



Ref. No. 178230-03

May 19, 1992

FEDERAL EXPRESS

Mr. John Heller
Koppers Industries, Inc.
P.O. Box 193
Junction of County Roads A & Z
Superior, Wisconsin 54880

Dear Mr. Heller:

Re: Sampling and Analysis Report
Superior, Wisconsin Facility

Attached for your review and comment is the draft Soil Sampling and Analysis Report for the drip track extension project at the Superior, Wisconsin facility.

Please contact me at (412)825-9712 with any comments or questions you may have.

Very truly yours,

Diane E. McCausland
Project Manager

DEM:dac dm-256

Attachment

cc: E. Manges - Beazer
D. Smith - Keystone

**DRIP TRACK EXTENSION
SOIL SAMPLING AND ANALYSIS REPORT**

**KOPPERS INDUSTRIES, INC.
SUPERIOR, WISCONSIN**

In September 1991, a Drip Track Extension Soil Sampling and Analysis Plan was prepared and submitted to the U.S. Environmental Protection Agency on behalf of Beazer East, Inc. (Beazer) by Keystone Environmental Resources, Inc. (Keystone). The Sampling and Analysis Plan (SAP) was prepared for the drip track extension project at the Koppers Industries, Inc. (KII) wood treating facility located in Superior, Wisconsin and was subsequently implemented by Keystone on behalf of Beazer in September and November of 1991. This report briefly summarizes the analytical results obtained from the SAP implementation. Detailed information regarding the drip track extension project and background information for the KII Superior plant and drip track soil quality may be found in the SAP.

Ten soil samples, DT-01 through DT-10, were collected from the approximate locations shown on Figure 1. These samples were collected, preserved and shipped in accordance with the SAP. In response to a July 30, 1991 EPA review of RFI analytical data, the laboratory methods used to analyze for polynuclear aromatic hydrocarbons (PAHs) and phenolics/cresols varied from those methods specified in the SAP; EPA Method 8270 was used for the analyses, in place of EPA Method 8310 for PAH analysis and EPA Method 8040 for phenolic/cresol analysis.

Samples DT-01 through DT-06 were collected from the drip track extension area on September 23, 1991, and samples DT-07 through DT-10 were collected from the drip track pad area on November 15, 1991. In both cases, the samples were collected from a 0.0 to 1.0 foot depth, after visibly impacted surficial soils had been excavated. All soils were described as red-brown clay (classified as CL according to the Unified Soil Classification System).

Table 1 (attached) is a summary of the soil quality results for drip track soil samples DT-01 through DT-10. The laboratory analytical data is included in Attachment 1. The percent solids in the ten samples ranged from 70.3 percent to 77.8 percent. Total petroleum hydrocarbons (TPH) were not detected in soil samples DT-01, DT-

TABLE 1

SOIL QUALITY SUMMARY
DRIP TRACK EXTENSIONKOPPERS INDUSTRIES, INC.
SUPERIOR, WISCONSIN

Soil Sample Location	Depth Interval (feet)	Percent Solids ASTM D-2216	TPH (mg/kg) SW 418.1	Total PAHs (ug/kg) SW 8270	Total Phenolics (ug/kg) SW 8270	PCP (ug/kg) Keystone 589
DT-01	0.0 to 1.0	76.0	BDL	BDL	BDL	1720
DT-02	0.0 to 1.0	77.8	132	24,200	BDL	2930
DT-03	0.0 to 1.0	71.4	70.0	BDL	BDL	591
DT-04	0.0 to 1.0	70.3	BDL	BDL	BDL	1420
DT-05	0.0 to 1.0	72.9	90.5	BDL	BDL	4620
DT-06	0.0 to 1.0	74.0	BDL	BDL	BDL	1720
DT-07	0.0 to 1.0	71.6	BDL	9,200	BDL	44.1
DT-08	0.0 to 1.0	77.6	96.0	8,990	BDL	983
DT-09	0.0 to 1.0	72.8	BDL	BDL	BDL	BDL
DT-10	0.0 to 1.0	76.5	233	246,000	BDL	25.1

NOTES:

