO. OF CONTAINERS	CLP Semivolatiles	CLP Metals, Boron, Uranium					REMARKS
B00HY7	910320-106	3/14/91	11:40	Fly Ash	2 jars	1	1					Semivolatile extraction needs to be performed ASAP due to holding time.
												This form will serve as a chain of custody and sample analysis request.
												Bill of Lading No. PSC 2426159120
												Offsite Property Control No. W91-01-0241

RELINQUISHED BY (Signature)	Date	Time	RECEIVED BY (Signature)	Date	Time	RELINQUISHED BY (Signature)	Date	Time	RECEIVED BY (Signature)
C.D. Kramer	3/18/91		M L McAdoo	3/19/91	1325				
RELINQUISHED BY (Signature)	Date	Time	RECEIVED BY (Signature)	Date	Time	RELINQUISHED BY (Signature)	Date	Time	RECEIVED BY (Signature)

UCN-16691A (1 8-90)

DISTRIBUTION ORIGINAL ACCOMPANIES SHIPMENT, COPY TO COORDINATOR OF FIELD FILES

217

SSS ~~"Next Day Service"~~ Overnight 218

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
Westinghouse		W91-0-0240

PART I - TO BE COMPLETED BY ORIGINATOR

Department Environmental Eng. | Section Technical Baseline | Unit

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☐ Contractor ☐ Vendor

Shipped to U.S. Department of Energy
c/o Martin Marietta Energy Systems
Oak Ridge Gaseous Diffusion Plant
Blair Road Highway 58
Oak Ridge, TN 37831-7440

Off-site Custodian C. R. Kirkpatrick, K-1004A
Drop Point A20

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 23 lbs.	• Metal Ice Chest - Two glass jars of fly ash packed in vermiculite and blue ice -Sample B00HY7	

☐ Classified ☑ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Program not available on site.

Bill of Lading # PSC 2426159120

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING

RM Clearance for Public Release: Zoria Weller	RM Survey No 910084	Date 3/18/91
Location of Property (Area & Bldg.) 300-FF-1 Fly Ash Pits	Contact Chris Kramer	Phone 6-4186
Date Ready for Shipment	Cost Code to be Charged EC3B2	Approximate Date This Property will be Returned n/a
Originated By Chris Kramer	Date 3/18/91	Authorized By [signature] Date 3/18/91
Signature and Name of Property Control	Custodian Date	Property Management Approval [signature] Date 3/18/91

PART II - TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No	Date Issued	Purchase Order No.	Date Issued
[signature] Date 3-18-91				

DISTRIBUTION

By Originator	Shipping Operation - Sign all Copies and Forward to:
White, Green, Yellow, Pink - Property Management Goldenrod - Retain	White - Property Management Yellow - Retain Green - Property Control Custodian (Issuing Office) Pink - Originator

SA 3000 4791(1)

EMERY WORLDWIDE — A CF Company

SIGNATURE AND TALLY RECORD

60029-46 (8/89) Litho USA

DATE: 3-18-91 SHIPMENT NO.: PSC242615912 0
SHIPPER: WESTINGHOUSE SHIPPING DEPT (509) 376-6665
REFERENCE NO.: W91-0-0240

SHIPPER NAME AND ADDRESS	CONSIGNEE NAME AND ADDRESS
WESTINGHOUSE HANFORD SHIPPING (509) 376-6665 G2-06 US DEPARTMENT OF ENERGY C/O WESTINGHOUSE HANFORD COMPANY 2355 STEVENS DR PO BOX 1970 RICHLAND WA 99352	C.R. KIRKPATRICK K-1004A DROP POINT A20 U.S. DEPARTMENT OF ENERGY C/O MARTIN MARIETTA ENERGY SYSTEMS OAK RIDGE GASEOUS DIFFUSION PLANT BLAIR ROAD HIGHWAY 58 OAK RIDGE TN 37831-7440

Pieces	Weight	Description/Marks	Emery Authorization No.
1	23 LBS	W91-0-0240 METAL ICE CHEST SAMPLE BOUHY7	

