

Memo

To: Daniel Duncan
U.S. EPA, Region 10
1200 Sixth Avenue
Mail Code OCE-084
Seattle, WA 98101

Project: 0146970020

From: Tasya Gray
Tel: (206) 342-1760
Fax: (206) 342-1761
Date: April 22, 2010

cc: Robert Stetson, Kelly-Moore
Dean Yasuda, Ecology
Project file

Subject: Addendum to PCB Investigation Report
Former Kelly-Moore Manufacturing Facility

1.0 OBJECTIVE

AMEC Geomatrix (AMEC) has prepared this memorandum for the U.S. Environmental Protection Agency (EPA) as an addendum to the January 2010 polychlorinated biphenyls (PCB) Investigation and Cleanup Report (AMEC, 2010). This memorandum presents the results of additional cleanup and floor sampling in Building 6 conducted on March 16 and 17, 2010, at the former Kelly-Moore Paint Company (Kelly-Moore) production facility at 5410 Airport Way South, in Seattle, Washington. The goals of cleanup and additional floor sampling were to address areas where concentrations of PCBs remained greater than 1 part per million (ppm) and perform confirmation sampling to evaluate the success of mitigation measures.

2.0 BACKGROUND

Kelly-Moore discontinued paint production activities at the facility in 2008. AMEC assisted Kelly-Moore in collecting and analyzing samples from the buildings in preparation for the lease or sale of the property. As part of the closure process, PCBs were detected at concentrations greater than the EPA-established PCB cleanup level of 10 micrograms (μg)/100 square centimeters (cm^2) for indoor nonporous surfaces (Title 40 of the Code of Federal Regulations [CFR] Part 761.61 [4] [ii]). The source of the PCBs is unknown.

In July 2009, AMEC prepared a closure and sampling plan (work plan) (AMEC, 2009a) in accordance with the regulations for PCBs (40 CFR 261); an addendum to the plan was produced in August 2009 to address additional sampling included in the investigation (AMEC, 2009b). The work plan was prepared in accordance with provisions of the Toxic Substances Control Act (TSCA) (40 CFR 261) concerning PCBs.

Several rounds of cleanup were subsequently conducted, as described in the January 2010 report (AMEC, 2010).

3.0 JACK HAMMERING AND ADDITIONAL SAMPLING

The results of the PCB investigation report (AMEC, 2010) indicated that concentrations of PCBs from three post-scarification primary samples exceeded the high-occupancy criterion (1 milligram per kilogram [mg/kg]). Additional cleanup and subsequent sampling in accordance with TSCA were conducted on March 16 and 17, 2010, for the areas surrounding sample locations KM09-6-79, KM09-6-84, and KM09-7-90, where the results from the primary samples exceeded 1 mg/kg (Figures 1 and 2).

Clearcreek Contractors was subcontracted to remove 1.0 inch of concrete from the upper surface of the floors for areas surrounding sample locations KM09-6-79, KM09-6-84, and KM09-6-90, as shown on Figures 1 and 2. Clearcreek used pneumatic "rivetbuster" jack hammers and wet methods to control dust while chipping away approximately 48 square feet (ft²) of concrete flooring downstairs and 28 ft² upstairs in Building 6.

After jack hammering, confirmation sampling was performed as described in the Work Plan (AMEC, 2009a). The area of jack hammering and the locations where samples were collected following the jack hammering are shown on Figures 1 and 2. Three composite samples and 12 primary samples were collected on March 17, 2010. Two composite samples were collected on the ground floor and one composite sample was collected upstairs in Building 6. PCBs were not detected in any of the three composite samples (Table 1).

4.0 QUALITY CONTROL AND QUALITY ASSURANCE

Quality assurance/quality control (QA/QC) procedures included the analysis of one equipment blank, one blind field duplicate sample collected from KM10-6N-COMP (labeled KM10-6-DUP), and laboratory quality control samples. Data verification was performed in accordance with the EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (EPA, 2008). The summary data quality review and laboratory data package are presented in Attachment A.

Field QA/QC sample results were all non-detect; results are included in Table 1. All other QA data met their respective acceptance criteria. Overall, the results of the QA assessment indicate that the results are complete, valid, and usable.