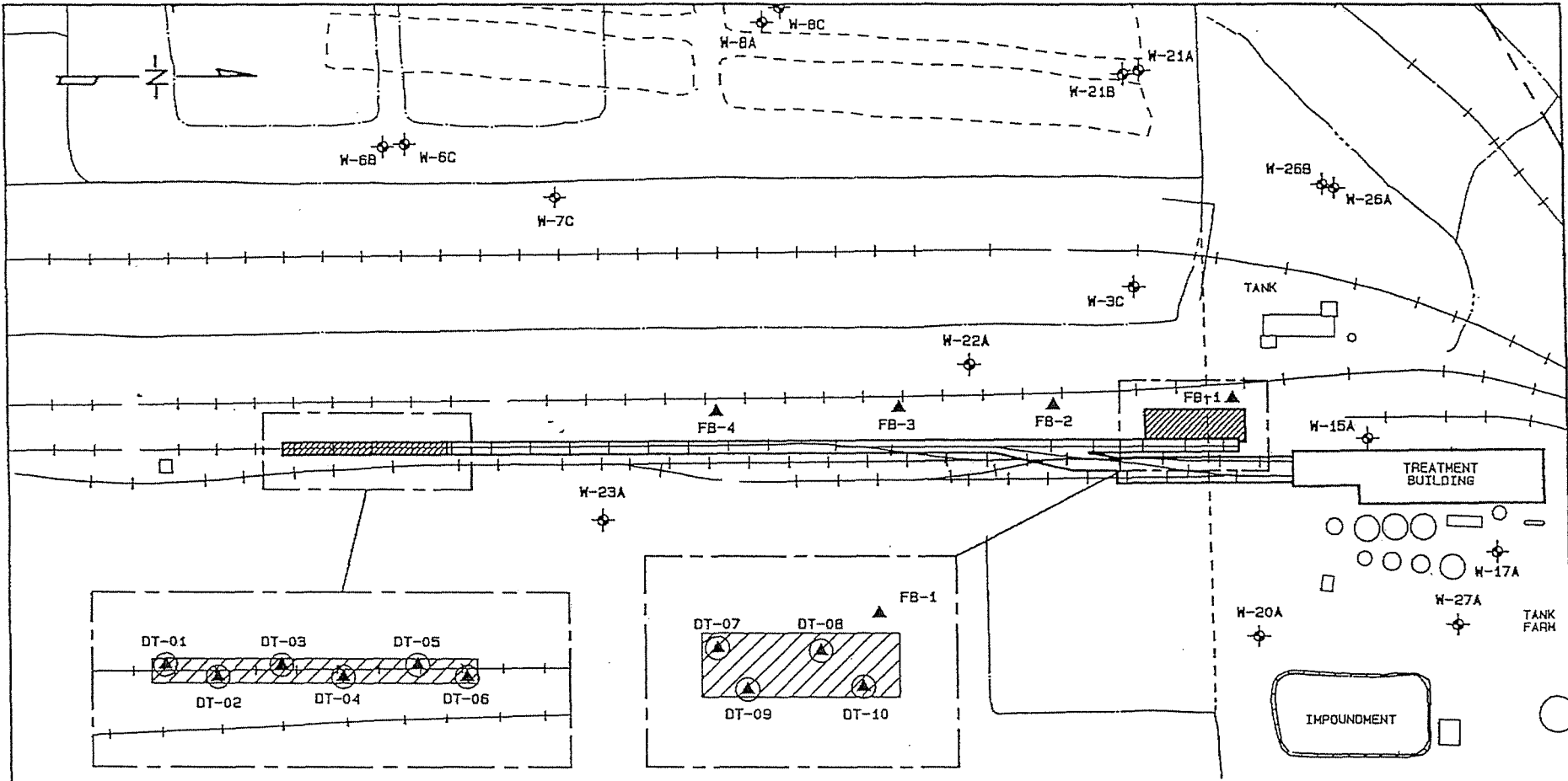
- (1) Samples DT-01 through DT-06 were collected on September 23, 1991.
Samples DT-07 through DT-10 were collected on November 15, 1991.
- (2) TPH indicates total petroleum hydrocarbons. PAHs indicates polynuclear aromatic hydrocarbons.
PCP indicates pentachlorophenol.
- (3) It should be noted that the total PAHs summation includes dibenzofuran, instead of carbazole, and that the total phenolics summation does not include 2,3,5,6-tetrachlorophenol or PCP. Also, PCP, 2,4-dichlorophenol and 4,6-dinitro-2-methylphenol were included in the analytical results for samples DT-01 through DT-06, but not in the results for samples DT-07 through DT-10. (These three compounds were not detected in samples DT-01 through DT-06, however.) The total phenolics summation for all samples includes cresols (2-methylphenol and 4-methylphenol).
- (4) "BDL" indicates not detected.
- (5) Concentrations were rounded off to three significant figures.

04, DT-06, DT-07 and DT-09. In the remaining five samples, TPH ranged from 70.0 mg/kg (sample DT-03) to 233 mg/kg (sample DT-10).

Polynuclear aromatic hydrocarbons (PAHs) were detected in only four of the ten samples; DT-02, DT-07, DT-08 and DT-10. Concentrations of total PAHs in these four samples ranged from 8,990 ug/kg (sample DT-08) to 246,000 ug/kg (sample DT-10). Fluoranthene and pyrene were the PAH constituents detected most frequently. Other PAH constituents detected include acenaphthene, anthracene, dibenzofuran, fluoranthene, fluorene, naphthalene, and phenanthrene. Phenanthrene was the single PAH constituent that occurred in the highest concentration in samples DT-07, DT-08 and DT-10.

Phenolics constituents were not detected in any of the ten drip track soil samples. The footnotes on Table 1 indicate those individual phenolics constituents which were included in the analyses. It should be noted that cresols (2-methylphenol, 3-methylphenol and 4-methylphenol) were requested as part of the phenolics analyses. Because 2-methylphenol and 3-methylphenol coelute, and therefore can not be distinguished, the 2-methylphenol concentration represents both of these cresol compounds.

Pentachlorophenol (PCP) was detected by Keystone Method 589 in all of the drip track soil samples, with the exception of sample DT-09. Keystone Method 589 is a derivitization technique utilizing electron capture detection. In the samples in which PCP was detected, the concentration ranged from 25 ug/kg in sample DT-10 to 4,620 ug/kg in sample DT-05.



LEGEND

- ▲ - SURVEYED PHASE II RFI BORING LOCATION
- ⊕ - APPROXIMATE PROPOSED SOIL SAMPLING LOCATION
- ⊗ - SURVEYED EXISTING WELL LOCATION
- ▨ - DRIP TRACK EXTENSION AREAS

SCALE (FEET)
 0 40 80



FIGURE 1
 APPROXIMATE LOCATIONS OF
 SOIL BORING
 SUPERIOR, WISCONSIN
 KOPPERS INDUSTRIES, INC.
 9/3/91 1A107950

**ATTACHMENT 1
ANALYTICAL DATA
DRIP TRACK SOIL SAMPLES**

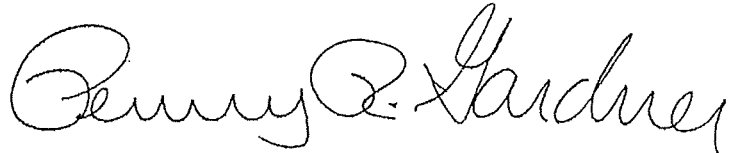
DRAFT

KEYSTONE LAB-MONROEVILLE

Interoffice Correspondence

To	D. McCausland	From	P. R. Gardner
Location	Monroeville	Location	Monroeville
Subject	Superior (178230)	Date	November 5, 1991

Attached are the results of the analyses on the soil samples that were received on September 24, 1991.



