

Lauridsen, Keld B - DNR

From: Glander, Nick <Nick.Glander@foth.com>
Sent: Tuesday, June 25, 2019 12:26 PM
To: Lauridsen, Keld B - DNR
Subject: Better Brite WTP End of Year Documentation
Attachments: March 2019 Better Brite Analytical Report.pdf; October 2018 Better Brite Analytical Report.pdf; Better Brite - 2018-19 Summary Packet.pdf

Hello Keld;

In total, Foth processed 34 batches in the contract year - April 2018 through March 2019. An attached Better Brite WTP Summary Packet contains the following:

- ♦ A summary page showing the total volume of water treated per month in table & graph format with drum fill and analytical sample collection dates
- ♦ The tabulated WTP Process Log provides the individual batch detail
- ♦ Table showing when drums were filled and disposed of
- ♦ Summary table of the analytical results.

Also attached are both the October and March Pace Laboratory Analytical Reports.

Thank you;

Nick Glander, Project Environmental Scientist
Foth Infrastructure & Environment, LLC
2121 Innovation Court, Suite 300
P.O. Box 5126
De Pere, WI 54115-5126
Ph: (920) 496-6758 / Fax (920) 497-8516
Cell: (920) 362-8744
<http://www.foth.com>



Go Green, keep it on the screen. Please do not print this email unless necessary.