5.0 WASTE PRODUCED

Solids from jack hammering, sweeping, and vacuuming were placed in 55-gallon drums and stored on site, pending disposal. All used Visqueen, personal protective equipment (PPE), and other materials generated during cleanup and sampling were also placed in 55-gallon drums for disposal. AMEC coordinated with Kelly-Moore's environmental waste management firm, Ingenium Group, LLC, of San Jose, California, for disposal of the wastes generated. Ingenium handled the waste disposal. Waste is scheduled for disposal on or about May 11, 2010. Waste manifests and certificates of disposal for wastes generated during this project were not available as of the writing of this memorandum, but will be forwarded to EPA upon receipt.

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April 22, 2010
Page 3 of 3

6.0 SUMMARY

This memorandum documents cleanup and sampling of three separate areas in Building 6 where PCB concentrations exceeded the high-occupancy screening criterion (1 mg/kg). Cleanup and subsequent sampling in accordance with TSCA were completed for the areas surrounding former sample locations KM09-6-84, KM09-6-90, and KM09-6-79 in Building 6.

The post-scarification sampling results for porous floors are summarized below:

- The concentration of PCBs in all composite samples collected following jack hammering (KM10-6N-COMP, KM10-6O-COMP and KM10-6P-COMP) were below the laboratory reporting limits, and all of the reporting limits were below the high-occupancy screening criterion (1 mg/kg). As a result, the primary samples for the three composite samples were not analyzed.

7.0 REFERENCES

AMEC (AMEC Geomatrix, Inc.), 2009a, PCB Closure and Characterization Plan, Former Kelly-Moore Manufacturing Facilities, 5410 Airport Way South, Seattle, Washington, July.

AMEC, 2009b, PCB Closure and Characterization Plan Addendum, Former Kelly-Moore Manufacturing Facilities, 5410 Airport Way South, Seattle, Washington, August.

AMEC, 2010, PCB Investigation and Cleanup Report, Former Kelly-Moore Manufacturing Facilities, 5410 Airport Way South, Seattle, Washington, January

EPA (U.S. Environmental Protection Agency), 2008, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review: EPA 540-R-08-01, June.

TG/km
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Attachments: Table 1 2010 Composite Bulk Floor Sampling Results
Figure 1 Building 6 PCB Sample Locations — Ground Floor
Figure 2 Building 6 PCB Sample Locations — Second Floor
Attachment A - Quality Assurance/Quality Control Memorandum and Laboratory Analytical Results

TABLE 1

2010 COMPOSITE BULK FLOOR SAMPLING RESULTS ^{1,2}
Former Kelly-Moore Manufacturing Facility
Seattle, Washington

Sample ID	Primary Samples Included and Analyzed Individually	Description of Sample Location	Number of Locations in Composite Sample	High Occupancy Screening Criterion ³	Low Occupancy Screening Criterion ⁴	Sample Date	Units	Total PCBs	Aroclor 1016	Aroclor 121	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
KM10-6N-COMP	NA ⁵	Building 6, second floor, pulverized concrete area, surrounding former sample location KM09-6-79	4	0.36 mg/kg	5.9 mg/kg	3/17/2010	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
KM10-6O-COMP	NA ⁵	Building 6, ground floor, pulverized concrete, area surrounding former sample location KM09-6-90	4	0.36 mg/kg	8.85 mg/kg	3/17/2010	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
KM10-6P-COMP	NA ⁵	Building 6, ground floor, pulverized concrete, area surrounding former sample location KM09-6-84	4	0.36 mg/kg	8.85 mg/kg	3/17/2010	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
KM10-6-DUP	NA ⁵	Field duplicate, Building 6, ground floor, pulverized concrete, area surrounding former sample location KM09-6-84	4	0.36 mg/kg	8.85 mg/kg	3/17/2010	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
EB-07-031710	--	Equipment Blank - Deionized water poured over sampling utensils and drill bit	--	--	--	3/17/2010	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Notes

- All samples were collected on March 17, 2010, and analyzed for PCBs by EPA Method 8082 at OnSite Environmental, Inc., in Redmond, Washington.
- < = analyte not detected at or above laboratory reporting limit shown.
- High-occupancy cleanup levels were established as screening criteria for composite samples. The high-occupancy screening criteria were calculated using the method described by the EPA (1985) as:

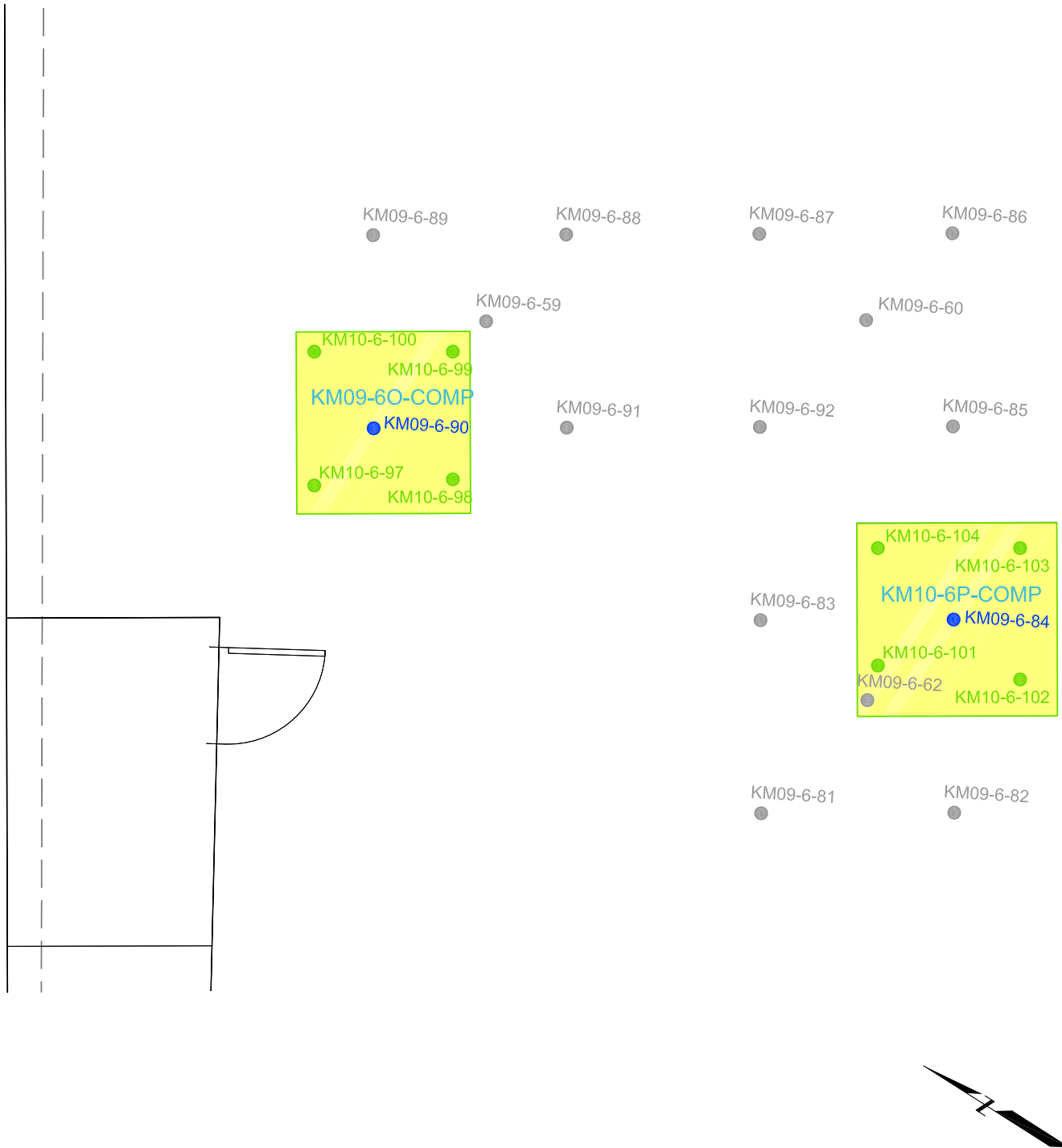
$$(0.8)(1 \text{ mg/kg}) + (2.576)(0.3)(0.8)(1.0) = 1.42 \text{ mg/kg/ number of subsamples in composite}$$
- Low-occupancy cleanup levels were established as screening criteria for composite samples. The low-occupancy screening criteria were calculated using the method described by the EPA (1985) as:

$$(0.8)(25 \text{ mg/kg}) + (2.576)(0.3)(0.8)(1.0) = 35.4 \text{ mg/kg/ number of subsamples in composite}$$
- Not applicable. Primary samples not analyzed, since PCBs were not detected in composite sample.