Penny R. Gardner

PRG/csh

Attachment

cc: D. Smith

CHAIN OF CUSTODY RECORD

90 SILIC (ASTM D-2316)
 TPH (EPA 418.1)
 PAH (EPA 801.1)
 PHENOLICS (EPA 8310)
 PENTACHLOROPHENOL (EPA 8046)
 KEystone 589

PLANT CODE		PROJECT NAME					NUMBER OF CONTAINERS	CONDUCTIVITY	PH	REMARKS OR OBSERVATIONS
178230-02		Superior Soil Sampling								
SAMPLERS (Signature)										
Bill Rupert										
STA. NO.	DATE	TIME	PROC P.E.O.	GRAB	WELL	STATION LOCATION				
DT-01	9-23-91	1315		X		0-1 FT	1	/	/	Red Clay Type material at A. Sampling Point
DT-02	}	1325		X		0-1 FT	1	/	/	
DT-03		1335		X		0-1 FT	1	/	/	
DT-04		1345		X		0-1 FT	1	/	/	
DT-05		1355		X		0-1 FT	1	/	/	
DT-06	9-23-91	1405		X		0-1 FT	1	/	/	
							6			

Relinquished by: (Signature) Bill Rupert	Date 9-23-91	Time 1700	Received by: (Signature) Eod-x	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 for Laboratory by: (Signature) Robert K Miller	Date 9-24-91	Time 1030	Ice Chest Temp 15°C	Ice Chest # BR-9	Chain of Custody Tag # TAPE

*DISTRIBUTION: Original accompanies shipment; Copy to Coordinator Field Files.

KEYSTONE LAB-MONROEVILLE
CASE NARRATIVE

I GENERAL

A. WORK ORDER M91-09-133

B. SAMPLE NUMBERS 001-011

C. SHIPPING PROBLEMS None _____

II ANALYSIS

A. ANALYSIS PROBLEMS None _____

B. COMMENTS

All PCP identifications are from retention
time only. All soil results are on a dry
weight basis.

Kenneth J. Keyser

PROJECT MANAGER

REPORT TO:
 Keystone Environmental Resources
 300 Tech Center Drive
 Monroeville PA 15146
 Attn: Beazer-Superior

WORK ORDER: M91-09-133
 DATE RECEIVED: 24-SEP-1991
 DATE REPORTED: 1-NOV-1991

PREPARED BY:
 Keystone Lab - Monroeville
 3000 Tech Center Drive
 Monroeville, PA 15146
 (412) 825-9600

ATTENTION: Diane McCausland

PROJECT ID: 178230-02
 I.D. NUMBER:

CERTIFIED BY : Kenneth J. Kuyser

Please call the above number if you have any questions regarding this Work Order. NOTE: All samples will be retained for 60 days. Unused soil and waste samples will be returned to you at no charge. Alternately, Keystone can make disposal arrangement for a fee.

Samples included in this report:

Keystone Sample ID	Client's Sample Name	Date Collected	Sample Matrix
M91-09-133-001	LAB BLANK		SOIL
M91-09-133-002	LAB CONTROL SAMPLE		SOIL
M91-09-133-003	DT-01	23-SEP-1991	SOIL
M91-09-133-004	DT-02	23-SEP-1991	SOIL
M91-09-133-005	DT-03	23-SEP-1991	SOIL
M91-09-133-006	DT-04	23-SEP-1991	SOIL
M91-09-133-007	DT-05	23-SEP-1991	SOIL
M91-09-133-008	DT-06	23-SEP-1991	SOIL
M91-09-133-009	DT-02 MS		SOIL
M91-09-133-010	DT-02 MSD		SOIL
M91-09-133-011	DT-02 DUP		SOIL

Analyses and Descriptions referred to in this report.

Analysis ID	Parameter Description
8270X	(Soil) Semi-Volatiles
0418X	(Soil) Petroleum Hydrocarbons
PCPX	(Soil) Pentachlorophenol (Keystone GC Method)
SOL	%Solids at 103 C

KEYSTONE LAB - MONROEVILLE

Summary of Analytical Results

Date received: 24-SEP-1991

Customer: Keystone Environmental Resources

Job name: M91-09-133

Samples

	133-003	133-004	133-005	133-006	133-007	133-008
Keystone ID	133-003	133-004	133-005	133-006	133-007	133-008
Date Sampled	23-SEP-1991	23-SEP-1991	23-SEP-1991	23-SEP-1991	23-SEP-1991	23-SEP-1991
Customer ID	DT-01	DT-02	DT-03	DT-04	DT-05	DT-06

Parameters	Units						
%Solids at 103°C	%	76.0	77.8	71.4	70.3	72.9	74.0
Total Pet. Hydrocarbons	mg/Kg	<13.2	132	70.0	<14.2	90.5	<13.5
PENTACHLOROPHENOL							
PCP	ug/Kg	1720	2930	591	1420	4620	1720
PENTACHLOROPHENOL Surrogates							
Tribromophenol	% Recovery	73.8	82.0	87.2	83.6	95.6	90.8

KEYSTONE LAB - MONROEVILLE
Summary of Analytical Results

Date received: 24-SEP-1991

Customer: Keystone Environmental Resources

Job name: M91-09-133

Samples

Keystone ID	133-003	133-004	133-005	133-006	133-007
Date Sampled	23-SEP-1991	23-SEP-1991	23-SEP-1991	23-SEP-1991	23-SEP-1991
Customer ID	DT-01	DT-02	DT-03	DT-04	DT-05

