



Original

May 4, 1998

Mr. Ray White  
AlliedSignal, Inc.  
717 North Bendix Drive  
South Bend, Indiana 46620

Subject: Soils Assessment, Plant 1 PCB Transformers  
AlliedSignal Industrial Complex, South Bend, Indiana  
Project No. 9822-09

Dear Mr. White:

ABB Environmental Services of Michigan, Inc. (ABB) conducted an investigation to provide information on soil conditions adjacent to former polychlorinated biphenyl (PCB) transformer pads located on the south and north sides of Plant 1 at the AlliedSignal Industrial Complex, South Bend, Indiana. The investigation, which is described in this letter, focused on assessing soil conditions beneath and adjacent to the concrete pads where the former transformers were located.

## INTRODUCTION

On the south side of Plant 1, three transformers were located on a concrete pad measuring 11.5 feet by 19 feet. On the north side of Plant 1, three transformers were located on a concrete pad measuring 12.5 feet by 25 feet. Available correspondence regarding the former transformers indicates the following:

- The transformers were removed in late 1997/early 1998.
- Samples of oil from the former transformers contained 25 to 78 parts per million (ppm) PCB.
- At the time of transformer removal, the concrete pads were cleaned and wipe samples were collected according to the U.S. Environmental Protection Agency (USEPA) "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup". Wipe sampling analytical results were less than 10 micrograms per 100 square centimeters (<10 ug/100 cm<sup>2</sup>).

## FIELD ACTIVITIES

As shown on Attachment 1, three Geoprobe borings (21GP001, 21GP002, and 21GP003) were advanced adjacent to the concrete pad on the south side of Plant 1. No cracks were observed in the concrete pad; therefore, the borings were advanced adjacent to cracks in surrounding concrete in areas most likely affected by potential runoff from the pad (i.e., at the downhill slope, through a small unpaved area on the northwest corner of the pad).

As shown on Attachment 2, five Geoprobe borings (21GP004, 21GP005, 21GP006, 21GP007 and 21GP008) were advanced through and adjacent to the concrete pad located on the north side of Plant 1.

ABB Environmental Services of Michigan Inc.



May 4, 1998  
Mr. Ray White  
Page 2

Two borings were completed through the pad at cracks in the concrete. Borings adjacent to the pad were advanced in areas of dark stained soil and stressed vegetation and/or areas downslope of the concrete pad.

At each probe location (except 21GP003), soil samples were collected continuously to 16 feet below ground surface (bgs) utilizing a 2-inch diameter, 4-foot-long Macro Sampler with a disposable/replaceable plastic liner advanced with a hydraulic hammer unit. At location 21GP003, the rods met refusal at 11 feet bgs; therefore, the boring was completed at this depth. A portion of each 2-foot interval was placed into a Ziplock bag, allowed to warm up, and then the headspace of the soil was screened using a photoionization (PI) meter. PI meter results, a description of each soil interval, and general observations were documented in a field notebook by the field geologist. After completion, soil borings were backfilled with dry bentonite chips and capped with appropriate material (i.e., concrete or soil).

Every other 2-foot-long interval of soil from each boring was field tested for PCBs using a DTECH immunoassay kit. Based on the field screening results and observations (i.e., stained soil), two intervals from each boring were selected for laboratory analysis of PCBs. The soil was placed directly into appropriate sample jars, each sample jar was labeled with the sample location [e.g., 21GP003 (9-11')], date and time of collection, sampler's initials, analysis requirements and ABB's project number. After labeling, the samples were placed into coolers with ice for pick up by the laboratory courier. Chain-of-custody documentation initiated by ABB accompanied the samples.

## RESULTS

Geoprobe sampling locations are shown on the attached sketches. Two soil samples from each boring (a total of 16 samples) were submitted for laboratory analysis of PCBs. PCBs were non-detectable (<0.33 milligrams per kilogram [mg/kg]) in 14 of the 16 samples. Two samples had detectable concentrations of PCBs: boring 21GP004 reported 0.42 mg/kg of PCB-1260 in the 0-2 foot sample interval, and boring 21GP007 reported 0.38 mg/kg PCB-1260 in the 0-2 foot sample interval. Underlying samples from these locations were non-detectable for PCBs. The Indiana Department of Environmental Management (IDEM) Voluntary Remediation Program (VRP) Tier II Cleanup Goal for PCB in surface soil under the non-residential scenario is 7.53 mg/kg. The proposed IDEM Risk-Integrated System of Cleanup (RISC) Tier 1 Default Lookup Value for PCB in surface soil under the non-residential scenario is 2.57 mg/kg. Both of these reported concentrations fall below these criteria.

\*\*\*\*\*

If you have any questions regarding this submittal, please contact me at (248) 489-8040 extension 3025.

Sincerely,

ABB Environmental Services of Michigan, Inc.

Donald A. Walsh, CPG  
Senior Project Manager

attachments

PROJECT

Attachment 1  
AlliedSignal PCB Transformers

COMP. BY

PJK

JOB NO.

