

May 7, 2007

Mr. Chris Stempa Appleton Department of Utilities 2006 East Newberry Street Appleton WI, 54915-2758

RE:

N.W. Mauthe Groundwater Treatment System

Appleton, Wisconsin

Annual Local Limit Compliance Parameters

Dear Mr. Stempa:

Midwest Contract Operations, Inc. (MCO) is pleased to submit the Annual Local Limit Compliance Analysis for the N.W. Mauthe Superfund Site, 725 South Outagamie Street, Appleton Wisconsin due on July 15, 2007. This report is being submitted in accordance with the City of Appleton Industrial User Permit No. 06-21, issued for the site on May 26, 2006.

R+R-OSH RECEIVED

MAY 2 \$ 2007

The effluent samples were collected at the effluent discharge point, prior to Outfall 001.

The samples were analyzed by Pace Analytical for metals (unfiltered) with total chromium (filtered) and hexavalent chromium (unfiltered). The analytical results are tabulated on the attached spread sheet. Please note that all parameters tested below the local discharge limits.

If you have any questions or require additional information, feel free to contact me.

Very truly yours,

Midwest Contract Operations, Inc.

Paul Much

Environmental Scientist

920-751-4760

CC:

Randy Much Jennifer Borski

Mauthe Effluent Limitations Analysis Outfall 001

Paramet	et Aurit	ur. Total trogic	~ /	Chor Chor	ur. Total regil	Lun Hero aden	~ /	e Total Ing.L.	(o' / (N. Total lugil	\sim / $_{\star}$	dalfroll'),)
Local Limits	70.0	1.0	0.3	7.0	4.5	3.5	1.0	2.0	2.0	2.0	10.0	5.0-12.4	
6/27/2006	< 0.2	<.0076	<.00074	0.70	0.35	0.0016	<0.0094	<0.0034	<0.072	0.0021	<0.020	7.6	
4/2/2007	0.0383	0.00024	0.000086	1.41		0.0041	<0.0094	0.00013	ND	0.0035	0.009		
4/3/2007				1.1	1.5							7.8	



1241 Bellevue Street, Suite 9 Green Bay, WI 54302 920-469-2436, Fax: 920-469-8827

Analytical Report Number: 882265

Client: MIDWEST CONTRACT OPERATIONS, INC.

Lab Contact: Brian Basten

Project Name: MAUTHE

Project Number:

Lab Sample Number Field ID Matrix Collection Date

882265-001 MAUTHE EFFLUENT WATER 04/02/07

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample comments. Release of this final report is authorized by Laboratory management, as is verified by the following signature. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc. The sample results relate only to the analytes of interest tested.

Approval Signature

Date

Page 1 of

Pace Analytical Services, Inc.

Analytical Report Number: 882265

1241 Bellevue Street Green Bay, Wi 54302 920-469-2436

Client: MIDWEST CONTRACT OPERATIONS, INC.

Project Name : MAUTHE

Project Number:

Field ID: MAUTHE EFFLUENT

Matrix Type: WATER

Collection Date: 04/02/07

Report Date: 04/13/07

Lab Sample Number: 882265-001

INORGANICS											
Test		Result	LQD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
Aluminum		INCL.									
Arsenic		INCL.									
Cadmium		INCL.									
Chromium		INCL.									
Copper		INCL.									
Lead		INCL.									
Mercury		INCL.									
Nickel		INCL.									
Zinc		INCL.									
Cyanide, Total	<	0.0094	0.0094	0.031		1	m g /L		04/11/07	EPA 335.4	EPA 335.4