Parameters Units

8270X

Parameters	Units	133-003	133-004	133-005	133-006	133-007
2-Chlorophenol	ug/Kg	<2190	<4280	<4670	<474	<4570
2,4-Dichlorophenol	ug/Kg	<2190	<4280	<4670	<474	<4570
2,4-Dimethylphenol	ug/Kg	<2190	<4280	<4670	<474	<4570
4,6-Dinitro-2-methylphenol	ug/Kg	<11000	<21400	<23400	<2370	<22900
2,4-Dinitrophenol	ug/Kg	<11000	<21400	<23400	<2370	<22900
2-Methylphenol	ug/Kg	<2190	<4280	<4670	<474	<4570
4-Methylphenol	ug/Kg	<2190	<4280	<4670	<474	<4570
2-Nitrophenol	ug/Kg	<2190	<4280	<4670	<474	<4570
4-Nitrophenol	ug/Kg	<11000	<21400	<23400	<2370	<22900
4-Chloro-3-methylphenol	ug/Kg	<2190	<4280	<4670	<474	<4570
Pentachlorophenol	ug/Kg	<11000	<21400	<23400	<2370	<22900
Phenol	ug/Kg	<2190	<4280	<4670	<474	<4570
2,4,5-Trichlorophenol	ug/Kg	<11000	<21400	<23400	<2370	<22900
2,4,6-Trichlorophenol	ug/Kg	<2190	<4280	<4670	<474	<4570
Acenaphthene	ug/Kg	<2190	<4280	<4670	<474	<4570
Acenaphthylene	ug/Kg	<2190	<4280	<4670	<474	<4570
Anthracene	ug/Kg	<2190	<4280	<4670	<474	<4570
Benzo(a)anthracene	ug/Kg	<2190	<4280	<4670	<474	<4570
Benzo(a)pyrene	ug/Kg	<2190	<4280	<4670	<474	<4570
Benzo(b)fluoranthene	ug/Kg	<2190	<4280	<4670	<474	<4570
Benzo(g,h,i)perylene	ug/Kg	<2190	<4280	<4670	<474	<4570
Benzo(k)fluoranthene	ug/Kg	<2190	<4280	<4670	<474	<4570
Chrysene	ug/Kg	<2190	<4280	<4670	<474	<4570
Dibenzo(a,h)anthracene	ug/Kg	<2190	<4280	<4670	<474	<4570
Dibenzofuran	ug/Kg	<2190	<4280	<4670	<474	<4570
Fluoranthene	ug/Kg	<2190	11600	<4670	<474	<4570
Fluorene	ug/Kg	<2190	<4280	<4670	<474	<4570
Indeno(1,2,3-cd)pyrene	ug/Kg	<2190	<4280	<4670	<474	<4570
Naphthalene	ug/Kg	<2190	<4280	<4670	<474	<4570
Phenanthrene	ug/Kg	<2190	<4280	<4670	<474	<4570
Pyrene	ug/Kg	<2190	12600	<4670	<474	<4570

8270X SURROGATES

Surrogate	Unit	133-003	133-004	133-005	133-006	133-007
Nitrobenzene-d5	% Recovery	66.5	68.5	51.5	70.0	71.0
2-Fluorobiphenyl	% Recovery	62.5	73.5	60.5	77.0	70.0
Phenol-d6	% Recovery	55.5	66.0	55.0	68.0	68.0
2-Fluorophenol	% Recovery	59.5	69.0	56.0	82.0	70.0
2,4,6-Tribromophenol	% Recovery	33.5	47.0	30.0	59.0	38.0

KEYSTONE LAB - MONROEVILLE
 Summary of Analytical Results

Date received: 24-SEP-1991

Customer: Keystone Environmental Resources

Job name: M91-09-133

Samples

Keystone ID 133-008
 Date Sampled 23-SEP-1991
 Customer ID DT-06

Parameters	Units	
8270X		
2-Chlorophenol	ug/Kg	<2250
2,4-Dichlorophenol	ug/Kg	<2250
2,4-Dimethylphenol	ug/Kg	<2250
4,6-Dinitro-2-methylphenol	ug/Kg	<11300
2,4-Dinitrophenol	ug/Kg	<11300
2-Methylphenol	ug/Kg	<2250
4-Methylphenol	ug/Kg	<2250
2-Nitrophenol	ug/Kg	<2250
4-Nitrophenol	ug/Kg	<11300
4-Chloro-3-methylphenol	ug/Kg	<2250
Pentachlorophenol	ug/Kg	<11300
Phenol	ug/Kg	<2250
2,4,5-Trichlorophenol	ug/Kg	<11300
2,4,6-Trichlorophenol	ug/Kg	<2250
Acenaphthene	ug/Kg	<2250
Acenaphthylene	ug/Kg	<2250
Anthracene	ug/Kg	<2250
Benzo(a)anthracene	ug/Kg	<2250
Benzo(a)pyrene	ug/Kg	<2250
Benzo(b)fluoranthene	ug/Kg	<2250
Benzo(g,h,i)perylene	ug/Kg	<2250
Benzo(k)fluoranthene	ug/Kg	<2250
Chrysene	ug/Kg	<2250
Dibenzo(a,h)anthracene	ug/Kg	<2250
Dibenzofuran	ug/Kg	<2250
Fluoranthene	ug/Kg	<2250
Fluorene	ug/Kg	<2250
Indeno(1,2,3-cd)pyrene	ug/Kg	<2250
Naphthalene	ug/Kg	<2250
Phenanthrene	ug/Kg	<2250
Pyrene	ug/Kg	<2250

8270X SURROGATES

Nitrobenzene-d5	% Recovery	57.0
2-Fluorobiphenyl	% Recovery	69.8
Phenol-d6	% Recovery	59.5
2-Fluorophenol	% Recovery	57.5
2,4,6-Tribromophenol	% Recovery	48.0

