Lauridsen, Keld B - DNR

From: Glander, Nick < Nick.Glander@foth.com>

Sent: Tuesday, June 25, 2019 12:26 PM

Lauridsen, Keld B - DNR To:

Better Brite WTP End of Year Documentation **Subject:**

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



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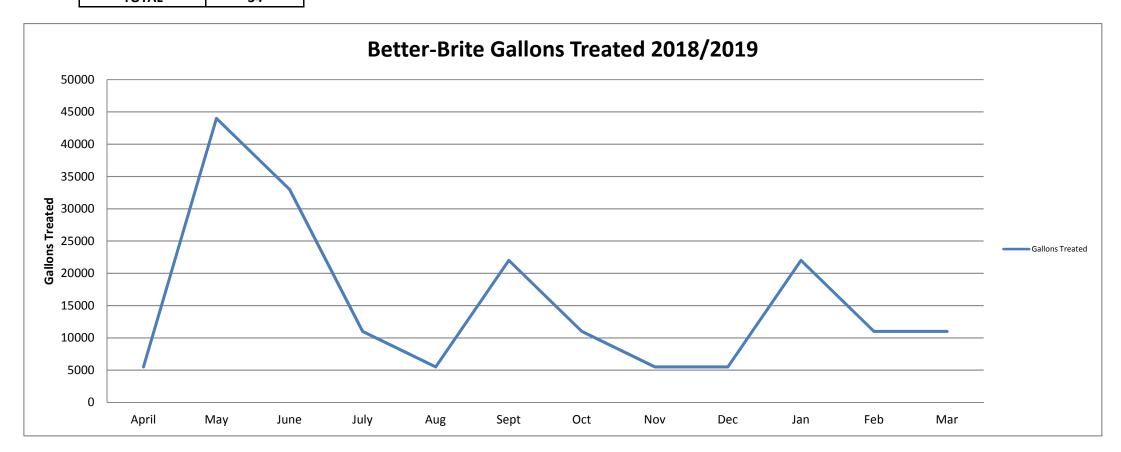
Better Brite 2018/2019 Treatment

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
<u> </u>	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 fille or Press cleaned / Comments
04/23/18	NMG1	1	5500	3.15	299	8.64	30	0.03	30	350	Cailbrated Sensors
05/01/18	NMG1	2	5500	3.34	300	8.54	30	0.00	30	350	
05/04/18	NMG1	3	5500	3.07	300	8.57	30	0.00	30	350	
05/09/18	NMG1	4	5500	3.29	295	8.69	30	0.02	30	350	Chemicals Delivered
05/11/18	NMG1/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	NMG1	9	5500	3.10	296	8.70	30	0.02	30	350	
06/04/18	NMG1	10	5500	3.21	300	8.52	30	0.00	30	350	
06/08/18	NMG1	11	5500	3.07	300	8.59	30	0.01	30	350	
06/14/18	NMG1	12	5500	3.23	302	8.63	30	0.02	30	350	
06/21/18	NMG1	13	5500	3.41	300	8.70	30	0.01	32	350	
06/26/18	NMG1	14	5500	3.07	299	8.53	30	0.01	35	350	
06/29/18	NMG1	15	5500	3.41	300	8.61	30	0.00	35	350	Calibrated Sensors
07/11/18	NMG1	16	5500	3.10	300	8.59	30	0.03	29	350	Cleaned Press
07/19/18	NMG1	17	5500	3.32	297	8.67	30	0.00	29	350	
08/01/18	NMG1	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	AXP5	33	5500	3.17	302	8.66	30	0.03	30	350	Chemicals Delivered / T. Chrome Sampl Collected
03/18/19	AXP5	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
WONTH	Drum(s) r meu	Date i lileu	Transported	100 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 Notes No draws wore filled	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

NS = No Sample

Prepared By: NMG1 Checked By: SVF

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

(920)469-2436



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

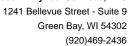
Tod nolteneya

tod.noltemeyer@pacelabs.com (920)469-2436

Project Manager

Enclosures







CERTIFICATIONS

Project: 18W016 BETTER-BRITE

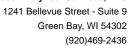
Pace Project No.: 40184228

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



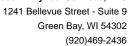


SAMPLE SUMMARY

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



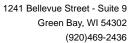


SAMPLE ANALYTE COUNT

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





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





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:

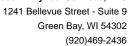
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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.