9822-09

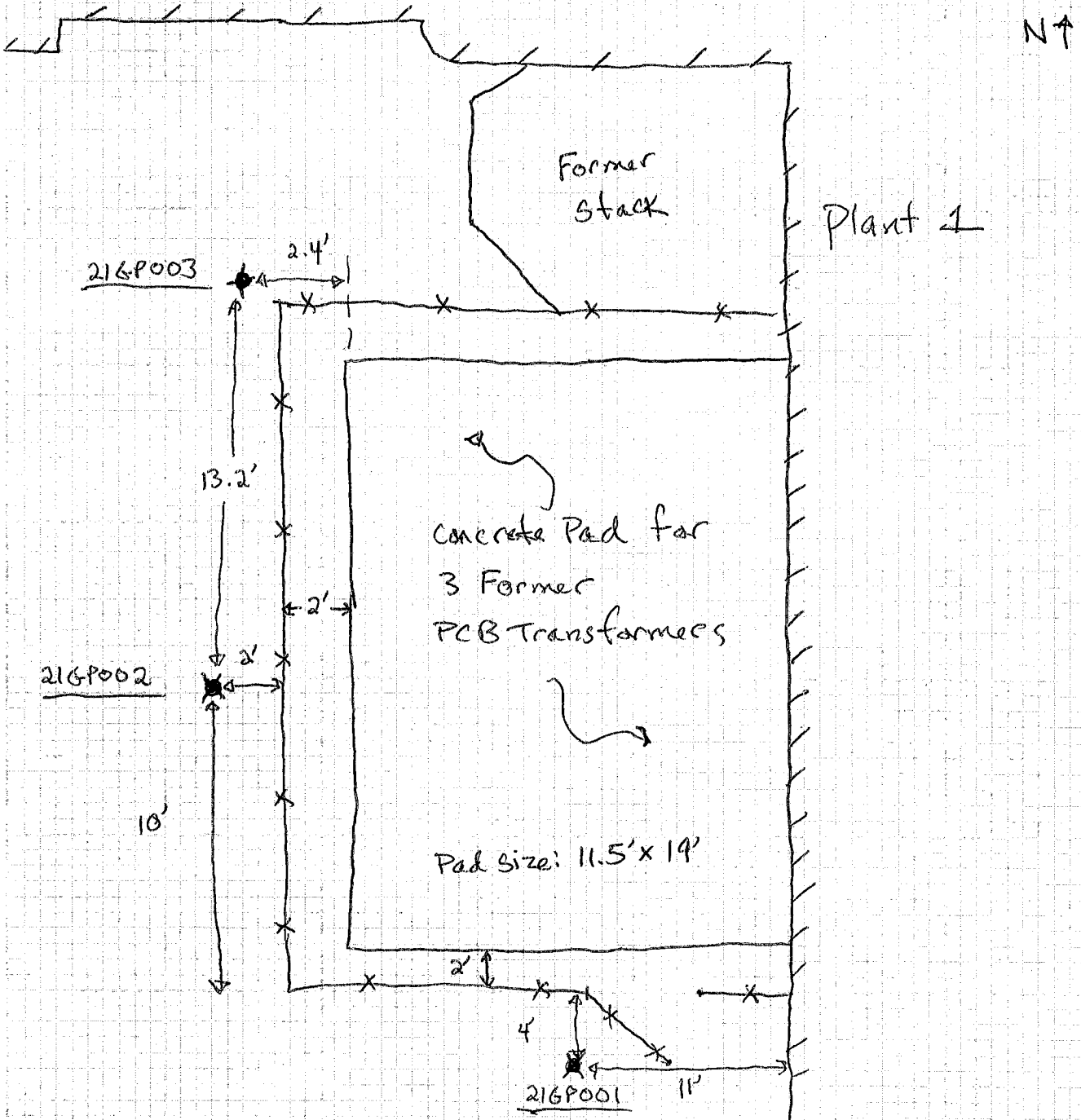
CHK BY

JW

DATE

4/23/98

South Side of Plant 1



Not to scale

★ 216P001 Geoprobe boring

PROJECT

Attachment 2  
Allied Signal PCB Transformers

COMP. BY

PJK

JOB NO.

