



State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
P.O. Box 27687 · Raleigh, North Carolina 27611-7687

[Handwritten scribble]
A

James G. Martin, Governor
William W. Cobey, Jr., Secretary

William L. Meyer
Director

July 5, 1990

Mr. Craig A. Bromby
Moore and Van Allen
P.O. Box 26507
Raleigh, North Carolina 27611

RE: Peden Paint Shop Site - Remediation Report

Dear Mr. Bromby:

Upon review of Westinghouse's report submitted by you dated June 27, 1990, this office concurs that site remediation is complete. Levels of residual lead contamination appear to be below regulatory concern at the S-1/8 sampling points, including follow-up sampling for sites S-2 and S-4.

Although the metal contamination appears to be complete, the followup results for S-8 could not be found to substantiate the effectiveness of removing the volatile and semi-volatile contaminants. If these results are available, please forward these and copies of all manifests to this office.

In conclusion, these remedial efforts are not totally inclusive of overall site conditions relating to the impact of manufacturing, other site activities, etc., on groundwater. Since no groundwater monitoring has been conducted, we concur only with the results of the soil remediation immediate to the paint shop. Please contact me if you should have any questions or comments.

Sincerely,

R. Douglas Holyfield

R. Douglas Holyfield, Head
Waste Management Branch
Hazardous Waste Section

cc: Larry Perry
Jerry Rhodes
Charlotte Jesnick

MOORE & VAN ALLEN

ATTORNEYS AT LAW
ONE HANNOVER SQUARE
SUITE 1700
POST OFFICE BOX 26507
RALEIGH, N.C. 27611
TELEPHONE (919) 828-4481

OTHER OFFICES:
CHARLOTTE, N.C.
DURHAM, N.C.
SOUTH PARK - CHARLOTTE, N.C.
TELEFAX (919) 828-4254

June 27, 1990

Mr. Jerome C. Rhodes
Division of Solid Waste Management
Department of Environment, Health
and Natural Resources
Post Office Box 27687
Raleigh, North Carolina 27611

Re: Report of Soil Remediation Activities at Peden Paint Shop
Site

Dear Mr. Rhodes:

We are enclosing with this letter a report prepared by Westinghouse Environmental and Geotechnical Services, Inc. ("WEGS") which summarizes the major activities which have been undertaken in connection with soil remediation and analytical results from samples taken during those activities. It is the opinion of WEGS that the clean-up objectives specified by the Hazardous Waste Section have been satisfied and that development of the site can proceed without restriction.

To recap briefly the background of this matter, the soils found to contain concentrations of leachable lead have been removed to the Chemical Waste Management disposal facility in Emelle, Alabama or will be transported in the near future to a secure landfill. Soils found to have elevated levels of phenolic and polynuclear aromatic compounds will shortly be transported to the GSX landfill in Pinewood, S.C. Soils contaminated by volatile organic compounds were treated in place by aeration. Recent sampling results indicate that clean-up criteria have been satisfied.

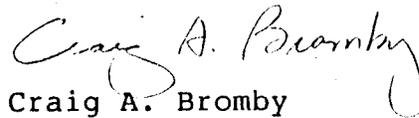
We trust that this report will be sufficient to demonstrate that the remediation has been successfully completed. We would appreciate your careful review and confirmation of the fact that the contamination has been removed so that Peden can proceed with their plans for the site. Please feel free to contact me (919/821-6251) or Mark Westray (919/481-0397) if you have any

Mr. Jerome C. Rhodes
June 27, 1990
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questions regarding the report, data, or conclusions, and if there is any problem with providing a written confirmation of the status of the site. Thank you for your prompt attention to this matter.

Very truly yours,

MOORE & VAN ALLEN


Craig A. Bromby

CAB/dhm
Enclosure

cc: Charles D. Case
David A. Zendels
Mark S. Westray



**Westinghouse Environmental
and Geotechnical Services, Inc.**

May 15, 1990

3500-B Regency Parkway
P.O. Box 1308
Cary, North Carolina 27512
(919) 481-0397
FAX (919) 481-0809

Peden Liquidating Trust
P.O. Box 40489
Raleigh, North Carolina 27629

Attention: David Zendels

Reference: Remediation of Paint-Contaminated Soils
Former Peden Steel Paint Shop Area
Westinghouse Project No. 4114-88-419

Dear Mr. Zendels:

This report is intended to summarize the major activities that have occurred during the remediation of soil contamination in the area of the former Peden Steel paint shop. Based on the results of recent analyses of soil samples collected from the site, we believe that the clean-up objectives specified by the Solid and Hazardous Waste Branch of the N.C. Department of Environment, Health and Natural Resources have been satisfied and that development of the site can proceed without restriction.

Chronology of Events

During the spring of 1988, an environmental assessment was performed at the former Peden Steel paint shop to evaluate the existence and extent of soil contamination from paint residues originating from the old painting operation. The assessment confirmed the presence of organic and inorganic contaminants confined to the surficial soils of the site. The materials identified are shown below in Table 1.

TABLE 1

Leachable Lead	0.37 mg/L to 17 mg/L
Ethylbenzene	9.7 mg/Kg to 81 mg/Kg
Toluene	<5 mg/Kg to 19 mg/Kg
Xylenes	58 mg/Kg to 840 mg/Kg
Naphthalene	140 mg/Kg
2-Chlorophenol	500 mg/Kg
Phenol	840 mg/Kg

As a result of the high concentrations of leachable lead, the soil was classified as a hazardous waste, as defined by RCRA. It was determined that the top twelve inches of soil at the former paint shop area would be removed for offsite disposal (see Figure 1). Therefore, between October 24 and October 27, 1988, approximately 770 tons of soil were removed by Chemical Waste Management, Inc. to its disposal facility in Emelle, Alabama.

