Foth

Better-Brite WTP Processing Log 2013/2014

13W004

Date	Operator	Batch #	Gal Processed	H2SO4 - pH reduction to (s.u.)	NaHSO3 - ORP reduction to (mv)	Mg(OH)2/NaOH - pH raised to (s.u.)	Polymer feed (sec)	Batch Test Results Cr+6	Press Run Time (min)	Recycled Water (gal)	Sludge drum fille or Press cleaned / Comments
04/01/13	NED	1	5500	3.09	314	8.66	30	0.00	26:20	350	
04/02/13	NED	2	5500	3.06	321	8.59	30	0.00	27	350	
04/09/13	NED	3	5500	3.11	316	8.63	30	0.02	27.5	350	
04/11/13	NED	4	5500	3.13	309	8.69	- 30	0.00	29	350	Cleaned Press
04/15/13	NED	5	5500	3.09	310	8.63	30	0.01	31	350	
04/18/13	NED	6	5500	3.02	309	8.65	-	0.00	32	-	
04/22/13	NED	7	5500	3.03	301	8.57	30	0.00	34.5	350	
04/30/13	NED	8	5500	3.06	294	8.66	30	0.01	35.5	350	
05/01/13	NED	9	5500	3.11	313	8.68	30	0.01	36.75	350	Cleaned Press
05/31/13	NED	10	5500	3.09	310	8.70	30	0.02	28.5	350	
06/05/13	NED	11	5500	3.08	310	8.59	30	0.00	29	350	
06/06/13	NED	12	5500	3.06	309	8.62	30	0.01	33	350	
06/21/13	NED	13	5500	3.03	294	8.66	30	0.01	35	350	
06/28/13	NED	14	5500	3.10	303	8.68	30	0.02	38	350	Cleaned Pump, Fixed Clothes in Press, Filled Drum
07/01/13	NED	15	5500	3.01	300	8.59	30	0.03	25	350	NED training NMG
07/02/13	NED	16	5500	3.15	300	8.61	30	0.00	36	350	NED training NMG
07/10/13	NMG	17	5500	3.20	300	8.62	30	0.02	40	350	Chemicals Delivered
07/15/13	NMG	18	5500	3.18	300	8.70	30	0.02	35	350	
07/23/13	NMG	19	5500	3.24	298	8.65	30	0.01	24	350	Calibrated pH and ORP sensor,
08/02/13	NMG		Sludge Drum pick up (2 drums; 1empty drum delivered), Cleaned Press, and installed 2 new diagram air pumps - Small 1/2 inch pump installed but still need to adjust PVC line to make connection to treatment tank.								
08/08/13	NMG	20	5500	3.34	300	8.68	30	0.02	30	350	Calibrated pH and ORP sensor,
08/09/13	NMG	21	5500	3.20	300	8.69	30	0.01	28	350	
08/16/13	NMG	22	5500	3.19	288	8.52	30	0.01	27	350	
08/22/13	NMG	23	5500	3.33	300	8.54	30	0.00	30	350	
08/29/13	NMG	24	5500	3.23	289	8.63	30	0.01	29	350	T. Chrome samples collected
09/05/13	NMG	25	5500	3.34	296	8.53	30	0.01	31	350	
09/16/13	NMG	26	5500	3.05	288	8.63	30	0.00	26	350	Cleaned Press
09/19/13	NMG	27	5500	3.32	291	8.59	30	0.02	29	350	
09/30/13	NMG	28	5500	3.22	300	8.50	30	0.01	27	350	Calibrated pH and ORP sensor,