ANALYTICAL RESULTS

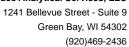
Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

Date: 03/21/2019 12:10 PM

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

LOQ Parameters Results Units LOD DF Prepared CAS No. Analyzed Qual **6010 MET ICP** Analytical Method: EPA 6010 Preparation Method: EPA 3010 5060 10.0 03/19/19 06:59 03/19/19 19:14 7440-47-3 Chromium ug/L 2.5 P4





ANALYTICAL RESULTS

Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

Date: 03/21/2019 12:10 PM

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

LOQ Parameters Results Units LOD DF Prepared CAS No. Analyzed Qual **6010 MET ICP** Analytical Method: EPA 6010 Preparation Method: EPA 3010 10.0 03/19/19 06:59 03/19/19 19:16 7440-47-3 Chromium ug/L 2.5 P4



QUALITY CONTROL DATA

Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

Date: 03/21/2019 12:10 PM

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

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Chromium ug/L <2.5 10.0 03/19/19 18:56

LABORATORY CONTROL SAMPLE: 1836908

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1836909 1836910

MS MSD

40184265001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual 500 75-125 20 Chromium ug/L 3.5J 500 482 500 96 99

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.

(920)469-2436



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

Date: 03/21/2019 12:10 PM

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

(920)469-2436



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 18W016 BETTER-BRITE

Pace Project No.: 40184228

Date: 03/21/2019 12:10 PM

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

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Sample Preservation Receipt Form Client Name: MOLYMIR Project # All containers needing preservation have been checked and noted below: "Yes "No "No" Initial when completed: PG Lab Lot# of pH paper: 1600 Lab Std #ID of preservation (if pH adjusted): aOH+Zn Act pH ≥9 /OA Vials (>6mm) H after adjusted Glass **Plastic** Vials General Jars 2SO4 pH ≤2 aOH pH ≥12 Volume NO3 pH ≤2 WGFU (mL) AG10 AG1H AG2S BG3U WPFU DG9A VG9M BP1U **BP2N BP3U** ВРЗС **BP3N BP3S** DG9T VG9U VG9H **VG9D** JGFU BP2Z ZPLC SP5T Pace S S Lab# 001 2.5 / 5 / 10 002 2.5 / 5 / 10 003 2.5 / 5 / 10 004 2.5 / 5 / 10 005 2.5 / 5 / 10 006 2.5 / 5 / 10 007 2.5 / 5 / 10 008 2.5 / 5 / 10 009 2.5 / 5 / 10 010 2.5 / 5 / 10 011 2.5 / 5 / 10 012 2.5 / 5 / 10 013 2.5 / 5 / 10 014 2.5 / 5 / 10 015 2.5 / 5 / 10 016 2.5 / 5 / 10 017 2.5 / 5 / 10 018 2.5 / 5 / 10 019 2.5 / 5 / 10 020 2.5 / 5 / 10 Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: Headspace in VOA Vials (>6mm): □Yes □No ØN/A *If yes look in headspace column AG1U 1 liter amber glass BP1U 1 liter plastic unpres 40 mL amber ascorbic DG9A 4 oz ambér jar unpres **JGFU** AG1H 1 liter amber glass HCL BP2N 500 mL plastic HNO3 DG9T 40 mL amber Na Thio WGFU 4 oz clear jar unpres AG4S 125 mL amber glass H2SO4 BP2Z 500 mL plastic NaOH, Znact VG9U 40 mL clear vial unpres WPFU 4 oz plastic jar unpres AG4U 120 mL amber glass unpres BP3U 250 mL plastic unpres VG9H 40 mL clear vial HCL AG5U 100 mL amber glass unpres **BP3C** 250 mL plastic NaOH VG9M 40 mL clear vial MeOH SP5T 120 mL plastic Na Thiosulfate

