April 2, 2019

Terracon

Environmental Programs Coordinator
Appleton Wastewater Treatment Facility
2006 East Newberry Street
Appleton, Wisconsin 54915-2758

Attn: Mr. Brian Kreski (electronic)
Phone: (920) 832-2353
Mobile: (920) 419-0649
Fax: (920) 832-5949

Re: **2019 First Quarter Compliance Monitoring Report, Industrial User (Wastewater Discharge) Permit #18-21**
N.W. Mauthe Superfund Site
725 South Outagamie Street
Appleton, Wisconsin
Terracon Project No. 58117057
BRRTS No. 02-45-000127

Dear Mr. Kreski:

Terracon Consultants, Inc. (Terracon) is pleased to submit this quarterly process compliance report for the N.W. Mauthe Superfund site, 725 South Outagamie Street, Appleton, Wisconsin. This report is submitted in conformance with the City of Appleton Industrial User No. 18-21, issued on May 31, 2018. This report covers the period of January 1, 2019, through March 31, 2019, which included monthly effluent compliance monitoring sampling. The monthly results are summarized in the attached Table 1.

The flow monitoring and sampling activities were conducted monthly at the effluent discharge point, prior to Outfall 001. During this reporting period, local limit compliance monitoring samples were not collected by either the City of Appleton or Terracon. Historical results are presented in the attached Table 2.

As noted in the 2012 Fourth Quarter Process Compliance Report the system was replumbed in October 2012. Consequently, a greater volume of water is retained within the equalization tank and sampling occurs directly from the port on the equalization tank discharge pipe. Due to the improvement in the system plumbing, Terracon has collected the composite effluent sample directly from the tank effluent piping during the 2019 sampling events.

Approximately 250 milliliters (mL) of the collected sample was transferred to a new, clean 250-mL plastic bottle provided by the laboratory. This unfiltered and unpreserved sample was

submitted to Pace Analytical (Pace) laboratory (Green Bay, Wisconsin) for analysis of hexavalent chromium. An additional aliquot of the original sample was transferred to a clean, new 250-mL plastic bottle with nitric acid preservative provided by the laboratory. This unfiltered, preserved sample was submitted to Pace for analysis of total dissolved chromium. The laboratory analytic test reports and chain-of-custody record for each of the three monthly sampling rounds (January, February, and March 2019) are attached. After the laboratory samples were prepared, the pH of the remaining collected discharge sample was measured with an Oakton pHTestrs.

The attached table summarizes the total metered discharge readings, pH measurements, and laboratory test results. Monthly discharge totals were calculated by linear interpolation of the actual meter readings. Total discharge during the reporting period was 200,296 gallons with a mean daily flow of approximately 2,226 gallons per day. Based on the laboratory results, there were no exceedances during this reporting period from Outfall 001.

Scott A. Hodgson, P.G. performed all the sample collection and monitoring during this reporting period. The following certification statement is required by Section 2 0-106, Chapter 20, Utilities:

“I (Scott Hodgson) certify under penalty of law that this document and all attachments were prepared under my direction or supervision in conformance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Please call (920-791-9206) or email (sahodgson@terracon.com) if you have any questions or comments regarding the information provided or need additional information.

Sincerely,

Terracon

Scott A. Hodgson, P.G.
Senior Project Manager

SAH:sah/N:\Projects\2011\58117057\Working Files\Pre-Treatment Permit\Process Compliance reports\Terracon 2019\First Quarter\First Quarter 2019 Process Compliance.doc