10/04/13	NMG	29	5500	3.24	294	8.53	30	0.02	42	350	
10/11/13	NMG	30	5500	3.49	287	8.60	30	0.00	37	350	
10/17/13	NMG	31	5500	3.34	292	8.68	30	0.01	37	350	DNR and NWTC Students on-site
10/24/13	NMG	32	5500	3.25	284	8.60	30	0.01	40	350	Calibrated pH and ORP sensor,
10/25/13	NMG	33	5500	3.35	300	8.51	30	0.02	35	350	
11/04/13	NMG	34	5500	3.10	289	8.70	30	0.00	41	350	Cleaned Press
11/08/13	NMG	35	5500	3.34	300	8.69	30	0.02	40	350	
11/15/13	NMG	36	5500	3.14	299	8.61	30	0.01	35	350	
11/22/13	NMG	37	5500	3.39	296	8.50	30	0.00	40	350	Chemicals Delivered
11/27/13	NMG	38	5500	3.35	285	8.64	30	0.01	42	350	Calibrated pH and ORP sensor,
12/05/13	NMG	39	5500	3.18	300	8.67	30	0.01	36	350	
12/06/13	NMG	40	5500	3.34	298	8.68	30	0.00	44	350	
12/26/13	NMG	41	5500	3.24	287	8.61	30	0.01	45	350	
12/27/13	NMG	42	5500	3.43	300	8.70	30	0.02	32	350	Cleaned Press
12/31/13	NMG	43	5500	3.27	290	8.68	30	0.02	30	350	Calibrated pH and ORP sensor,
01/08/14	NMG	44	5500	3.19	300	8.59	30	0.02	35	350	
01/10/14	NMG	45	5500	3.31	300	8.63	30	0.02	40	350	
01/13/14	NMG	46	5500	3.15	288	8.58	30	0.00	39	350	
01/27/14	NMG	47	5500	3.02	299	8.65	30	0.00	38	350	
01/31/14	NMG	48	5500	3.16	300	8.50	30	0.00	40	350	Trench pump not recovering
03/03/14	NMG	49	5500	3.20	297	8.65	30	0.01	37	350	T. Chrome samples collected Clean Press
03/31/14	NMG	50	5500	3.18	289	8.56	30	0.02		350	

Better-Brite Sludge Generation Data

Calendar Year 2013

MONTH	Drum(s) Filled	Date Filled	Date Transported	Small Q + 180 days
January	0			
February	1	2/4/2013		8/3/2013
March	0			
April	0			
May	0			
June	1	6/28/2013		12/25/2013
July	0			
August	0		8/2/2013	
September	0			
October	0			
November	0			
December	0			
TOTAL	2			

Notes - Both Drums (filled date 2/4/2013 and 6/28/2013) were transported for disposal on 8/2/2013.