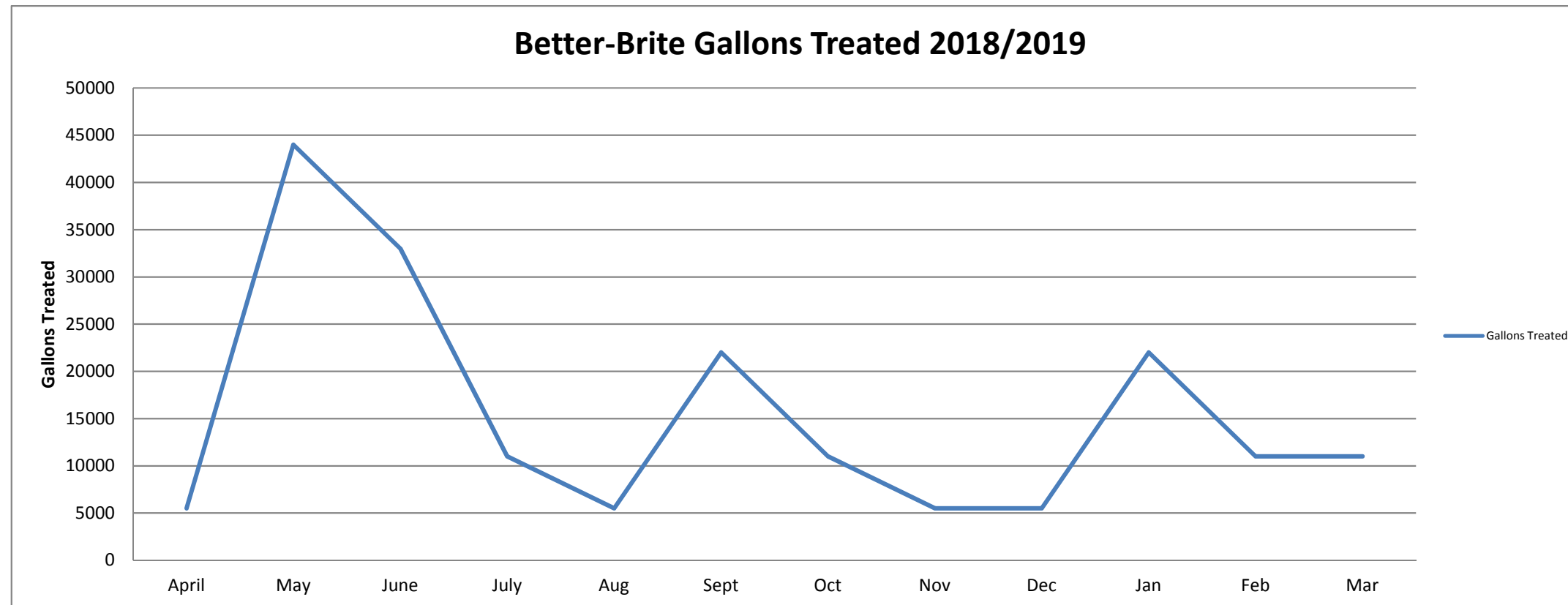
Better Brite 2018/2019 Treatment

Month	Gallons Treated	Batches Ran
April	5500	1
May	44000	8
June	33000	6
July	11000	2
Aug	5500	1
Sept	22000	4
Oct	11000	2
Nov	5500	1
Dec	5500	1
Jan	22000	4
Feb	11000	2
Mar	11000	2
TOTAL		34

Drum #	Date Filled
1	
2	

Total Chrome Analytical Samples Collection Dates

Sample Rd	Date Collected
1	10/2/2018
2	3/14/2019





Better-Brite WTP Processing Log 2018/2019

18W016

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 fill or Press cleaned / Comments
04/23/18	NMGI	1	5500	3.15	299	8.64	30	0.03	30	350	Calibrated Sensors
05/01/18	NMGI	2	5500	3.34	300	8.54	30	0.00	30	350	
05/04/18	NMGI	3	5500	3.07	300	8.57	30	0.00	30	350	
05/09/18	NMGI	4	5500	3.29	295	8.69	30	0.02	30	350	Chemicals Delivered
05/11/18	NMGI/BK	5	5500	3.21	300	8.55	30	0.01	30	350	
05/14/18	BLK	6	5500	3.24	300	8.64	30	0.00	30	350	
05/15/18	BLK	7	5500	3.12	299	8.62	30	0.02	29	350	Cleaned Press
05/16/18	BLK	8	5500	3.01	300	8.66	30	0.01	29	350	Calibrated Sensors
05/25/18	NMGI	9	5500	3.10	296	8.70	30	0.02	30	350	
06/04/18	NMGI	10	5500	3.21	300	8.52	30	0.00	30	350	
06/08/18	NMGI	11	5500	3.07	300	8.59	30	0.01	30	350	
06/14/18	NMGI	12	5500	3.23	302	8.63	30	0.02	30	350	
06/21/18	NMGI	13	5500	3.41	300	8.70	30	0.01	32	350	
06/26/18	NMGI	14	5500	3.07	299	8.53	30	0.01	35	350	
06/29/18	NMGI	15	5500	3.41	300	8.61	30	0.00	35	350	Calibrated Sensors
07/11/18	NMGI	16	5500	3.10	300	8.59	30	0.03	29	350	Cleaned Press
07/19/18	NMGI	17	5500	3.32	297	8.67	30	0.00	29	350	
08/01/18	NMGI	18	5500	3.02	300	6.69	30	0.02	30	350	Change Filter Press Screens on 8/10.
09/06/18	BLK	19	5500	3.10	298	8.64	30	0.01	30	350	
09/07/18	BLK	20	5500	3.15	300	8.62	30	0.02	30	350	
09/11/18	BLK	21	5500	3.26	302	8.64	30	0.01	30	350	Calibrated Sensors
09/13/18	BLK	22	5500	3.24	2.98	8.61	30	0.01	30	350	Cleaned Press
10/02/18	BLK	23	5500	3.21	2.99	8.60	30	0.01	30	350	T. Chrome Sample Collected
10/22/18	BLK	24	5500	3.01	2.98	8.62	30	0.02	30	350	
11/27/18	BLK	25	5500	3.22	300	8.60	30	0.03	30	350	
12/31/18	BLK	26	5500	3.18	297	8.53	30	0.01	30	350	
01/03/19	BLK	27	5500	3.20	2.99	8.63	30	0.00	30	350	Calibrated Sensors
01/09/19	BLK	28	5500	3.13	2.98	8.58	30	0.02	30	350	Cleaned Press
01/10/19	BLK	29	5500	3.36	3.00	8.62	30	0.01	30	350	
01/29/19	BLK	30	5500	3.21	2.99	8.55	30	0.01	30	350	
02/06/19	BLK	31	5500	3.15	2.98	8.61	30	0.02	30	350	
02/11/19	BLK	32	5500	3.35	301	8.51	30	0.03	30	350	
03/15/19	AXPS	33	5500	3.17	302	8.66	30	0.03	30	350	Chemicals Delivered / T. Chrome Sample Collected
03/18/19	AXPS	34	5500	3.11	300	8.54	30	0.02	30	350	Cleaned Press, Accepted Chem