Abbreviations

-- = not applicable
µg/L = micrograms per liter
EPA = U.S. Environmental Protection Agency
mg/kg = milligrams per kilogram
PCBs = polychlorinated biphenyls

Plot Date: 04/21/10 - 10:05am, Plotted by: adam.stenberg
Drawing Path: S:\14697003_PCB-Samples\CAD\, Drawing Name: KellyMoore_BldgSamples-042010.dwg



EXPLANATION

KM09-6-59 ● PREVIOUS PCB PRIMARY SAMPLE LOCATION

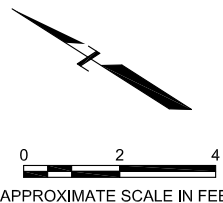
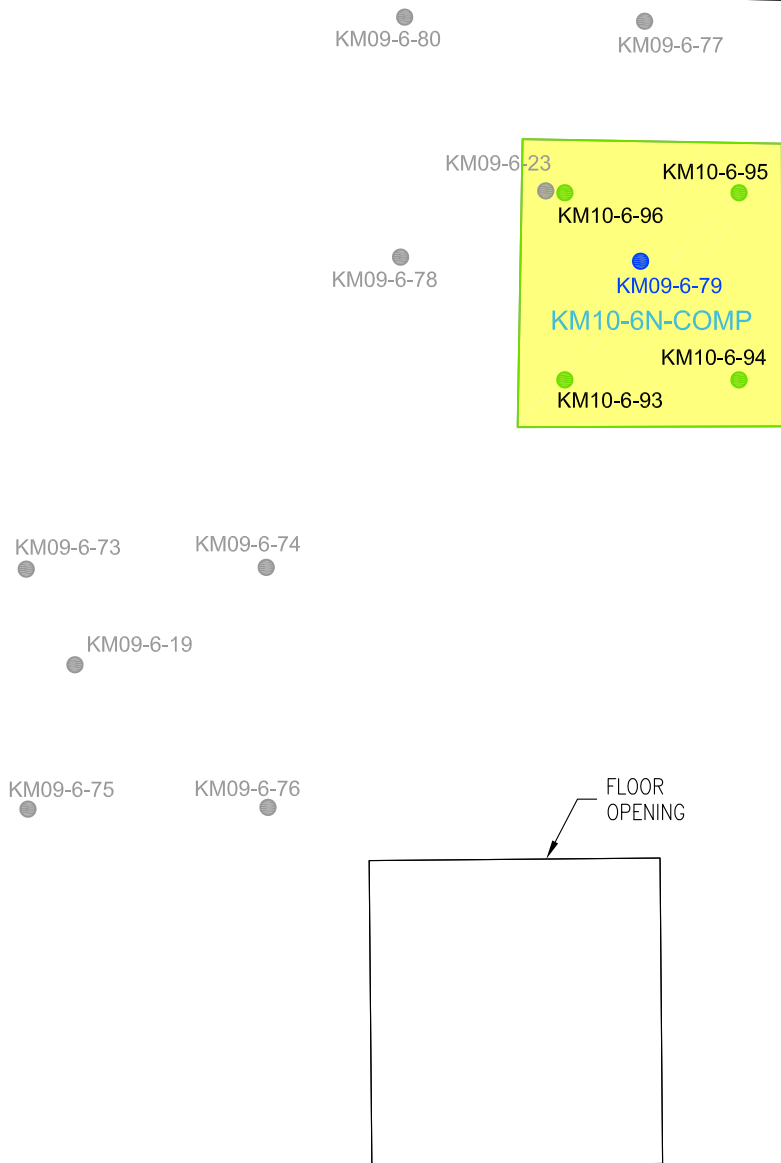
KM10-6-99 ● 2010 PCB PRIMARY SAMPLE LOCATION

KM10-6P-COMP COMPOSITE SAMPLE ID

KM09-6-84 ● PREVIOUS SAMPLE DETECTION
ABOVE HIGH-OCCUPANCY
SCREENING CRITERION - AREA SCARIFIED

BUILDING 6 PCB SAMPLE LOCATIONS GROUND FLOOR Former Kelly-Moore Manufacturing Facility Seattle, Washington		
By: APS	Date: 04/21/10	Project No. 14697
AMEC Geomatrix		Figure 1