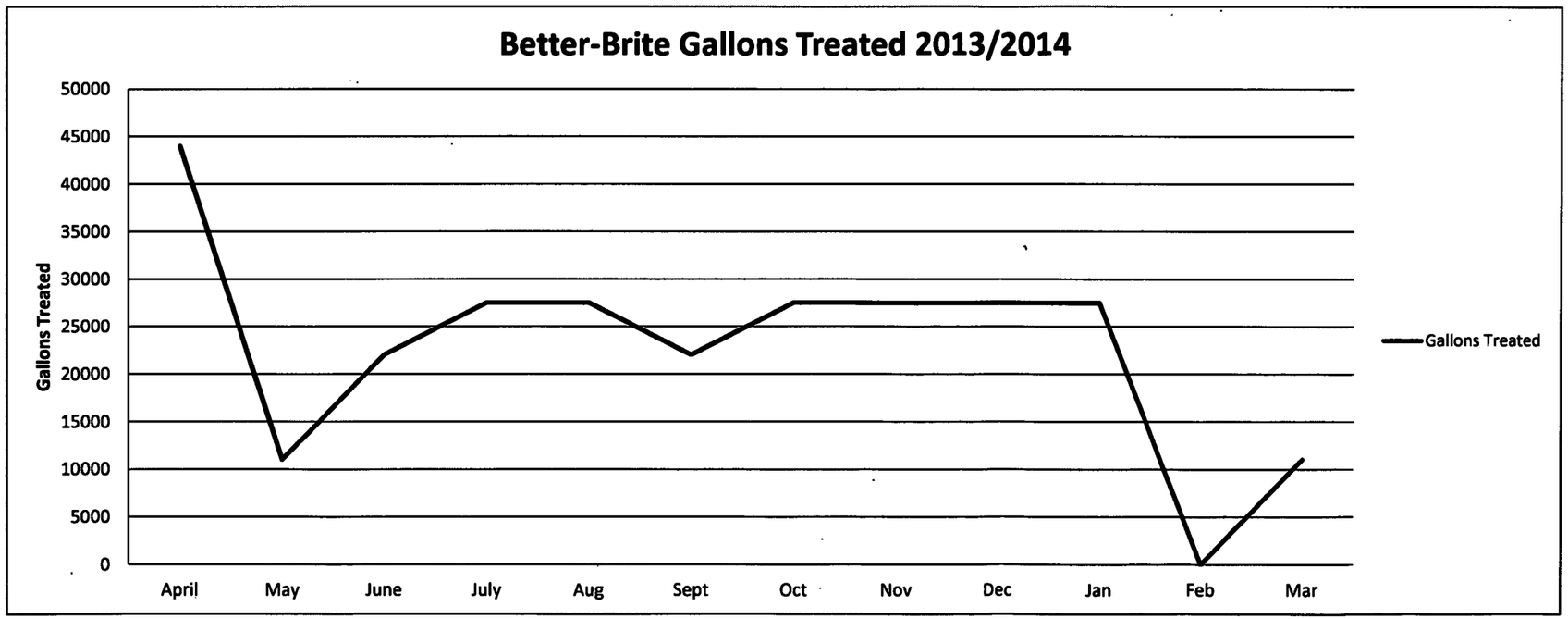
Better Brite 2013/2014 Treatment

Month	Gallons Treated	Batches Ran
April	44000	8
May	11000	2
June	22000	4
July	27500	5
Aug	27500	5
Sept	22000	4
Oct	27500	5
Nov	27500	5
Dec	27500	5
Jan	27500	5
Feb	0	0
Mar	11,000	2
	TOTAL	**50**

Drum #	Date Filled
1	6/28/2013
2	3/3/2014

*** 2 drums picked up on 08-02-13**

****Total Chrome samples collected on 8-29-13 and 03-03-14**



Summary of Effluent and Influent Analytical Data
Better Brite Waste Treatment Plant
De Pere, WI 54115

Sample ID	Date	Total Chromium (ug/L)	Total Zinc (ug/L)	Total Cyanide (mg/L)	Hexavalent Chromium (mg/L)
Lot Trench	11/12/2010	4,380	NS	NS	NS
Grass Trench	11/12/2010	17,100	NS	NS	NS
Influent	06/23/2011	4,520	34.0 J	0.34	4.4
Effluent	06/23/2011	231	1.8 J	0.32	<0.0039
Influent	06/27/2011	4,810	21.2 J	0.30	4.4
Effluent	06/27/2011	974	2.5 J	0.21	<0.0039
Influent	06/28/2011	4,460	16.9 J	0.31	4.1
Effluent	06/28/2011	1,070	<1.6	0.25	<0.0039
Influent	06/29/2011	4,230	10.7 J	0.29	3.9
Effluent	06/29/2011	998	<1.6	0.23	<0.039
Influent	12/23/2011	6,850	NS	NS	NS
Effluent	12/23/2011	765	NS	NS	NS
Influent	08/03/2012	7,220	NS	NS	NS
Effluent	08/03/2012	513	NS	NS	NS
Influent	02/08/2013	7,140	NS	NS	NS
Effluent	02/08/2013	876	NS	NS	NS
Influent	08/29/2013	5,810	NS	NS	NS
Effluent	08/29/2013	1,190	NS	NS	NS
Influent	03/03/2014	9,050	NS	NS	NS
Effluent	03/03/2014	901	NS	NS	NS

Notes:
J ≐ Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
NS = No Sample

Prepared By: NMG1
Checked By: SDJ

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

September 10, 2013

Nick Glander
Foth Infrastructure & Environment
2737 South Ridge Road
Green Bay, WI 54304

RE: Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

Dear Nick Glander:
Enclosed are the analytical results for sample(s) received by the laboratory on August 29, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Tod Noltemeyer

Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11888
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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(920)469-2436

SAMPLE SUMMARY

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4083840001	INFLUENT_1308	Water	08/29/13 14:15	08/29/13 16:30
4083840002	EFFLUENT_1308	Water	08/29/13 16:05	08/29/13 16:30