KEYSTONE LAB - MONROEVILLE

Summary of QA/QC Results

Date received: 24-SEP-1991

Customer: Keystone Environmental Resources

Job name: M91-09-133

Samples

Keystone ID	133-001	133-002	133-009	133-010	133-011
Sampling Point	QA_QC	QA_QC	QA_QCB	QA_QCB	QA_QCB
Customer ID	LAB BLANK	LAB CONTROL SAMPLE	DT-02 MS	DT-02 MSD	DT-02 DUP

Parameters	Units					
%Solids at 103°C	%	NR	NR	NR	NR	80.3
Total Pet. Hydrocarbons	mg/Kg	<10.0	NR	93.0 % Rec.	108 % Rec.	NR
PENTACHLOROPHENOL						
PCP	ug/Kg	<10.0	77.4 % Rec.	82.8 % Rec.	77.6 % Rec.	NR
PENTACHLOROPHENOL Surrogates						
Tribromophenol	% Recovery	65.1	100	90.0	121	NR

KEYSTONE LAB - MONROEVILLE

Summary of QA/QC Results

Date received: 24-SEP-1991

Customer: Keystone Environmental Resources

Job name: M91-09-133

Samples

Keystone ID	133-001	133-002	133-009	133-010
Sampling Point	QA_QC	QA_QC	QA_QCB	QA_QCB
Customer ID	LAB BLANK	LAB CONTROL SAMPLE	DT-02 MS	DT-02 MSD

Parameters

Units

Parameters	Units				
8270X					
2-Chlorophenol	ug/Kg	<330	50.2 % Rec.	62.7 % Rec.	59.5 % Rec.
2,4-Dichlorophenol	ug/Kg	<330	NR	NR	NR
2,4-Dimethylphenol	ug/Kg	<330	NR	NR	NR
4,6-Dinitro-2-methylphenol	ug/Kg	<1660	NR	NR	NR
2,4-Dinitrophenol	ug/Kg	<1660	NR	NR	NR
2-Methylphenol	ug/Kg	<330	NR	NR	NR
4-Methylphenol	ug/Kg	<330	NR	NR	NR
2-Nitrophenol	ug/Kg	<330	NR	NR	NR
4-Nitrophenol	ug/Kg	<1660	91.8 % Rec.	86.6 % Rec.	72.9 % Rec.
4-Chloro-3-methylphenol	ug/Kg	<330	71.6 % Rec.	73.5 % Rec.	75.0 % Rec.
Pentachlorophenol	ug/Kg	<1660	66.8 % Rec.	34.3 % Rec.	29.6 % Rec.
Phenol	ug/Kg	<330	53.7 % Rec.	77.7 % Rec.	72.0 % Rec.
2,4,5-Trichlorophenol	ug/Kg	<1660	NR	NR	NR
2,4,6-Trichlorophenol	ug/Kg	<330	NR	NR	NR
Acenaphthene	ug/Kg	<330	76.8 % Rec.	97.8 % Rec.	109 % Rec.
Acenaphthylene	ug/Kg	<330	NR	NR	NR
Anthracene	ug/Kg	<330	NR	NR	NR
Benzo(a)anthracene	ug/Kg	<330	NR	NR	NR
Benzo(a)pyrene	ug/Kg	<330	NR	NR	NR
Benzo(b)fluoranthene	ug/Kg	<330	NR	NR	NR
Benzo(g,h,i)perylene	ug/Kg	<330	NR	NR	NR
Benzo(k)fluoranthene	ug/Kg	<330	NR	NR	NR
Chrysene	ug/Kg	<330	NR	NR	NR
Dibenzo(a,h)anthracene	ug/Kg	<330	NR	NR	NR
Dibenzofuran	ug/Kg	<330	NR	NR	NR
1,4-Dichlorobenzene	ug/Kg	NR	50.7 % Rec.	66.5 % Rec.	63.4 % Rec.

KEYSTONE LAB - MONROEVILLE

Summary of QA/QC Results

Date received: 24-SEP-1991

Customer: Keystone Environmental Resources

Job name: M91-09-133

Samples

Keystone ID	133-001	133-002	133-009	133-010
Sampling Point	QA_QC	QA_QC	QA_QCB	QA_QCB
Customer ID	LAB BLANK	LAB CONTROL SAMPLE	DT-02 MS	DT-02 MSD

Parameters	Units				
8270X (continued)					
2,4-Dinitrotoluene	ug/Kg	NR	75.6 % Rec.	66.6 % Rec.	56.1 % Rec.
Fluoranthene	ug/Kg	<330	NR	NR	NR
Fluorene	ug/Kg	<330	NR	NR	NR
Indeno(1,2,3-cd)pyrene	ug/Kg	<330	NR	NR	NR
Naphthalene	ug/Kg	<330	NR	NR	NR
N-nitrosodi-n-propylamine	ug/Kg	NR	54.5 % Rec.	87.0 % Rec.	82.9 % Rec.
Phenanthrene	ug/Kg	<330	NR	NR	NR
Pyrene	ug/Kg	<330	109 % Rec.	57.0 % Rec.	170 % Rec.
1,2,4-Trichlorobenzene	ug/Kg	NR	59.8 % Rec.	82.0 % Rec.	77.1 % Rec.
8270X Surrogates					
Nitrobenzene-d5	% Recovery	60.0	55.0	74.0	78.0
2-Fluorobiphenyl	% Recovery	72.0	69.0	77.0	79.5
Phenol-d6	% Recovery	58.0	54.0	72.0	74.0
2-Fluorophenol	% Recovery	72.0	64.0	78.0	74.0
2,4,6-Tribromophenol	% Recovery	58.0	73.0	50.0	72.0

