Foth

Better-Brite WTP Processing Log 2015/2016

15W003

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
04/13/15	NMGI	1	5500	3.26	300	8.67	30	0.01	28	350	
04/21/15	NMGI	2	5500	3.32	292	8.69	30	0.00	25	350	Cleaned Press
04/30/15	NMGI	3	5500	3.06	301	8.53	30	0.01	26	350	Calibrated Sensors
05/08/15	NMGI	4	5500	3.30	300	8.65	30	0.02	30	350	
05/22/15	NMGI	5	5500	3.29	389	8.67	30	0.00	30	350	
05/29/15	NMGI	6	5500	3.38	300	8.56	30	0.01	35	350	
06/05/15	NMGI	7	5500	3.13	387	8.55	30	0.00	28	350	
06/09/15	NMGI	8	5500	3.05	300	8.70	30	0.00	28	350	Cleaned Press
06/15/15	NMGI	9	5500	3.30	302	8.69	30	0.01	26	350	Calibrated Sensors
06/19/15	NMGI	10	5500	3.02	287	8.51	30	0.02	28	350	
06/23/15	NMGI	11	5500	3.10	300	8.55	30	0.00	29	350	
07/01/15	NMGI	12	5500	3.24	289	8.51	30	0.01	30	350	
07/17/15	NMGI	13	5500	3.01	300	8.61	30	0.01	35	350	
07/30/15	NMGI	14	5500	3.31	300	8.65	30	0.00	38	350	Calibrated Sensors / T Chrome Sample Collected
08/17/15	NMGI	15	5500	3.21	302	8.54	30	0.00	29	350	Cleaned Press
09/04/15	NMGI	16	5500	3.14	297	8.60	30	0.02	29	350	
09/10/15	NMGI	17	5500	3.39	293	8.63	30	0.01	28	350	
09/30/15	NMGI	18	5500	3.28	300	8.65	30	0.01	28	350	Calibrated Sensors
10/05/15	NMGI	19	5500	3.21	300	8.56	30	0.02	35	350	
10/23/15	NMGI	20	5500	3.17	301	8.54	30	0.00	35	350	Cleaned Press
11/18/15	AXP5	21	5500	3.07	297	8.63	30	0.02	24	350	
12/02/15	AXP5	22	5500	3.22	299	8.63	30	0.00	25	350	
12/09/15	AXP5	23	5500	3.17	300	8.68	30	0.01	25	350	Heavy Rains
12/14/15	AXP5	24	5500	3.12	301	8.62	30	0.00	28	350	Heavy Rains
12/15/15	AXP5	25	5500	3.46	300	8.64	30	0.02	24	350	Cleaned Press
12/17/15	AXP5	26	5500	3.05	298	8.58	30	0.02	26	350	Calibrated Sensors
12/28/15	AXP5	27	5500	3.16	300	8.59	30	0.00	29	350	
01/08/16	AXP5	28	5500	3.29	301	8.68	30	0.01	30	350	

Foth

Better-Brite WTP Processing Log 2015/2016

15W003

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
01/15/16	AXP5	29	5500	3.02	299	8.65	30	0.01	3	350	
02/02/16	AXP5	30	5500	3.20	300	8.64	30	0.02	35	350	T. Chrome Sample Collected
02/22/16	NMG1	31	5500	3.06	301	8.54	30	0.02	26	350	
02/26/16	NMG1	32	5500	3.00	305	8.60	30	0.00	28	350	Cleaned Press/ Drum Filled
03/08/16	NMG1	33	5500	3.04	300	8.63	30	0.01	28	350	
03/11/16	NMG1	34	5500	3.07	300	8.60	30	0.00	29	350	Calibrate Sensors
03/17/16	NMG1	35	5500	3.37	295	8.67	30	0.01	30	350	
03/18/16	NMG1	36	5500	3.40	300	8.56	30	0.02	35	350	
03/24/16	NMG1	37	5500	3.23	304	8.65	30	0.01	38	350	
03/28/16	AXP5	38	5500	3.22	301	8.64	30	0.02	22	350	Cleaned Press
03/31/16	AXP5	39	5500	3.14	299	8.70	30	0.02	25	350	

Better-Brite Sludge Generation Data
Calendar Year 2015

MONTH	Drum(s) Filled	Date Filled	Date Transported	Small Q + 180 days
January	0			
February	1	2/26/2016		8/24/2016
March	0		3/4/2016	
April	0			
May	0			
June	0			
July	0			
August	0			
September	0			
October	0			
November	0			
December	0			
TOTAL	1			

Notes - Three Drums (One drum filled on 2/26/2016 and two empty (leaking) drums) were transported for disposal on 3/4/2016.