Qualifier Codes

A	Inorganic	Explanation Analyte is detected in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally,
	J	method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
3	Inorganic	The analyte has been detected between the method detection limit and the reporting limit.
3	Organic	Analyte is present in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
2	All	Elevated detection limit.
)	All	Analyte value from diluted analysis or surrogate result not applicable due to sample dilution.
Ē	Inorganic	Estimated concentration due to matrix interferences. During the metals analysis the serial dilution failed to meet the established control limits of 0-10%. The sample concentration is greater than 50 times the IDL for analysis done on the ICP or 100 times the IDL for analysis done on the ICP-MS. The result was flagged with the E qualifier to indicate that a physical interference was observed.
Ξ	Organic	Analyte concentration exceeds calibration range.
=	Inorganic	Due to potential interferences for this analysis by Inductively Coupled Plasma techniques (SW-846 Method 6010), this analyte has been confirmed by and reported from an alternate method.
=	Organic	Surrogate results outside control criteria.
G	All	The result is estimated because the concentration is less than the lowest calibration standard concentration utilized in the initial calibration. The method detection limit is less than the reporting limit specified for this project.
1	All	Preservation, extraction or analysis performed past holding time.
HF	Inorganic	This test is considered a field parameter, and the recommended holding time is 15 minutes from collection. The analysis was performed in the laboratory beyond the recommended holding time.
l	All	Concentration detected equal to or greater than the method detection limit but less than the reporting limit.
<	Organic	Detection limit may be elevated due to the presence of an unrequested analyte.
-	Ali	Elevated detection limit due to low sample volume.
Λ	Organic	Sample pH was greater than 2
i	All	Spiked sample recovery not within control limits.
)	Organic	Sample received overweight.
•	Organic	The relative percent difference between the two columns for detected concentrations was greater than 40%.
)	All	The analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
3	Organic	The relative percent difference between quantitation and confirmation columns exceeds internal quality control criteria. Because the result is unconfirmed, it has been reported as a non-detect with an elevated detection limit.
J	Ail	The analyte was not detected at or above the reporting limit.
′	All	Sample received with headspace.
٧	All	A second aliquot of sample was analyzed from a container with headspace.
	All	See Sample Narrative.
	Organics	This compound was separated in the check standard but it did not meet the resolution criteria as set forth in SW846.
	All	Laboratory Control Spike recovery not within control limits.
	All	Precision not within control limits.
-	Inorganic	The sample result is greater than four times the spike level: therefore, the percent recovery is not evaluated.
•	All	The analyte was not detected at or above the reporting limit.
	Inorganic	Dissolved analyte or filtered analyte greater than total analyte; analyses passed QC based on precision criteria.
!	Inorganic	Dissolved analyte or filtered analyte greater than total analyte; analyses failed QC based on precision criteria.
3	Inorganic	BOD result is estimated due to the BOD blank exceeding the allowable oxygen depletion.
}	Inorganic	BOD duplicate precision not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
•	Inorganic	BOD result is estimated due to insufficient oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
i	Inorganic	BOD laboratory control sample not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
7	Inorganic	BOD result is estimated due to complete oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
3	Inorganic	Sample was received unpreserved. Sample was preserved either at the time of receipt or at the time of sample preparation.
)	Inorganic	Sample was received with insufficient preservation. Acid was added either at the time of receipt or at the time of sample

Pace Analytical Services, Inc.

Analysis Summary by Laboratory

1241 Bellevue Street Green Bay, WI 54302

Test Group Name	882265-001
ALUMINUM	M
ARSENIC	М
CADMIUM	M
CHROMIUM	М
COPPER	M
CYANIDE, TOTAL	В
LEAD	М
MERCURY	М
NICKEL	М
ZINC	М
Code WI Certification .	
B 405132750 / DATCP: 105-444	7
M 999407970	



> Phone: (612)607-1700 Fax: (612)607-6444

April 12, 2007

Client Services Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302

RE: Project: 882265 MCO

Pace Project No.: 1049381

Dear Client Services:

Enclosed are the analytical results for sample(s) received by the laboratory on April 06, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Julie Thieschafer

julie.thieschafer@pacelabs.com Project Manager

Illinois Certification #: 200011 Iowa Certification #: 368

Minnesota Certification #: 027-053-137 Wisconsin Certification #: 999407970

Enclosures



> Phone: (612)607-1700 Fax: (612)607-6444

SAMPLE SUMMARY

Project:

882265 MCO

Pace Project No.: 1049381

Lab ID	Sample ID	Matrix	Date Collected	Date Received
882265001	MAUTHE EFFLUENT	Water	04/02/07 00:00	04/06/07 09:15



> Phone: (612)607-1700 Fax: (612)607-6444

SAMPLE ANALYTE COUNT

Project:

882265 MCO

Pace Project No.: 1049381

Lab ID	Sample ID	Method	Analytes Reported
882265001	MAUTHE EFFLUENT	EPA 200.8	8
		EPA 245.1	1



> Phone: (612)607-1700 Fax: (612)607-6444

ANALYTICAL RESULTS

Project:

882265 MCO

Pace Project No.: 1049381

Sample: MAUTHE EFFLUENT	Lab ID: 882265001		Collected: 04/02/07 00:00			Received: 04	06/07 09:15 M	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical	Method: EPA	200.8 Prepa	aration Met	od: EP	A 200.8			
Aluminum	38.3 u	g/L	1.6	0.49	1	04/09/07 13:58	04/10/07 13:40	7429-90-5	
Arsenic	0.24 u	g/L	0.12	0.035	1	04/09/07 13:58	04/10/07 13:40	7440-38-2	
Cadmium	0.086 u	g/L	0.057	0.017	1	04/09/07 13:58	04/10/07 13:40	7440-43-9	
Chromium	1410 u	ıg/L	15.0	4.6	50	04/09/07 13:58	04/11/07 18:37	7440-47-3	
Copper	4.1 u	g/L	0.087	0.026	1	04/09/07 13:58	04/10/07 13:40	7440-50-8	
Lead	0.13 u	g/L	0.10	0.030	1	04/09/07 13:58	04/10/07 13:40	7439-92-1	
Nickel	3.5 u	g/L	0.14	0.043	1	04/09/07 13:58	04/10/07 13:40	7440-02-0	
Zinc	9.0 u	g/L	1.0	0.30	1	04/09/07 13:58	04/10/07 13:40	7440-66-6	
245.1 Mercury	Analytical	Method: EPA	245.1 Prepa	ration Meth	od: EP	PA 245.1			
Mercury	ND u	g/L	0.063	0.019	1	04/10/07 00:00	04/11/07 09:19	7439-97-6	

Date: 04/12/2007 03:03 PM

REPORT OF LABORATORY ANALYSIS This report shall not be reproduced, except in full,

Page 4 of 8







> Phone: (612)607-1700 Fax: (612)607-6444

QUALITY CONTROL DATA

Project:

882265 MCO

Pace Project No.: 1049381

QC Batch:

MPRP/8741

Analysis Method:

EPA 200.8

QC Batch Method:

EPA 200.8

Analysis Description:

200.8 MET

Associated Lab Samples: 882265001

METHOD BLANK: 327571

Associated Lab Samples: 882265001

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Aluminum	ug/L	ND	1.6	
Arsenic	ug/L	ND	0.12	
Cadmium	ug/L	ND	0.057	
Chromium	ug/L	ND	0.30	
Copper	ug/L	ND	0.087	
Lead	ug/L	ND	0.10	
Nickel	ug/L	ND -	0.14	
Zinc	ug/L	3.9	. 1.0	

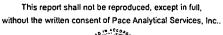
LABORATORY CONTROL SAM	MPLE: 327572					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	80	83.0	104	85-115	
Arsenic	ug/L	80	78.6	98	85-115	
Cadmium	ug/L	80	80.4	100	85-115	
Chromium	ug/L	80	82.2	103	85-115	
Copper	ug/L	80	82.5	103	85-115	
Lead	ug/L	80	78.0	97	85-115	
Nickel	ug/L	80	83.9	105	85-115	
Zinc	υg/L	80	79.5	99	85-115	

MATRIX SPIKE & MATRIX	SPIKE DUPLICAT	E: 32758	8		327589						•	
			MS	MSD								
	11	049411001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Aluminum	ug/L	11.4	80	80	95.3	95.8	105	106	70-130	.5	20	
Arsenic	ug/L	3.4	80	80	80.8	81.5	97	98	70-130	.8	20	
Cadmium	ug/L	ND	80	80	77.1	76.7	96	96	70-130	.5	20	
Chromium	ug/L	ND	80	80	75.6	75.8	94	94	70-130	.2	20	
Copper	ug/L	1.2	80	80	79.0	78.4	97	97	70-130	.8	20	
Lead	ug/L	0.31	80	80	76.3	76.1	95	95	70-130	.3	20	
Nickel	ug/L	0.62	80	80	79.7	79.7	99	99	70-130	.03	20	
Zinc	ug/L	ND	80	80	79.3	79.9	94	95	70-130	.7	20	