KEYSTONE LAB - MONROEVILLE
ANALYSIS CHRONICLE

LAB SAMPLE ID	ANALYSIS	EPA METHOD	DATE COLLECTED	DATE EXTRACTED	DATE ANALYZED
M91-09-133-001	8270X	8270	N/A	26-SEP	11-OCT
M91-09-133-001	O418X	418	N/A	8-OCT	8-OCT
M91-09-133-001	PCPX	Koppers	N/A	26-SEP	1-OCT
M91-09-133-002	8270X	8270	N/A	26-SEP	11-OCT
M91-09-133-002	PCPX	Koppers	N/A	26-SEP	1-OCT
M91-09-133-003	8270X	8270	23-SEP	26-SEP	11-OCT
M91-09-133-003	O418X	418	23-SEP	8-OCT	8-OCT
M91-09-133-003	PCPX	Koppers	23-SEP	26-SEP	2-OCT
M91-09-133-004	8270X	8270	23-SEP	26-SEP	12-OCT
M91-09-133-004	O418X	418	23-SEP	8-OCT	8-OCT
M91-09-133-004	PCPX	Koppers	23-SEP	26-SEP	2-OCT
M91-09-133-005	8270X	8270	23-SEP	26-SEP	12-OCT
M91-09-133-005	O418X	418	23-SEP	8-OCT	8-OCT
M91-09-133-005	PCPX	Koppers	23-SEP	26-SEP	2-OCT
M91-09-133-006	8270X	8270	23-SEP	26-SEP	12-OCT
M91-09-133-006	O418X	418	23-SEP	8-OCT	8-OCT
M91-09-133-006	PCPX	Koppers	23-SEP	26-SEP	2-OCT
M91-09-133-007	8270X	8270	23-SEP	26-SEP	12-OCT
M91-09-133-007	O418X	418	23-SEP	8-OCT	8-OCT
M91-09-133-007	PCPX	Koppers	23-SEP	26-SEP	2-OCT
M91-09-133-008	8270X	8270	23-SEP	26-SEP	12-OCT
M91-09-133-008	O418X	418	23-SEP	8-OCT	8-OCT
M91-09-133-008	PCPX	Koppers	23-SEP	26-SEP	2-OCT
M91-09-133-009	8270X	8270	23-SEP	26-SEP	12-OCT
M91-09-133-009	O418X	418	23-SEP	8-OCT	8-OCT
M91-09-133-009	PCPX	Koppers	23-SEP	26-SEP	2-OCT
M91-09-133-010	8270X	8270	23-SEP	26-SEP	12-OCT
M91-09-133-010	O418X	418	23-SEP	8-OCT	8-OCT
M91-09-133-010	PCPX	Koppers	23-SEP	26-SEP	2-OCT

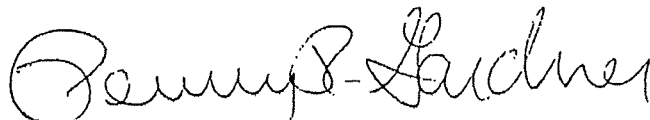
M91-09-133-009 is a Matrix Spike
M91-09-133-010 is a Matrix Spike Duplicate

KEYSTONE ENVIRONMENTAL RESOURCES

Interoffice Correspondence

To	D. McCausland	From	P. R. Gardner
Location	Monroeville	Location	Monroeville
Subject	Superior (178230)	Date	December 13, 1991

Attached are the results of the analyses on the soil samples that were received on November 14, 1991.


Penny R. Gardner

PRG/csh

Attachment

cc: D. Smith

PLANT CODE		PROJECT NAME					NUMBER OF CONTAINERS	REMARKS OR OBSERVATIONS						
178230-02		Superior Soil Sampling Extension												
SAMPLERS (Signature)							92 Solid Cast No. 221 TPH CEPA 418.1 CEPA 2120 Phenolics / CEPA CEPA 2120 Pentachlorophenol (Keystone 529)							
Bill Rupert														
STA. NO.	DATE	TIME	DOC. NO.	GRA B	WELL	STATION LOCATION								
DT-07	11-15-91	1245		X		O-1ET	1	X	X	X	X			
DT-08	}	1255		X		O-1ET	1	X	X	X	X			
DT-09		1305		X		O-1ET	1	X	X	X	X			
DT-10	11-15-91	1315		X		O-1ET	1	X	X	X	X			
							(4)							

Relinquished by: (Signature) Bill Rupert	Date 11-15-91	Time 1500	Received by: (Signature) Fed-X	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 for Laboratory by: (Signature) C. Smith	Date 11-16-91	Time 11:30	Ice Chest Temp cf °C	Ice Chest # 66	Chain of Custody Tag #

*DISTRIBUTION: Original accompanies shipment; Copy to Coordinator Field Files.

KEYSTONE LAB-MONROEVILLE
CASE NARRATIVE

I GENERAL

A. WORK ORDER M91-11-88

B. SAMPLE NUMBERS 001-010

C. SHIPPING PROBLEMS None _____

II ANALYSIS

A. ANALYSIS PROBLEMS None _____

B. COMMENTS All PCP identifications are from retention
time only. All soil results are on a dry
weight basis.

Kenneth J. Keyser

PROJECT MANAGER

ORT TO:
 stone Environmental Resources
) Tech Center Drive
 roeville PA 15146
 Beazer-Superior

WORK ORDER: M91-11-88
 DATE RECEIVED: 14-NOV-1991
 DATE REPORTED: 11-DEC-1991

PREPARED BY:
 Keystone Lab - Monroeville
 3000 Tech Center Drive
 Monroeville, PA 15146
 (412) 825-9600

ENTION: Diane McCausland

JECT ID: 178230-02
 . NUMBER:

CERTIFIED BY : Kenneth J. Kujala

Please call the above number if you have any questions regarding this Work Order. NOTE: All samples will be retained for 60 days. Unused soil and waste samples will be returned to you at no charge. Alternately, Keystone can make disposal arrangement for a fee.

ples included in this report:

Keystone Sample ID	Client's Sample Name	Date Collected	Sample Matrix
M91-11-88-001	LAB BLANK		SOIL
M91-11-88-002	LAB CONTROL SAMPLE		SOIL
M91-11-88-004	DT-07 0-1'	15-NOV-1991	SOIL
M91-11-88-005	DT-07 0-1' DUP		SOIL
M91-11-88-006	DT-07 0-1' MS		SOIL
M91-11-88-007	DT-07 0-1' MSD		SOIL
M91-11-88-008	DT-08 0-1'	15-NOV-1991	SOIL
M91-11-88-009	DT-09 0-1'	15-NOV-1991	SOIL
M91-11-88-010	DT-10 0-1'	15-NOV-1991	SOIL

lyses and Descriptions referred to in this report.