At the completion of the soil removal activities, survey of the remaining soils with an Organic Vapor Analyzer (OVA) indicated the existence of significant levels of organic vapors, presumably originating from the paint solvents (Figure 2). The soils were then tilled periodically with a tractor and disk-harrow to aid the aeration of the soil and facilitate the volatilization of any residual organics. Further OVA surveys documented the rapid effectiveness of this approach. By November 1989, only one area on the western side of the site exhibited high organic vapor concentrations (Figure 3). This area is somewhat



lower than the surrounding soils and tends to collect and hold water from precipitation. Volatile organics, therefore, are less subject to evaporation under these conditions. In an effort to place these soils in an area that would not be impacted by excess moisture, approximately 30 cubic yards of soil were removed from this area during early February 1990, spread on the two concrete pads on the western side of the site and the aeration process resumed. The entire site was then sampled during March 1990 at the locations shown in Figure 4. A total of eight soil samples were collected for analysis of compounds that had previously been identified at the site, i.e., EP TOX lead, purgeable aromatics (EPA Method 602), phenols (EPA Method 604), and polynuclear aromatic compounds (EPA Method 610). The results are presented in Table 2.

TABLE 2

<u>Sample</u>	<u>EP TOX Pb</u>	<u>602 Compds</u>	<u>604 Compds</u>	<u>610 Compds</u>
S-1	0.26	ND	2.0	ND
S-2	0.70	ND	ND	ND
S-3	0.009	ND	ND	ND
S-4	2.3	ND	ND	ND
S-5	0.14	ND	ND	ND
S-6	0.17	ND	ND	ND
S-7	0.007	ND	ND	ND
S-8	0.061	0.180	23.4	21.0

Concentrations reported in units of mg/Kg (ppm).

ND - None Detected

Refer to attached laboratory report for specific compounds and concentrations.



Mr. Zendels
May 15, 1990
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Due to the elevated levels of phenolics and polynuclear aromatic compounds in the soil at S-8, there is doubt as to whether this soil will be adequately treated by aeration within a reasonable period. It is suspected that these organics, many of which had not previously been identified at the site, originated from the creosote and woodtreating chemicals used on the cross-ties associated with the railroad spurs. In order to properly dispose of these soils in the most time-efficient manner possible, it has been determined that material will be transported to the GSX landfill in Pinewood, South Carolina. An EPA Generator Number has been issued and approvals for the shipment of the soil are expected at any time.

On March 30, 1990, a meeting was held with Doug Holifield and Larry Perry of the Solid and Hazardous Branch to present the results of the soil remediation program at the former Peden Steel paint shop. Mr. Holifield indicated that the remediation program had effectively mitigated the contamination problem at the site, with the possible exception of the leachable lead concentrations detected at S-2 and S-4, which exceeded state guidelines for maximum EP TOX lead concentration of 0.5 mg/L. To address the concern of lead concentrations at S-4, the surface soil at this locations was removed to a depth of about six inches and was added to the soil on the concrete pad at S-8, which is scheduled for secure landfill disposal. A total of about 13 cubic feet of soil was removed from S-4. A composite sample consisting of four subsamples from the area was then collected for analysis of leachable lead (sample designated S-4A).

Since the previously detected concentration of leachable lead at S-2 (0.70 mg/L) was only slightly above the guideline standard, it was decided that the area should be resampled to evaluate whether the the previous value was



Mr. Zendels
May 15, 1990
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representative of the area. A composite sample was therefore collected from this location, consisting of four subsamples, and submitted for analysis of leachable lead (sample designated S-2A). The results are shown in the following table.

TABLE 3

<u>Sample</u>	<u>Parameter</u>	<u>Concentration</u>	<u>Date Collected</u>
S-2A	Lead - EP TOX	0.020 mg/L	4/5/90
S-4A	Lead - EP TOX	0.28 mg/L	4/5/90

Conclusions

We consider that the soil remediation program at the former Peden Steel Paint Shop is complete and has met the clean-up criteria imposed by the Solid and Hazardous Waste Branch. Soil containing low concentrations of various organic contaminants, as well as additional soil with unacceptable levels of leachable lead, has been isolated at the site and is awaiting shipment to the GSX landfill in Pinewood, South Carolina. This shipment is anticipated to take place during the month of May, 1990. Based on our understanding of the site and our meetings with DEHNR authorities, we believe that contaminants in the soil of the former



Mr. Zendels
May 15, 1990
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paint shop area have been reduced to the extent that development of the property should be permitted to proceed without incumbrance.

Sincerely,

WESTINGHOUSE ENVIRONMENTAL AND
GEOTECHNICAL SERVICES, INC.