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SAMPLE ANALYTE COUNT

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4083840001	INFLUENT_1308	EPA 6010	DLB	1	PASI-G
4083840002	EFFLUENT_1308	EPA 6010	DLB	1	PASI-G

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HITS ONLY

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
4083840001	**INFLUENT_1308**					
EPA 6010	Chromium	5810	ug/L	50.0	09/05/13 18:14	
4083840002	**EFFLUENT_1308**					
EPA 6010	Chromium	1190	ug/L	50.0	09/05/13 18:16	

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PROJECT NARRATIVE

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

Method: EPA 6010
Description: 6010 MET ICP
Client: FOTH INFRASTRUCTURE & ENVIRONMENT
Date: September 10, 2013

General Information:
2 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

Sample: INFLUENT_1308 **Lab ID: 4083840001** Collected: 08/29/13 14:15 Received: 08/29/13 16:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**5810**	ug/L	50.0	13.8	10	09/05/13 09:10	09/05/13 18:14	7440-47-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

Sample: EFFLUENT_1308 **Lab ID: 4083840002** Collected: 08/29/13 16:05 Received: 08/29/13 16:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1190**	ug/L	50.0	13.8	10	09/05/13 09:10	09/05/13 18:16	7440-47-3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

QC Batch: MPRP/9055 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 4083840001, 4083840002

METHOD BLANK: 850066 Matrix: Water
Associated Lab Samples: 4083840001, 4083840002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<1.4	5.0	09/06/13 14:40	

LABORATORY CONTROL SAMPLE: 850067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	506	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 850068 850069

Parameter	Units	4083808001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	<1.4	500	500	504	507	101	101	75-125	1	20	

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QUALIFIERS

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

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.

PRL - Pace Reporting Limit.

RL - Reporting 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.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4083840

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4083840001	INFLUENT_1308	EPA 3010	MPRP/9055	EPA 6010	ICP/8014
4083840002	EFFLUENT_1308	EPA 3010	MPRP/9055	EPA 6010	ICP/8014

(Please Print Clearly)

Company Name:	FOTH
Branch/Location:	GREEN BAY
Project Contact:	Nick Glander
Phone:	920/496-6758
Project Number:	13[illegible]004
Project Name:	Better Brite WTP
Project State:	WI
Sampled By (Print):	Nick Glander
Sampled By (Sign):	
PO #:	Regulatory Program:

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

JBF

4083840 031422
COC No.

Page 1 of 2

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	
Mail To Contact:	Nick Glander
Mail To Company:	FOTH
Mail To Address:	P.O. Box 12326 Green Bay, WI 54307
Invoice To Contact:	
Invoice To Company:	Same As
Invoice To Address:	Above
Invoice To Phone:	920/496-6758

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: Total Chromium	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	INFLUENT_1308	8/29/13	1415	WW		N	D	X	Send Report and EDD to Nick.Glander@Foth.com	1-500mL p D
002	EFFLUENT_1308	8/29/13	1605	WW		N	D	X		

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	8/29/13 1630		8/29/13 1630
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.
4083840

Receipt Temp = 20 °C

Sample Receipt pH
OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

*C019a/27-Jun2006\

Version 6.0 06/14/06

ORIGINAL

Pace Analytical Services,
1241 Bellevue Street, Su
Green Bay, WI 5

Pace Analytical™

Sample Condition Upon Receipt

Client Name: Foth Project # 4003840

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used NA Type of Ice: (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: R01 Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 8/29/13
Initials: BJP

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☐No		Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☐No	☑N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix:	W			
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes	☐No	☐N/A	13. ☑ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes	☐No		Initial when completed BF / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14.
Trip Blank Present:	☐Yes	☐No	☑N/A	15.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: CLR for TW Date: 8/29/13

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

March 06, 2014

Nick Glander
Foth Infrastructure & Environment, LLC
2121 Innovation Court
Suite 300
De Pere, WI 54115

RE: Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

Dear Nick Glander:
Enclosed are the analytical results for sample(s) received by the laboratory on March 03, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Tod Noltemeyer

