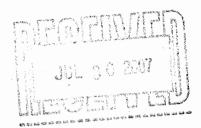


July 25, 2007

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



Dear Mr. Martin,

Enclosed is the Technical Memorandum for work completed at the Kuhlman Electric Corporation (KEC) facility in Crystal Springs, Mississippi during the month of September. If you have any questions concerning this information, please give me a call.

Sincerely,

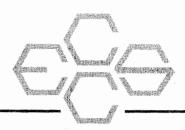
Kari Ann Killian Richard Johnson

Enclosure

Technical Memorandum

Kuhlman Electric Corporation (KEC)

Crystal Springs, Mississippi



TECHNICAL MEMORANDUM

July 25, 2007

To: Robert Martin

Martin Slagle Inc.

From: Richard Johnson

ECCS, Inc.

Re: Field Analytical Methods – QC Summary

Kuhlman Electric Corporation (KEC) Facility

Crystal Springs, Mississippi

INTRODUCTION

This Technical Memorandum provides documentation of the field analytical test methods used to analyze soil and water samples collected from KEP-GW Property area during September 2005 during an accelerated site investigation episode around the Kuhlman Electric Corporation (KEC) facility in Crystal Springs, Mississippi. Soil and 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 and shipping sheets can be found in appendix A.

A) Chain of custody sheets

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.

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 seven samples (W1370, W1373, W1375-W1376, W1409, W1411 and W1412.) 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.
- 4. Since electron capture of detectors tend to have a very narrow linear range, many sample extracts required dilution. Dilutions were accurately done.

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. Sample Preparation SOILS: Each sample or quality control sample is prepared in identical fashion. Approximately four grams of silica sand (blanks and control spikes) or sample is transferred into a clean scintillation vial. Ten grams of anhydrous sodium sulfate are added to the vial and mixed well. Extra sodium sulfate is added when necessary to assure the sample is dried. A surrogate, spike compound mix (if necessary) and eight mLs of 80/20 iso-octane/acetone are added to the vial. The vial is shaken for 30 seconds, allowed to settle for 2 minutes, shaken again for 30 seconds, and allowed to settle for 10 minutes. An aliquot of the extract is transferred to an autosampler vial for injection into the GC-ECD.
- 3. 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.
- 4. 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.
- 5. 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 September run sheets.
- 6. 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 – September

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

Field Lab Sample Date Time Date Trichloro- Tric										Fie	Field Laboratory				
KEP-GW-006-004 - 18-Sep-05 15:09 20-Sep-05 <1.0	Field Lab Sample ID		Depth	Date Collected	Time Collected	Date Analyzed	1,3,5- Trichloro- benzene	1,2,4- Trichloro- benzene	1,2,3- Trichloro- benzene		1,2,3,4- Tetrachloro- benzene	Penta- chloro- benzene	ALCOHOL: LANGE CONTRACT	Control of the Control of the Control	Surrogate DCBP(%)
KEP-GW-006-004 - 18-Sep-05 15:09 20-Sep-05 < 1.0 < 1.0 < 0.40 < 0.40 < 0.20 < 0.20 74.6 KEP-GW-007-004 - 18-Sep-05 15:22 20-Sep-05 < 1.0															
KEP-GW-007-004 - 18-Sep-05 15:22 20-Sep-05 < 1.0 < 1.0 < 0.40 < 0.40 < 0.20 < 0.20 75.6 KEP-GW-007-004 - 18-Sep-05 15:45 20-Sep-05 < 1.0	W1369			18-Sep-05	L	20-Sep-05	L	< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	74.6	73.3
KEP-GW-005-004 - 18-Sep-05 15:45 20-Sep-05 < 1.0 < 1.0 < 0.40 < 0.40 < 0.20 < 0.20 70.8 KEP-FB-010 - 18-Sep-05 15:46 20-Sep-05 < 1.0	W1370		'	18-Sep-05		20-Sep-05	< 1.0	< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	75.6	41.2
KEP-FB-010 - 18-Sep-05 15:46 20-Sep-05 < 1.0 < 1.0 < 0.40 < 0.40 < 0.20 < 0.20 76.5 KEP-GW-002-004 - 18-Sep-05 16:08 20-Sep-05 < 1.0	W1371	L		18-Sep-05	15:45	20-Sep-05	< 1.0	< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	70.8	64.7
KEP-GW-002-004 - 18-Sep-05 16:08 20-Sep-05 < 1.0 < 1.0 < 0.40 < 0.40 < 0.20 < 0.20 67.6 KEP-GW-002-004 - 18-Sep-05 16:45 20-Sep-05 < 1.0	W1372			18-Sep-05	15:46	20-Sep-05	< 1.0	< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	76.5	62.8
KEP-GW-004-004 - 18-Sep-05 16:45 20-Sep-05 < 1.0 < 1.0 < 0.40 < 0.40 < 0.20 < 0.20 79.7 KEP-GW-004-002 - 18-Sep-05 17:03 20-Sep-05 < 1.0	W1373	KEP-GW-002-004		18-Sep-05	16:08	20-Sep-05	< 1.0	< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	9.79	49.1
KEP-GW-009-002 - 18-Sep-05 17:03 20-Sep-05 <1.0 <1.0 <1.0 <0.40 <0.40 <0.20 <0.20 73.3 KEP-Duplicate - 18-Sep-05 17:25 22-Sep-05 <1.0	W1374	KEP-GW-004-004	,	18-Sep-05	16:45	20-Sep-05	< 1.0	< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	79.7	76.3
KEP-Duplicate - 18-Sep-05 - 20-Sep-05 - 1.0 < 1.0 < 0.40 < 0.40 < 0.20 < 0.20 85.9 KEP-GW-008-004 - 22-Sep-05 17.25 22-Sep-05 < 1.0	W1375	1	Ŀ	18-Sep-05	17:03	20-Sep-05	< 1.0	< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	73.3	35.3
KEP-GW-008-004 - 22-Sep-05 71.2 22-Sep-05 < 1.0 < 1.0 < 1.0 < 0.40 < 0.40 < 0.20 < 0.20 77.2 KEP-GW-003-004 - 23-Sep-05 10:25 23-Sep-05 < 1.0	W1376			18-Sep-05	,	20-Sep-05	< 1.0	< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	85.9	48.0
KEP-GW-003-004 - 23-Sep-05 10:25 23-Sep-05 < 1.0 < 1.0 < 1.0 < 0.40 < 0.40 < 0.20 < 77.2 KEP-Duplicate - 23-Sep-05 - 1.0 < 1.0	W1409	+		22-Sep-05	17:25	22-Sep-05	< 1.0	< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	77.2	13.5 ^(a)
KEP-Duplicate - 23-Sep-05 - 23-Sep-05 < 1.0 < 1.0 < 1.0 < 0.40 < 0.20 < 0.20 84.4	W1411	KEP-GW-003-004	,	23-Sep-05	10:25	23-Sep-05	< 1.0	< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	77.2	21.3
	W1412	KEP-Duplicate	ŀ	23-Sep-05	,	23-Sep-05		< 1.0	< 1.0	< 0.40	< 0.40	< 0.20	< 0.20	84.4	31.3