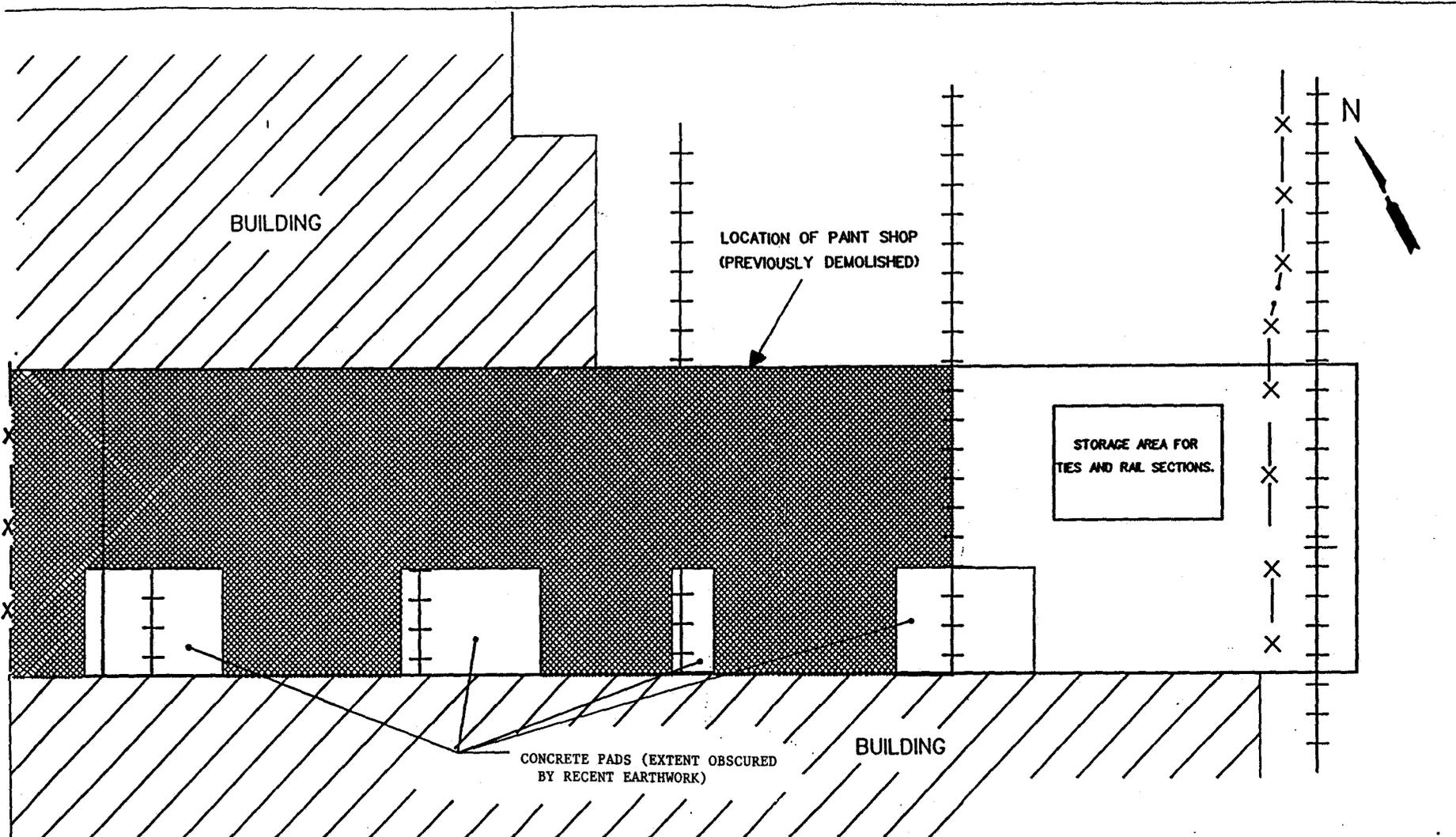
Mark S. Westray
Senior Scientist

Enclosures: Appendix 1 - Figures
Appendix 2 - March 23, 1990 Lab Report
Appendix 3 - April 23, 1990 Lab Report