9822-09

CHK. BY

*[Signature]*

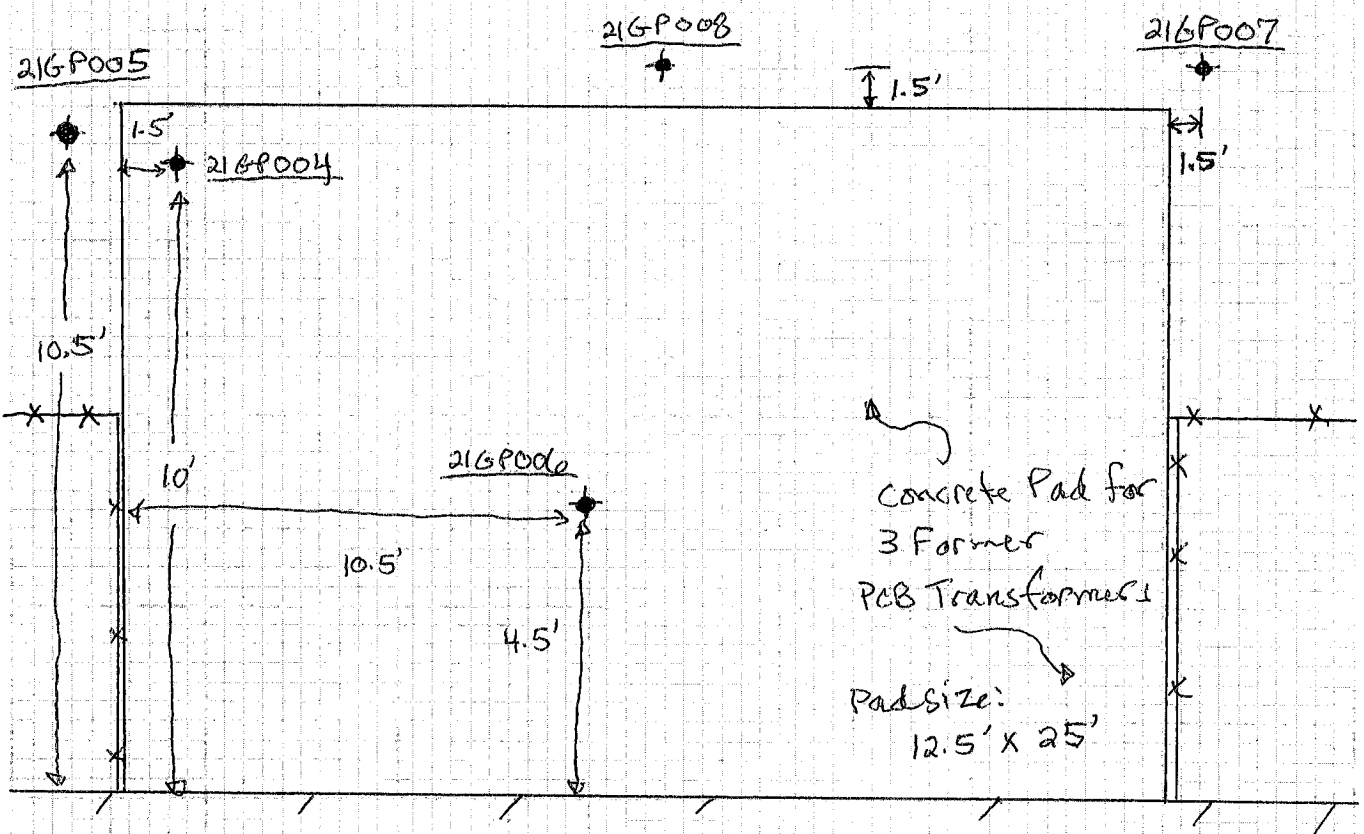
DATE

4/23/98

Bendix Drive

Not to scale  
● 216P004 Geoprobe boring

N ↑



Plant 1

**TABLE 1**  
**SOIL FIELD SCREENING AND LABORATORY ANALYTICAL RESULTS**  
**PLANT 1 - FORMER PCB TRANSFORMERS**  
**ALLIEDSIGNAL INDUSTRIAL COMPLEX, SOUTH BEND, INDIANA**

Boring No.		Units	Depth Below Ground Surface							
			0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16
<b>South Side of Plant 1</b>										
21GP001	Field Screening - VOCs	ppm	0	0	0	0	0	0	0	0
	Field Screening - PCBs	ppm	<5	-	<5	-	5-10	-	<5	-
	Analytical Results - PCBs	mg/kg	<0.33	-	-	-	-	-	<0.33	-
21GP002	Field Screening - VOCs	ppm	0	0	0	0	0	0	0	0
	Field Screening - PCBs	ppm	<5	-	160-250	-	<5	-	<5	-
	Analytical Results - PCBs	mg/kg	-	-	<0.33	-	<0.33	-	-	-
21GP003	Field Screening - VOCs	ppm	0	0	0	0	0	END AT 11'	-	-
	Field Screening - PCBs	ppm	<5	-	<5	-	<5	-	-	-
	Analytical Results - PCBs	mg/kg	-	-	<0.33	-	<0.33	-	-	-
<b>North Side of Plant 1</b>										
21GP004	Field Screening - VOCs	ppm	2	3	1	6	2	3	5	2
	Field Screening - PCBs	ppm	<5	-	<5	-	<5	-	<5	-
	Analytical Results - PCBs	mg/kg	0.42	-	<0.33	-	-	-	-	-
21GP005	Field Screening - VOCs	ppm	2	4	3	2	2	4	2	3
	Field Screening - PCBs	ppm	<5	-	<5	-	<5	-	<5	-
	Analytical Results - PCBs	mg/kg	<0.33	-	<0.33	-	-	-	-	-
21GP006	Field Screening - VOCs	ppm	2	2	2	2	9	10	9	8
	Field Screening - PCBs	ppm	<5	-	<5	-	<5	-	<5	-
	Analytical Results - PCBs	mg/kg	<0.33	-	-	-	<0.33	-	-	-
21GP007	Field Screening - VOCs	ppm	2	3	5	7	3	6	4	4
	Field Screening - PCBs	ppm	<5	-	<5	-	<5	-	<5	-
	Analytical Results - PCBs	mg/kg	0.38	-	<0.33	-	-	-	-	-
21GP008	Field Screening - VOCs	ppm	6	4	5	4	3	5	5	5
	Field Screening - PCBs	ppm	<5	-	<5	-	<5	-	<5	-
	Analytical Results - PCBs	mg/kg	<0.33	-	<0.33	-	-	-	-	-