Attachments: Table 1
Table 2
Laboratory Analytic Test Reports

Copies to: Jennifer Borski, WDNR-Oshkosh (Electronic)
File

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
02/01/16		14,533,138	33,850	**45,078**			**0.215**	1,971,254			4,316,580		
02/10/16		14,562,012	28,874		8.1	0.87	0.858	1,973,902	7.6	0.61	4,324,057	8.1	0.70
02/29/16		14,601,368	39,356					1,982,872			4,359,110		
	03/01/16	*14,602,713*		**February**			**Pounds Cr**						
03/01/16		14,603,747	2,379	**70,091**			**0.501**	1,983,300			4,361,401		
03/10/16		14,625,282	21,535		7.9	0.63	0.609	1,988,471	7.3	1.44	4,380,928	7.4	0.37
03/31/16		14,728,685	103,403					2,017,845			4,463,804		
	04/01/16	*14,733,540*		**March**			**Pounds Cr**						
04/02/16		14,751,888	23,203	**130,827**			**0.663**	2,023,638			4,482,114		
04/06/16		14,770,034	18,146		7.8	0.38	0.244	2,029,748	7.2	0.53	4,495,836	7.2	0.24
	05/01/16	*14,827,634*		**April**			**Pounds Cr**						
05/03/16		14,834,742	64,708	**94,094**			**0.191**	2,057,059			4,539,976		
05/12/16		14,846,704	19,070		7.6	0.70	0.645	2,062,615	7.2	0.47	4,547,811	7.1	0.69
05/17/16		14,856,181	9,477					2,067,406			4,553,472		
	06/01/16	*14,889,570*		**May**			**Pounds Cr**						
06/06/16		14,902,417	46,236	**61,936**			**0.333**	2,086,371			4,585,701		
06/08/16		14,906,067	3,650		7.5	0.43	0.406	2,088,096	7.1	0.69	4,587,959	7.1	0.25
06/19/16		14,946,108	40,041					2,101,451			4,617,396		
	07/01/16	*14,980,911*		**June**			**Pounds Cr**						
07/01/16		14,983,214	37,106	**91,341**			**0.309**	2,113,474			4,646,051		
07/07/16		14,998,455	15,241		7.4	0.50	0.430	2,119,487	7.0	0.87	4,656,766	7.1	0.20
07/31/16		15,036,518	38,063					2,138,364			4,681,191		
	08/01/16	*15,036,760*		**July**			**Pounds Cr**						
08/01/16		15,037,244	726	**55,849**			**0.200**	2,138,788			4,682,282		
08/11/16		15,047,013	9,769		7.4	0.61	0.583	2,144,319	7.1	0.98	4,687,103	7.1	0.12
08/24/16		15,065,460	18,447					2,152,060			4,700,186		
	09/01/16	*15,080,715*		**August**			**Pounds Cr**						
09/02/16		15,081,239	15,779	**43,955**			**0.213**	2,159,787			4,709,523		
09/08/16		15,093,858	12,619		7.2	0.41	0.355	2,164,508	7.1	0.60	4,718,876	6.9	0.17
09/15/16		15,117,114	23,256					2,173,196			4,734,824		
09/30/16		15,161,513	44,399					2,190,037			4,766,164		
	10/01/16	*15,162,610*		**September**			**Pounds Cr**						
10/01/16		15,162,976	1,463	**81,895**			**0.242**	2,190,896			4,766,917		
10/05/16		15,170,280	7,304		7.5	0.76	0.707	2,194,329	7.1	1.17	4,771,417	7.2	0.24
	11/01/16	*15,218,316*		**October**			**Pounds Cr**						
11/01/16		15,218,916	48,636	**55,706**			**0.328**	2,214,974			4,803,706		
11/09/16		15,231,072	12,156		7.7	0.58	0.550	2,221,415	7.3	1.02	4,810,434	7.2	0.17
11/30/16		15,257,768	26,696					2,231,705			4,829,512		
	12/01/16	*15,259,593*		**November**			**Pounds Cr**						
12/01/16		15,262,085	4,317	**41,277**			**0.189**	2,233,005			4,832,948		
12/08/16		15,278,159	16,074		7.7	0.90	0.832	2,240,348	7.4	1.41	4,843,138	7.3	0.26
	01/01/17	*15,320,273*		**December**			**Pounds Cr**						
01/05/17		15,328,203	50,044	**60,680**			**0.420**						
01/05/17		15,328,203	0			1.00	0.895	2,259,750	7.5	1.44	4,878,940	7.4	0.47
01/31/17		15,387,622	59,419					2,272,198			4,933,594		
	02/01/17	*15,387,845*		**January**			**Pounds Cr**						
02/01/17		15,388,387	765	**67,572**			**0.504**	2,272,625			4,933,971		
02/09/17		15,399,455	11,068		7.8	0.56	0.542	2,277,351	7.5	0.99	4,941,836	7.1	0.13
	03/01/17	*15,452,749*		**February**			**Pounds Cr**						
03/08/17		15,476,369	76,914	**64,904**			**0.305**						
03/08/17		15,476,369	0		7.8	0.59	0.539	2,302,121	7.3	1.14	5,002,178	7.3	0.26
03/14/17		15,497,125	20,756					2,309,539			5,016,906		
03/25/17		15,528,765	31,640					2,321,231			5,039,669		
03/29/17		15,542,291	13,526					2,325,638			5,049,699		
	04/01/17	*15,558,808*		**March**			**Pounds Cr**						
04/02/17		15,562,275	19,984	**106,059**			**0.476**	2,333,037			5,064,049		
04/06/17		15,582,526	20,251		7.7	0.43	0.405	2,340,089	7.3	0.57	5,064,049	7.3	0.27
04/27/17		15,676,954	94,428					2,372,953			5,146,405		