FIGURES



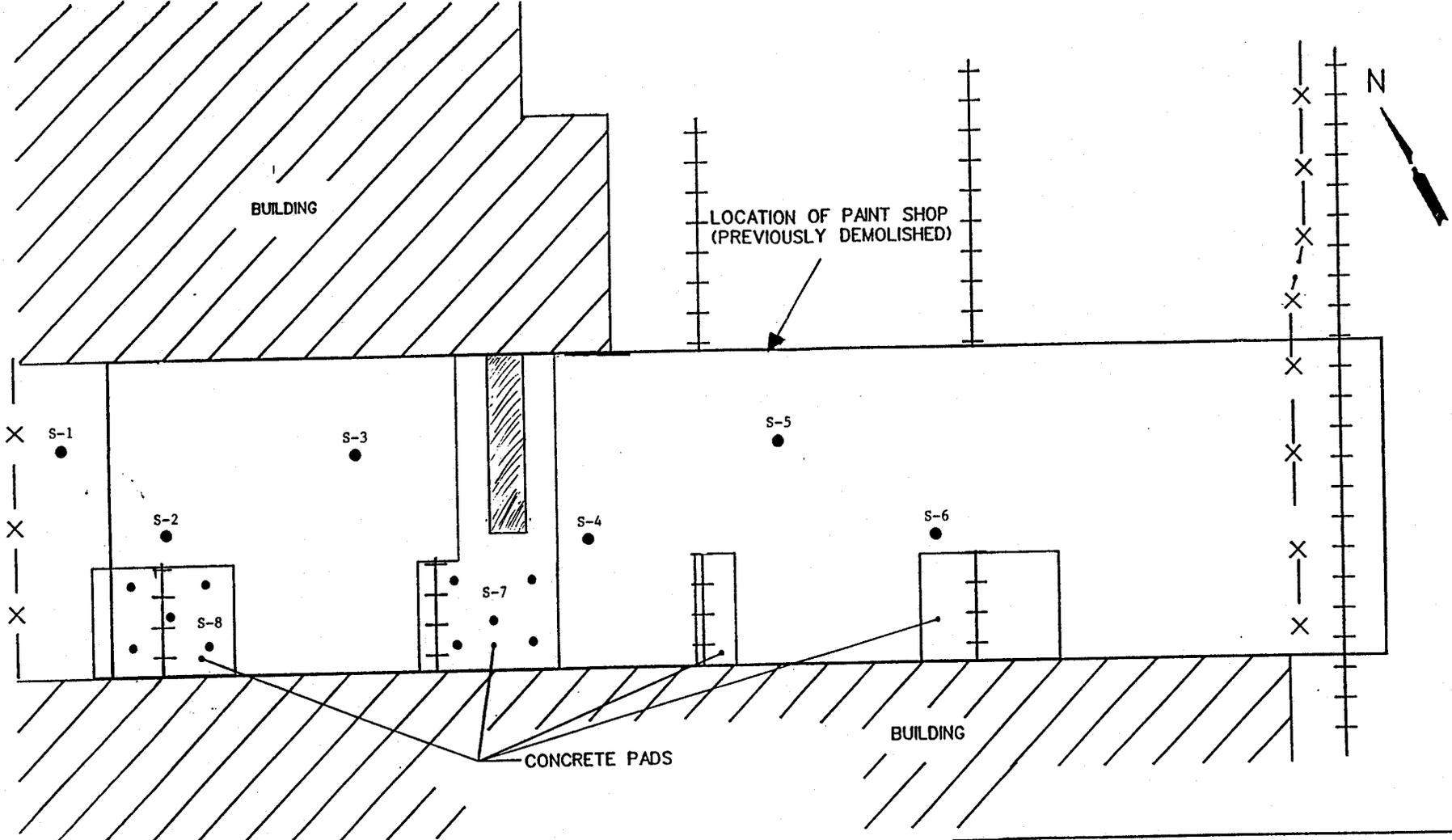


 AREA TO BE EXCAVATED TO DEPTH OF 12".

 PAINT SHOP LIMITS.

NOTE: SHOWS RAIL CAR TRACKS REMOVED FROM BUILDING TO SITE EDGE OF CONCRETE.

 WESTINGHOUSE ENVIRONMENTAL ENGINEERING		
PROJECT:	DESIGNED: <i>GEJ</i>	CHECKED: <i>WPC</i>
1815 NORTH BLVD. EXCAVATION AREA	JOB NO: 4114-88-419	DATE: 8/12/88
	SCALE: 1" = 30'	FIG. 1



—— PAINT SHOP SITE LIMITS.

FIGURE 4. SAMPLING LOCATIONS - 3/7/90

 WESTINGHOUSE ENVIRONMENTAL ENGINEERING			
PROJECT: 1815 NORTH BLVD. PAINT/SITE REMOVAL	DRAWN BY:	CHECKED BY:	
	JOB NO.:	DATE:	
	SCALE:	SHEET:	
	1" = 30'		

LABORATORY REPORT

MARCH 23, 1990





Industrial & Environmental Analysts, Inc.

P.O. Box 12846
Research Triangle Park, North Carolina 27709
(919) 677-0090
FAX (919) 677-0427

March 23, 1990

Mark Westray
Westinghouse Env. & Geotechnical Services, Inc.
P.O. Box 1308
Cary, NC 27512

Reference IEA Report No.: 115410
Project ID: 4114-88-419

Dear Mr. Westray,

Transmitted herewith are the results of analyses on eight samples submitted to our laboratory.

Please see the enclosed reports for your results.

Very truly yours,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Linda F. Mitchell
Director, Technical Support Services

State Certification:

Alabama - #40210	New Jersey - #67719	South Carolina - #99021
Georgia - #816	Tennessee - #00296	North Carolina - #37720
Kansas - #E-158	Virginia - #00179	#84



IEA LABORATORY RESULTS

IEA Project #: 115-410
Client Name: Westinghouse Env. & Geotechnical Services, Inc.

Sample #	Client ID	Parameter	Results	Date Analyzed
1	S-1	Lead - EP TOX	0.26 mg/L	03/16/90
2	S-2	Lead - EP TOX	0.70 mg/L	03/16/90
3	S-3	Lead - EP TOX	0.009 mg/L	03/19/90
4	S-6	Lead - EP TOX	0.17 mg/L	03/16/90
5	S-4	Lead - EP TOX	2.3 mg/L	03/16/90
6	S-5	Lead - EP TOX	0.14 mg/L	03/20/90
7	S-7	Lead - EP TOX	0.007 mg/L	03/19/90
8	S-8	Lead - EP TOX	0.061 mg/L	03/20/90



PURGEABLE AROMATICS
EPA METHOD 602 COMPOUNDS

IEA Sample Number: 115-410-1
Sample Identification: S-1
Date Analyzed: 03/16/90 By: Hendricks

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Benzene	1.0	BQL
2	Chlorobenzene	1.0	BQL
3	1,2-Dichlorobenzene	1.0	BQL
4	1,3-Dichlorobenzene	1.0	BQL
5	1,4-Dichlorobenzene	1.0	BQL
6	Ethylbenzene	1.0	BQL
7	Toluene	1.0	BQL
8	Xylenes (Total)	1.0	BQL

Comments:

BQL = Below Quantitation Limit



PURGEABLE AROMATICS
EPA METHOD 602 COMPOUNDS

IEA Sample Number: 115-410-2
Sample Identification: S-2
Date Analyzed: 03/15/90 By: Hendricks

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Benzene	1.0	BQL
2	Chlorobenzene	1.0	BQL
3	1,2-Dichlorobenzene	1.0	BQL
4	1,3-Dichlorobenzene	1.0	BQL
5	1,4-Dichlorobenzene	1.0	BQL
6	Ethylbenzene	1.0	BQL
7	Toluene	1.0	BQL
8	Xylenes (Total)	1.0	BQL