Field Screening - VOCs = Soil sample headspace screen for volatile organic vapors using a photolization meter.  
Field Screening - PCBs = Soil sample screening for total polychlorinated biphenyls using a DTECH immunoassay kit.  
Analytical Results - PCBs = Soil sample analysis at an off-site laboratory for polychlorinated biphenyls using U.S. EPA Method 8080.  
Only PCB Aroclor 1260 was detected during this investigation.

ppm = parts per million  
mg/kg = milligrams per kilogram  
- = not analyzed

March 27, 1998

AlliedSignal, Inc.  
Attn: Mr. Don Walsh  
ABB Environmental Services, Inc.  
39255 Country Club Dr., Ste B25  
Farmington Hills, MI 48331

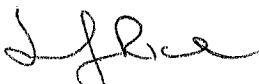
**RE: PCB Transformers**  
**PO: SE845005**

Dear Mr. Don Walsh:

Enclosed is a copy of your laboratory report and invoice for submittal **34465-1**. This submittal was completely received on March 20, 1998. All analyses have been validated and comply with our Quality Control program statistics unless otherwise noted.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



Jennifer L. Rice  
Project Chemist

Enclosure

## ANALYTICAL REPORT

 AlliedSignal, Inc.  
 Proj: PCB Transformers

 Submittal Number: 34465- 1  
 Location:  
 Contact: Jennifer L. Rice  
 Phone: (616) 975-4500

Subm: March 17, 1998 Samples

	21GP00102	21GP00114	21GP00206	Quantitation Limit	Units
Lab Sample No:	191190	191191	191192		
Polychlorinated Biphenyls USEPA 8081	Enclosed	Enclosed	Enclosed		
Percent Solids	91	94	89	0.1	%
Sampled by:	Kaczor	Kaczor	Kaczor		
Date Sampled:	03/17/98	03/17/98	03/17/98		
Time Sampled:	10:00	10:35	11:00		
Date Received:	03/19/98	03/19/98	03/19/98		
Time Received:	14:21	14:21	14:21		

**ANALYTICAL REPORT**

 AlliedSignal, Inc.  
 Proj: PCB Transformers

 Submittal Number: 34465- 1  
 Location:  
 Contact: Jennifer L. Rice  
 Phone: (616) 975-4500

Subm: March 17, 1998 Samples

	21GP00210	21GP00306	21GP00310	Quantitation Limit	Units
Lab Sample No:	191193	191194	191195		
Polychlorinated Biphenyls USEPA 8081	Enclosed	Enclosed	Enclosed		
Percent Solids	90	86	81	0.1	%
Sampled by:	Kaczor	Kaczor	Kaczor		
Date Sampled:	03/17/98	03/17/98	03/17/98		
Time Sampled:	11:20	11:40	12:20		
Date Received:	03/19/98	03/19/98	03/19/98		
Time Received:	14:21	14:21	14:21		



**ANALYTICAL REPORT**

 AlliedSignal, Inc.  
 Proj: PCB Transformers

 Submittal Number: 34465- 1  
 Location:  
 Contact: Jennifer L. Rice  
 Phone: (616) 975-4500

Subm: March 17, 1998 Samples

	21GP00402	21GP00406	21GP00502	Quantitation Limit	Units
Lab Sample No:	191196	191197	191198		
Polychlorinated Biphenyls USEPA 8081	Enclosed	Enclosed	Enclosed		
Percent Solids	85	89	89	0.1	%
Sampled by:	Kaczor	Kaczor	Kaczor		
Date Sampled:	03/17/98	03/17/98	03/17/98		
Time Sampled:	13:50	14:00	14:45		
Date Received:	03/19/98	03/19/98	03/19/98		
Time Received:	14:21	14:21	14:21		

**ANALYTICAL REPORT**

AlliedSignal, Inc.  
Proj: PCB Transformers

Subm: March 17, 1998 Samples

Submittal Number: 34465- 1

Location:

Contact: Jennifer L. Rice

Phone: (616) 975-4500

	21GP00506	21GP00602	21GP00610	Quantitation Limit	Units
Lab Sample No:	191199	191200	191201		
Polychlorinated Biphenyls USEPA 8081	Enclosed	Enclosed	Enclosed		
Percent Solids	91	94	95	0.1	%
Sampled by:	Kaczor	Kaczor	Kaczor		
Date Sampled:	03/17/98	03/17/98	03/17/98		
Time Sampled:	14:50	15:10	15:30		
Date Received:	03/19/98	03/19/98	03/19/98		
Time Received:	14:21	14:21	14:21		

