

May 28, 2008

Analytical Report for Service Request No: K0803953

Richard Johnson Environmental Chemistry Consulting Services, Inc. 2525 Advance Rd. Madison, WI 53718

Kelso, Washington 98626

RE: Kuhlman Electric

Dear Richard:

Enclosed are the results of the samples submitted to our laboratory on May 08, 2008. For your reference, these analyses have been assigned our service request number K0803953.

All analyses were performed according to our laboratory's quality assurance program. applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3376. You may also contact me via Email at GSalata@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Gregory Salata Ph.D.

Project Chemist

GS/lb

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cc: Chris Slagle, Martin and Slagle

#### Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

#### **Inorganic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

#### Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- \* The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

#### Organic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

#### Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

## Columbia Analytical Services, Inc. Kelso, WA State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	_
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-







**Case Narrative** 

Client:

Environmental Chemistry Consulting Services, Inc. Service Request No.:

K0803953

Project:

Kuhlman Electric

Date Received:

05/08/08

Sample Matrix:

Water

#### **CASE NARRATIVE**

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

#### Sample Receipt

Three water samples were received for analysis at Columbia Analytical Services on 05/08/08. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

#### Volatile Organic Compounds by EPA Method 8260B

#### **Initial Calibration (ICAL) Exceptions:**

The primary evaluation criterion was exceeded for Bromomethane and Methylene Chloride in ICAL ID 7334. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the mean Relative Standard Deviation (RSD) of all analytes in the calibration. The result of the mean RSD calculation was 7.3%. The calibration meets the alternative evaluation criteria. Note that CAS/Kelso policy does not allow the use of averaging if any analyte in the ICAL exceeds 30% RSD.

#### **Continuing Calibration Verification Exceptions:**

The CAS minimum relative response factor criterion for Bromomethane was not met in CCV J:\MS04\0514F003.D. In accordance with CAS standard operating procedures, a Method Reporting Limit (MRL) check standard containing the analyte of concern was analyzed each day of analysis. The MRL check standard verifies instrument sensitivity was adequate to detect the analyte at the MRL on the day of analysis. Because the sensitivity was shown to be adequate to detect the compound in question and the compound was not detected in the field sample, the data quality is not significantly affected. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

#### 1,4-Dioxane by EPA Method 8270C

#### Sample Notes and Discussion

Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by

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# Chain of Custody Documentation

# Columbia Analytical Services ma.

PROJECT NAME

# CHAIN OF CUSTODY

E2450807

# 000 9 PAGE 1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068 でありません マモンタをむ

F.S.T. LAS # REMARKS ij Ť Zn F822 M Zu CIRCLE ONE) W2283 > > S Sn F F õ Š Se Se Ž Na OTHER Ag Ag DOC (CITCLE) NO2+NO3 NH3-N, COD, TOSA, P. NC NH3-N, COD, TOSA, F. NC ORDON (CITCLE) NO2+NO3 ORDON (CITCLE) NO2+NO3  $\times$ ×  $\times$ Z Ž NORTHWEST Pb Mg Mn Mo Mn Mo Pb Mg Total or Dissolved (Wolad ≶ CA Fe Œ Œ 7018 dod SHAA O 3 Ä ŏ Ö SebioidaeH/sebioileed A1808 809 "INDICATE STATE HYDROCARBON PROCEDURE: රි ô g Ö 1508 4991 ВСа Q SPECIAL INSTRUCTIONS/COMMENTS: Be B Be Hydrocarbons (\* see below)

Seas Diesel Dolow)

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TURNAROUND REQUIREMENTS Standard (10-15 working days) 48 hr. Provide FAX Results 24 hr. 5 Day IV. CLP Deliverable Report III. Data Validation Report

82408 list - Kahlman 13+

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(includes all raw data)

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Signature

Date/Time
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V. EDD

Requested Report Date

Date/Time Printed Name

RELINQUISHED BY:

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RCOC #1 Firm Printed Name

Date/Time

Signature

RECEIVED BY:

06/03

# Cooler Receipt and Preservation Form

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Temperature	e Blank (°C):			<u> </u>							<u>-</u>		
6. If applicable,	list Chain of Custo	ody Number	rs:			·						***************************************	<del></del>
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### Volatile Organic Compounds EPA Method 8260B