Comments:

BQL = Below Quantitation Limit



PURGEABLE AROMATICS
EPA METHOD 602 COMPOUNDS

IEA Sample Number: 115-410-3
Sample Identification: S-3
Date Analyzed: 03/15/90 By: Hendricks

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Benzene	1.0	BQL
2	Chlorobenzene	1.0	BQL
3	1,2-Dichlorobenzene	1.0	BQL
4	1,3-Dichlorobenzene	1.0	BQL
5	1,4-Dichlorobenzene	1.0	BQL
6	Ethylbenzene	1.0	BQL
7	Toluene	1.0	BQL
8	Xylenes (Total)	1.0	BQL

Comments:

BQL = Below Quantitation Limit



PURGEABLE AROMATICS
EPA METHOD 602 COMPOUNDS

IEA Sample Number: 115-410-5
Sample Identification: S-4
Date Analyzed: 03/18/90 By: Lewis

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Benzene	1.0	BQL
2	Chlorobenzene	1.0	BQL
3	1,2-Dichlorobenzene	1.0	BQL
4	1,3-Dichlorobenzene	1.0	BQL
5	1,4-Dichlorobenzene	1.0	BQL
6	Ethylbenzene	1.0	BQL
7	Toluene	1.0	BQL
8	Xylenes (Total)	1.0	BQL

Comments:

BQL = Below Quantitation Limit



PURGEABLE AROMATICS
EPA METHOD 602 COMPOUNDS

IEA Sample Number: 115-410-6
Sample Identification: S-5
Date Analyzed: 03/15/90 By: Hendricks

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Benzene	1.0	BQL
2	Chlorobenzene	1.0	BQL
3	1,2-Dichlorobenzene	1.0	BQL
4	1,3-Dichlorobenzene	1.0	BQL
5	1,4-Dichlorobenzene	1.0	BQL
6	Ethylbenzene	1.0	BQL
7	Toluene	1.0	BQL
8	Xylenes (Total)	1.0	BQL

Comments:

BQL = Below Quantitation Limit



PURGEABLE AROMATICS
EPA METHOD 602 COMPOUNDS

IEA Sample Number: 115-410-4
Sample Identification: S-6
Date Analyzed: 03/15/90 By: Hendricks

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Benzene	1.0	BQL
2	Chlorobenzene	1.0	BQL
3	1,2-Dichlorobenzene	1.0	BQL
4	1,3-Dichlorobenzene	1.0	BQL
5	1,4-Dichlorobenzene	1.0	BQL
6	Ethylbenzene	1.0	BQL
7	Toluene	1.0	BQL
8	Xylenes (Total)	1.0	BQL

Comments:

BQL = Below Quantitation Limit



PURGEABLE AROMATICS
EPA METHOD 602 COMPOUNDS

IEA Sample Number: 115-410-7
Sample Identification: S-7
Date Analyzed: 03/15/90 By: Hendricks

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Benzene	1.0	BQL
2	Chlorobenzene	1.0	BQL
3	1,2-Dichlorobenzene	1.0	BQL
4	1,3-Dichlorobenzene	1.0	BQL
5	1,4-Dichlorobenzene	1.0	BQL
6	Ethylbenzene	1.0	BQL
7	Toluene	1.0	BQL
8	Xylenes (Total)	1.0	BQL

Comments:

BQL = Below Quantitation Limit



PURGEABLE AROMATICS
EPA METHOD 602 COMPOUNDS

IEA Sample Number: 115-410-8
Sample Identification: S-8
Date Analyzed: 03/16/90 By: Hendricks

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Benzene	100	BQL
2	Chlorobenzene	100	BQL
3	1,2-Dichlorobenzene	100	BQL
4	1,3-Dichlorobenzene	100	BQL
5	1,4-Dichlorobenzene	100	BQL
6	Ethylbenzene	100	BQL
7	Toluene	100	BQL
8	Xylenes (Total)	100	180

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to sample dilution prior to analysis.
Sample diluted due to the presence of non-target compounds.



PHENOLS
EPA METHOD 604 COMPOUNDS

IEA Sample Number: 115-410-1
Sample Identification: S-1
Date Extracted: 03/16/90
Date Analyzed: 03/18/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Phenol	1800	BQL
2	2-Chlorophenol	1800	BQL
3	2-Nitrophenol	1800	BQL
4	2,4-Dimethylphenol	1800	BQL
5	2,4-Dichlorophenol	1800	BQL
6	4-Chloro-3-methylphenol	1800	BQL
7	2,4,6-Trichlorophenol	1800	BQL
8	2,4-Dinitrophenol	1800	BQL
9	4-Nitrophenol	1800	BQL
10	2-Methyl-4,6-dinitrophenol	1800	BQL
11	Pentachlorophenol	1800	2000

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.
GC/MS analysis is recommended for confirmation.