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## ANALYTICAL REPORT

 AlliedSignal, Inc.  
 Proj: PCB Transformers

 Submittal Number: 34465- 1  
 Location:  
 Contact: Jennifer L. Rice  
 Phone: (616) 975-4500

Subm: March 17, 1998 Samples

	21GP00702	21GP00706	21GP00802	Quantitation Limit	Units
Lab Sample No:	191202	191203	191204		
Polychlorinated Biphenyls USEPA 8081	Enclosed	Enclosed	Enclosed		
Percent Solids	76	90	80	0.1	%
Sampled by:	Kaczor	Kaczor	Kaczor		
Date Sampled:	03/17/98	03/17/98	03/17/98		
Time Sampled:	16:00	16:10	16:50		
Date Received:	03/19/98	03/19/98	03/19/98		
Time Received:	14:21	14:21	14:21		

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ANALYTICAL REPORT

AlliedSignal, Inc.  
Proj: PCB Transformers

Subm: March 17, 1998 Samples

Submittal Number: 34465- 1  
Location:  
Contact: Jennifer L. Rice  
Phone: (616) 975-4500

	21GP00806	Quantitation Limit	Units
Lab Sample No:	191205		
Polychlorinated Biphenyls USEPA 8081	Enclosed		
Percent Solids	90	0.1	%
Sampled by:	Kaczor		
Date Sampled:	03/17/98		
Time Sampled:	17:00		
Date Received:	03/19/98		
Time Received:	14:21		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.

Proj: PCB Transformers

Subm: March 17, 1998 Samples

Sample: 21GP00102

Submittal Number 34465- 1

Date Sampled: 03/17/98 Time: 10:00

Date Received: 03/19/98 Time: 14:21

Analysis Date: 03/25/98

Lab Sample No: 191190

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.

Proj: PCB Transformers

Subm: March 17, 1998 Samples

Sample: 21GP00114

Submittal Number 34465- 1

Date Sampled: 03/17/98 Time: 10:35

Date Received: 03/19/98 Time: 14:21

Analysis Date: 03/25/98

Lab Sample No: 191191

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.  
Proj: PCB Transformers  
Subm: March 17, 1998 Samples  
Sample: 21GP00206

Submittal Number 34465- 1  
Date Sampled: 03/17/98 Time: 11:00  
Date Received: 03/19/98 Time: 14:21  
Analysis Date: 03/25/98  
Lab Sample No: 191192

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.

Proj: PCB Transformers

Subm: March 17, 1998 Samples

Sample: 21GP00210

Submittal Number 34465- 1

Date Sampled: 03/17/98 Time: 11:20

Date Received: 03/19/98 Time: 14:21

Analysis Date: 03/25/98

Lab Sample No: 191193

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		



POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.

Proj: PCB Transformers

Subm: March 17, 1998 Samples

Sample: 21GP00306

Submittal Number 34465- 1

Date Sampled: 03/17/98 Time: 11:40

Date Received: 03/19/98 Time: 14:21

Analysis Date: 03/25/98

Lab Sample No: 191194

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.

Proj: PCB Transformers

Subm: March 17, 1998 Samples

Sample: 21GP00310

Submittal Number 34465- 1

Date Sampled: 03/17/98 Time: 12:20

Date Received: 03/19/98 Time: 14:21

Analysis Date: 03/25/98

Lab Sample No: 191195

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.

Proj: PCB Transformers

Subm: March 17, 1998 Samples

Sample: 21GP00402

Submittal Number 34465- 1

Date Sampled: 03/17/98 Time: 13:50

Date Received: 03/19/98 Time: 14:21

Analysis Date: 03/25/98

Lab Sample No: 191196

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<b>0.42</b>
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.  
Proj: PCB Transformers  
  
Subm: March 17, 1998 Samples  
Sample: 21GP00406

Submittal Number 34465- 1  
Date Sampled: 03/17/98 Time: 14:00  
Date Received: 03/19/98 Time: 14:21  
Analysis Date: 03/25/98  
Lab Sample No: 191197

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

**POLYCHLORINATED BIPHENYLS**  
**USEPA 8081**

**AlliedSignal, Inc.**  
Proj: PCB Transformers  
  
Subm: March 17, 1998 Samples  
Sample: 21GP00502

Submittal Number 34465- 1  
Date Sampled: 03/17/98 Time: 14:45  
Date Received: 03/19/98 Time: 14:21  
Analysis Date: 03/25/98  
Lab Sample No: 191198

Parameter	Result mg/kg dry	Parameter	Result mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.	Submittal Number	34465-	1
Proj: PCB Transformers	Date Sampled:	03/17/98	Time: 14:50
	Date Received:	03/19/98	Time: 14:21
Subm: March 17, 1998 Samples	Analysis Date:	03/25/98	
Sample: 21GP00506	Lab Sample No:	191199	

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.	Submittal Number	34465-	1
Proj: PCB Transformers	Date Sampled:	03/17/98	Time: 15:10
	Date Received:	03/19/98	Time: 14:21
Subm: March 17, 1998 Samples	Analysis Date:	03/25/98	
Sample: 21GP00602	Lab Sample No:	191200	

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.	Submittal Number	34465-	1
Proj: PCB Transformers	Date Sampled:	03/17/98	Time: 15:30
	Date Received:	03/19/98	Time: 14:21
Subm: March 17, 1998 Samples	Analysis Date:	03/25/98	
Sample: 21GP00610	Lab Sample No:	191201	

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		



POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.