Plot Date: 04/21/10 - 10:06am, Plotted by: adam.stenberg
Drawing Path: S:\14697\003_PCB-Samples\CAD\, Drawing Name: KellyMoore_BldgSamples-042010.dwg



EXPLANATION

- KM09-6-74 ● PREVIOUS PCB PRIMARY SAMPLE LOCATION
- KM10-6-93 ● 2010 PCB PRIMARY SAMPLE LOCATION
- KM10-6P-COMP COMPOSITE SAMPLE ID
- KM09-6-79 ● PREVIOUS SAMPLE DETECTION
ABOVE HIGH-OCCUPANCY
SCREENING CRITERION - AREA SCARIFIED

BUILDING 6 PCB SAMPLE LOCATIONS
SECOND FLOOR
Former Kelly-Moore Manufacturing Facility
Seattle, Washington

By: APS Date: 04/21/10 Project No. 14697

AMEC Geomatrix

Figure 2

ATTACHMENT A

Quality Assurance/Quality Control Memorandum & Laboratory Analytical Results

Memo

To: Natasya Gray
From: Crystal Neirby
Tel: (206) 342-1760
Fax: (206) 342-1761
Date: March 29, 2010

Project: 0146970020
cc: Project File

**Subject: Kelly-Moore Paint Company – PCB Sampling – March 2010
Summary Data Quality Review – SDG 1003-132**

This memorandum presents a summary data quality review for analyses of three primary composite concrete dust samples, one composite concrete dust field duplicate, and one equipment blank sample collected on March 17, 2010. The samples were submitted to OnSite Environmental, Inc. (OnSite), located in Redmond, Washington, a laboratory accredited by the Washington State Department of Ecology (Ecology). The samples were analyzed for the following analytes:

- Polychlorinated Biphenyls (PCBs) by U.S. Environmental Protection Agency (EPA) Method 8082.

The samples associated with sample delivery group (SDG) 1003-132 are presented in Table 1. Some samples were submitted and placed on hold pending results of associated samples. Only the samples analyzed by the laboratory are presented in Table 1.

The samples were received within the acceptable temperature range of $4 \pm 2^{\circ}\text{C}$ and no sample discrepancies were noted by the laboratory upon receipt.

Data were reviewed in accordance with the appropriate method procedures. The most current control limits provided by the laboratory were used to evaluate the quality control data.

Hold times, method blanks, blank spike (BS) and blank spike duplicate (BSD), surrogate recoveries, field duplicate results, and reporting limits were reviewed to assess compliance with applicable methods and the laboratory procedures. If data qualification was required, data were qualified in general accordance with the definitions and use of qualifying flags outlined in EPA documents (EPA, 2008).

Samples were analyzed for PCBs by the method identified in the introduction to this report and were evaluated for the following criteria.

1. Holding Times – Acceptable
2. Blanks – Acceptable

One equipment blank was submitted with the samples and analyzed for PCBs. There were no detections in the equipment blank.

3. BS/BSD – Acceptable.

4. Surrogates – Acceptable

5. Field Duplicates – Acceptable

One field duplicate was collected with sample KM10-6N-COMP and labeled as sample KM10-6-DUP. Both the primary and duplicate samples were analyzed and did not have detections; therefore, a relative percent difference could not be calculated. Sample results are not qualified.

6. Reporting Limits and Laboratory Qualifiers – Acceptable

OVERALL ASSESSMENT OF DATA

The OnSite SDG 1003-132 is 100 percent complete. The data usability is based on EPA's guidance documents. Few problems were identified and analytical performance was generally within specified limits. The data are acceptable and meet the project's data quality objectives.

Table 1

Sample Identifications and Qualified Results

Sample ID	SDG	Matrix	Qualified Analyte
KM10-6P-COMP	1003-132	Concrete Dust	none
KM10-6-DUP	1003-132	Concrete Dust (duplicate of KM10-6N-COMP)	none
KM10-6O-COMP	1003-132	Concrete Dust	none
KM10-6N-COMP	1003-132	Concrete Dust	none
EB07-031710	1003-132	Equipment Blank	none

REFERENCES

EPA, 2008, U.S. EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review: EPA 540-R-08-001, June.



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 29, 2010

Tasya Gray
AMEC Geomatrix Consultants, Inc.
One Union Square
600 University Street, Suite 1020
Seattle, WA 98101

Re: Analytical Data for Project 14697
Laboratory Reference No. 1003-132

Dear Tasya:

Enclosed are the analytical results and associated quality control data for samples submitted on March 18, 2010.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DeB" followed by a stylized flourish.

