

July 26, 2007

Robert Martin Martin & Slagle, LLC P.O. Box 1023 Black Mountain, NC 28711

Kari Ann Killian

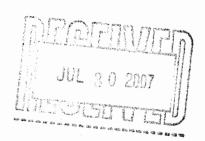
Dear Mr. Martin,

Enclosed is the Technical Memorandum for work completed at the former Borg Warner and current Kuhlman Electric facility in Crystal Springs, Mississippi during the month of March. If you have any questions concerning this information, please give me a call.

Sincerely,

Richard Johnson

Enclosure



Technical Memorandum Borg Warner / Kuhlman Electric Crystal Springs, Mississippi



TECHNICAL MEMORANDUM

July 26, 2007

To: Robert Martin

Martin Slagle Inc.

From: Richard Johnson

ECCS, Inc.

Re: Field Analytical Methods – QC Summary

Borg Warner - Kuhlman Electric Facility

Crystal Springs, Mississippi

INTRODUCTION

This Technical Memorandum provides documentation of the field analytical test methods used to analyze KEP-GW samples collected during March 2005 at an accelerated site investigation episode around the former Borg Warner and current Kuhlman Electric facility in Crystal Springs, Mississippi. Water samples were analyzed for polychlorinated biphenyls (PCBs) and chlorinated benzenes by gas chromatography (GC) in accordance with ECCS's Polychlorinated Biphenyl (PCB) Mini Extraction Screening Procedure. A summary of test results is provided in Table 1. A summary of method blanks, laboratory control samples and matrix spike/matrix spike duplicate data is provided in Table 2.

In addition copies of the chain of custody sheets can be found in appendix A.

- A) Chain of custody sheets for samples
- B) FEDEX shipping label for Paradigm Labs
- C) Chain of custody sheets for samples sent to Paradigm Labs

The PCB mini-extraction procedure is based on the existing EPA SW846 methods 8082/8141. The procedure incorporates all the quality control rigors of the full 8082/8141 methods including quantification based on 6-point calibration with continuing calibration verification, surrogate method performance monitoring, method blanks, laboratory control samples (LCS), and matrix spike/matrix spike (MS/MSD) duplicate samples. As such, you should consider these test results as comparable to what you would get from a fixed-based laboratory using the more-widely accepted extraction procedure.

The primary project objective of the sampling and testing episode was to delineate the PCB contamination at and around the site using the accelerated site characterization approach. The mobile laboratory was required to provide data as quickly as possible to keep the accelerated site investigation process on track while trying to maintain a goal of level three data quality.

Environmental Chemistry Consulting Services, Inc.

CASE NARRATIVE

During the episode, all samples collected were analyzed. To maintain rapid turnaround and to meet the project objective, three GCs were operated on a nearly continuous basis.

Quality control including proper calibration, continuing calibration verification, surrogates, method blanks, laboratory control samples and matrix spike/matrix spike duplicate samples was performed at the method-specified intervals. Overall quality of the data is very good. The following quality related issues should be noted:

- 1. All surrogate recoveries were within acceptable ranges with the exception of three samples (W1115, W1116 and W1120). Method states that 1 of the 2 required surrogates must be within range.
- 2. All LCS recoveries were within acceptable ranges. See Table 2.
- 3. All MS/MSD recoveries were within acceptable ranges. Percent repeatability was also within acceptable ranges. See Table 2.

METHOD SUMMARY

This method employs a mini-extraction procedure and gas chromatography analysis for the detection of PCBs and chlorinated benzenes. Reporting limits are provided in the results Tables. Four grams of sample are dried with anhydrous sodium sulfate and extracted with eight mLs of 80/20 iso-octane/acetone. The extract is then analyzed by Gas Chromatography-Electron Capture Detector (GC-ECD).

Procedure

- 1. Standards Preparation Primary standards are prepared from a solution purchased from various vendors at Certified concentrations. Stock standards are prepared in suitable solvents and stored in a freezer when not in use. Secondary standards are prepared in 80/20 iso-octane/acetone and stored in a freezer when not in use. Standard curve mixes for this project was prepared at six concentrations: PCBs 0.05, 0.10, 0.20, 0.50, 1.0 and 2.0 ug/m; chlorinated benzenes 0.005, 0.01, 0.02, 0.05, 0.10 and 0.20 ug/ml.
- 2. WATER Samples: 200 grams of water was weighed into a clean jar containing 50 grams of sodium chloride. The samples were spiked with a surrogate in addition the LCS/MS/MSD were spiked with PCB's and chlorinated benzenes. Added 10 ml of isooctane to each and shake 3 times for 2 minutes each time. Samples were allowed to settle for approximately 5 minutes between each shake. Isooctane was decanted into a scintillation vial and then an aliquot was transferred to an autosampler vial. Then extracts were injected into a GC-ECD.
- 3. GC-ECD Analysis A sample aliquot is injected into an HP5890 GC with an ECD equipped with an HP ChemStation for data processing. PCBs were identified by matching retention times of standards to the same retention time in the sample. Regression analysis was performed on each of the selected peak's height verses concentration of the standard using a LN/LN transformed linear regression. For PCBs nine peaks were selected for quantification. The ug/mL value for each peak was added together and divided by the number of peaks selected to obtain the total PCB ug/mL result. If interference occurred at any of the peaks, these peaks were not included in the total, and the divisor was reduced accordingly.
- 4. Quality Control Quality control consisted of the following items:
 - Continuing calibration standards analyzed every ten samples or less and at the end of a run.
 - Blank and LCS samples analyzed every twenty sample or less with a minimum of one per day.
 - MS/MSD samples analyzed every twenty samples or less with a minimum of one per day.
 - Information is documented in logbook 45 and March run sheets.
- 5. Instrument Conditions Two HP5890 gas chromatographs were equipped with RTX-35 capillary columns. Each system had a Leap Technologies A200S auto-sampler and an HP ChemStation for data handling.