Proj: PCB Transformers

Subm: March 17, 1998 Samples

Sample: 21GP00702

Submittal Number 34465- 1

Date Sampled: 03/17/98 Time: 16:00

Date Received: 03/19/98 Time: 14:21

Analysis Date: 03/26/98

Lab Sample No: 191202

Parameter	Result mg/kg dry	Parameter	Result mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	0.38
PCB-1242	<0.33		

**POLYCHLORINATED BIPHENYLS**  
**USEPA 8081**

**AlliedSignal, Inc.**

Proj: PCB Transformers

Subm: March 17, 1998 Samples

Sample: 21GP00706

Submittal Number 34465- 1

Date Sampled: 03/17/98 Time: 16:10

Date Received: 03/19/98 Time: 14:21

Analysis Date: 03/26/98

Lab Sample No: 191203

Parameter	Result mg/kg dry	Parameter	Result mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
USEPA 8081

AlliedSignal, Inc.

Proj: PCB Transformers

Subm: March 17, 1998 Samples

Sample: 21GP00802

Submittal Number 34465- 1

Date Sampled: 03/17/98 Time: 16:50

Date Received: 03/19/98 Time: 14:21

Analysis Date: 03/26/98

Lab Sample No: 191204

Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

POLYCHLORINATED BIPHENYLS  
 USEPA 8081

<b>AlliedSignal, Inc.</b> Proj: PCB Transformers  Subm: March 17, 1998 Samples Sample: 21GP00806	Submittal Number 34465- 1 Date Sampled: 03/17/98 Time: 17:00 Date Received: 03/19/98 Time: 14:21 Analysis Date: 03/26/98 Lab Sample No: 191205
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Parameter	Result	Parameter	Result
	mg/kg dry		mg/kg dry
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	<0.33
PCB-1242	<0.33		

Page 22 - End of Analytical Report

## QUALITY CONTROL REPORT

Parameter: **Percent Solids**

Method: Residue-Gravimetric, Dried @ 103-105°C USEPA-160.3 SOIL

Units: %

**Instrument Blank**

Test Date	Analytical Batch Number	Analyst	Blank Conc
03/24/98	127811	TME	<0.1

**Duplicate Percent Difference**

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Duplicate Conc	RPD	QC Limits
191190	03/24/98	34559	TME	91	91	0	0- 20

QUALITY CONTROL REPORT

METHOD PREPARATION BLANK

Fraction: PCB Scan USEPA-8081 Scan  
Method: Organochlorine Pesticides & Pcb's  
Analyst: Mariano A. Vanegas Test Date: 03/25/98  
Units: mg/kg dry  
QC Batch: 34645-123

Parameter	Blank Concentration	Quantitation Limit
	-----	-----
PCB-1016	<0.10	0.10
PCB-1221	<0.10	0.10
PCB-1232	<0.10	0.10
PCB-1242	<0.10	0.10
PCB-1248	<0.10	0.10
PCB-1254	<0.10	0.10
PCB-1260	<0.10	0.10

## QUALITY CONTROL REPORT

## LABORATORY FORTIFIED BLANK

Fraction: PCB Scan USEPA-8081 Scan  
Method: Organochlorine Pesticides & Pcb's  
Analyst: Mariano A. Vanegas Test Date: 03/25/98  
Units: mg/kg dry  
QC Batch: 34645-123

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
PCB-1260	0.167	0.172	103	55 - 137

## QUALITY CONTROL REPORT

## MATRIX SPIKE RECOVERY

Fraction:	PCB Scan	USEPA-8081 Scan	
Method:	Organochlorine Pesticides & Pcb's	USEPA-8081	SOIL
Analyst:	Mariano A. Vanegas	Test Date:	03/25/98
Sample No:	191201		
Units:	mg/kg dry		
QC Batch:	34645		

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
	-----	-----	-----	-----	-----
PCB-1260	<0.33	0.175	0.170	97	29 - 150



## QUALITY CONTROL REPORT

## MATRIX SPIKE RECOVERY

Fraction:	PCB Scan	USEPA-8081 Scan	
Method:	Organochlorine Pesticides & Pcb's	USEPA-8081	SOIL
Analyst:	Mariano A. Vanegas	Test Date:	03/25/98
Sample No:	191201		
Units:	mg/kg dry		
QC Batch:	34645		