Better-Brite Sludge Generation Data
Calendar Year 2018

MONTH	Drum(s) Filled	Date Filled	Date Transported	Small Q + 180 days
January	0			
February	0			
March	0			
April	0			
May	0			
June	0			
July	0			
August	0			
September	0			
October	0			
November	0			
December	0			
TOTAL	0			

Notes - No drums were filled during this contract period.

**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
Influent	08/30/2016	7,580	NS	NS	NS
Effluent	08/30/2016	1,910	NS	NS	NS
Influent	03/07/2017	4,150	NS	NS	NS
Effluent	03/07/2017	727	NS	NS	NS
Influent	09/01/2017	6,980	NS	NS	NS
Effluent	09/01/2017	2,320	NS	NS	NS
Influent	02/06/2018	6,810	NS	NS	NS
Effluent	02/06/2018	1,160	NS	NS	NS
Influent	10/02/2018	4,670	NS	NS	NS
Effluent	10/02/2018	1,120	NS	NS	NS
Influent	03/14/2019	5,060	NS	NS	NS
Effluent	03/14/2019	369	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

March 21, 2019

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

RE: Project: 18W016 BETTER-BRITE
Pace Project No.: 40184228

Dear Nick Glander:

Enclosed are the analytical results for sample(s) received by the laboratory on March 14, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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@pacelabs.com
(920)469-2436
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40184228001	INFLUENT-201903	Water	03/14/19 12:09	03/14/19 15:50
40184228002	EFFLUENT-201903	Water	03/14/19 12:00	03/14/19 15:50

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 18W016 BETTER-BRITE
Pace Project No.: 40184228

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40184228001	INFLUENT-201903	EPA 6010	TXW	1	PASI-G
40184228002	EFFLUENT-201903	EPA 6010	TXW	1	PASI-G

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SUMMARY OF DETECTION

Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40184228001	INFLUENT-201903					
EPA 6010	Chromium	5060	ug/L	10.0	03/19/19 19:14	P4
40184228002	EFFLUENT-201903					
EPA 6010	Chromium	369	ug/L	10.0	03/19/19 19:16	P4

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 18W016 BETTER-BRITE
Pace Project No.: 40184228

Method: EPA 6010
Description: 6010 MET ICP
Client: FOTH INFRASTRUCTURE & ENVIRONMENT
Date: March 21, 2019

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.

- P4: Sample field preservation does not meet EPA or method recommendations for this analysis.
- EFFLUENT-201903 (Lab ID: 40184228002)
 - INFLUENT-201903 (Lab ID: 40184228001)

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.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

Sample: INFLUENT-201903 **Lab ID: 40184228001** Collected: 03/14/19 12:09 Received: 03/14/19 15:50 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	5060	ug/L	10.0	2.5	1	03/19/19 06:59	03/19/19 19:14	7440-47-3	P4

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

Sample: EFFLUENT-201903 **Lab ID: 40184228002** Collected: 03/14/19 12:00 Received: 03/14/19 15:50 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	369	ug/L	10.0	2.5	1	03/19/19 06:59	03/19/19 19:16	7440-47-3	P4

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 18W016 BETTER-BRITE
Pace Project No.: 40184228

QC Batch: 315783 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40184228001, 40184228002

METHOD BLANK: 1836907 Matrix: Water
Associated Lab Samples: 40184228001, 40184228002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<2.5	10.0	03/19/19 18:56	

LABORATORY CONTROL SAMPLE: 1836908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	478	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1836909 1836910

Parameter	Units	40184265001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Chromium	ug/L	3.5J	500	500	482	500	96	99	75-125	4	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

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, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