EACH PERSON HANDLING OR TAKING CUSTODY OF THIS SHIPMENT MUST SIGN AND COMPLETE THE INFORMATION BELOW

Name of Person/Company	Transship Point/Destination	Signature of Person Accepting Custody	Time/Date
1. JOYCE DEMARESI 1167/1100 WESTINGHOUSE SHIPPING	RICHLAND WA		/03-18-91
2.			
3. T. L. [illegible]	[illegible] VA	T.C. [illegible]	[illegible] 3/19
4.			
5.			
6. [illegible]	HDQ	[illegible]	2200 3/19
7. JOHNNY SHERRELL EDWD	TVS	[illegible]	CB45 3/19
8. T.L. DUNCAN - K-25	OAK RIDGE	T.L. Duncan	3/19
		M L M Aldig	3/19/91 1300

SPECIAL HANDLING INSTRUCTIONS

CONSIGNEE COPY

"Next Day Service" Signature Security 221

Contractor Westinghouse Hanford Co.	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT) W91-0271

PART I – TO BE COMPLETED BY ORIGINATOR

Department: Environmental Engineering | Section: Technical Baseline | Unit:

The following items are to be shipped from: [X] Contractor [ ] Vendor

Routing: Emery [ ] Contractor [ ] Vendor

Shipped to: K-25
U.S. Department of Energy
c/o Martin Marietta Energy Systems,
Oak Ridge Gaseous Diffusion Plant
Blair Road, Highway 58
Oak Ridge, TN 37831-740

Off-site Custodian: ATTN: C.R. Kirkpatrick, K-1004A droppoint A 2c

Full Title:

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Poly Ice Chest - Glass jars of soil, packed in vermiculite and blue ice. - Sample # B00J75, B00J76 - Sample # B00HZ3 (Separate project, 91-013) Ice Chest EA012 (37 lbs)	

[ ] Classified [ ] Unclassified [ ] Shipped Under DOE Contract [ ] Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Program not available on-site.

Bill of Lading # 2474256669 7

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date

Location of Property (Area & Bldg)	Contact	Phone
200 BP-1 / 300-FF-1	Ron Mitchell	376-5122

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
	E32NA 81230	n/a

Originated By	Date	Authorized By	Date
Ron Mitchell		RP Mitchell	4/4/91

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[signature]	4/4/91

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No	Date Issued	Purchase Order No	Date Issued
[signature]				
Date 4-4-91				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

54 3000-479 (09-1

MARTIN MARIETTA

MARTIN MARIETTA ENERGY SYSTEMS, INC.

CHAIN OF CUSTODY RECORD

SAMPLING AND ENVIRONMENTAL SUPPORT DEPARTMENT

SES/COC NO. 000188

PROJECT NUMBER: 91-013

PROJECT NAME: 300-FF-1 Nonhazardous Source Characterization

SAMPLERS. (SIGNATURE): C. P. Kramer

SDG # B00HZ3

CUSTOMER NUMBER	LAB NUMBER	SAMPLING DATE	SAMPLING TIME	SAMPLE TYPE	NO. OF CONTAINERS	CLP Semivolatiles	CLP Metals, Boron, Uranium				REMARKS
B00HZ3	910408-131	4/1/91		Soil	2 jars	1	1				This form will serve as a Chain of Custody and Sample Analysis Request.
											Emery Bill of Lading No. 2474256697
											Offsite Property Control No. W91L0271
											☆ Semivolatiles require immediate extraction to meet holding time requirements.
											☆ Note: Project Number for this sample is different than others shipped in same ches

RELINQUISHED BY (Signature)	Date	Time	RECEIVED BY (Signature)	Date	Time	RELINQUISHED BY (Signature)	Date	Time	RECEIVED BY (Signature)
C. D. Kramer	4/4/91	12:00	Sigrid J. Dardar	4-6-91	1315				
RELINQUISHED BY (Signature)	Date	Time	RECEIVED BY (Signature)	Date	Time	RELINQUISHED BY (Signature)	Date	Time	RECEIVED BY (Signature)

UCN-18691A (1 6-90)

DISTRIBUTION ORIGINAL ACCOMPANIES SHIPMENT, COPY TO COORDINATOR OF FIELD FILES