**Analytical Results** 

Client: Environmental Chemistry Consulting Servi

**Project:** Kuhlman Electric

**Sample Matrix:** Water Service Request: K0803953 **Date Collected:** 05/06/2008

**Date Received:** 05/08/2008

#### **Volatile Organic Compounds**

**Sample Name:** CSW-WA1-024 Lab Code: K0803953-001

**Extraction Method:** EPA 5030B

**Analysis Method:** 8260B

Units: ug/L Basis: NA Level: Low

					Dilution	Date	Date	Extraction	
Analyte Name	Result	Q	MRL	MDL	Factor	Extracted	Analyzed	Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.083	1	05/14/08	05/14/08	KWG0804503	
Chloromethane	ND	U	0.50	0.053	1	05/14/08	05/14/08	KWG0804503	
Vinyl Chloride	ND	U	0.50	0.071	1	05/14/08	05/14/08	KWG0804503	
Bromomethane	ND	U	0.50	0.072	1	05/14/08	05/14/08	KWG0804503	*
Chloroethane	ND	U	0.50	0.13	1	05/14/08	05/14/08	KWG0804503	
Trichlorofluoromethane	ND	U	0.50	0.086	1	05/14/08	05/14/08	KWG0804503	
Acetone	ND	U	20	2.5	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloroethene	1.4		0.50	0.10	1	05/14/08	05/14/08	KWG0804503	
Carbon Disulfide	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Methylene Chloride	ND	U	2.0	0.23	1	05/14/08	05/14/08	KWG0804503	
trans-1,2-Dichloroethene	ND	U	0.50	0.048	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloroethane	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
2-Butanone (MEK)	ND	U	20	3.8	1	05/14/08	05/14/08	KWG0804503	
2,2-Dichloropropane	ND	U	0.50	0.050	1	05/14/08	05/14/08	KWG0804503	
cis-1,2-Dichloroethene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Chloroform	0.11	J	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
Bromochloromethane	ND	U	0.50	0.091	1	05/14/08	05/14/08	KWG0804503	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.050	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloropropene	ND	U	0.50	0.051	1	05/14/08	05/14/08	KWG0804503	
Carbon Tetrachloride	ND	U	0.50	0.068	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.073	1	05/14/08	05/14/08	KWG0804503	
Benzene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Trichloroethene (TCE)	ND	U	0.50	0.061	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichloropropane	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
Bromodichloromethane	ND	U	0.50	0.036	1	05/14/08	05/14/08	KWG0804503	
Dibromomethane	ND	U	0.50	0.089	1	05/14/08	05/14/08	KWG0804503	
2-Hexanone	ND	U	20	2.9	1	05/14/08	05/14/08	KWG0804503	
cis-1,3-Dichloropropene	ND	U	0.50	0.038	1	05/14/08	05/14/08	KWG0804503	
Toluene	0.060	J	0.50	0.048	1	05/14/08	05/14/08	KWG0804503	
trans-1,3-Dichloropropene	ND	U	0.50	0.041	1	05/14/08	05/14/08	KWG0804503	
1,1,2-Trichloroethane	ND	U	0.50	0.061	1	05/14/08	05/14/08	KWG0804503	
4-Methyl-2-pentanone (MIBK)	ND	U	20	3.0	1	05/14/08	05/14/08	KWG0804503	
1,3-Dichloropropane	ND	U	0.50	0.032	1	05/14/08	05/14/08	KWG0804503	

Comments:
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Form 1A - Organic

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SuperSet Reference:

Analytical Results

Client: Environmental Chemistry Consulting Servi

**Project:** Kuhlman Electric

Sample Matrix: Water

**Service Request:** K0803953 **Date Collected:** 05/06/2008 **Date Received:** 05/08/2008

#### **Volatile Organic Compounds**

 Sample Name:
 CSW-WA1-024
 Units: ug/L

 Lab Code:
 K0803953-001
 Basis: NA

 Extraction Method:
 EPA 5030B
 Level: Low

Analysis Method: 8260B

					Dilution	Date	Date	Extraction	
Analyte Name	Result	Q	MRL	MDL	Factor	Extracted	Analyzed	Lot	Note
Tetrachloroethene (PCE)	0.11	J	0.50	0.077	1	05/14/08	05/14/08	KWG0804503	
Dibromochloromethane	ND	U	0.50	0.057	1	05/14/08	05/14/08	KWG0804503	
1,2-Dibromoethane (EDB)	ND	U	2.0	0.084	1	05/14/08	05/14/08	KWG0804503	
Chlorobenzene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.047	1	05/14/08	05/14/08	KWG0804503	
Ethylbenzene	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
m,p-Xylenes	ND	U	0.50	0.078	1	05/14/08	05/14/08	KWG0804503	
o-Xylene	ND	U	0.50	0.037	1	05/14/08	05/14/08	KWG0804503	
Styrene	ND	U	0.50	0.039	1	05/14/08	05/14/08	KWG0804503	
Bromoform	ND	U	0.50	0.080	1	05/14/08	05/14/08	KWG0804503	
Isopropylbenzene	ND	U	2.0	0.031	1	05/14/08	05/14/08	KWG0804503	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.064	1	05/14/08	05/14/08	KWG0804503	
1,2,3-Trichloropropane	ND	U	0.50	0.14	1	05/14/08	05/14/08	KWG0804503	
Bromobenzene			2.0	0.027	1	05/14/08	05/14/08	KWG0804503	
n-Propylbenzene	ND	U	2.0	0.037	1	05/14/08	05/14/08	KWG0804503	
2-Chlorotoluene	ND	U	2.0	0.035	1	05/14/08	05/14/08	KWG0804503	
4-Chlorotoluene	ND	U	2.0	0.025	1	05/14/08	05/14/08	KWG0804503	
1,3,5-Trimethylbenzene	ND	U	2.0	0.042	1	05/14/08	05/14/08	KWG0804503	
tert-Butylbenzene	ND	U	2.0	0.038	1	05/14/08	05/14/08	KWG0804503	
1,2,4-Trimethylbenzene	ND	U	2.0	0.037	1	05/14/08	05/14/08	KWG0804503	
sec-Butylbenzene	ND	U	2.0	0.036	1	05/14/08	05/14/08	KWG0804503	
1,3-Dichlorobenzene	ND	U	0.50	0.041	1	05/14/08	05/14/08	KWG0804503	
4-Isopropyltoluene	ND	U	2.0	0.044	1	05/14/08	05/14/08	KWG0804503	
1,4-Dichlorobenzene	ND	U	0.50	0.054	1	05/14/08	05/14/08	KWG0804503	
n-Butylbenzene	ND	U	2.0	0.056	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichlorobenzene	ND	U	0.50	0.044	1	05/14/08	05/14/08	KWG0804503	
1,2-Dibromo-3-chloropropane	ND	U	2.0	0.22	1	05/14/08	05/14/08	KWG0804503	
1,2,4-Trichlorobenzene	ND	U	2.0	0.13	1	05/14/08	05/14/08	KWG0804503	
1,2,3-Trichlorobenzene	ND	U	2.0	0.10	1	05/14/08	05/14/08	KWG0804503	
Naphthalene	ND	U	2.0	0.10	1	05/14/08	05/14/08	KWG0804503	
Hexachlorobutadiene	ND		2.0	0.19	1	05/14/08	05/14/08	KWG0804503	
1,3,5-Trichlorobenzene	ND	U	5.0	0.10	1	05/14/08	05/14/08	KWG0804503	

<sup>\*</sup> See Case Narrative

Comments:	

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Analytical Results

Client:

Environmental Chemistry Consulting Servi

**Project:** 

Kuhlman Electric

**Sample Matrix:** 

Water

Service Request: K0803953

**Date Collected:** 05/06/2008 **Date Received:** 05/08/2008

**Volatile Organic Compounds** 

Sample Name: Lab Code:

CSW-WA1-024

K0803953-001

Units: ug/L Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Dibromofluoromethane	96	75-120	05/14/08	Acceptable	
Toluene-d8	111	80-128	05/14/08	Acceptable	
4-Bromofluorobenzene	97	75-117	05/14/08	Acceptable	

Comments:

Printed: 05/19/2008 12:56:39

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Form 1A - Organic

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Page

SuperSet Reference:

RR87390

Analytical Results

Client: Environmental Chemistry Consulting Servi

Project: Kuhlman Electric

Sample Matrix: Water

**Service Request:** K0803953 **Date Collected:** 05/06/2008

**Date Received:** 05/08/2008

#### **Volatile Organic Compounds**

Sample Name: Duplicate Lab Code: K0803953-002

**Extraction Method:** EPA 5030B **Analysis Method:** 8260B

Units: ug/L Basis: NA

Level: Low

Analyte Name	Result	0	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND		0,50	0.083	1	05/14/08	05/14/08	KWG0804503	
Chloromethane	0.10	J	0.50	0.053	1	05/14/08	05/14/08	KWG0804503	
Vinyl Chloride	ND	U	0.50	0.071	1	05/14/08	05/14/08	KWG0804503	
Bromomethane	ND	Ü	0.50	0.072	1	05/14/08	05/14/08	KWG0804503	*
Chloroethane	ND	U	0.50	0.13	1	05/14/08	05/14/08	KWG0804503	
Trichlorofluoromethane	ND	U	0.50	0.086	1	05/14/08	05/14/08	KWG0804503	
Acetone	3.4	J	20	2.5	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloroethene	1.4		0.50	0.10	1	05/14/08	05/14/08	KWG0804503	
Carbon Disulfide	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Methylene Chloride	ND		2.0	0.23	1	05/14/08	05/14/08	KWG0804503	
trans-1,2-Dichloroethene	ND		0.50	0.048	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloroethane	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
2-Butanone (MEK)	ND		20	3.8	1	05/14/08	05/14/08	KWG0804503	
2,2-Dichloropropane	ND		0.50	0.050	1	05/14/08	05/14/08	KWG0804503	
cis-1,2-Dichloroethene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Chloroform	0.11		0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
Bromochloromethane	ND		0.50	0.091	1	05/14/08	05/14/08	KWG0804503	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.050	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloropropene	ND		0.50	0.051	1	05/14/08	05/14/08	KWG0804503	
Carbon Tetrachloride	ND		0.50	0.068	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.073	1	05/14/08	05/14/08	KWG0804503	
Benzene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Trichloroethene (TCE)	ND		0.50	0.061	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichloropropane	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
Bromodichloromethane	ND	U	0.50	0.036	1	05/14/08	05/14/08	KWG0804503	
Dibromomethane	ND	U	0.50	0.089	1	05/14/08	05/14/08	KWG0804503	
2-Hexanone	ND	U	20	2.9	1	05/14/08	05/14/08	KWG0804503	
cis-1,3-Dichloropropene	ND	U	0.50	0.038	1	05/14/08	05/14/08	KWG0804503	
Toluene	ND	U	0.50	0.048	1	05/14/08	05/14/08	KWG0804503	
trans-1,3-Dichloropropene	ND	U	0.50	0.041	1	05/14/08	05/14/08	KWG0804503	
1,1,2-Trichloroethane	ND		0.50	0.061	1	05/14/08	05/14/08	KWG0804503	
4-Methyl-2-pentanone (MIBK)	ND		20	3.0	1	05/14/08	05/14/08	KWG0804503	
1,3-Dichloropropane	ND	U	0.50	0.032	1	05/14/08	05/14/08	KWG0804503	

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Form 1A - Organic

 $\label{eq:page-loss} Page \quad \ 1 \quad of \quad \ 3$  SuperSet Reference: RR87390

Analytical Results

Client:

Environmental Chemistry Consulting Servi

**Project:** 

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953

**Date Collected:** 05/06/2008 **Date Received:** 05/08/2008

#### **Volatile Organic Compounds**

**Sample Name:** Lab Code:

Duplicate

**Extraction Method:** 

K0803953-002

**Analysis Method:** 

EPA 5030B 8260B

Units: ug/L Basis: NA

Level: Low

A		_			Dilution	Date	Date	Extraction	
Analyte Name	Result		MRL	MDL	Factor	Extracted	Analyzed	Lot	Note
Tetrachloroethene (PCE)	0.11		0.50	0.077	1	05/14/08	05/14/08	KWG0804503	
Dibromochloromethane	ND		0.50	0.057	1	05/14/08	05/14/08	KWG0804503	
1,2-Dibromoethane (EDB)	ND	U	2.0	0.084	1	05/14/08	05/14/08	KWG0804503	
Chlorobenzene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
1,1,1,2-Tetrachloroethane	ND		0.50	0.047	1	05/14/08	05/14/08	KWG0804503	
Ethylbenzene	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
m,p-Xylenes	ND		0.50	0.078	1	05/14/08	05/14/08	KWG0804503	
o-Xylene	ND	U	0.50	0.037	1	05/14/08	05/14/08	KWG0804503	
Styrene	ND	U	0.50	0.039	1	05/14/08	05/14/08	KWG0804503	
Bromoform	ND	U	0.50	0.080	1	05/14/08	05/14/08	KWG0804503	
Isopropylbenzene	ND		2.0	0.031	1	05/14/08	05/14/08	KWG0804503	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.064	1	05/14/08	05/14/08	KWG0804503	
1,2,3-Trichloropropane	ND	U	0.50	0.14	1	05/14/08	05/14/08	KWG0804503	
Bromobenzene	ND		2.0	0.027	i	05/14/08	05/14/08	KWG0804503	
n-Propylbenzene	ND	U	2.0	0.037	1	05/14/08	05/14/08	KWG0804503	
2-Chlorotoluene	ND		2.0	0.035	1	05/14/08	05/14/08	KWG0804503	
4-Chlorotoluene	ND		2.0	0.025	1	05/14/08	05/14/08	KWG0804503	
1,3,5-Trimethylbenzene	ND	U	2.0	0.042	1	05/14/08	05/14/08	KWG0804503	
tert-Butylbenzene	ND	U	2.0	0.038	1	05/14/08	05/14/08	KWG0804503	
1,2,4-Trimethylbenzene		U	2.0	0.037	1	05/14/08	05/14/08	KWG0804503	
sec-Butylbenzene	ND	U	2.0	0.036	1	05/14/08	05/14/08	KWG0804503	
1,3-Dichlorobenzene	ND	U	0.50	0.041	1	05/14/08	05/14/08	KWG0804503	
4-Isopropyltoluene	ND	U	2.0	0.044	1	05/14/08	05/14/08	KWG0804503	
1,4-Dichlorobenzene	ND	U	0.50	0.054	1	05/14/08	05/14/08	KWG0804503	
n-Butylbenzene	ND	U	2.0	0.056	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichlorobenzene	ND	U	0.50	0.044	1	05/14/08	05/14/08	KWG0804503	
1,2-Dibromo-3-chloropropane	ND	U	2.0	0.22	1	05/14/08	05/14/08	KWG0804503	
1,2,4-Trichlorobenzene	ND	U	2.0	0.13	1	05/14/08	05/14/08	KWG0804503	
1,2,3-Trichlorobenzene	ND	U	2.0	0.10	1	05/14/08	05/14/08	KWG0804503	
Naphthalene	ND	U	2.0	0.10	1	05/14/08	05/14/08	KWG0804503	
Hexachlorobutadiene	ND	U	2.0	0.19	1	05/14/08	05/14/08	KWG0804503	
1,3,5-Trichlorobenzene	ND	U	5.0	0.10	1	05/14/08	05/14/08	KWG0804503	