Analysis ID	Parameter Description
8270X	(Soil) Semi-Volatiles
PCPX	(Soil) Pentachlorophenol (Keystone GC Method)
0418X	(Soil) Petroleum Hydrocarbons
SOL	%Solids at 103 C

KEYSTONE LAB - MONROEVILLE

Summary of Analytical Results

Date received: 14-NOV-1991 Customer: Keystone Environmental Resources Job name: M91-11-88

Samples

Sample ID	88-004	88-008	88-009	88-010
Date Sampled	15-NOV-1991	15-NOV-1991	15-NOV-1991	15-NOV-1991
Location ID	DT-07 0-1'	DT-08 0-1'	DT-09 0-1'	DT-10 0-1'

Parameters	Units	88-004	88-008	88-009	88-010
Losses at 103°C	%	71.6	77.6	72.8	76.5
Total Pet. Hydrocarbons	mg/Kg	<10.0	96.0	<10.0	233
2,4-DICHLOROPHENOL	ug/Kg	44.1	983	<13.7	25.1
2,4-DICHLOROPHENOL Surrogates	% Recovery	93.2	108	97.5	83.4

KEYSTONE LAB - MONROEVILLE

Summary of Analytical Results

Data received: 14-NOV-1991

Customer: Keystone Environmental Resources

Job name: M91-11-88

Samples

Keystone ID	88-004	88-008	88-009	88-010
Date Sampled	15-NOV-1991	15-NOV-1991	15-NOV-1991	15-NOV-1991
Customer ID	DT-07 0-1'	DT-08 0-1'	DT-09 0-1'	DT-10 0-1'

Parameters	Units	88-004	88-008	88-009	88-010
270X					
2-Chlorophenol	ug/Kg	<931	<859	<916	<4360
2,4-Dimethylphenol	ug/Kg	<931	<859	<916	<4360
2,4-Dinitrophenol	ug/Kg	<4660	<1720	<4580	<21800
2-Methylphenol	ug/Kg	<931	<859	<916	<4360
4-Methylphenol	ug/Kg	<931	<859	<916	<4360
2-Nitrophenol	ug/Kg	<931	<859	<916	<4360
4-Nitrophenol	ug/Kg	<4660	<1720	<4580	<21800
4-Chloro-3-methylphenol	ug/Kg	<931	<859	<916	<4360
Phenol	ug/Kg	<931	<859	<916	<4360
2,4,5-Trichlorophenol	ug/Kg	<4660	<1720	<4580	<21800
2,4,6-Trichlorophenol	ug/Kg	<931	<859	<916	<4360
Acenaphthene	ug/Kg	1060	1340	<916	27000
Acenaphthylene	ug/Kg	<931	<859	<916	<4360
Anthracene	ug/Kg	<931	<859	<916	9860
Benzo(a)anthracene	ug/Kg	<931	<859	<916	<4360
Benzo(a)pyrene	ug/Kg	<931	<859	<916	<4360
Benzo(b)fluoranthene	ug/Kg	<931	<859	<916	<4360
Benzo(g,h,i)perylene	ug/Kg	<931	<859	<916	<4360
Benzo(k)fluoranthene	ug/Kg	<931	<859	<916	<4360
Chrysene	ug/Kg	<931	<859	<916	<4360
Dibenzo(a,h)anthracene	ug/Kg	<931	<859	<916	<4360
Dibenzofuran	ug/Kg	<931	<859	<916	18500
Fluoranthene	ug/Kg	2010	2100	<916	44000
Fluorene	ug/Kg	1080	1150	<916	24400
Indeno(1,2,3-cd)pyrene	ug/Kg	<931	<859	<916	<4360
Naphthalene	ug/Kg	<931	<859	<916	19100
Phenanthrene	ug/Kg	3660	3070	<916	77100
Pyrene	ug/Kg	1390	1330	<916	25600
270X SURROGATES					
Nitrobenzene-d5	% Recovery	64.0	64.0	63.0	58.0
2-Fluorobiphenyl	% Recovery	74.0	77.0	78.0	87.0
Phenol-d6	% Recovery	69.0	66.0	68.0	58.0
2-Fluorophenol	% Recovery	75.0	72.0	66.0	57.0
2,4,6-Tribromophenol	% Recovery	81.0	91.0	86.0	79.0

KEYSTONE LAB - MONROEVILLE

Summary of QA/QC Results

Date received: 14-NOV-1991

Customer: Keystone Environmental Resources

Job name: M91-11-88

Samples

	88-001	88-002	88-005	88-006	88-007
Keystone ID	QA_QC	QA_QC	QA_QCB	QA_QCB	QA_QCB
Sampling Point	LAB BLANK	LAB CONTROL	DT-07 0-1' DUP	DT-07 0-1' MS	DT-07 0-1' MSD
Customer ID		SAMPLE			