Date: 04/12/2007 03:03 PM

REPORT OF LABORATORY ANALYSIS

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> Phone: (612)607-1700 Fax: (612)607-6444

QUALITY CONTROL DATA

Project:

882265 MCO

Pace Project No.:

1049381

QC Batch:

MERP/1656

Analysis Method:

EPA 245.1

QC Batch Method:

EPA 245.1

Analysis Description:

245.1 Mercury

Associated Lab Samples:

882265001

METHOD BLANK: 328272

Associated Lab Samples:

882265001

Blank

Reporting Limit

Qualifiers

Parameter

Units ug/L Result ND

0.063

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

328273

Units

Spike

Spike

Conc.

LCS Result LCS % Rec

% Rec

_ .._

Mercury

Mercury

Mercury

ug/L

Units

ug/L

Conc.

5 .

5.2

Limits 85-115

MS

% Rec

109

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

328274

QN

882265001

Result

MS MSI

MSD Spike

Conc.

328275 MS Result

5.4

MSD Result

5.6

103

MSD % Rec

113

% Rec Limits R

Max

Qual

85-115 RPD RPD 30

Date: 04/12/2007 03:03 PM

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project:

882265 MCO

Pace Project No.:

1049381

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.





> Phone: (612)607-1700 Fax: (612)607-6444

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

882265 MCO

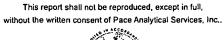
Pace Project No.: 1049381

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
882265001	MAUTHE EFFLUENT	EPA 200.8	MPRP/8741	EPA 200.8	ICPM/3638
882265001	MAUTHE EFFLUENT	EPA 245.1	MERP/1656	EPA 245.1	MERC/2501

Date: 04/12/2007 03:03 PM

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Aace Analytical Client Name	: INCO		Project # 882265
Courier: Fed Ex UPS USPS Clie	ent Commercial	Pace Other	
Tracking #:			
Custody Seal on Cooler/Box Present:	no Seals	s intact: yes	no
Packing Material: Bubble Wrap Bubble	e Bags 🗍 None	Other	
Thermometer Used	Type of Ice: Wel		Samples on ice, cooling process has begun Date and Initials of person examining
Cooler Temperature Temp should be above freezing to 6°C	Biological Tissue	is Frozen: Yes No Comments:	contents: 143/57
Chain of Custody Present:	ØYes □No □N/A	1.	
Chain of Custody Filled Out:	ŬYes □No □N/A	2.	
Chain of Custody Relinquished:	DYes □No □N/A	3.	
Sampler Name & Signature on COC:	DY98 □No □N/A	4.	
Samples Arrived within Hold Time:	Yes ONo ON/A	5.	
Short Hold Time Analysis (<72hr):	□Yes □No □N/A	6.	
Rush Turn Around Time Requested:	□Yes □No □N/A	7	
Sufficient Volume:	ØYes ∕□No □N/A	8.	
Correct Containers Used:	ØYes □No □N/A	9.	
-Pace Containers Used:	DYes □No □N/A		
Containers Intact:	Dyes DNo DN/A	10.	
Filtered volume received for Dissolved tests	□Yes □No □NVA	11.	
Sample Labels match COC:	ØYes □Nb □N/A	12.	
-Includes date/time/ID/Analysis Matrix:	W		
All containers needing preservation have been checked.	Yes No ON/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	Yes ONO ON/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	□Yes □No	Initial when Completed	Lot # of added preservative
Samples checked for dechlorination:	□Yes □No ☑N/A	14.	
Headspace in VOA Vials (>6mm):	□Yes □No □NVA	15.	
Trip Blank Present:	□Yes □No □NA	16.	
Trip Blank Custody Seals Present	□Yes □No ☑N/A		
Pace Trip Blank Lot # (if purchased):			
Client Notification/ Resolution: Person Contacted:			Field Data Required? Y / N
Comments/ Resolution:			
Project Manager Review:	- fx		Date: 4-407