<sup>\*</sup> See Case Narrative

Comments:

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Form 1A - Organic

Page

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Analytical Results

Client:

Environmental Chemistry Consulting Servi

**Project:** 

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953 **Date Collected:** 05/06/2008 **Date Received:** 05/08/2008

**Volatile Organic Compounds** 

Sample Name:

Duplicate

Lab Code:

K0803953-002

Units: ug/L Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Dibromofluoromethane	96	75-120	05/14/08	Acceptable	
Toluene-d8	111	80-128	05/14/08	Acceptable	
4-Bromofluorobenzene	96	75-117	05/14/08	Acceptable	

Comments:

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Form 1A - Organic

SuperSet Reference:

RR87390

Analytical Results

Client: Environmental Chemistry Consulting Servi

Project: Kuhlman Electric

Sample Matrix: Water

Service Request: K0803953 Date Collected: 05/06/2008

**Date Received:** 05/08/2008

#### **Volatile Organic Compounds**

Sample Name: Trip Blank Lab Code: K0803953-003 Extraction Method: EPA 5030B

**Extraction Method:** EPA 50 **Analysis Method:** 8260B

Units: ug/L Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.083	1	05/14/08	05/14/08	KWG0804503	
Chloromethane	ND	U	0.50	0.053	1	05/14/08	05/14/08	KWG0804503	
Vinyl Chloride	ND	U	0.50	0.071	1	05/14/08	05/14/08	KWG0804503	
Bromomethane	ND	U	0.50	0.072	1	05/14/08	05/14/08	KWG0804503	*
Chloroethane	ND	U	0.50	0.13	1	05/14/08	05/14/08	KWG0804503	
Trichlorofluoromethane	ND	U	0.50	0.086	1	05/14/08	05/14/08	KWG0804503	
Acetone	ND	U	20	2.5	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloroethene	ND	U	0.50	0.10	1	05/14/08	05/14/08	KWG0804503	
Carbon Disulfide	0.050	J	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Methylene Chloride	ND	U	2.0	0.23	1	05/14/08	05/14/08	KWG0804503	
trans-1,2-Dichloroethene	ND		0.50	0.048	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloroethane	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
2-Butanone (MEK)	ND	U	20	3.8	1	05/14/08	05/14/08	KWG0804503	
2,2-Dichloropropane	ND	U	0.50	0.050	1	05/14/08	05/14/08	KWG0804503	
cis-1,2-Dichloroethene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Chloroform	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
Bromochloromethane	ND	U	0.50	0.091	1	05/14/08	05/14/08	KWG0804503	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.050	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloropropene	ND	U	0.50	0.051	1	05/14/08	05/14/08	KWG0804503	
Carbon Tetrachloride		U	0.50	0.068	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.073	1	05/14/08	05/14/08	KWG0804503	
Benzene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Trichloroethene (TCE)	ND	U	0.50	0.061	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichloropropane	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
Bromodichloromethane	ND	U	0.50	0.036	1	05/14/08	05/14/08	KWG0804503	
Dibromomethane	ND	U	0.50	0.089	1	05/14/08	05/14/08	KWG0804503	
2-Hexanone	ND	U	20	2.9	1	05/14/08	05/14/08	KWG0804503	
cis-1,3-Dichloropropene	ND	U	0.50	0.038	1	05/14/08	05/14/08	KWG0804503	
Toluene	0.12	J	0.50	0.048	1	05/14/08	05/14/08	KWG0804503	
trans-1,3-Dichloropropene	ND	U	0.50	0.041	1	05/14/08	05/14/08	KWG0804503	
1,1,2-Trichloroethane	ND	U	0.50	0.061	1	05/14/08	05/14/08	KWG0804503	
4-Methyl-2-pentanone (MIBK)	ND	U	20	3.0	1	05/14/08	05/14/08	KWG0804503	
1,3-Dichloropropane	ND	U	0.50	0.032	1	05/14/08	05/14/08	KWG0804503	

Comments:
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Analytical Results

Client:

Environmental Chemistry Consulting Servi

**Project:** 

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953

**Date Collected:** 05/06/2008

**Date Received:** 05/08/2008

#### **Volatile Organic Compounds**

Sample Name: Lab Code:

Trip Blank K0803953-003

**Extraction Method:** 

EPA 5030B

**Analysis Method:** 

8260B

Units: ug/L Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tetrachloroethene (PCE)	ND	U	0.50	0.077	1	05/14/08	05/14/08	KWG0804503	
Dibromochloromethane	ND	U	0.50	0.057	1	05/14/08	05/14/08	KWG0804503	
1,2-Dibromoethane (EDB)	ND	U	2.0	0.084	1	05/14/08	05/14/08	KWG0804503	
Chlorobenzene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.047	1	05/14/08	05/14/08	KWG0804503	
Ethylbenzene	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
m,p-Xylenes	ND		0.50	0.078	1	05/14/08	05/14/08	KWG0804503	
o-Xylene	ND	U	0.50	0.037	1	05/14/08	05/14/08	KWG0804503	
Styrene	ND	U	0.50	0.039	1	05/14/08	05/14/08	KWG0804503	
Bromoform	ND		0.50	0.080	1	05/14/08	05/14/08	KWG0804503	
Isopropylbenzene	ND		2.0	0.031	1	05/14/08	05/14/08	KWG0804503	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.064	1	05/14/08	05/14/08	KWG0804503	
1,2,3-Trichloropropane	ND	U	0.50	0.14	1	05/14/08	05/14/08	KWG0804503	
Bromobenzene	ND	U	2.0	0.027	1	05/14/08	05/14/08	KWG0804503	
n-Propylbenzene	ND	U	2.0	0.037	1	05/14/08	05/14/08	KWG0804503	
2-Chlorotoluene	ND		2.0	0.035	1	05/14/08	05/14/08	KWG0804503	
4-Chlorotoluene	ND	U	2.0	0.025	1	05/14/08	05/14/08	KWG0804503	
1,3,5-Trimethylbenzene	ND	U	2.0	0.042	1	05/14/08	05/14/08	KWG0804503	
tert-Butylbenzene	ND		2.0	0.038	1	05/14/08	05/14/08	KWG0804503	
1,2,4-Trimethylbenzene	ND		2.0	0.037	1	05/14/08	05/14/08	KWG0804503	
sec-Butylbenzene	ND	U	2.0	0.036	1	05/14/08	05/14/08	KWG0804503	
1,3-Dichlorobenzene	ND		0.50	0.041	1	05/14/08	05/14/08	KWG0804503	
4-Isopropyltoluene	ND		2.0	0.044	1	05/14/08	05/14/08	KWG0804503	
1,4-Dichlorobenzene	ND	U	0.50	0.054	1	05/14/08	05/14/08	KWG0804503	
n-Butylbenzene	ND		2.0	0.056	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichlorobenzene	ND		0.50	0.044	1	05/14/08	05/14/08	KWG0804503	
1,2-Dibromo-3-chloropropane	ND	U	2.0	0.22	1	05/14/08	05/14/08	KWG0804503	
1,2,4-Trichlorobenzene	ND		2.0	0.13	1	05/14/08	05/14/08	KWG0804503	
1,2,3-Trichlorobenzene	ND	U	2.0	0.10	1	05/14/08	05/14/08	KWG0804503	
Naphthalene	ND	U	2.0	0.10	1	05/14/08	05/14/08	KWG0804503	
Hexachlorobutadiene	ND	U	2.0	0.19	1	05/14/08	05/14/08	KWG0804503	
1,3,5-Trichlorobenzene	ND	U	5.0	0.10	1	05/14/08	05/14/08	KWG0804503	

<sup>\*</sup> See Case Narrative

Comments:

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Form 1A - Organic

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RR87390 SuperSet Reference:

Analytical Results

Client:

Environmental Chemistry Consulting Servi

**Project:** 

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953

**Date Collected:** 05/06/2008 **Date Received:** 05/08/2008

**Volatile Organic Compounds** 

**Sample Name:** 

Trip Blank

Lab Code:

K0803953-003

Units: ug/L Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	96	75-120	05/14/08	Acceptable
Toluene-d8 4-Bromofluorobenzene	110 97	80-128 75-117	05/14/08 05/14/08	Acceptable Acceptable

Comments:

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Form 1A - Organic

Page

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SuperSet Reference: RR87390

Analytical Results

Client: Environmental Chemistry Consulting Servi

Project: Kuhlman Electric

Sample Matrix: Water

Service Request: K0803953

Date Collected: NA
Date Received: NA

#### **Volatile Organic Compounds**

Sample Name:Method BlankUnits:ug/LLab Code:KWG0804503-4Basis:NAExtraction Method:EPA 5030BLevel:Low

**Analysis Method:** 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND		0.50	0.083	1	05/14/08	05/14/08	KWG0804503	
Chloromethane	ND	U	0.50	0.053	1	05/14/08	05/14/08	KWG0804503	
Vinyl Chloride	ND	U	0.50	0.071	1	05/14/08	05/14/08	KWG0804503	
Bromomethane	ND	U	0.50	0.072	1	05/14/08	05/14/08	KWG0804503	*
Chloroethane	ND	U	0.50	0.13	1	05/14/08	05/14/08	KWG0804503	
Trichlorofluoromethane	ND	U	0.50	0.086	1	05/14/08	05/14/08	KWG0804503	
Acetone	ND	U	20	2.5	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloroethene	ND	U	0.50	0.10	1	05/14/08	05/14/08	KWG0804503	
Carbon Disulfide	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Methylene Chloride	ND	U	2.0	0.23	1	05/14/08	05/14/08	KWG0804503	
trans-1,2-Dichloroethene	ND	U	0.50	0.048	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloroethane	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
2-Butanone (MEK)	ND	U	20	3.8	1	05/14/08	05/14/08	KWG0804503	
2,2-Dichloropropane	ND		0.50	0.050	1	05/14/08	05/14/08	KWG0804503	
cis-1,2-Dichloroethene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Chloroform	ND		0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
Bromochloromethane		U	0.50	0.091	1	05/14/08	05/14/08	KWG0804503	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.050	1	05/14/08	05/14/08	KWG0804503	
1,1-Dichloropropene	ND		0.50	0.051	1	05/14/08	05/14/08	KWG0804503	
Carbon Tetrachloride	ND		0.50	0.068	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.073	1	05/14/08	05/14/08	KWG0804503	
Benzene	ND		0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
Trichloroethene (TCE)	ND		0.50	0.061	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichloropropane	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
Bromodichloromethane	ND		0.50	0.036	1	05/14/08	05/14/08	KWG0804503	
Dibromomethane		U	0.50	0.089	1	05/14/08	05/14/08	KWG0804503	
2-Hexanone	ND	U	20	2.9	1	05/14/08	05/14/08	KWG0804503	
cis-1,3-Dichloropropene	ND		0.50	0.038	1	05/14/08	05/14/08	KWG0804503	
Toluene	ND		0.50	0.048	1	05/14/08	05/14/08	KWG0804503	
trans-1,3-Dichloropropene	ND	U	0.50	0.041	1	05/14/08	05/14/08	KWG0804503	
1,1,2-Trichloroethane	ND		0.50	0.061	1	05/14/08	05/14/08	KWG0804503	
4-Methyl-2-pentanone (MIBK)	ND		20	3.0	1	05/14/08	05/14/08	KWG0804503	
1,3-Dichloropropane	ND	U	0.50	0.032	1	05/14/08	05/14/08	KWG0804503	