Parameters	Units	88-001	88-002	88-005	88-006	88-007
Solids at 103°C	%	NR	NR	72.0	NR	NR
Total Pet. Hydrocarbons	mg/Kg	NR	NR	NR	84.0 % Rec.	86.0 % Rec.
PENTACHLOROPHENOL						
PCP	ug/Kg	<10.0	59.3 % Rec.	NR	57.0 % Rec.	71.7 % Rec.
PENTACHLOROPHENOL Surrogates						
Tribromophenol	% Recovery	60.6	109	NR	99.7	103

KEYSTONE LAB - MONROEVILLE

Summary of QA/QC Results

Date received: 14-NOV-1991

Customer: Keystone Environmental Resources

Job name: M91-11-88

Samples

Keystone ID	88-001	88-002	88-006	88-007
Sampling Point	QA_QC	QA_QC	QA_QCB	QA_QCB
Customer ID	LAB BLANK	LAB CONTROL SAMPLE	DT-07 0-1' MS	DT-07 0-1' MSD

Parameters	Units				
8270Y					
2-Chlorophenol	ug/Kg	330	76.9 % Rec.	74.2 % Rec.	68.1 % Rec.
2,4-Dimethylphenol	ug/Kg	330	NR	NR	NR
2,4-Dinitrophenol	ug/Kg	1600	NR	NR	NR
2-Methylphenol	ug/Kg	330	NR	NR	NR
4-Methylphenol	ug/Kg	330	NR	NR	NR
2-Nitrophenol	ug/Kg	330	NR	NR	NR
4-Nitrophenol	ug/Kg	1600	75.8 % Rec.	78.8 % Rec.	77.6 % Rec.
4-Chloro-3-methylphenol	ug/Kg	330	75.7 % Rec.	77.0 % Rec.	74.4 % Rec.
Phenol	ug/Kg	330	61.5 % Rec.	62.1 % Rec.	56.9 % Rec.
2,4,5-Trichlorophenol	ug/Kg	1600	NR	NR	NR
2,4,6-Trichlorophenol	ug/Kg	330	NR	NR	NR
Acenaphthene	ug/Kg	330	72.8 % Rec.	86.4 % Rec.	107 % Rec.
Acenaphthylene	ug/Kg	330	NR	NR	NR
Anthracene	ug/Kg	330	NR	NR	NR
Benzo(a)anthracene	ug/Kg	330	NR	NR	NR
Benzo(a)pyrene	ug/Kg	330	NR	NR	NR
Benzo(b)fluoranthene	ug/Kg	330	NR	NR	NR
Benzo(g,h,i)perylene	ug/Kg	330	NR	NR	NR
Benzo(k)fluoranthene	ug/Kg	330	NR	NR	NR
Chrysene	ug/Kg	330	NR	NR	NR
Dibenzo(a,h)anthracene	ug/Kg	330	NR	NR	NR
Dibenzofuran	ug/Kg	330	NR	NR	NR
Fluoranthene	ug/Kg	330	NR	NR	NR
Fluorene	ug/Kg	330	NR	NR	NR
Indeno(1,2,3-cd)pyrene	ug/Kg	330	NR	NR	NR
Naphthalene	ug/Kg	330	NR	NR	NR
Phenanthrene	ug/Kg	330	NR	NR	NR
Pyrene	ug/Kg	330	86.3 % Rec.	96.6 % Rec.	122 % Rec.
8270X Surrogates					
Nitrobenzene-d5	% Recovery	63.0	67.0	62.0	58.0
2-Fluorobiphenyl	% Recovery	76.0	80.0	78.0	71.0
Phenol-d6	% Recovery	64.0	67.0	69.0	60.0
2-Fluorophenol	% Recovery	71.0	71.0	67.0	60.0
2,4,6-Tribromophenol	% Recovery	68.0	73.0	83.0	83.0

REVISION

KEYSTONE LAB - MONROEVILLE
ANALYSIS CHRONICLE FOR Beazer-Superior

AB SAMPLE ID	ANALYSIS	EPA METHOD	DATE COLLECTED	DATE EXTRACTED	DATE ANALYZED
91-11-88-001	8270X	8270	N/A	21-NOV	25-NOV
91-11-88-001	PCPX	Koppers	N/A	19-NOV	25-NOV
91-11-88-002	8270X	8270	N/A	21-NOV	25-NOV
91-11-88-002	PCPX	Koppers	N/A	19-NOV	25-NOV
91-11-88-004	8270X	8270	15-NOV	21-NOV	25-NOV
91-11-88-004	0418X	418	15-NOV	9-DEC	9-DEC
91-11-88-004	PCPX	Koppers	15-NOV	19-NOV	25-NOV
91-11-88-006(MS)	8270X	8270	N/A	21-NOV	25-NOV
91-11-88-006(MS)	0418X	418	N/A	9-DEC	9-DEC
91-11-88-006(MS)	PCPX	Koppers	N/A	19-NOV	25-NOV
91-11-88-007(MS)	8270X	8270	N/A	21-NOV	25-NOV
91-11-88-007(MS)	0418X	418	N/A	9-DEC	9-DEC
91-11-88-007(MS)	PCPX	Koppers	N/A	19-NOV	25-NOV
91-11-88-008	8270X	8270	15-NOV	21-NOV	25-NOV
91-11-88-008	0418X	418	15-NOV	9-DEC	9-DEC
91-11-88-008	PCPX	Koppers	15-NOV	19-NOV	25-NOV
91-11-88-009	8270X	8270	15-NOV	21-NOV	25-NOV
91-11-88-009	0418X	418	15-NOV	9-DEC	9-DEC
91-11-88-009	PCPX	Koppers	15-NOV	19-NOV	25-NOV
91-11-88-010	8270X	8270	15-NOV	21-NOV	25-NOV
91-11-88-010	0418X	418	15-NOV	9-DEC	9-DEC
91-11-88-010	PCPX	Koppers	15-NOV	19-NOV	25-NOV