David Baumeister
Project Manager

Enclosures

Date of Report: March 29, 2010
Samples Submitted: March 18, 2010
Laboratory Reference: 1003-132
Project: 14697

Case Narrative

Samples were collected on March 17, 2010 and received by the laboratory on March 18, 2010. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 29, 2010
 Samples Submitted: March 18, 2010
 Lab Traveler: 1003-132
 Project: 14697

PCBs by EPA 8082

Matrix: Concrete Dust
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID: KM10-6P-COMP						
Laboratory ID: 03-132-05						
Aroclor 1016	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1221	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1232	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1242	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1248	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1254	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1260	ND	0.20	EPA 8082	3-25-10	3-25-10	
Surrogate:	Percent Recovery	Control Limits				
DCB	107	46-122				
Client ID: KM10-6-DUP						
Laboratory ID: 03-132-06						
Aroclor 1016	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1221	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1232	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1242	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1248	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1254	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1260	ND	0.20	EPA 8082	3-25-10	3-25-10	
Surrogate:	Percent Recovery	Control Limits				
DCB	109	46-122				
Client ID: KM10-6O-COMP						
Laboratory ID: 03-132-12						
Aroclor 1016	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1221	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1232	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1242	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1248	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1254	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1260	ND	0.20	EPA 8082	3-25-10	3-25-10	
Surrogate:	Percent Recovery	Control Limits				
DCB	109	46-122				

Date of Report: March 29, 2010
 Samples Submitted: March 18, 2010
 Lab Traveler: 1003-132
 Project: 14697

PCBs by EPA 8082

Matrix: Concrete Dust
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	KM10-6N-COMP					
Laboratory ID:	03-132-17					
Aroclor 1016	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1221	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1232	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1242	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1248	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1254	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1260	ND	0.20	EPA 8082	3-25-10	3-25-10	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>DCB</i>	<i>110</i>	<i>46-122</i>				

Date of Report: March 29, 2010
 Samples Submitted: March 18, 2010
 Lab Traveler: 1003-132
 Project: 14697

**PCBs by EPA 8082
 QUALITY CONTROL**

Matrix: Solid
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0325S1					
Aroclor 1016	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1221	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1232	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1242	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1248	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1254	ND	0.20	EPA 8082	3-25-10	3-25-10	
Aroclor 1260	ND	0.20	EPA 8082	3-25-10	3-25-10	
Surrogate:	Percent Recovery	Control Limits				
DCB	100	46-122				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0325S1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	0.432	0.443	0.500	0.500	N/A	86	89	54-123	3	20	
Surrogate:											
DCB						103	104	46-122			

Date of Report: March 29, 2010
 Samples Submitted: March 18, 2010
 Lab Traveler: 1003-132
 Project: 14697

PCBs by EPA 8082

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EB07-031710					
Laboratory ID:	03-132-01					
Aroclor 1016	ND	0.10	EPA 8082	3-26-10	3-26-10	
Aroclor 1221	ND	0.10	EPA 8082	3-26-10	3-26-10	
Aroclor 1232	ND	0.10	EPA 8082	3-26-10	3-26-10	
Aroclor 1242	ND	0.10	EPA 8082	3-26-10	3-26-10	
Aroclor 1248	ND	0.10	EPA 8082	3-26-10	3-26-10	
Aroclor 1254	ND	0.10	EPA 8082	3-26-10	3-26-10	
Aroclor 1260	ND	0.10	EPA 8082	3-26-10	3-26-10	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>DCB</i>	98	39-126				

Date of Report: March 29, 2010
 Samples Submitted: March 18, 2010
 Lab Traveler: 1003-132
 Project: 14697

**PCBs by EPA 8082
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0326W1					
Aroclor 1016	ND	0.050	EPA 8082	3-26-10	3-26-10	
Aroclor 1221	ND	0.050	EPA 8082	3-26-10	3-26-10	
Aroclor 1232	ND	0.050	EPA 8082	3-26-10	3-26-10	
Aroclor 1242	ND	0.050	EPA 8082	3-26-10	3-26-10	
Aroclor 1248	ND	0.050	EPA 8082	3-26-10	3-26-10	
Aroclor 1254	ND	0.050	EPA 8082	3-26-10	3-26-10	
Aroclor 1260	ND	0.050	EPA 8082	3-26-10	3-26-10	
Surrogate:	Percent Recovery	Control Limits				
DCB	101	39-126				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit
SPIKE BLANKS										
Laboratory ID:	SB0326W1									
	SB	SBD	SB	SBD		SB	SBD			
Aroclor 1260	0.415	0.410	0.500	0.500	N/A	83	82	49-113	1	14
Surrogate:										
DCB						109	106	39-126		



Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in the diesel range are impacting the lube oil range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

Chain of Custody

23130

Environmental Inc. 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 893-3881 • www.onsite-env.com		Laboratory Number: 03-132	
Turnaround Request (in working days) ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☒ Standard (7 working days) (TPH analysis 5 working days)		Requested Analysis HEM by 1664 TCLP Metals Total RCRA Metals (8) Herbicides by 8151A Pesticides by 8081A PCBs by 8082 PAHs by 8270D / SIM Semivolatiles by 8270D / SIM Halogenated Volatiles by 8260B Volatiles by 8260B NWTPH-DX NWTPH-GX/BTEX NWTPH-HCID	
Company: Amec Genatrix Project Number: 14697 Project Name: Kelly-Moore Project Manager: Lasya Gray Sampled by: Charles Durman		Requested Analysis HEM by 1664 TCLP Metals Total RCRA Metals (8) Herbicides by 8151A Pesticides by 8081A PCBs by 8082 PAHs by 8270D / SIM Semivolatiles by 8270D / SIM Halogenated Volatiles by 8260B Volatiles by 8260B NWTPH-DX NWTPH-GX/BTEX NWTPH-HCID	
Lab ID KM10-6-101 KM10-6-102 KM10-6-103 KM10-6-104 KM10-6P-COMP KM10-6-DUP EB07-031710 KM10-6-97 KM10-6-98 KM10-6-99		Sample Identification Date Sampled: 3/12/10 Time Sampled: 0948 Matrix: concrete dust Cont.: 1-8oz glass	
Signature: [Signature] Relinquished by: Received by: Relinquished by: Received by: Relinquished by: Received by: Reviewed by/Date:		Company: Amec Genatrix Date: 3/17/10 Time: 1030 Comments/Special Instructions:	
Reviewed by/Date:		Chromatograms with final report	

Sample/Cooler Receipt and Acceptance Checklist

Client: AMEG
 Client Project Name/Number: 14697.
 OnSite Project Number: 03-132

Initiated by: [Signature]
 Date Initiated: 3/18/10

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	No	N/A	1	2	3	4
1.2 Were the custody seals intact?	Yes	No	N/A	1	2	3	4
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	N/A	1	2	3	4
1.4 Were the samples delivered on ice or blue ice?	Yes	No		1	2	3	4
1.5 Were samples received between 0-6 degrees Celsius?	Yes	No	Temperature: <u>19</u>				
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	N/A					
1.7 How were the samples delivered?	Client	Courier	UPS/FedEx	OSE Pickup	Other		

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	Yes	No	1	2	3	4
2.2 Was the COC legible and written in permanent ink?	Yes	No	1	2	3	4
2.3 Have samples been relinquished and accepted by each custodian?	Yes	No	1	2	3	4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	Yes	No	1	2	3	4
2.5 Were all of the samples listed on the COC submitted?	Yes	No	1	2	3	4
2.6 Were any of the samples submitted omitted from the COC?	Yes	No	1	2	3	4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	No	1	2	3	4	
3.2 Were any sample labels missing or illegible?	Yes	No	1	2	3	4	
3.3 Have the correct containers been used for each analysis requested?	Yes	No	1	2	3	4	
3.4 Have the samples been correctly preserved?	Yes	No	N/A	1	2	3	4
3.5 Are volatiles samples free from headspace and air bubbles?	Yes	No	N/A	1	2	3	4
3.6 Is there sufficient sample submitted to perform requested analyses?	Yes	No	1	2	3	4	
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	No	1	2	3	4	
3.8 Was method 5035A used?	Yes	No	N/A	1	2	3	4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#	N/A	1	2	3	4	

Explain any discrepancies:

1 - Discuss issue in Case Narrative

3 - Client contacted to discuss problem

2 - Process Sample As-is

4 - Sample cannot be analyzed or client does not wish to proceed