VG9D

40 mL clear vial DI

ZPLC

GN:

ziploc bag

Page 1 of

BP3N

BP3S

250 mL plastic HNO3

250 mL plastic H2SO4

AG2S 500 mL amber glass H2SO4

BG3U 250 mL clear glass unpres

Pace Analytical

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:	Folk			Project #:	WO# : 4	10184228
Courier: CS Logistics	Fed Ex Speed			Valtoo	# 1 # 1 * · · · · · · · · · · · · · · · · · ·	
	Pace Other:	, 01	J , , ,	vaited		
Tracking #:			******		40184228	
Custody Seal on Cooler/	Box Present: Ves	no Se	als intac	— ∷ ves ⊏ no		
Custody Seal on Sample				: Tyes Tno		
Packing Material:	Bubble Wτap 🧵 Bubb					
Thermometer Used	<u>sr- 1/17</u>	Type of lo	e: Wet	Blue Dry None	Samples or	ice, cooling process has begun
Cooler Temperature	Uncorr: RO) /Corr:					· ·
Temp Blank Present:	yes // no	Bio	logical	Tissue is Frozen: 🕽	yes no	Person examining contents:
Temp should be above freezir Biota Samples may be receive	•					Date: 3.14.19 Initials: PG
Chain of Custody Present:		ØYes □N	o □N/A	1.		
Chain of Custody Filled Ou	ut:	□Yes ⊅N	o □n/a	2. No preserve	3-14	19 86
Chain of Custody Relinquis	shed:	ZYes □N		•		
Sampler Name & Signature	e on COC:	ØYes □N	o □n/a	4.		
Samples Arrived within Hol	ld Time:	Yes 🗆 N	0	5.		
- VOA Samples froz	zen upon receipt	□Yes □N	0	Date/Time:		
Short Hold Time Analysis	s (<72hr):	□Yes ØN	0	6.		
Rush Turn Around Time I	Requested:	□Yes ØN	0	7.		***************************************
Sufficient Volume:				8.		
For Analysis: [ZYes □No MS/MSD:	□Yes ZN	o □N/A			
Correct Containers Used:		□Yes □⁄N	0	9. BAIN bottly	cused. 3	14.19 PG
-Pace Containers Used:	:	ØYes □N	o □n/a	la preservi	4.14	
-Pace IR Containers Us	ed:	☐Yes ☐Ne	D/N/A	+ Added B	P3N Bottle	per sample At 3-14.1
Containers Intact:		ØYes □N	, 1	10.		
Filtered volume received fo	r Dissolved tests	☐Yes ☐No	ZN/A	11.		
Sample Labels match COC		ØYes □No				
-Includes date/time/ID/A	nalysis Matrix:	W				
Trip Blank Present:		□Yes □No	Z N/A	13.		
Trip Blank Custody Seals P	resent 'resent	□Yes □No	N/A			
Pace Trip Blank Lot # (if pu	rchased):	•	(
Client Notification/ Resolu					necked, see attache	ed form for additional comments
Person Contacted: Comments/ Resolution:			Date/	ime:		
					A	
Project Manager Reviev	v: Rmp		tor	TN	Date:	03114119



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

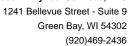
Tod nolteneya

tod.noltemeyer@pacelabs.com (920)469-2436

Project Manager

Enclosures







CERTIFICATIONS

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

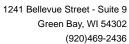
Green Bay Certification IDs

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



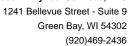


SAMPLE SUMMARY

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



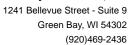


SAMPLE ANALYTE COUNT

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





SUMMARY OF DETECTION

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

Lab Sample ID	Client Sample ID					
Method	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	

(920)469-2436





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:

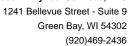
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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.





ANALYTICAL RESULTS

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

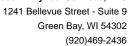
Date: 10/16/2018 01:29 PM

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





ANALYTICAL RESULTS

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

Date: 10/16/2018 01:29 PM

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



QUALITY CONTROL DATA

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

Date: 10/16/2018 01:29 PM

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

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Chromium ug/L <2.5 10.0 10/13/18 14:28

LABORATORY CONTROL SAMPLE: 1767348

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1767349 1767350

MS MSD 40176998026 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual 500 75-125 6 20 Chromium ug/L 10.0 U 500 459 485 91 97

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.

(920)469-2436



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.