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
	-----	-----	-----	-----	-----
PCB-1260	<0.33	0.175	0.172	98	29 - 150

## QUALITY CONTROL REPORT

## MATRIX SPIKE DUPLICATE

Fraction:	PCB Scan	USEPA-8081 Scan	
Method:	Organochlorine Pesticides & Pcb's	USEPA-8081	SOIL
Analyst:	Mariano A. Vanegas	Test Date:	03/25/98
Sample No:	191201		
Units:	mg/kg dry		
QC Batch:	34645		

Parameter	Sample+Spike Conc #1	Sample+Spike Conc #2	Relative % Diff.	Control Limits
	-----	-----	---	-----
PCB-1260	0.170	0.172	1	0 - 23

## QUALITY CONTROL REPORT

## INSTRUMENT BLANK

Fraction: QC PEST/PCB'S II-608 WTR  
Method: Organochlorine Pesticides & Pcb's  
Analyst: Mariano A. Vanegas  
Units: ug/L  
Analytical Batch: 127929

Test Date: 03/25/98

Parameter	Blank Concentration	Quantitation Limit
	-----	-----
PCB-1016	ND	0.10
PCB-1221	ND	0.10
PCB-1232	ND	0.10
PCB-1242	ND	0.10
PCB-1248	ND	0.10
PCB-1254	ND	0.10
PCB-1260	ND	0.10

## QUALITY CONTROL REPORT

## INSTRUMENT BLANK

Fraction: QC PEST/PCB'S II-608 WTR  
Method: Organochlorine Pesticides & Pcb's  
Analyst: Mariano A. Vanegas  
Units: ug/L  
Analytical Batch: 127930

Test Date: 03/26/98

Parameter	Blank Concentration	Quantitation Limit
	-----	-----
PCB-1016	ND	0.10
PCB-1221	ND	0.10
PCB-1232	ND	0.10
PCB-1242	ND	0.10
PCB-1248	ND	0.10
PCB-1254	ND	0.10
PCB-1260	ND	0.10

**QUALITY CONTROL REPORT  
 SURROGATE RECOVERIES**

Method: Organochlorine Pesticides &amp; Pcb's

USEPA-608

WATER

 Surrogate Compound List
 

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SUR-1: Tetrachloro-M-xylene

SUR-2: Decachlorobiphenyl

% R = Percent Recovery

Compounds:	SUR-1	SUR-2
Control Limits:	34-138	49-130

Sample # / ID	Batch	% R	% R
-----	-----	---	---
BLK-001	127929	81	98
BLK-001	127930	78	91

QUALITY CONTROL REPORT  
 SURROGATE RECOVERIES

Method: Organochlorine Pesticides &amp; Pcb's

USEPA-8081

SOIL

## Surrogate Compound List

 -----  
 SUR-1: Tetrachloro-M-xylene

SUR-2: Decachlorobiphenyl

% R = Percent Recovery

Compounds:	SUR-1	SUR-2
Control Limits:	25-135	48-163

Sample # / ID	Batch	% R	% R
-----	-----	---	---
MPB-123	34645	87	99
LFB-123	34645	85	98
191201SPK	34645	78	90
191201SPK	34645	76	95
191190	34645	76	97
191191	34645	81	95
191192	34645	75	100
191193	34645	78	125
191194	34645	78	90
191195	34645	82	98
191196	34645	67	102
191197	34645	83	96
191198	34645	78	101
191199	34645	87	102
191200	34645	81	101
191201	34645	83	96
191202	34645	51	89
191203	34645	68	102
191204	34645	77	113
191205	34645	86	99

## METHODS PAGE

Parameter: Polychlorinated Biphenyls USEPA 8081  
 Method: Organochlorine Pesticides & Pcb's  
 Application: SOIL Reference Citation: USEPA-8081  
 Analyst: Mariano A. Vanegas (MAV ) Date Analyzed: 03/25/98

Sample Number	Sample Description	Analytical Batch	QC Batch
191190	21GP00102	127929	34645-123
191191	21GP00114	127929	34645-123
191192	21GP00206	127929	34645-123
191193	21GP00210	127929	34645-123
191194	21GP00306	127929	34645-123
191195	21GP00310	127929	34645-123
191196	21GP00402	127929	34645-123
191197	21GP00406	127929	34645-123
191198	21GP00502	127929	34645-123
191199	21GP00506	127929	34645-123
191200	21GP00602	127929	34645-123
191201	21GP00610	127929	34645-123

Parameter: Polychlorinated Biphenyls USEPA 8081  
 Method: Organochlorine Pesticides & Pcb's  
 Application: SOIL Reference Citation: USEPA-8081  
 Analyst: Mariano A. Vanegas (MAV ) Date Analyzed: 03/26/98

Sample Number	Sample Description	Analytical Batch	QC Batch
191202	21GP00702	127930	34645-123
191203	21GP00706	127929	34645-123
191204	21GP00802	127929	34645-123
191205	21GP00806	127929	34645-123