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

ANALYTE QUALIFIERS

P4 Sample field preservation does not meet EPA or method recommendations for this analysis.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40184228001	INFLUENT-201903	EPA 3010	315783	EPA 6010	315882
40184228002	EFFLUENT-201903	EPA 3010	315783	EPA 6010	315882

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



1241 Bellevue Street, Green Bay, WI 54302

Document Name:
Sample Condition Upon Receipt (SCUR)
Document No.:
F-GB-C-031-Rev.07

Document Revised: 25Apr2018
Issuing Authority:
Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: Fork

Project #: **WO# : 40184228**

Courier: CS Logistics Fed Ex Speedee UPS Waltco
 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 SR - D/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: RO /Corr: _____

Temp Blank Present: yes no Biological Tissue is Frozen: yes no

Person examining contents:
Date: 3-14-19
Initials: PG

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. No preservation 3-14-19 PG
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	9. BP10 bottle used, 3-14-19 PG
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	No preservation
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	* Added BP3N bottle per sample AT 3-14-19 PG
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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: RMP for TW

Date: 02/14/19

October 16, 2018

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

RE: Project: 18W016 BETTER BRITE
Pace Project No.: 40176886

Dear Nick Glander:

Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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@pacelabs.com
(920)469-2436
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40176886001	INFLUENT_201810	Water	10/02/18 10:20	10/02/18 15:55
40176886002	EFFLUENT_201810	Water	10/02/18 15:30	10/02/18 15:55

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40176886001	INFLUENT_201810	EPA 6010	TXW	1	PASI-G
40176886002	EFFLUENT_201810	EPA 6010	TXW	1	PASI-G

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SUMMARY OF DETECTION

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40176886001	INFLUENT_201810					
EPA 6010	Chromium	4670	ug/L	10.0	10/13/18 15:22	
40176886002	EFFLUENT_201810					
EPA 6010	Chromium	1120	ug/L	10.0	10/13/18 15:24	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 18W016 BETTER BRITE
Pace Project No.: 40176886

Method: EPA 6010
Description: 6010 MET ICP
Client: FOTH INFRASTRUCTURE & ENVIRONMENT
Date: October 16, 2018

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.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

Sample: INFLUENT_201810 **Lab ID: 40176886001** Collected: 10/02/18 10:20 Received: 10/02/18 15:55 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	4670	ug/L	10.0	2.5	1	10/09/18 08:57	10/13/18 15:22	7440-47-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

Sample: EFFLUENT_201810 **Lab ID: 40176886002** Collected: 10/02/18 15:30 Received: 10/02/18 15:55 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	1120	ug/L	10.0	2.5	1	10/09/18 08:57	10/13/18 15:24	7440-47-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

QC Batch: 302570 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40176886001, 40176886002

METHOD BLANK: 1767347 Matrix: Water

Associated Lab Samples: 40176886001, 40176886002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<2.5	10.0	10/13/18 14:28	

LABORATORY CONTROL SAMPLE: 1767348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	471	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1767349 1767350

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40176998026 Result	Spike Conc.	Spike Conc.	Result						
Chromium	ug/L	10.0 U	500	500	459	485	91	97	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 18W016 BETTER BRITE
Pace Project No.: 40176886

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40176886001	INFLUENT_201810	EPA 3010	302570	EPA 6010	303115
40176886002	EFFLUENT_201810	EPA 3010	302570	EPA 6010	303115

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



Document Name:
Sample Condition Upon Receipt (SCUR)
 Document No.:
F-GB-C-031-Rev.07

Document Revised: 25Apr2018
 Issuing Authority:
 Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: FOTH

Project #: _____
WO#: 40176886

 40176886

Courier: CS Logistics Fed Ex Speedee UPS Walco
 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 SR - 9 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 3.5 ICorr: 4

Temp Blank Present: yes no Biological Tissue is Frozen: yes no

Person examining contents:
 Date: 10-2-18
 Initials: SKL

Temp should be above freezing to 6°C.
 Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC: <u>JM 10/10/18</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>CO2 date 10/11/18</u>
-Includes date/time/ID/Analysis Matrix: <u>JM 10/12/18</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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: AL for TN Date: 10/2/18