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

(P	Please Print Clearly)]								UPPE	R MIDW	EST RE	GION		Page 1	of 🗡
Company Name:	Mio]					. 4		10	MN: 6	12-607-	1700	WI: 920-469-2436			<u>.</u>
Branch/Location:	Menasna		1,	/_}	ace		alytic			\sqrt{c}	3				COC No.	02	3213
Project Contact:	STuurt Boenst		1 /			www.p	acelabs.c	zom						Quote #:			
Phone:	920-751-420	x)	1 '	C	:HA	NIA	OF	C	US.	TO	DY			Mail To Contact:	Stran	+ Boerst	_
Project Number:			A=N	lone B=H	ICL C=	H2SO4	*Preserva			=Methan	ol G=N	аОН		Mail To Company:			
Project Name:	Maythe		H≃S	Sodium Bisuli	fate Soluti	ion	I=Sodium	n Thiosul	fate J	=Other				Mail To Address:		ena h	
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Sampled By (Print):	Marythe NI Pour Much Roud Much			RVATION DDE)*	Pick Letter	Þ	G							Invoice To Contact:	Rand	y Much	2
Sampled By (Sign):	Rend Must	`				3	10101							Invoice To Company:	l .	20	
PO #:		Regulatory Program:			estec	± y	I · `							Invoice To Address:		.3	
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☐ EPA Leve	(billable)	B = Biota C = Charcoal D = Oil	DW = Drink GW = Grou SW = Surfa	ding Water and Water	Ses	186								Invoice To Phone:	920	-451-6	1760
EPA Leve	1 10 100 100 100 100 100	S ≈ Soll SI = Sludge	WW = Was WP = Wipe	te Water	Analy	Metals	Cyan		}		i			CLIENT		OMMENTS	Profile #
PACE LAB'#	CLIENT FIELD ID	DATE	ECTION	MATRIX		₹.	<u>U</u>							COMMENTS	(Lab l	Jse Only)	
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					2324										1		
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Transmit Prelim Rus	sh Results by (complete what you w	/ant):	13	Keny	sev	_ 7	13/02) 	154	6			1/2	X 413/07	1540	Receipt Temp =	NOT °C
Email #1; Email #2:		Relin	quished By:		/		Da	te/Time:			Received	і Ву:	~	Date/Time:		Sample Re	ceipt pH
Telephone:		Relin	quished By:				Da	te/Time:			Received	Ву:		Date/Time:		(OK/)kd	lusted
· ·	on HOLD are subject to	Relin	quished By:	:			Da	te/Time:			Received	I By:		Date/Time:		Cooler Cus Present N	ot Present
special prio	cing and release of liability	L		<u> </u>	" ·							_			.	Intact / N Version 6.0 06/14/06	ORIGINAL



Please Remit Payment To:
Pace Analytical Services, Inc.
P.O. Box 684056
Milwaukee, WI 53268-4056
1-800-736-2436

INVOICE

Page 1 of 1

Invoice No: 400882265

Invoice Date: 4/13/2007

Site Information: Received Date: 4/3/2007

PO No:

MIDWEST CONTRACT OPERATIONS, INC.

Attn: RANDY MUCH

101 GARFIELD AVENUE

P.O. BOX 418

Bill To:

MENASHA, WI 54952-0418

MAUTHE

Proj State: WI

Terms: Net 30

Due Date: 5/13/2007

DESCRIPTION	QTY	PRICE EACH	SUB TOTAL
ALUMINUM - WATER	1	\$12.00	\$12.00
ARSENIC - WATER	1	\$12.00	\$12.00
CADMIUM - WATER	1	\$12.00	\$12.00
CHROMIUM - WATER	1	\$12.00	\$12.00
COPPER - WATER	1	\$12.00	\$12.00
MERCURY - WATER	1	\$30.00	\$30.00
NICKEL - WATER	. 1	\$12.00	\$12.00
LEAD - WATER	1	\$12.00	\$12.00
ZINC - WATER	1	\$12.00	\$12.00
CYANIDE, TOTAL - WATER	1	\$30.00	\$30.00

Invoice SubTotal: \$156.00

Tax: \$0.00

Total:

\$156.00

Thank You for Choosing Pace Analytical Services, Inc.!

