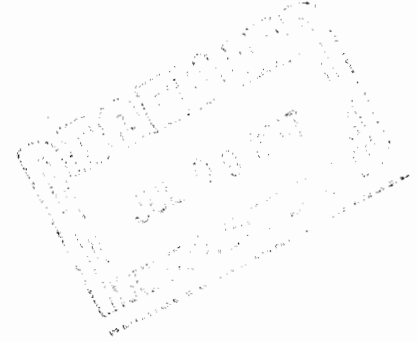


June 1, 2007

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



Dear Mr. Martin,

Enclosed is the Technical Memorandum for VOC work recently performed at the Kuhlman Electric Corporation (KEC) facility in Crystal Springs, MS. If you have any questions concerning this information, give me a call.

Sincerely,

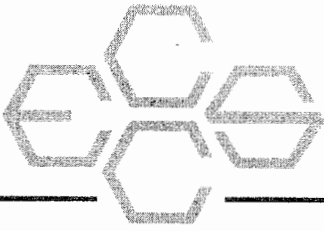
for Joseph Kubale

Enclosure

**Technical Memorandum**

**Kuhlman Electric Corporation (KEC)**

**Crystal Springs, Mississippi**



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## TECHNICAL MEMORANDUM

June 1, 2007

To: Robert Martin  
Martin and Slagle

From: Joseph Kubale *JKK*  
ECCS *for*

Re: Field Analytical Methods  
1,4-Dioxane  
Kuhlman Electric Corporation (KEC)  
Crystal Springs, MS

### Introduction

This Technical Memorandum provides documentation of the field analytical test methods used to analyze well water samples collected December 13, 2006 near the Kuhlman Electric Corporation (KEC) facility in Crystal Springs, MS. The samples were analyzed direct injection GC/MSD/SIM for the 1,4-Dioxane.

### Narrative

#### Waters

Water samples were extracted then analyzed for 1,4-Dioxane by direct injection GC/MSD/SIM.

The report limit for 1,4-Dioxane is 1.0 $\mu$ g/L for water samples.

A summary of test results is provided in Table 1. A summary of method blanks 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.

## 1,4-Dioxane Method Summary

### Water Samples

Water samples were provided by the client to the field lab in 40mL VOC vials. Two 40mL VOC vials were transferred to the filtering apparatus, spiked with 40 $\mu$ L 25 $\mu$ g/mL surrogate solution and 40 $\mu$ L 25 $\mu$ g/mL spike solution (if necessary) then filtered through a 3M 2272 activated carbon disk. The activated carbon disk was placed in a 3 dram vial containing 8mL acetone and sonicated for 15 minutes. An 0.8mL aliquot of the sample extract was spiked with 10 $\mu$ L 25 $\mu$ g/mL internal standard solution and analyzed by direct inject GC/MSD/SIM.

### GC/MSD Procedure:

Identification of the target compound was done by matching retention times, quantitation and qualifier ion relative responses to that of an authentic standard. Quantitation is accomplished by comparing the response of the major (quantitation) ion relative to an internal standard using a seven point calibration curve. These levels equate to 0.5, 1.0, 2.5, 5.0, 10, 50 and 100  $\mu$ g/L for water samples.

A Hewlett-Packard 5890 Series II gas chromatograph with a 30m x 0.32mm 1.8 $\mu$  film, RTX-624 micro-capillary column interfaced to a Hewlett-Packard 5972 MSD was used. The data system included a Hewlett-Packard Enviroquant chromatography workstation for data handling.

Quality control consisted of the following items:

- Initial calibration with % relative standard deviation less than 15% of individual response factors obtained from analysis of calibration standards
- Continuing Calibration Verification standards analyzed at a frequency of every ten samples
- Surrogate standard additions to samples
- Blank samples analyzed at a minimum of one per day
- Matrix spike and Matrix Spike Duplicate samples analyzed for every twenty samples
- Information documented in Field Logbook 150.