Parameter: PCB Extraction  
 Method: Sonication Extraction  
 Application: SOIL Reference Citation: USEPA-3550A  
 Analyst: James D. Mc Fadden (JDM ) Date Analyzed: 03/23/98

Sample Number	Sample Description	Analytical Batch	QC Batch
191190	21GP00102	127706	-123
191191	21GP00114	127706	-123
191192	21GP00206	127706	-123
191193	21GP00210	127706	-123
191194	21GP00306	127706	-123

## METHODS PAGE

Parameter: PCB Extraction  
 Method: Sonication Extraction  
 Application: SOIL  
 Analyst: James D. Mc Fadden (JDM ) Date Analyzed: 03/23/98  
 Reference Citation: USEPA-3550A

Sample Number	Sample Description	Analytical Batch	QC Batch
191195	21GP00310	127706	-123
191196	21GP00402	127706	-123
191197	21GP00406	127706	-123
191198	21GP00502	127706	-123
191199	21GP00506	127706	-123
191200	21GP00602	127706	-123
191201	21GP00610	127706	-123
191202	21GP00702	127706	-123
191203	21GP00706	127706	-123
191204	21GP00802	127706	-123
191205	21GP00806	127706	-123

Parameter: Percent Solids  
 Method: Residue-Gravimetric, Dried @ 103-105\*C  
 Application: SOIL  
 Analyst: Timothy M. Eldridge (TME ) Date Analyzed: 03/24/98  
 Reference Citation: USEPA-160.3

Sample Number	Sample Description	Analytical Batch	QC Batch
191190	21GP00102	127811	34559
191191	21GP00114	127811	34559
191192	21GP00206	127811	34559
191193	21GP00210	127811	34559
191194	21GP00306	127811	34559
191195	21GP00310	127811	34559
191196	21GP00402	127811	34559
191197	21GP00406	127811	34559
191198	21GP00502	127811	34559
191199	21GP00506	127811	34559
191200	21GP00602	127811	34559
191201	21GP00610	127811	34559
191202	21GP00702	127811	34559
191203	21GP00706	127811	34559
191204	21GP00802	127811	34559
191205	21GP00806	127811	34559



**STATEMENT OF DATA QUALIFICATIONS**

All analyses have been validated and comply with our Quality Control Program. No qualifications required.

Page 1 - **End of Statement of Data Qualifications**

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**Note:** This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

**CASE NARRATIVE**



5555 Glenwood Hills Parkway SE • PO Box 888692 • Grand Rapids, MI 49588-8692

COC No. 1 of 2  
41782

# Chain of Custody Record

No

Date Sampled	Time Sampled	Matrix*	Grab	Sample Identification		No. of Containers	No's Correspond to Bottle Packing List		Analysis Required/Comments	Sample No.	Filtered Date/Time
				Sampler (Print)	Sampler Signature		Container Type	Container No.			
3/17/98	1000	Soil	X	21GP00102		1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	PCB 8080	191190		
	1035		X	21GP00114		1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191191		
	1100		X	21GP00206		1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191192		
	1120		X	21GP00210		1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191193		
	1140		X	21GP00306		1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191194		
	1220		X	21GP00310		1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191195		
	1350		X	21GP00402		1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191196		
	1400		X	21GP00406		1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191197		
3/17/98	1445	Soil	X	21GP00502		1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	PCB 8080	191198		

Relinquished By: *[Signature]* Date/Time: 3/19/98  
 Received By: *[Signature]* Date/Time: 1/21  
 Received to Lab By: *[Signature]* Date/Time: 3-20-98  
 Logged in By: *[Signature]* Date/Time: 3-20-98  
 Date/Time: 3-20-98  
 Date/Time: 2-15-98

\* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)



**TriMatrix**  
Laboratories, Inc.

5555 Glenwood Hills Parkway SE • PO Box 888692 • Grand Rapids, MI 49588-8692

COC No. 2 of 2.  
41783

# Chain of Custody Record

No

Project Manager	Project Name	Sampler (Print)		Sampler Signature	Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	No's Correspond to Bottle Packing List		Analysis Required/Comments	Sample No.	For Lab Use Only	
		Rack/Tray No.	Lab Project #									Filtered Date/Time	Date/Time				
Don Walsh	Allied Signal PCB Transformers	P. K	A C	2 0 R	3/17/98	1450	Soil	X	X	21GP00506	1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	PCB 8080	19199			
						1510		X	X	21GP00602	1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191200			
						1530		X	X	21GP00610	1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191201			
						1600		X	X	21GP00702	1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191202			
						1610		X	X	21GP00706	1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191203			
						1650		X	X	21GP00802	1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		191204			
					3/17/98	1700	Soil	X	X	21GP00806	1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	PCB 8080	191205			
												1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20					
Reinquished By: <i>RTS</i>	Date/Time: 3/17/98	Received By: <i>Bob Walsh</i>	Date/Time: 3/17/98	Received to Lab By: <i>Bob Walsh</i>	Date/Time: 3/20/98	Logged in By: <i>Bob Walsh</i>	Date/Time: 3/20/98										

\* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)