PHENOLS
EPA METHOD 604 COMPOUNDS

IEA Sample Number: 115-410-2
Sample Identification: S-2
Date Extracted: 03/16/90
Date Analyzed: 03/18/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Phenol	1800	BQL
2	2-Chlorophenol	1800	BQL
3	2-Nitrophenol	1800	BQL
4	2,4-Dimethylphenol	1800	BQL
5	2,4-Dichlorophenol	1800	BQL
6	4-Chloro-3-methylphenol	1800	BQL
7	2,4,6-Trichlorophenol	1800	BQL
8	2,4-Dinitrophenol	1800	BQL
9	4-Nitrophenol	1800	BQL
10	2-Methyl-4,6-dinitrophenol	1800	BQL
11	Pentachlorophenol	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



PHENOLS
EPA METHOD 604 COMPOUNDS

IEA Sample Number: 115-410-3
Sample Identification: S-3
Date Extracted: 03/16/90
Date Analyzed: 03/18/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Phenol	1800	BQL
2	2-Chlorophenol	1800	BQL
3	2-Nitrophenol	1800	BQL
4	2,4-Dimethylphenol	1800	BQL
5	2,4-Dichlorophenol	1800	BQL
6	4-Chloro-3-methylphenol	1800	BQL
7	2,4,6-Trichlorophenol	1800	BQL
8	2,4-Dinitrophenol	1800	BQL
9	4-Nitrophenol	1800	BQL
10	2-Methyl-4,6-dinitrophenol	1800	BQL
11	Pentachlorophenol	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



PHENOLS
EPA METHOD 604 COMPOUNDS

IEA Sample Number: 115-410-5
Sample Identification: S-4
Date Extracted: 03/16/90
Date Analyzed: 03/18/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Phenol	1800	BQL
2	2-Chlorophenol	1800	BQL
3	2-Nitrophenol	1800	BQL
4	2,4-Dimethylphenol	1800	BQL
5	2,4-Dichlorophenol	1800	BQL
6	4-Chloro-3-methylphenol	1800	BQL
7	2,4,6-Trichlorophenol	1800	BQL
8	2,4-Dinitrophenol	1800	BQL
9	4-Nitrophenol	1800	BQL
10	2-Methyl-4,6-dinitrophenol	1800	BQL
11	Pentachlorophenol	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



PHENOLS
EPA METHOD 604 COMPOUNDS

IEA Sample Number: 115-410-6
Sample Identification: S-5
Date Extracted: 03/16/90
Date Analyzed: 03/21/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Phenol	1800	BQL
2	2-Chlorophenol	1800	BQL
3	2-Nitrophenol	1800	BQL
4	2,4-Dimethylphenol	1800	BQL
5	2,4-Dichlorophenol	1800	BQL
6	4-Chloro-3-methylphenol	1800	BQL
7	2,4,6-Trichlorophenol	1800	BQL
8	2,4-Dinitrophenol	1800	BQL
9	4-Nitrophenol	1800	BQL
10	2-Methyl-4,6-dinitrophenol	1800	BQL
11	Pentachlorophenol	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



PHENOLS
EPA METHOD 604 COMPOUNDS

IEA Sample Number: 115-410-4
Sample Identification: S-6
Date Extracted: 03/16/90
Date Analyzed: 03/18/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Phenol	1800	BQL
2	2-Chlorophenol	1800	BQL
3	2-Nitrophenol	1800	BQL
4	2,4-Dimethylphenol	1800	BQL
5	2,4-Dichlorophenol	1800	BQL
6	4-Chloro-3-methylphenol	1800	BQL
7	2,4,6-Trichlorophenol	1800	BQL
8	2,4-Dinitrophenol	1800	BQL
9	4-Nitrophenol	1800	BQL
10	2-Methyl-4,6-dinitrophenol	1800	BQL
11	Pentachlorophenol	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



PHENOLS
EPA METHOD 604 COMPOUNDS

IEA Sample Number: 115-410-7
Sample Identification: S-7
Date Extracted: 03/16/90
Date Analyzed: 03/21/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Phenol	1800	BQL
2	2-Chlorophenol	1800	BQL
3	2-Nitrophenol	1800	BQL
4	2,4-Dimethylphenol	1800	BQL
5	2,4-Dichlorophenol	1800	BQL
6	4-Chloro-3-methylphenol	1800	BQL
7	2,4,6-Trichlorophenol	1800	BQL
8	2,4-Dinitrophenol	1800	BQL
9	4-Nitrophenol	1800	BQL
10	2-Methyl-4,6-dinitrophenol	1800	BQL
11	Pentachlorophenol	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



PHENOLS
EPA METHOD 604 COMPOUNDS

IEA Sample Number: 115-410-8
Sample Identification: S-8
Date Extracted: 03/16/90
Date Analyzed: 03/21/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Phenol	1800	BQL
2	2-Chlorophenol	1800	BQL
3	2-Nitrophenol	1800	2600
4	2,4-Dimethylphenol	1800	2600
5	2,4-Dichlorophenol	1800	3800
6	4-Chloro-3-methylphenol	1800	BQL
7	2,4,6-Trichlorophenol	1800	4000
8	2,4-Dinitrophenol	1800	4200
9	4-Nitrophenol	1800	BQL
10	2-Methyl-4,6-dinitrophenol	1800	2000
11	Pentachlorophenol	1800	4200

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.
GC/MS analysis is recommended for confirmation.



POLYNUCLEAR AROMATIC
HYDROCARBONS (PNA)
EPA METHOD 610 COMPOUNDS

IEA Sample Number: 115-410-1
Sample Identification: S-1
Date Extracted: 03/16/90
Date Analyzed: 03/17/90 By: Rich

Number	Compound	Quantitation	Results
		Limit (ug/kg)	Concentration (ug/kg)
1	Naphthalene	1800	BQL
2	Acenaphthylene	1800	BQL
3	Acenaphthene	1800	BQL
4	Fluorene	1800	BQL
5	Phenanthrene	1800	BQL
6	Anthracene	1800	BQL
7	Fluoranthene	1800	BQL
8	Pyrene	1800	BQL
9	Benzo(a)anthracene	1800	BQL
10	Chrysene	1800	BQL
11	Benzo(b)fluoranthene	1800	BQL
12	Benzo(k)fluoranthene	1800	BQL
13	Benzo(a)pyrene	1800	BQL
14	Indeno(1,2,3-cd)pyrene	1800	BQL
15	Dibenzo(a,h)anthracene	1800	BQL
16	Benzo(g,h,i)perylene	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