**Table 1**

**Sample Results – December'06**

Kuhlman Electric - Crystal Springs, Mississippi - Volatiles Detected in Water

VOLATILES	W1756		W1757		W1758		W1759		W1760		W1761		W1762		W1763		W1764	
	CSW	WA8	CSW	WA3	CSW	FB	CSW	WA1	CSW	WA2	CSW	WA5	CSW	WA6	CSW	TP	CSW	Dup
	13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06	
Depth																		
Date Collected	8:20		8:32		8:41		8:45		8:52		9:12		9:20		9:40			
Time Collected																		
Date Analyzed	13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06		13-Dec-06	
Reporting Limit																		
ug/L																		
1,4-Dioxane	< 1.0		< 1.0		< 1.0		< 1.0		< 1.0		< 1.0		< 1.0		< 1.0		< 1.0	
Surrogates:																		
1,4-Dioxane-D8	82.8		82.6		80.6		79.1		83.5		86.2		77.1		81.2		88.2	

**Table 2**

**QC Results – December'06**

TABLE 2  
QC Report

Lab # associated with qc samples: W1756 through W1764

	Matrix	Matrix		
	Spike	Spike	Blank	LCS
	W1757	Duplicate		
		W1757		

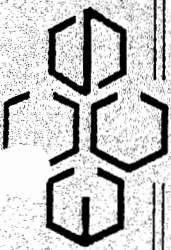
Date Analyzed:	12/13/06	12/13/06	12/13/06	12/13/06
----------------	----------	----------	----------	----------

Compound	% Rec		% Rec		% RPD	ug/L	% Rec
1,4-Dioxane	91.6%		89.8%		2%	< 5.0	91.6%



## **Appendix A**

### **Chain of Custody Sheets for Samples**



**Environmental Chemistry  
Consulting Services, Inc.**

2525 Advance Road  
Madison, WI 53718  
Phone 608-221-8700 FAX 608-221-4889

**CHAIN OF CUSTODY**

No. **013355**

Page **1** of **1**

Turn Around (circle one) Normal Rush

Report Due:

Project Number:		Mail Report To:		P.O. No.:		Quote No.:	
Project Name: <b>KUHCAMAN ELECTRIC</b>		Company: <b>MARTIN + SINGLE</b>		Laboratory Number:			
Project Location: <b>CAVITAZ SPRINGS</b>		Address:		Comments:			
Sampled By (Print): <b>Chuck Paul</b>		Address:		Laboratory Number:			
Sample Description	Collection		Matrix	Total Bottles	Preserv*	Analysis Requested	Laboratory Number
	Date	Time					
CSW-WA8-006	12/13/06	0820	W	4	A	8206 + 1,4 Dioxane	W1756
CSW-WA3-006		0832	W	10	A/B		W1757
CSW-F6-006		0841	W	4	A		W1758
CSW-WA1-006		0845	W	4	A		W1759
CSW-WA2-006		0852	W	4	A		W1760
CSW-WA5-002		0912	W	4	A		W1761
CSW-WA6-002		0920	W	4	A		W1762
CSW-TP-006		0940	W	4	A		W1767
DUPLICATE			W	9	A/B		W1764
*Preservation Code		Relinquished By: <b>Chuck Paul</b>		Date/Time: 12/13/06 1000		Received By: <i>[Signature]</i>	
A=None B=HCL C=H2SO4		Relinquished By:		Date/Time:		Date/Time: 12/13/06 1000	
D=HNO3 E=EnCore F=Methanol		Intact/Not Intact		Seal #s		Date/Time:	
G=NaOH O=Other(Indicate)		Custody Seal: Present/Absent		Shipped Via:		Receipt Temp: Y <input type="checkbox"/> on ice / <i>[Signature]</i>	

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

## **Appendix B**

**FEDEX shipping label for SGS Environmental Services**

**1 From** Please print and press hard. Sender's FedEx Account Number

Date 12/14/06

Sender's name Chuck Peel Phone (601) 898-2792

Company Peel Consulting

Address 140 Chapel Lane

City Madison State MS ZIP 39110

**2 Your Internal Billing Reference**  
First 24 characters will appear on invoice.

**3 To** Recipient's Name \_\_\_\_\_ Phone (910) 350-1903

Company PARADIGM ANALYTICAL LABS

Recipient's Address 5500 BUSINESS DR

We cannot deliver to P.O. boxes or P.D. ZIP codes.