Comments:	
Communents:	

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Form 1A - Organic

 $\begin{array}{cccc} & & & Page & 1 & of & 3 \\ & & SuperSet \ Reference: & RR87390 & & & \end{array}$ 

Analytical Results

Client:

Environmental Chemistry Consulting Servi

Project:

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953

Date Collected: NA Date Received: NA

#### **Volatile Organic Compounds**

Sample Name:

Method Blank

Lab Code:

KWG0804503-4

**Extraction Method:** 

EPA 5030B

**Analysis Method:** 

8260B

Units: ug/L Basis: NA

Level: Low

Analyte Name	Result	0	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tetrachloroethene (PCE)	ND		0.50	0.077	1	05/14/08	05/14/08	KWG0804503	
Dibromochloromethane	ND	U	0.50	0.057	1	05/14/08	05/14/08	KWG0804503	
1,2-Dibromoethane (EDB)	ND	U	2.0	0.084	1	05/14/08	05/14/08	KWG0804503	
Chlorobenzene	ND	U	0.50	0.045	1	05/14/08	05/14/08	KWG0804503	
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.047	1	05/14/08	05/14/08	KWG0804503	
Ethylbenzene	ND	U	0.50	0.042	1	05/14/08	05/14/08	KWG0804503	
m,p-Xylenes	ND	U	0.50	0.078	1	05/14/08	05/14/08	KWG0804503	
o-Xylene	ND	U	0.50	0.037	1	05/14/08	05/14/08	KWG0804503	
Styrene	ND	U	0.50	0.039	1	05/14/08	05/14/08	KWG0804503	
Bromoform	ND	U	0.50	0.080	1	05/14/08	05/14/08	KWG0804503	
Isopropylbenzene	ND	U	2.0	0.031	1	05/14/08	05/14/08	KWG0804503	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.064	1	05/14/08	05/14/08	KWG0804503	
1,2,3-Trichloropropane	ND	U	0.50	0.14	1	05/14/08	05/14/08	KWG0804503	
Bromobenzene	ND	U	2.0	0.027	1	05/14/08	05/14/08	KWG0804503	
n-Propylbenzene	ND	U	2.0	0.037	1	05/14/08	05/14/08	KWG0804503	
2-Chlorotoluene	ND	U	2.0	0.035	1	05/14/08	05/14/08	KWG0804503	
4-Chlorotoluene	ND	U	2.0	0.025	1	05/14/08	05/14/08	KWG0804503	
1,3,5-Trimethylbenzene	ND	U	2.0	0.042	1	05/14/08	05/14/08	KWG0804503	
tert-Butylbenzene	ND		2.0	0.038	1	05/14/08	05/14/08	KWG0804503	
1,2,4-Trimethylbenzene	ND	U	2.0	0.037	1	05/14/08	05/14/08	KWG0804503	
sec-Butylbenzene	ND	U	2.0	0.036	1	05/14/08	05/14/08	KWG0804503	
1,3-Dichlorobenzene	ND	U	0.50	0.041	1	05/14/08	05/14/08	KWG0804503	
4-Isopropyltoluene	ND	U	2.0	0.044	1	05/14/08	05/14/08	KWG0804503	
1,4-Dichlorobenzene	ND	U	0.50	0.054	1	05/14/08	05/14/08	KWG0804503	
n-Butylbenzene	ND	U	2.0	0.056	1	05/14/08	05/14/08	KWG0804503	
1,2-Dichlorobenzene	ND	U	0.50	0.044	1	05/14/08	05/14/08	KWG0804503	
1,2-Dibromo-3-chloropropane	ND	U	2.0	0.22	1	05/14/08	05/14/08	KWG0804503	
1,2,4-Trichlorobenzene	ND	U	2.0	0.13	1	05/14/08	05/14/08	KWG0804503	
1,2,3-Trichlorobenzene	0.23	J	2.0	0.10	1	05/14/08	05/14/08	KWG0804503	
Naphthalene	0.14	J	2.0	0.10	1	05/14/08	05/14/08	KWG0804503	
Hexachlorobutadiene	ND	U	2.0	0.19	1	05/14/08	05/14/08	KWG0804503	
1,3,5-Trichlorobenzene	0.19	J	5.0	0.10	1	05/14/08	05/14/08	KWG0804503	

<sup>\*</sup> See Case Narrative

Comments:

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Form 1A - Organic

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SuperSet Reference: RR87390

Analytical Results

Client:

Environmental Chemistry Consulting Servi

Project:

Kuhlman Electric

**Sample Matrix:** 

Water

Service Request: K0803953

Date Collected: NA Date Received: NA

**Volatile Organic Compounds** 

Sample Name:

Method Blank

Lab Code:

KWG0804503-4

Units: ug/L

Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Dibromofluoromethane	97	75-120	05/14/08	Acceptable	
Toluene-d8	110	80-128	05/14/08	Acceptable	
4-Bromofluorobenzene	98	75-117	05/14/08	Acceptable	

Comments:

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Form 1A - Organic

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SuperSet Reference:

RR87390

QA/QC Report

Service Request: K0803953

Client: Environmental Chemistry Consulting Servi

Project: Kuhlman Electric

Sample Matrix: Water

**Surrogate Recovery Summary Volatile Organic Compounds** 

Extraction Method: EPA 5030B Units: PERCENT

Analysis Method: 8260B Level: Low

Sample Name	Lab Code	<u>Sur1</u>	Sur2	Sur3
CSW-WA1-024	K0803953-001	96	111	97
Duplicate	K0803953-002	96	111	96
Trip Blank	K0803953-003	96	110	97
Method Blank	KWG0804503-4	97	110	98
Batch QC	K0803811-025	95	111	97
Batch QCMS	KWG0804503-1	94	110	100
Batch QCDMS	KWG0804503-2	96	111	101
Lab Control Sample	KWG0804503-3	92	108	98

#### Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	75-120
Sur2 =	Toluene-d8	80-128
Sur3 =	4-Bromofluorobenzene	75-117

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

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QA/QC Report

Client:

Environmental Chemistry Consulting Servi

Project:

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953

**Date Extracted:** 05/14/2008 **Date Analyzed:** 05/14/2008

#### Matrix Spike/Duplicate Matrix Spike Summary **Volatile Organic Compounds**

Sample Name: Lab Code:

Batch QC

K0803811-025

**Extraction Method:** 

EPA 5030B

**Analysis Method:** 

8260B

Units: ug/L Basis: NA

Level: Low

Extraction Lot: KWG0804503

Batch QCMS **Batch QCDMS** KWG0804503-1 KWG0804503-2 **Duplicate Matrix Spike** Matrix Spike Sample %Rec **RPD** Result **Analyte Name** Limits **RPD** Limit Result Expected 1 %Rec Result **Expected** %Rec 1,1-Dichloroethene ND 14.6 10.0 146 13.7 10.0 137 67-147 6 30 Benzene ND 11.5 10.0 115 10.9 10.0 109 69-126 5 30 Trichloroethene (TCE) ND 11.5 10.0 115 10.7 10.0 107 56-137 6 30 Toluene 0.10 11.4 10.0 113 10.9 10.0 108 66-128 4 30 Chlorobenzene ND 10.6 10.0 106 10.0 4 30 10.2 102 68-120 1.2-Dichlorobenzene ND 10.4 10.0 104 10.1 10.0 101 67-116 3 30 Naphthalene ND 11.7 10.0 10.0 117 11.8 118 61-137 30 1

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3A - Organic

SuperSet Reference:

Page

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QA/QC Report

Client: Environmental Chemistry Consulting Servi

Project: Kuhlman Electric

Sample Matrix: Water

Service Request: K0803953 **Date Extracted:** 05/14/2008

**Date Analyzed:** 05/14/2008

Lab Control Spike Summary **Volatile Organic Compounds** 

**Extraction Method: Analysis Method:** 8260B

EPA 5030B

Units: ug/L Basis: NA Level: Low

Extraction Lot: KWG0804503

Lab Control Sample KWG0804503-3 Lab Control Spike

	Lab	Control Spik	e	%Rec	
Analyte Name	Result	Expected	%Rec	Limits	
Dichlorodifluoromethane	12.0	10.0	120	21-156	
Chloromethane	9.94	10.0	99	45-135	
Vinyl Chloride	11.5	10.0	115	59-135	
Bromomethane	6.16	10.0	62	24-144	
Chloroethane	9.33	10.0	93	60-128	
Trichlorofluoromethane	9.11	10.0	91	54-129	
Acetone	47.1	50.0	94	53-129	
1,1-Dichloroethene	12.2	10.0	122	70-136	
Carbon Disulfide	17.8	20.0	89	64-129	
Methylene Chloride	9.48	10.0	95	64-137	
trans-1,2-Dichloroethene	10.9	10.0	109	70-121	
1,1-Dichloroethane	9.21	10.0	92	72-122	
2-Butanone (MEK)	52.0	50.0	104	56-137	
2,2-Dichloropropane	9.29	10.0	93	48-133	
cis-1,2-Dichloroethene	9.99	10.0	100	76-125	
Chloroform	8.58	10.0	86	71-118	
Bromochloromethane	8.98	10.0	90	72-123	
1,1,1-Trichloroethane (TCA)	8.98	10.0	90	65-126	
1,1-Dichloropropene	9.68	10.0	97	71-119	
Carbon Tetrachloride	9.09	10.0	91	58-133	
1,2-Dichloroethane (EDC)	8.68	10.0	87	69-125	
Benzene	9.98	10.0	100	74-118	
Trichloroethene (TCE)	9.70	10.0	97	71-122	
1,2-Dichloropropane	9.75	10.0	98	73-123	
Bromodichloromethane	9.39	10.0	94	72-127	
Dibromomethane	8.99	10.0	90	71-124	
2-Hexanone	49.9	50.0	100	44-135	
cis-1,3-Dichloropropene	9.66	10.0	97	71-125	
Toluene	9.82	10.0	98	74-117	
trans-1,3-Dichloropropene	8.83	10.0	88	56-121	
1,1,2-Trichloroethane	9.67	10.0	97	73-122	
4-Methyl-2-pentanone (MIBK)	46.7	50.0	93	57-129	
1,3-Dichloropropane	9.49	10.0	95	74-120	
Tetrachloroethene (PCE)	9.71	10.0	97	65-121	
Dibromochloromethane	9.48	10.0	95	67-124	

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C - Organic

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RR87390 SuperSet Reference:

QA/QC Report

Client:

Environmental Chemistry Consulting Servi

**Project:** 

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953 **Date Extracted:** 05/14/2008