POLYNUCLEAR AROMATIC
HYDROCARBONS (PNA)
EPA METHOD 610 COMPOUNDS

IEA Sample Number: 115-410-2
Sample Identification: S-2
Date Extracted: 03/16/90
Date Analyzed: 03/17/90 By: Rich

Number	Compound	Quantitation	Results
		Limit (ug/kg)	Concentration (ug/kg)
1	Naphthalene	1800	BQL
2	Acenaphthylene	1800	BQL
3	Acenaphthene	1800	BQL
4	Fluorene	1800	BQL
5	Phenanthrene	1800	BQL
6	Anthracene	1800	BQL
7	Fluoranthene	1800	BQL
8	Pyrene	1800	BQL
9	Benzo(a)anthracene	1800	BQL
10	Chrysene	1800	BQL
11	Benzo(b)fluoranthene	1800	BQL
12	Benzo(k)fluoranthene	1800	BQL
13	Benzo(a)pyrene	1800	BQL
14	Indeno(1,2,3-cd)pyrene	1800	BQL
15	Dibenzo(a,h)anthracene	1800	BQL
16	Benzo(g,h,i)perylene	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



POLYNUCLEAR AROMATIC
HYDROCARBONS (PNA)
EPA METHOD 610 COMPOUNDS

IEA Sample Number: 115-410-3
Sample Identification: S-3
Date Extracted: 03/16/90
Date Analyzed: 03/19/90 By: Rich

Number	Compound	Quantitation	Results
		Limit (ug/kg)	Concentration (ug/kg)
1	Naphthalene	1800	BQL
2	Acenaphthylene	1800	BQL
3	Acenaphthene	1800	BQL
4	Fluorene	1800	BQL
5	Phenanthrene	1800	BQL
6	Anthracene	1800	BQL
7	Fluoranthene	1800	BQL
8	Pyrene	1800	BQL
9	Benzo(a)anthracene	1800	BQL
10	Chrysene	1800	BQL
11	Benzo(b)fluoranthene	1800	BQL
12	Benzo(k)fluoranthene	1800	BQL
13	Benzo(a)pyrene	1800	BQL
14	Indeno(1,2,3-cd)pyrene	1800	BQL
15	Dibenzo(a,h)anthracene	1800	BQL
16	Benzo(g,h,i)perylene	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



POLYNUCLEAR AROMATIC
HYDROCARBONS (PNA)
EPA METHOD 610 COMPOUNDS

IEA Sample Number: 115-410-5
Sample Identification: S-4
Date Extracted: 03/16/90
Date Analyzed: 03/20/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Naphthalene	1800	BQL
2	Acenaphthylene	1800	BQL
3	Acenaphthene	1800	BQL
4	Fluorene	1800	BQL
5	Phenanthrene	1800	BQL
6	Anthracene	1800	BQL
7	Fluoranthene	1800	BQL
8	Pyrene	1800	BQL
9	Benzo(a)anthracene	1800	BQL
10	Chrysene	1800	BQL
11	Benzo(b)fluoranthene	1800	BQL
12	Benzo(k)fluoranthene	1800	BQL
13	Benzo(a)pyrene	1800	BQL
14	Indeno(1,2,3-cd)pyrene	1800	BQL
15	Dibenzo(a,h)anthracene	1800	BQL
16	Benzo(g,h,i)perylene	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



POLYNUCLEAR AROMATIC
HYDROCARBONS (PNA)
EPA METHOD 610 COMPOUNDS

IEA Sample Number: 115-410-6
Sample Identification: S-5
Date Extracted: 03/16/90
Date Analyzed: 03/20/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Naphthalene	1800	BQL
2	Acenaphthylene	1800	BQL
3	Acenaphthene	1800	BQL
4	Fluorene	1800	BQL
5	Phenanthrene	1800	BQL
6	Anthracene	1800	BQL
7	Fluoranthene	1800	BQL
8	Pyrene	1800	BQL
9	Benzo(a)anthracene	1800	BQL
10	Chrysene	1800	BQL
11	Benzo(b)fluoranthene	1800	BQL
12	Benzo(k)fluoranthene	1800	BQL
13	Benzo(a)pyrene	1800	BQL
14	Indeno(1,2,3-cd)pyrene	1800	BQL
15	Dibenzo(a,h)anthracene	1800	BQL
16	Benzo(g,h,i)perylene	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



POLYNUCLEAR AROMATIC
HYDROCARBONS (PNA)
EPA METHOD 610 COMPOUNDS

IEA Sample Number: 115-410-4
Sample Identification: S-6
Date Extracted: 03/16/90
Date Analyzed: 03/20/90 By: Rich

Number	Compound	Quantitation	Results
		Limit (ug/kg)	Concentration (ug/kg)
1	Naphthalene	1800	BQL
2	Acenaphthylene	1800	BQL
3	Acenaphthene	1800	BQL
4	Fluorene	1800	BQL
5	Phenanthrene	1800	BQL
6	Anthracene	1800	BQL
7	Fluoranthene	1800	BQL
8	Pyrene	1800	BQL
9	Benzo(a)anthracene	1800	BQL
10	Chrysene	1800	BQL
11	Benzo(b)fluoranthene	1800	BQL
12	Benzo(k)fluoranthene	1800	BQL
13	Benzo(a)pyrene	1800	BQL
14	Indeno(1,2,3-cd)pyrene	1800	BQL
15	Dibenzo(a,h)anthracene	1800	BQL
16	Benzo(g,h,i)perylene	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