 $^{(a)}$ = Sample re-extracted and analyzed on 9/23/05 resulting in same low surrogate.

Table 2 QC Samples - September

Table 2 QC Results

Lab # associated with qc samples:

W1369 through W1376

Matrix

Matrix

Spike

Spike

Duplicate

Blank

LCS

W1369

W1369

Date Analyzed:

9/20/05

9/20/05

9/20/05

9/19/05

Compound	% Rec	% Rec	% RPD	ug/L	% Rec
				W	
1,3,5-Trichlorobenzene	87.0	85.4	2%	< 1.0	71.7
1,2,4-Trichlorobenzene	84.6	83.8	1%	< 1.0	77.8
1,2,3-Trichlorobenzene	87.5	86.9	1%	< 1.0	77.6
1,2,3,5- & 1,2,4,5-Tetrachlorobenzene	93.5	93.4	0%	< 0.40	80.9
1,2,3,4-Tetrachlorobenzene	114	114	0%	< 0.40	80.5
Pentachlorobenzene	115	116	-1%	< 0.20	83.1
Hexachlorobenzene	98.1	97.6	1%	< 0.20	90.0

Table 2 QC Results

Lab # associated with qc samples:

W1409

Matrix

Matrix

Spike

Spike

Duplicate

W1404

W1404

Blank

LCS

Date Analyzed:

9/22/05

9/22/05

9/22/05

9/22/05

Compound	% Rec	% Rec	% RPD	ug/L	% Rec
	-				
1,3,5-Trichlorobenzene	81.8	79.7	3%	< 1.0	82.6
1,2,4-Trichlorobenzene	90.5	86.0	5%	< 1.0	90.9
1,2,3-Trichlorobenzene	94.8	89.1	6%	< 1.0	91.1
1,2,3,5- & 1,2,4,5-Tetrachlorobenzene	90.8	85.4	6%	< 0.40	90.0
1,2,3,4-Tetrachlorobenzene	92.2	85.6	7%	< 0.40	90.4
Pentachlorobenzene	93.0	86.6	7%	< 0.20	91.2
Hexachlorobenzene	98.3	92.6	6%	< 0.20	98.8

Table 2 QC Results

Lab # associated with qc samples:

W1411 through W1412

Matrix

Matrix

Spike

Spike

W1414

Duplicate

W1414

Blank

LCS

Date Analyzed:

9/23/05

9/23/05

9/23/05

9/23/05

Compound	% Rec	% Rec	-	% RPD	ug/L	% Rec
1,3,5-Trichlorobenzene	77.6	79.8		-3%	< 1.0	86.2
1,2,4-Trichlorobenzene	85.7	88.7		-3%	< 1.0	94.6
1,2,3-Trichlorobenzene	88.0	91.2		-4%	< 1.0	95.5
1,2,3,5- & 1,2,4,5-Tetrachlorobenzene	87.7	91.0		-4%	< 0.40	95.2
1,2,3,4-Tetrachlorobenzene	89.7	93.8		-4%	< 0.40	95.9
Pentachlorobenzene	89.2	94.4		-6%	< 0.20	96.7
Hexachlorobenzene	93.7	98.0		-4%	< 0.20	102

Appendix A

Chain of Custody Sheets for mobile lab

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Environmental Chemistry Consulting Services, Inc.

Madison, WI 53718

2525 Advance Road

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KEP-FR-010 91	3/18/05-154C	3	E	Ms	Bosser, Percog	N S	W1372
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Environmental Chemistry Consulting Services, Inc. 2525 Advance Road

Madison, WI 53718

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A=None B=HCL

Relinquished By:

*Preservation Code

Relinquished By:

D=HNO3 E=EnCore F=Methanol

Date/Time:

Seal #'s

Intact/Not Intact

Custody Seal: Present/Absent

Shipped Via:

G=NaOH O=Other(Indicate)

Date/Time:

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