**Date Analyzed:** 05/14/2008

Lab Control Spike Summary **Volatile Organic Compounds** 

**Extraction Method:** EPA 5030B **Analysis Method:** 

8260B

Units: ug/L Basis: NA

Level: Low

Extraction Lot: KWG0804503

Lab Control Sample KWG0804503-3 Lab Control Snike

	Lab	%Rec		
Analyte Name	Result	Expected	%Rec	Limits
1,2-Dibromoethane (EDB)	9.57	10.0	96	71-120
Chlorobenzene	9.35	10.0	94	74-115
1,1,1,2-Tetrachloroethane	9.40	10.0	94	71-118
Ethylbenzene	10.0	10.0	100	71-118
m,p-Xylenes	20.2	20.0	101	73-119
o-Xylene	9.92	10.0	99	74-120
Styrene	10.2	10.0	102	75-123
Bromoform	9.51	10.0	95	57-135
Isopropylbenzene	9.16	10.0	92	65-110
1,1,2,2-Tetrachloroethane	9.61	10.0	96	63-126
1,2,3-Trichloropropane	9.38	10.0	94	67-123
Bromobenzene	9.51	10.0	95	76-111
n-Propylbenzene	9.91	10.0	99	69-122
2-Chlorotoluene	9.60	10.0	96	72-120
4-Chlorotoluene	9.52	10.0	95	70-118
1,3,5-Trimethylbenzene	9.63	10.0	96	70-120
tert-Butylbenzene	9.98	10.0	100	72-118
1,2,4-Trimethylbenzene	9.97	10.0	100	72-121
sec-Butylbenzene	10.7	10.0	107	73-130
1,3-Dichlorobenzene	9.48	10.0	95	76-110
4-Isopropyltoluene	9.66	10.0	97	67-115
1,4-Dichlorobenzene	9.08	10.0	91	74-112
n-Butylbenzene	10.3	10.0	103	62-123
1,2-Dichlorobenzene	9.38	10.0	94	75-110
1,2-Dibromo-3-chloropropane	9.94	10.0	99	49-124
1,2,4-Trichlorobenzene	10.7	10.0	107	66-115
1,2,3-Trichlorobenzene	11.2	10.0	112	64-120
Naphthalene	10.9	10.0	109	58-132
Hexachlorobutadiene	10.5	10.0	105	61-124
1,3,5-Trichlorobenzene	44.3	40.0	111	46-133

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C - Organic

Page 2 of 2 SuperSet Reference: RR87390

1,4-Dioxane by GC/MS

Analytical Results

Client:

Environmental Chemistry Consulting Servi

Project:

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953

**Date Collected:** 05/06/2008

**Date Received:** 05/08/2008

1,4-Dioxane by GC/MS

Sample Name:

CSW-WA1-024

Lab Code:

K0803953-001

**Extraction Method:** 

**EPA 3510C** 

**Analysis Method:** 

Units: ug/L Basis: NA

Level: Low

8270C SIM

**Dilution** Date Date **Extraction Analyte Name** Result Q MRL **MDL Factor** Extracted **Analyzed** Lot Note 1,4-Dioxane KWG0804444 1.1 0.50 0.260 1 05/13/08 05/27/08

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
1,4-Dioxane-d8	85	55-100	05/27/08	Acceptable	

Comments:

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Form 1A - Organic

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Analytical Results

Client:

Environmental Chemistry Consulting Servi

**Project:** 

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953

**Date Collected:** 05/06/2008

**Date Received:** 05/08/2008

1,4-Dioxane by GC/MS

**Sample Name:** 

Duplicate

Lab Code:

K0803953-002

**Extraction Method: Analysis Method:** 

EPA 3510C

8270C SIM

Units: ug/L

Basis: NA

Level: Low

				Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	MDL	Factor	Extracted	Analyzed	Lot	Note
1,4-Dioxane	1.1	0.50	0.260	1	05/13/08	05/27/08	KWG0804444	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
1,4-Dioxane-d8	89	55-100	05/27/08	Acceptable	

Comments:

Page

1 of 1

Analytical Results

Client:

Environmental Chemistry Consulting Servi

**Project:** 

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953

Date Collected: NA Date Received: NA

1,4-Dioxane by GC/MS

**Sample Name:** 

Method Blank

Lab Code:

KWG0804444-3

**Extraction Method: Analysis Method:** 

EPA 3510C 8270C SIM

Units: ug/L

Basis: NA

Level: Low

				Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	MDL	Factor	Extracted	Analyzed	Lot	Note
1,4-Dioxane	ND U	0.50	0.260	1	05/13/08	05/27/08	KWG0804444	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
1,4-Dioxane-d8	82	55-100	05/27/08	Acceptable	

Comments:

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Form 1A - Organic

SuperSet Reference:

Page

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QA/QC Report

Client:

Environmental Chemistry Consulting Servi

**Project:** 

Kuhlman Electric

**Sample Matrix:** 

Water

Service Request: K0803953

**Surrogate Recovery Summary** 1,4-Dioxane by GC/MS

**Extraction Method:** EPA 3510C **Analysis Method:** 

8270C SIM

Units: PERCENT

Level: Low

Sample Name	Lab Code	<u>Sur1</u>
CSW-WA1-024	K0803953-001	85
Duplicate	K0803953-002	89
Method Blank	KWG0804444-3	82
Lab Control Sample	KWG0804444-1	87
Duplicate Lab Control Sample	KWG0804444-2	76

Surrogate Recovery Control Limits (%)

Sur1 = 1,4-Dioxane-d8

55-100

Results flagged with an asterisk (\*) indicate values outside control criteria. Results flagged with a pound (#) indicate the control criteria is not applicable.

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Form 2A - Organic

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SuperSet Reference:

RR87733

QA/QC Report

Client:

Environmental Chemistry Consulting Servi

Project:

Kuhlman Electric

Sample Matrix:

Water

Service Request: K0803953

**Date Extracted:** 05/13/2008

**Date Analyzed:** 05/27/2008

Lab Control Spike/Duplicate Lab Control Spike Summary 1,4-Dioxane by GC/MS

Extraction Method: EPA 3510C **Analysis Method:** 

8270C SIM

Units: ug/L

Basis: NA

Level: Low

Extraction Lot: KWG0804444

Lab Control Sample

**Duplicate Lab Control Sample** 

Analyte Name		VG0804444-1 Control Spik		KWG0804444-2 Duplicate Lab Control Spike			%Rec		RPD
	Result	Expected	%Rec	Result	Expected	%Rec	Limits	RPD	Limit
1,4-Dioxane	22.8	25.0	91	21.5	25.0	86	56-107	6	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C - Organic

SuperSet Reference:

RR87733

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