POLYNUCLEAR AROMATIC
HYDROCARBONS (PNA)
EPA METHOD 610 COMPOUNDS

IEA Sample Number: 115-410-7
Sample Identification: S-7
Date Extracted: 03/16/90
Date Analyzed: 03/20/90 By: Rich

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Naphthalene	1800	BQL
2	Acenaphthylene	1800	BQL
3	Acenaphthene	1800	BQL
4	Fluorene	1800	BQL
5	Phenanthrene	1800	BQL
6	Anthracene	1800	BQL
7	Fluoranthene	1800	BQL
8	Pyrene	1800	BQL
9	Benzo(a)anthracene	1800	BQL
10	Chrysene	1800	BQL
11	Benzo(b)fluoranthene	1800	BQL
12	Benzo(k)fluoranthene	1800	BQL
13	Benzo(a)pyrene	1800	BQL
14	Indeno(1,2,3-cd)pyrene	1800	BQL
15	Dibenzo(a,h)anthracene	1800	BQL
16	Benzo(g,h,i)perylene	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.



POLYNUCLEAR AROMATIC
HYDROCARBONS (PNA)
EPA METHOD 610 COMPOUNDS

IEA Sample Number: 115-410-8
Sample Identification: S-8
Date Extracted: 03/16/90
Date Analyzed: 03/20/90 By: Rich

Number	Compound	Quantitation	Results
		Limit (ug/kg)	Concentration (ug/kg)
1	Naphthalene	1800	BQL
2	Acenaphthylene	1800	5700
3	Acenaphthene	1800	5800
4	Fluorene	1800	5200
5	Phenanthrene	1800	BQL
6	Anthracene	1800	BQL
7	Fluoranthene	1800	BQL
8	Pyrene	1800	BQL
9	Benzo(a)anthracene	1800	BQL
10	Chrysene	1800	BQL
11	Benzo(b)fluoranthene	1800	2400
12	Benzo(k)fluoranthene	1800	BQL
13	Benzo(a)pyrene	1800	1900
14	Indeno(1,2,3-cd)pyrene	1800	BQL
15	Dibenzo(a,h)anthracene	1800	BQL
16	Benzo(g,h,i)perylene	1800	BQL

Comments:

BQL = Below Quantitation Limit

Quantitation limit elevated due to higher final extract volume.
GC/MS analysis is recommended for confirmation.



Westinghouse
Environmental Services

CHAIN OF CUSTODY RECORD

Branch: CARY
Department: 4114

S&ME Job No.		Project Name				Number of Containers	EPTOX #1				#602				#604				#610				REMARKS
4114-88-419		PEDEN STEEL																					
Samplers: (signature)		RS Rowen Jr																					
Station No.	Date	Time	Comp.	Grab	Station Location																		
1	3-7-90	14:25		✓	S-1	4	1	1	1	1								SOIL					
2	3-7	14:35		✓	S-2	4	1	1	1	1								SOIL					
3	3-7	14:45		✓	S-3	4	1	1	1	1								SOIL					
4	3-7	15:00		✓	S-4	4	1	1	1	1								SOIL					
5	3-7	15:10		✓	S-5	4	1	1	1	1								SOIL					
6	3-7	15:20		✓	S-6	4	1	1	1	1								SOIL					
7	3-7	15:30		✓	S-7	4	1	1	1	1								SOIL					
8	3-7	15:40		✓	S-8	4	1	1	1	1								SOIL					
SEND RESULTS TO MARK WESTRAY																							
STANDARD TURNAROUND																							
Relinquished by: (signature)		Date:	Time:	Received by: (signature)		Relinquished by: (signature)		Date:	Time:	Received by: (signature)		Relinquished by: (signature)		Date:	Time:	Received by: (signature)							
RS Rowen Jr		3-7-90	16:25																				
Relinquished by: (signature)		Date:	Time:	Received by: (signature)		Relinquished by: (signature)		Date:	Time:	Received by: (signature)		Relinquished by: (signature)		Date:	Time:	Received by: (signature)							
Relinquished by: (signature)		Date:	Time:	Received by: (signature)		Date:	Time:	Remarks															
				Elizabeth D. Gray		3-7-90	16:25	WEQS P.O. # 3197															
								IEA # 115-410															

LABORATORY REPORT

APRIL 23, 1990





Industrial & Environmental Analysts, Inc.

P.O. Box 12846
Research Triangle Park, North Carolina 27709
(919) 467-9919
FAX (919) 460-0948

April 23, 1990

Mark Westray
Westinghouse Env. & Geotechnical Services, Inc.
P.O. Box 1308
Cary, NC 27512

Reference IEA Report No.: 115449
Project ID: 4114-88-419

Dear Mr. Westray,

Transmitted herewith are the results of analyses on two samples submitted to our laboratory.

Please see the enclosed reports for your results.

Very truly yours,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Linda F. Mitchell
Director, Technical Support Services

State Certification:

Alabama - #40210	New Jersey - #67719	South Carolina - #99021
Georgia - #816	Tennessee - #00296	North Carolina - #37720
Kansas - #E-158	Virginia - #00179	#84



IEA LABORATORY RESULTS

IEA Project #: 115-449
Client Name: Westinghouse Env. & Geotechnical Services, Inc.

Sample #	Client ID	Parameter	Results	Date Analyzed
1	S-2A	Lead - EP TOX	0.020 mg/L	04/16/90
2	S-4A	Lead - EP TOX	0.28 mg/L	04/16/90