Address \_\_\_\_\_

To request a package be held at a specific FedEx location, print FedEx address here.

City WILMINGTON State NC ZIP 28405-8446

0318539504

**Try online shipping at fedex.com**

By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

**Questions? Go to our Web site at fedex.com**  
or call 1.800.GoFedEx 1.800.463.3339.

**4a Express Package Service** To add SATURDAY Delivery, see Section 6. Packages up to 150 lbs. \*To most locations.

FedEx Priority Overnight Next business morning.\*  FedEx Standard Overnight Next business afternoon.\*  FedEx First Overnight Earliest next business morning delivery to select locations.\*

FedEx 2Day Second business day.\*  FedEx Express Saver Third business day.\*

FedEx Envelope rate not available. Minimum charge: One-pound rate.

**4b Express Freight Service** To add SATURDAY Delivery, see Section 6. Packages over 150 lbs. \*\*To most locations.

FedEx 1Day Freight\* Next business day.\*\*  FedEx 2Day Freight Second business day.\*\*  FedEx 3Day Freight Third business day.\*\*

\* Call for Confirmation.

**5 Packaging** \*Declared value limit \$500.

FedEx Envelope\*  FedEx Pak\* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.  FedEx Box  FedEx Tube  Other

**6 Special Handling** Includes FedEx address in Section 2.

SATURDAY Delivery Available ONLY for FedEx Priority Overnight, FedEx 2Day, FedEx 1Day Freight, and FedEx 2Day Freight to select ZIP codes.

HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight.

HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods?  
One box must be checked.

No  Yes As per attached Shipper's Declaration.  Yes Shipper's Declaration not required.  Dry Ice Dry ice, 6, UN 1845 x \_\_\_\_\_ to \_\_\_\_\_  Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

**7 Payment Bill to:** Enter FedEx Acct. No. or Credit Card No. below.

Sender Acct. No. in Section 1 will be billed.  Recipient  Third Party  Credit Card  Cash/Check

FedEx Acct. No. 181141891 Exp. Date \_\_\_\_\_

Total Packages \_\_\_\_\_ Total Weight \_\_\_\_\_ Total Declared Value\* \$ \_\_\_\_\_ .00

\*Our liability is limited to \$100 unless you declare a higher value. See back for details. FedEx Use Only

**8 NEW Residential Delivery Signature Options** If you require a signature, check Direct or Indirect.

No Signature Required Package may be left without obtaining a signature for delivery.

Direct Signature Anyone at recipient's address may sign for delivery. Fee applies.

Indirect Signature If no one is available at recipient's address, anyone at a neighboring address may sign for delivery. Fee applies.

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**CHAIN OF CUSTODY RECORD**  
**SGS Environmental Services Inc.**

Locations Nationwide  
 • Alaska  
 • Louisiana  
 • New Jersey  
 • West Virginia  
 • Hawaii  
 • Maryland  
 • North Carolina  
 www.us.sgs.com

065619

**1** CLIENT: MARTIN & SLAGLE  
 CONTACT: ROBERT MARTIN PHONE NO: ( )  
 PROJECT: KUHMAN ELECTRIC SITE/PWSID#:   
 REPORTS TO: E-MAIL:   
 INVOICE TO: FAX NO: ( )  
 QUOTE #   
 P.O. NUMBER

**2**

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No	CONTAINERS			SAMPLE TYPE C= COMP G= GRAB	Preservatives Used HCL HNO3	Analysis Required 3	REMARKS
						C	G	OTHER				
	CSW-WA3-006	12/13/06	0832	W	6					X	X	MOBILE LAB #
	DUPLICATE	12/13/06		W	5					X	X	W1757
	TRIP BLANK	12/13/06		W	2							W1764
												Must 0.5g/L limit for 1,4 Dioxane

**3** PAGE / OF 1

**4** Shipping Carrier:   
 Shipping Ticket No:   
 Samples Received Cold? (Circle) YES NO   
 Temperature (C):   
 Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT   
 Special Deliverable Requirements:   
 Requested Turnaround Time and Special Instructions:

**5**

Collected/Relinquished By:	Date	Time	Received By:	Time
Charles Seal	12/14/06	1400		