Table 1 Sample Results – March

Kuhlman Electric Crystal Springs, Mississippi Chlorinated Benzenes Detected in ug/L

	Surrogate DCBP(%)	115	113	118	113	118	121	113	114	118	95.2	122	109	113
	Surrogate TCMX(%)	103	94.2	100	98.2	102	98.9	100	95.2	101	99.7	101	70.6	75.7
	Hexa- chloro- benzene	< 0.025	< 0.025	<-0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.20	< 0.20
	Penta- chlóro- benzene	< 0.025	0.032	< 0.025	< 0.025	0.22	< 0.025	< 0.025	< 0.025	0.031	< 0.025	< 0.025	< 0.20	< 0.20
Field Laboratory	1,2,3,4- Tetrachloro- benzene	< 0.025	0.29	< 0.025	< 0.025	0.25	< 0.025	< 0.025	< 0.025	0.29	< 0.025	< 0.025	< 0.40	< 0.40
E	1,2,3,5- & 1,2,4,5- Tetrachloro- benzene	< 0.050	0.059	< 0.050	< 0.050	0.20	< 0.050	< 0.050	< 0.050	0.057	< 0.050	< 0.050	< 0.40	< 0.40
	1,2,3- Trichloro- benzene	0.10	0.45	< 0.025	< 0.025	0.039	< 0.025	0.029	< 0.025	0.50	< 0.025	< 0.025	< 1.0	< 1.0
	1,2,4- Trichloro- benzene	< 0.025	0.14	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	0.14	< 0.025	< 0.025	< 1.0	< 1.0
	1,3,5- Trichloro- benzene	< 0.025	0.079	< 0.025	< 0.025	0.097	< 0.025	< 0.025	< 0.025	0.072	< 0.025	< 0.025	< 1.0	< 1.0
	Date Analyzed	3-Mar-05	3-Mar-05	3-Mar-05	3-Mar-05	12-Mar-05	12-Mar-05							
	Time Collected	11:04	13:06	14:24	14:57	15:14	15:28	16:03	16:17	,	16:34	16:37	11:19	ı
	Date Collected	2-Mar-05	2-Mar-05	2-Mar-05	2-Mar-05	12-Mar-05	12-Mar-05							
	Depth	,	'	,		,	,			1	'		,	,
	Sample ID	KEP-GW-001-003	KEP-GW-003-003	KEP-GW-008-003	KEP-GW-007-003	KEP-GW-006-003	KEP-GW-005-003	KEP-GW-004-003	KEP-GW-002-003	KEP-Duplicate	KEP-FB-004	Equip Rinsate	KEP-GW-009-001	KEP-Duplicate
	Field Lab Sample ID	W1083	W1084	W1085	W1086	W1087	W1088	W1089	W1090	W1091	W1092	W1093	W1140	W1142

Table 2 QC Samples - March

Table 2 QC Results

Lab # associated with qc samples:

W1083 through W1093

Matrix

Matrix

Spike

Spike W1090 Duplicate

W1090

Blank

LCS

Date Analyzed:

3/3/05

3/3/05

3/3/05

3/3/05

Compound	% Rec	% Rec	% RPD	ug/L	% Rec
1,3,5-Trichlorobenzene	118	117	1%	< 0.025	109
1,2,4-Trichlorobenzene	115	114	1%	< 0.025	110
1,2,3-Trichlorobenzene	115	114	1%	< 0.025	109
1,2,3,5- & 1,2,4,5-Tetrachlorobenzene	114	113	1%	< 0.050	108
1,2,3,4-Tetrachlorobenzene	113	112	1%	< 0.025	108
Pentachlorobenzene	112	111	1%	< 0.025	108
Hexachlorobenzene	111	109	2%	< 0.025	108

Table 2 QC Results

Lab # associated with qc samples:

W1140

and \

W1142

Matrix

Matrix

Spike

Spike

Duplicate

W1138

W1138

Blank

LCS

Date Analyzed:

3/12/05

3/12/05

3/12/05

3/12/05

Compound	% Rec		% Rec	% RPD	ug/L	% Rec
		\vdash				
1,3,5-Trichlorobenzene	102		103	-1%	< 1.0	103
1,2,4-Trichlorobenzene	103		103	0%	< 1.0	104
1,2,3-Trichlorobenzene	103		103	0%	< 1.0	104
1,2,3,5- & 1,2,4,5-Tetrachlorobenzene	106		104	2%	< 0.40	109
1,2,3,4-Tetrachlorobenzene	105		103	2%	< 0.40	107
Pentachlorobenzene	107		105	2%	< 0.20	109
Hexachlorobenzene	110		110	0%	< 0.20	114

Appendix A

Chain of Custody Sheets for Samples

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Environmental Chemistry Consulting Services, Inc.

Madison, WI 53718

2525 Advance Road

CHAIN OF CUSTODY

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KEP-6W-007-003		1487	w	7					19 s/m
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KEP-6W-005-003		8251	<i>ن</i> ا	7					W108F
KEP-6W-004-003	,	1603	3	4					p3010
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A=None B=HCL C=H2SO4	7007	Robell Dan		1 Tr	•	3/2/65	127	Mutal	03/05/05/05/
D=HNO3 E=EnCore F=Methanol	Relinquished By:	ed By:	•			Date/Time:	Received By:		Date/Time:
G=NaOH O=Other(Indicate)							>	\ \	

WHITE - REPORT COPY YELLOW - LABORATORY COPY PINK - SAMPLER/SUBMITTER

Receipt Temp:

Seal #'s

Intact/Not Intact

Custody Seal: Present/Absent

Shipped Via:

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Environmental Chemistry

CHAIN OF CUSTODY

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Consulting Servic	2525 Advance Road	Phone 608-221-8700	

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Sample Description	Date	Time	Matrix	Bottles	Preserv*		Requested		Dotte Comments	Number
KEP-WP-005-006	3/4/05 0942		3	7	1/8	Sarzes, /Filos	15200	№	, .s.5	8211m
KEP-WP-005-007	7	1047	3	7	11/18	9025/ (80 WOS	18260	8	1.501	W1139
KEP-6W-009-001	<i>\\</i>	1119	3	6	11/8	A/B POPZLK, / PZLIB	1 / 8260	B		07110
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Receipt Temp:

Seal #'s

Intact/Not Intact

Custody Seal: Present/Absent G=NaOH O=Other(Indicate)

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Date/Time:

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D=HNO3 E=EnCore F=Methanol

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Appendix B

FEDEX shipping label for Paradigm Labs

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Date 3/3/03 Account Number	FedEx Priority Overnight FedEx Standard Overnight Next business morning* FedEx Standard Overnight	FedEx First Overnight Earliest next business morning delivery to select locations*
So Chuck Peel Phone (601) FFF-2927	FedEx 2Day Second business day* FedEx Express Saver Third business day*	
company Pec 1 Consulting	4b Express Freight Service	Packages over 150 lbs.
Address 140 Chapel Lane	FedEx 1Day Freight* Next business day* * Call for Confirmation:	FedEx 3Day Freight Third business day**
City Madisin State MS ZIP 39110	FedEx FedEx Pak* FedEx Sharl Pak FedEx Box	* Declared value limit \$500 FedEx Tube Other
Your Internal Billing Reference First 24 characters will appear on invoice. MARCTIN + SCARCLE	6 Special Handling Include FedEx address i	
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By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability. Questions? Visit our Web site at fedex.com	By signing you authorize us to deliver this shipment without obtaining e sign and agree to indemnify and hold us harmless from any resulting claims.	eture 466
or call 1.800.GoFedEx 1.800.463.3339. 0282993	908 SRF+Rev. Date 11/03+Part #158279+©1994-2003 FedEx+PRINTED IN U.S.A.	

Appendix C

Chain of Custody Sheets for samples sent to Paradigm Labs

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Paradigm:

Paradigin.	TRG (ug/L)
sec-Butylbenzene	60
tert-Butylbenzene	60
Chlorobenzene	100
1,3-Dichlorobenzene	14.4
1,4-Dichlorobenzene	75
1,1-Dichloroethane ,,	798
1,1-Dichloroethene	7
trans-1,3-Dichloropropene	n/a
Ethylbenzene	700
Isopropylbenzene	658
n-Propylbenzene	60.8
1,1,1-Trichloroethane	200
1,2,3-Trichlorobenzene	n/a
1,2,4-Trichlorobenzene	70
1,3,5-Trichlorobenzene	n/a
1,2,4-Trimethylbenzene	12.3
1,3,5-Trimethylbenzene	12.3
m,p,o-Xylene	12000
Pentachlorobenzene	4.87
1,2,4,5-Tetrachlorobenzene	1.83
1,2,3,4-Tetrachlorobenzene	n/a