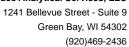
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

Date: 10/16/2018 01:29 PM

PASI-G Pace Analytical Services - Green Bay





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 18W016 BETTER BRITE

Pace Project No.: 40176886

Date: 10/16/2018 01:29 PM

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

Green Bay, WI 54302

Client Name:

AG10

Pace

016

017

018

019

020

Glass

AG40

AG5U

BG3U

BP1U BP2N Sample Preservation Receipt Form

Vials

/G9M

VG9D JGFU

Project #

DG9A

DG9T VG9U /G9H

BP3S

40176886

Jars

WGFU WPFU

All containers needing preservation have been checked and noted below: Wes DNo DN/A

Plastic

BP3U

BP2Z

ВРЗС

BP3N

Lab Lot# of pH paper: 1005078/ Lab Std #ID of preservation (if pH adjusted):

VOA Viais (>6mm)

S

General

SP5T

		when, leted:	Se	Date/ Time:	
H2SO4 pH <2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
			\times		2.5 / 5 / 10
			У		2.5 / 5 / 10
					2.5 / 5 / 10
			S 40 (8-)		2.5 / 5 / 10
					2.5 / 5 / 10
	18 B				2.5 / 5 / 10
					2.5 / 5 / 10
					2.5 / 5 / 10
					2.5 / 5 / 10
					2.5 / 5 / 10
					2.5/5/10
	180				2.5 / 5 / 10
					2.5 / 5 / 10
		10000000			2.5 / 5 / 10

Headspace in VOA Vials (>6mm) : □Yes □No □MA *If yes look in headspace column Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	врзс	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG25	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP35	250 mL plastic H2SO4			GN:	

2.5 / 5 / 10

2.5 / 5 / 10

2.5 / 5 / 10

2.5 / 5 / 10

2.5 / 5 / 10

2.5 / 5 / 10

Pace Analytical

1241 Bellevue Street, Green Bay, WI 54302

Document Name: Sample Condition Upon Receipt (SCUR)

Document No.:

Document Revised: 25Apr2018

F-GB-C-031-Rev.07

Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

	Fo H)		Project #:		
Client Name:	1 0 /	· · · · · · · · · · · · · · · · · · ·	_	J	LIOH · A	0176886
Courier: CS Logistics		□ UPS	T. W	/altco	MOH · H	MT 1 OOOO
I Client	Pace Other:					
Tracking #:					40176886	
Custody Seal on Cooler/B	· ¥ #				·	
Custody Seal on Samples Packing Material: F Bu			at ·	Tyes T no		
			· / / ·	Blue Dry None	Samples on	ice, cooling process has begun
	ncorr: 3-5 /Corr: 4	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Camara		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,g p , , , , , , , , , , , , , , , ,
Temp Blank Present:	yes no	Biolo	- ogical T	lissue is Frozen: 🗍	yes no	Person examining contents:
Temp should be above freezing Biota Samples may be receive	•			.		Date: 70-3-78 Initials: 4
Chain of Custody Present:	i i	Yes □No	□n/a	1.		
Chain of Custody Filled Out	t: Ø	XYes □No	□n/a	2.		
Chain of Custody Relinquis	hed:	XYes □No	□n/a	3.		
Sampler Name & Signature	on COC:	Šyes □No	□n/a	4.		
Samples Arrived within Hok	d Time:	Yes □No		5.		
- VOA Samples froz	en upon receipt [_Yes □No		Date/Time:		
Short Hold Time Analysis	(<72hr):]Yes ☐∭wo		6.		
Rush Turn Around Time F	Requested:	∃Yes □No		7.		
Sufficient Volume:				8.		
For Analysis: 🖒	MS/MSD: [∃Yes M No	□n/a			
Correct Containers Used:		ŽYes □No		9.		
-Pace Containers Used:	Ţ	Yes □No	□n/a			
-Pace IR Containers Use	ed: [∃Yes □No	SHA			
Containers Intact:	ì	xes □No		10.		
Filtered volume received for	r Dissolved tests	∃Yes ⊒No	J N/A	11.		
Sample Labels match COC	JM 101014	Yes (RD)		COA dave	10/1168	
-Includes date/time/ID/A		W		And the state of t		M 6/12/68
Trip Blank Present:	······································	∃Yes ⊟No	D NyA	13.		, the state of the
Trip Blank Custody Seals P	resent	⊒Yes □No	QN IA	-		
Pace Trip Blank Lot # (if pu						
Client Notification/ Resolution: Person Contacted: Comments/ Resolution:	ution:		_Date/		checked, see attach	ed form for additional comments
						. 1 6
Project Manager Review	N:	126)/C	M	Date:	10/2/10