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
Influent	08/07/2014	8,190	NS	NS	NS
Effluent	08/07/2014	1,110	NS	NS	NS
Influent	03/11/2015	7,430	NS	NS	NS
Effluent	03/11/2015	900	NS	NS	NS
Influent	07/30/2015	10,300	NS	NS	NS
Effluent	07/30/2015	934	NS	NS	NS
Influent	02/03/2016	7,050	NS	NS	NS
Effluent	02/03/2016	1,310	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: SVF

X:\FOTH\IE\WI DNR\15W003-00\10500 Support Data\Summary of Effluent & Influent Analytical Data 2015-16.docx

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

August 18, 2015

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

RE: Project: 15W003 BETTER BRITE
Pace Project No.: 40119056

Dear Nick Glander:
Enclosed are the analytical results for sample(s) received by the laboratory on August 03, 2015. 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: 15W003 BETTER BRITE
Pace Project No.: 40119056

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
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 15W003 BETTER BRITE
Pace Project No.: 40119056

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40119056001	INFLUENT_201507	Water	07/30/15 13:20	08/03/15 09:08
40119056002	EFFLUENT_201507	Water	07/30/15 15:30	08/03/15 09:08

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SAMPLE ANALYTE COUNT

Project: 15W003 BETTER BRITE
Pace Project No.: 40119056

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40119056001	INFLUENT_201507	EPA 6010	DLB	1	PASI-G
40119056002	EFFLUENT_201507	EPA 6010	DLB	1	PASI-G

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SUMMARY OF DETECTION

Project: 15W003 BETTER BRITE
Pace Project No.: 40119056

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40119056001	**INFLUENT_201507**					
EPA 6010	Chromium	10300	ug/L	5.0	08/13/15 17:11	
40119056002	**EFFLUENT_201507**					
EPA 6010	Chromium	934	ug/L	5.0	08/13/15 17:04	

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PROJECT NARRATIVE

Project: 15W003 BETTER BRITE
Pace Project No.: 40119056

Method: EPA 6010
Description: 6010 MET ICP
Client: FOTH INFRASTRUCTURE & ENVIRONMENT
Date: August 18, 2015

General Information:
2 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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: 15W003 BETTER BRITE
Pace Project No.: 40119056

Sample: INFLUENT_201507 **Lab ID: 40119056001** Collected: 07/30/15 13:20 Received: 08/03/15 09:08 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	**10300**	ug/L	5.0	1.5	1	08/13/15 10:33	08/13/15 17:11	7440-47-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15W003 BETTER BRITE
Pace Project No.: 40119056

Sample: EFFLUENT_201507 **Lab ID: 40119056002** Collected: 07/30/15 15:30 Received: 08/03/15 09:08 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	934	ug/L	5.0	1.5	1	08/13/15 10:33	08/13/15 17:04	7440-47-3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 15W003 BETTER BRITE
Pace Project No.: 40119056

QC Batch: MPRP/12417
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 40119056001, 40119056002

METHOD BLANK: 1205997
Matrix: Water
Associated Lab Samples: 40119056001, 40119056002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<1.5	5.0	08/13/15 16:55	

LABORATORY CONTROL SAMPLE: 1205998

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1205999 1206000

Parameter	Units	40119056002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	934	500	500	1490	1410	111	95	75-125	6	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 15W003 BETTER BRITE
Pace Project No.: 40119056

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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 at or above the adjusted LOD.

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: 15W003 BETTER BRITE
Pace Project No.: 40119056

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40119056001	INFLUENT_201507	EPA 3010	MPRP/12417	EPA 6010	ICP/11010
40119056002	EFFLUENT_201507	EPA 3010	MPRP/12417	EPA 6010	ICP/11010

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

40119050

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

(Please Print Clearly)	
Company Name:	FOTH
Branch/Location:	DE PERE
Project Contact:	Nick Glander
Phone:	920-362-8744
Project Number:	15W003
Project Name:	Better Brite
Project State:	Wisconsin
Sampled By (Print):	Nick Glander
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Nick Glander
Mail To Company:	
Mail To Address:	Nick.Glander@Foth.com
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

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)	PRESERVATION (CODE)*	Analyses Requested: Total Cr	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N	Pick Letter				
001	Influent_201507	7/30/15	1320	W	N	D	X		1-250mL pD	
002	Effluent_201507	7/30/15	1330	W	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:
	8/3/15 815		8/3/15 0845
	8/3/15 0908		8/3/15 0908

PACE Project No. 40119050

Receipt Temp = 12.0 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal (Present) / Not Present Intact / Not Intact

8/4 SCU 3.