Tod Noltemeyer
tod.noltemeyer@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11888
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
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SAMPLE SUMMARY

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4092780001	INFLUENT_201403	Water	03/03/14 10:30	03/03/14 12:20
4092780002	EFFLUENT_201403	Water	03/03/14 10:45	03/03/14 12:20

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SAMPLE ANALYTE COUNT

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4092780001	INFLUENT_201403	EPA 6010	DLB	1	PASI-G
4092780002	EFFLUENT_201403	EPA 6010	DLB	1	PASI-G

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SUMMARY OF DETECTION

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
4092780001	**INFLUENT_201403**					
EPA 6010	Chromium	9050	ug/L	5.0	03/05/14 13:22	
4092780002	**EFFLUENT_201403**					
EPA 6010	Chromium	901	ug/L	5.0	03/05/14 13:15	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

Method: EPA 6010
Description: 6010 MET ICP
Client: FOTH INFRASTRUCTURE & ENVIRONMENT
Date: March 06, 2014

General Information:
2 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

Sample: INFLUENT_201403 **Lab ID: 4092780001** Collected: 03/03/14 10:30 Received: 03/03/14 12:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**9050**	ug/L	5.0	1.4	1	03/04/14 09:13	03/05/14 13:22	7440-47-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

Sample: EFFLUENT_201403 **Lab ID: 4092780002** Collected: 03/03/14 10:45 Received: 03/03/14 12:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**901**	ug/L	5.0	1.4	1	03/04/14 09:13	03/05/14 13:15	7440-47-3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

QC Batch: MPRP/9898
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 4092780001, 4092780002

METHOD BLANK: 937225 Matrix: Water
Associated Lab Samples: 4092780001, 4092780002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<1.4	5.0	03/05/14 13:11	

LABORATORY CONTROL SAMPLE: 937226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	499	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 937227 937228

Parameter	Units	4092780002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	901	500	500	1380	1400	96	99	75-125	1	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

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.

PRL - Pace Reporting Limit.

RL - Reporting 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.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 13W004 BETTER BRITE WTP
Pace Project No.: 4092780

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4092780001	INFLUENT_201403	EPA 3010	MPRP/9898	EPA 6010	ICP/8713
4092780002	EFFLUENT_201403	EPA 3010	MPRP/9898	EPA 6010	ICP/8713

(Please Print Clearly)

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www.pacelabs.com

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

4092780 031424
COC No.

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CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Company Name:	FOTH
Branch/Location:	GREEN BAY
Project Contact:	Nick Glander
Phone:	920/496-6758
Project Number:	13W004
Project Name:	Better Brite WTP
Project State:	WISCONSIN
Sampled By (Print):	Nick Glander
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Nick Glander
Mail To Company:	FOTH
Mail To Address:	P.O. Box 5126 De Pere, WI 54115-5126
Invoice To Contact:	
Invoice To Company:	Same As
Invoice To Address:	Above
Invoice To Phone:	920/496-6758

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO)	PRESERVATION (CODE)*	Analyses Requested: Total Chromium	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N	Pick Letter				
001	INFLUENT_201403	3/3/14	1030	WW	N	D	X	Send Report and EDD to Nick.Glander@Foth.com	1-250mL p ↓	
002	EFFLUENT_201403	3/3/14	1045	WW	N	D	X			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	3/3/14 1220		3/3/14 1220
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.
4092780

Receipt Temp = 2.0 °C
Sample Receipt pH
OK / Adjusted
Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

ORIGINAL

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Sample Condition Upon Receipt

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Pace Analytical™

Client Name: Foth

Project # WO#: 4092780

4092780

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other:

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals Intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☐ no Seals Intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Thermometer Used NA Type of Ice: Wet Blue Dry None ☐ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: NA /Corr: Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☐ yes ☐ no

Person examining contents:
Date: 3/3/14
Initials:

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes ☐No ☐N/A	13. ☑HNO3 ☐H2SO4 ☐NaOH ☐NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes ☑No	Initial when completed: MB / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14.
Trip Blank Present:	☐Yes ☐No ☑N/A	15.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: MAT for TN Date: 3.3.14