Please complete, detach	and return with your payment. Pa	ge 1 of 1		
Method of Payment:	Check / VISA / MasterCard / American Exp (circle one)	ress Phone#:	INVOICE TOTAL	\$156.00
Credit Card Holder: (prin	nt)	1st 4 digits of address:	Amount Paid:	\$
Credit Card Account No:		Email Address:	Check No:	
Exp Date:	Signature:	Zip Code:	Invoice No:	400882265



1241 Bellevue Street, Suite 9 Green Bay, WI 54302 920-469-2436, Fax: 920-469-8827

Analytical Report Number: 882261

Client: MIDWEST CONTRACT OPERATIONS, INC.

Lab Contact: Brian Basten

Project Name: MAUTHE 2007 Project Number:

Lab Sample

Number

Field ID

Collection

Matrix Date

882261-001 MAUTHE DISCHARGE

WATER 04/03/07 07:45

APR 1 1 2007

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample comments. Release of this final report is authorized by Laboratory management, as is verified by the following signature. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc. The sample results relate only to the analytes of interest tested.

Approval Signature

Date

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Pace Analytical Services, Inc.

Analytical Report Number: 882261

1241 Bellevue Street Green Bay, WI 54302 920-469-2436

Client: MIDWEST CONTRACT OPERATIONS, INC.

Project Name: MAUTHE 2007

Project Number:

Matrix Type: WATER Collection Date: 04/03/07

Report Date: 04/09/07

Lab Sample Number: 882261-001

Field ID: MAUTHE DISCHARGE

INORGANICS										
Test	Result	LOD	LOQ	EQL	Dil.	Units	Code	Ani Date	Prep Method	Anl Method
Chromium - Dissolved	1100	0.32	1.1	-	1	ug/L		04/06/07	SW846 3020A	SW846 6020
Chromium, Hexavalent	1500	170	570		1	ug/L		04/04/07	SM 3500 Cr-D	SM 3500 Cr-D

Qualifier Codes

Flag Applies To Explanation

Flag	Applies To	Explanation
Ā	Inorganic	Analyte is detected in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
В	Inorganic	The analyte has been detected between the method detection limit and the reporting limit.
В	Organic	Analyte is present in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
С	All	Elevated detection limit.
D	All	Analyte value from diluted analysis or surrogate result not applicable due to sample dilution.
Ε	Inorganic	Estimated concentration due to matrix interferences. During the metals analysis the serial dilution failed to meet the established control limits of 0-10%. The sample concentration is greater than 50 times the IDL for analysis done on the ICP or 100 times the IDL for analysis done on the ICP-MS. The result was flagged with the E qualifier to indicate that a physical interference was observed.
Ε	Organic	Analyte concentration exceeds calibration range.
F	Inorganic	Due to potential interferences for this analysis by Inductively Coupled Plasma techniques (SW-846 Method 6010), this analyte has been confirmed by and reported from an alternate method.
F	Organic	Surrogate results outside control criteria.
G	All	The result is estimated because the concentration is less than the lowest calibration standard concentration utilized in the initial calibration. The method detection limit is less than the reporting limit specified for this project.
Н	All	Preservation, extraction or analysis performed past holding time.
HF	Inorganic	This test is considered a field parameter, and the recommended holding time is 15 minutes from collection. The analysis was performed in the laboratory beyond the recommended holding time.
J	All	Concentration detected equal to or greater than the method detection limit but less than the reporting limit.
K	Organic	Detection limit may be elevated due to the presence of an unrequested analyte.
L	All	Elevated detection limit due to low sample volume
М	Organic	Sample pH was greater than 2
Ν	All	Spiked sample recovery not within control limits.
0	Organic	Sample received overweight.
Р	Organic	The relative percent difference between the two columns for detected concentrations was greater than 40%.
Q	All	The analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
S	Organic	The relative percent difference between quantitation and confirmation columns exceeds internal quality control criteria. Because the result is unconfirmed, it has been reported as a non-detect with an elevated detection limit.
U	All	The analyte was not detected at or above the reporting limit.
V	All	Sample received with headspace.
W	All	A second aliquot of sample was analyzed from a container with headspace.
Х	All	See Sample Narrative.
Z	Organics	This compound was separated in the check standard but it did not meet the resolution criteria as set forth in SW846.
&	All	Laboratory Control Spike recovery not within control limits.
*	All	Precision not within control limits.
+	Inorganic	The sample result is greater than four times the spike level: therefore, the percent recovery is not evaluated.
<	All	The analyte was not detected at or above the reporting limit.
1	Inorganic	Dissolved analyte or filtered analyte greater than total analyte; analyses passed QC based on precision criteria.
2	Inorganic	Dissolved analyte or filtered analyte greater than total analyte; analyses failed QC based on precision criteria.
3	Inorganic	BOD result is estimated due to the BOD blank exceeding the allowable oxygen depletion.
4	Inorganic	BOD duplicate precision not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
5	Inorganic	BOD result is estimated due to insufficient oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
6	Inorganic	BOD laboratory control sample not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
7	Inorganic	BOD result is estimated due to complete oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
8	Inorganic	Sample was received unpreserved. Sample was preserved either at the time of receipt or at the time of sample preparation.
9	Inorganic	Sample was received with insufficient preservation. Acid was added either at the time of receipt or at the time of sample preparation.