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

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

Pace Analytical™

Client Name: Foth

Project # WO#:40119056

40119056

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 SR44 Type of Ice: Wet Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 3 /Corr: 3 Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 8-3-15
Initials: SLW

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: SLW / 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: AMH for TN **Date:** 8/3/15

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Green Bay, WI 54302
(920)469-2436

February 26, 2016

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

RE: Project: 15W003 BETTER BRITE
Pace Project No.: 40127856

Dear Nick Glander:
Enclosed are the analytical results for sample(s) received by the laboratory on February 03, 2016. 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

cc: Andrew Pierre, Foth Infrastructure & Environment

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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CERTIFICATIONS

Project: 15W003 BETTER BRITE
Pace Project No.: 40127856

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
Virginia VELAP ID: 460263
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP Certification ID: 460263
Virginia VELAP ID: 460263
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
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SAMPLE SUMMARY

Project: 15W003 BETTER BRITE
Pace Project No.: 40127856

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40127856001	INFLUENT_201602	Water	02/03/16 15:05	02/03/16 17:49
40127856002	EFFLUENT_201602	Water	02/03/16 15:10	02/03/16 17:49

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SAMPLE ANALYTE COUNT

Project: 15W003 BETTER BRITE
Pace Project No.: 40127856

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40127856001	INFLUENT_201602	EPA 6010	DLB	1	PASI-G
40127856002	EFFLUENT_201602	EPA 6010	DLB	1	PASI-G

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SUMMARY OF DETECTION

Project: 15W003 BETTER BRITE
Pace Project No.: 40127856

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40127856001	**INFLUENT_201602**					
EPA 6010	Chromium	7050	ug/L	10.0	02/10/16 15:07	
40127856002	**EFFLUENT_201602**					
EPA 6010	Chromium	1310	ug/L	10.0	02/10/16 15:09	

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PROJECT NARRATIVE

Project: 15W003 BETTER BRITE
Pace Project No.: 40127856

Method: EPA 6010
Description: 6010 MET ICP
Client: FOTH INFRASTRUCTURE & ENVIRONMENT
Date: February 26, 2016

General Information:
2 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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: 15W003 BETTER BRITE
Pace Project No.: 40127856

Sample: INFLUENT_201602 **Lab ID: 40127856001** Collected: 02/03/16 15:05 Received: 02/03/16 17:49 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	**7050**	ug/L	10.0	1.5	1	02/09/16 15:35	02/10/16 15:07	7440-47-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15W003 BETTER BRITE
Pace Project No.: 40127856

Sample: EFFLUENT_201602 **Lab ID: 40127856002** Collected: 02/03/16 15:10 Received: 02/03/16 17:49 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	**1310**	ug/L	10.0	1.5	1	02/09/16 15:35	02/10/16 15:09	7440-47-3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 15W003 BETTER BRITE
Pace Project No.: 40127856

QC Batch: MPRP/13314 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40127856001, 40127856002

METHOD BLANK: 1293468 Matrix: Water
Associated Lab Samples: 40127856001, 40127856002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<1.5	10.0	02/10/16 13:59	

LABORATORY CONTROL SAMPLE: 1293469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	480	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1293470 1293471

Parameter	Units	40127896001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	17.0	500	500	504	535	97	104	75-125	6	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 15W003 BETTER BRITE
Pace Project No.: 40127856

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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 at or above the adjusted LOD.

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

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 15W003 BETTER BRITE
Pace Project No.: 40127856

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40127856001	INFLUENT_201602	EPA 3010	MPRP/13314	EPA 6010	ICP/11814
40127856002	EFFLUENT_201602	EPA 3010	MPRP/13314	EPA 6010	ICP/11814

(Please Print Clearly)	
Company Name:	Foth
Branch/Location:	De Pere
Project Contact:	Nick Glander
Phone:	920-362-8744
Project Number:	154003
Project Name:	Better Brite
Project State:	Wisconsin
Sampled By (Print):	Andy Pierre
Sampled By (Sign):	
PO #:	Regulatory Program:

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

Page 1 of

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 #:	40127856
Mail To Contact:	Nick Glander
Mail To Company:	
Mail To Address:	Nick.Glander@Foth.com
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

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)	PRESERVATION (CODE)*	Analyses Requested: Pick Letter	Total Ce	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					N	O					
001	INFluent_201602	2/3/16	1505	W				X		1:250mlpb	
002	EFFluent_201602	2/3/16	1510	W				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:
Andy J. R	2/3/16 17:49	mainmckayPACE	2316 1749
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.
40127856

Receipt Temp = 20.1 °C

Sample Receipt pH
OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

C019a(27Jun2006)

Version 6.0 06/14/06

ORIGINAL

Sample Condition Upon Receipt

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Pace Analytical

Project #: WO#: 40127856

40127856

Client Name: Foth

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 DA **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 0.1 /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

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

Person examining contents:
Date: 2-3-16
Initials: MM

			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: MM / 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: AMH for TN **Date:** 2/3/16

Better Brite 2015/2016 Treatment

Month	Gallons Treated	Batches Ran
April	16500	3
May	16500	3
June	27500	5
July	16500	3
Aug	5500	1
Sept	16500	3
Oct	11000	2
Nov	5500	1
Dec	33000	6
Jan	11000	2
Feb	16500	3
Mar	38,500	7
	TOTAL	**39**

Drum #	Date Filled
1	2/26/2016
2	

*** 3 drums (1 fulled, 2 emptied) picked up on 4 Mar 2016**

Total Chrome Analytical Samples Collection Dates

Sample Rd	Date Collected
1	7/30/2015
2	2/2/2016