Pace Analytical Services, Inc.

Analysis Summary by Laboratory

1241 Bellevue Street Green Bay, WI 54302

Test Group Name	882261-001
CHROMIUM - DISSOLVED	В
CHROMIUM, HEXAVALEN	т в
Code WI Certification	
B 405132750 / DATC	P: 105-444

Sample Condition Upon Receipt

Face Analytical Cli	ent Name:	M	(0			Pro	oject#	480	2261	
Courier: Fed Ex UPS Tracking #:	USPS Client	Comme	ercial	Pace	e Other		Pro	DuelDa	ti ja ja ja ja Jedina kang	
Custody Seal on Cooler/Box Pres	sent: 🗌 yes	□ no	Seals	intact:	☐ yes	☐ no		Name .		en-
Packing Material: Bubble Wra	ap , Bubble B	Bags 🔲 N	one	Othe	r		/			
		Type of Ices	Wet	Blue	None	☑ Sa	mples on ic	e, cooling p	rocess has beg	gun
Cooler Temperature Temp should be above freezing to 6°C	lo I	Biological T	issue	is Frozei Comme			Date and contents	nitials of C	erson exemini	ing 2
Chain of Custody Present:		ÚYes, □No	□n/a	1.						
Chain of Custody Filled Out:		ZYes, □No	□N/A	2.						
Chain of Custody Relinquished:		□ves □No	□n/a	3.						
Sampler Name & Signature on COO	D:	□xes □No	□n/a	4.						
Samples Arrived within Hold Time:		□Xes .□No	□n/a	5.						
Short Hold Time Analysis (<72hr)): 	DYes □No	□N/A	6.	RG	<i>H</i>				
Rush Turn Around Time Request	ed:	□Yes □₩o	□N/A	7.						
Sufficient Volume:		□ves □No	□n/a	8.						
Correct Containers Used:		Dres □No	□n/a	9.						
-Pace Containers Used:	, •	□ves □No	□N/A							
Containers Intact:		Dves □No	□n/a	10.						
Filtered volume received for Dissolv	ved tests	□Yes □No	[]KIA	11.						
Sample Labels match COC:		ZYes □Nb	□n/a	12.						
-Includes date/time/ID/Analysis	Matrix:	\mathcal{W}	-							
All containers needing preservation have	been checked.	DYes □No	□N/A	13.			•			
All containers needing preservation are compliance with EPA recommendation.		Øyes □No	□N/A				· <u></u>	·		
exceptions: VOA, coliform, TOC, O&G, WI-D	ORO (water)	□Yes □No		Initial whe	w/ 14	, ,	# of added servative			
Samples checked for dechlorination	າ:	□Yes □No	ZNIA	14.						
Headspace in VOA Vials (>6mm):		□Yes □No	DNIA	15.		•				
Trip Blank Present:		□Yes □No	DNIA	16.						
Trip Blank Custody Seals Present		□Yes □No	EN/A							
Pace Trip Blank Lot # (if purchased):				· · · · · · · · · · · · · · · · · · ·					
Client Notification/ Resolution: Person Contacted: Comments/ Resolution:				Time:			ld Data Rec	uired?	Y / N	
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Project Manager Review:		ls					Date:	4	-4-07	

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

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