TABLE 1
Influent - Effluent Compliance Summary

N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
	05/01/17	*15,703,639*		**April**			**Pounds Cr**						
05/04/17		15,728,166	51,212	**144,831**			**0.488**						
05/04/17		15,728,166	0		7.6	0.28	0.257	2,387,552	7.1	0.36	5,185,807	6.8	0.21
	06/01/17	*15,796,047*		**May**			**Pounds Cr**						
06/08/17		15,812,038	83,872	**92,408**			**0.198**						
06/08/17		15,812,038	0		7.5	0.35	0.325	2,421,837	7.1	0.36	5,243,312	7.2	0.16
	07/01/17	*15,888,740*		**June**			**Pounds Cr**						
07/01/17		15,891,390	79,352	**92,693**			**0.251**						
07/06/17		15,902,647	11,257		7.5	0.57	0.525	2,453,044	7.1	0.69	5,309,639	7.0	0.50
07/31/17		15,945,154	42,507					2,472,011			5,337,122		
	08/01/17	*15,945,504*		**July**			**Pounds Cr**						
08/01/17		15,945,880	726	**56,764**			**0.248**	2,472,438			5,337,492		
08/09/17		15,958,437	12,557		7.4	0.68	0.624	2,478,016	7.0	0.66	5,347,291	6.9	0.38
	09/01/17	*15,992,489*		**August**			**Pounds Cr**						
09/07/17		16,001,926	43,489	**46,985**			**0.244**	2,472,438			5,337,492		
09/07/17		16,001,926	0		7.4	0.50	0.488	2,497,770	7.1	0.68	5,375,524	6.9	0.14
09/29/17		16,031,780	29,854					2,510,609			5,395,101		
	10/01/17	*16,034,956*		**September**			**Pounds Cr**						
10/03/17		16,035,404	3,624	**42,467**			**0.173**	2,512,318			5,397,338		
10/05/17		16,037,996	2,592		7.5	0.44	0.410	2,513,176	7.1	1.14	5,399,232	6.7	0.12
	11/01/17	*16,080,246*		**October**			**Pounds Cr**						
11/07/17		16,090,463	52,467	**45,290**			**0.155**	2,536,891			5,436,850		
11/09/17		16,092,667	2,204		7.6	0.76	0.718	2,538,180	7.2	0.99	5,437,985	7.2	0.22
11/15/17		16,098,379	5,712					2,541,643			5,441,055		
11/30/17		16,109,689	11,310					2,549,030			5,450,173		
	12/01/17	*16,110,147*		**November**			**Pounds Cr**						
12/03/17		16,112,117	2,428	**29,901**			**0.179**	2,550,308			5,451,687		
12/07/17		16,115,265	3,148		7.4	0.82	0.755	2,551,590	7.4	1.29	5,453,973	7.4	0.20
12/14/17		16,121,000	5,735					2,551,590			5,453,973		
12/31/17		16,131,936	10,936					2,560,147			5,464,203		
	01/01/18	*16,132,116*		**December**			**Pounds Cr**						
01/01/18		16,132,328	392	**21,969**			**0.138**	2,560,571			5,464,203		
01/04/18		16,133,697	1,369		--	0.78	0.734	2,560,993	--	0.41	5,465,331	--	0.04
	02/01/18	*16,144,665*		**January**			**Pounds Cr**						
02/01/18		16,144,863	11,166	**12,549**			**0.077**	2,566,068			5,472,876		
02/08/18		16,147,315	2,452		7.8	0.75	0.906	2,567,326	7.4	1.68	5,474,376	7.2	0.16
02/28/18		16,155,889	8,574					2,570,306			5,481,207		
	03/01/18	*16,156,053*		**February**			**Pounds Cr**						
03/01/18		16,156,211	322	**11,388**			**0.086**	2,570,306			5,481,586		
03/08/18		16,163,746	7,535		7.7	0.52	0.526	2,574,570	7.4	0.78	5,485,747	7.2	0.20
03/27/18		16,183,153	19,407					2,585,717			5,495,623		
03/31/18		16,188,615	5,462					2,472,869*			5,499,048		
	04/01/18	*16,189,199*		**March**			**Pounds Cr**						
04/01/18		16,190,057	1,442	**33,146**			**0.145**	2,473,316			5,500,204		
04/05/18		16,195,349	5,292		7.7	0.60	0.585	2,476,332	7.3	0.84	5,502,874	7.4	0.35
04/10/18		16,203,721	8,372					2,480,242			5,508,217		
04/25/18		16,302,239	98,518					2,508,161			5,586,326		
04/30/18		16,328,835	26,596					2,516,938			5,606,361		
	05/01/18	*16,330,212*		**April**			**Pounds Cr**						
05/01/18		16,331,044	2,209	**141,013**			**0.687**	2,517,809			5,607,864		
05/04/18		16,360,268	29,224					2,526,963			5,630,632		
05/10/18		16,409,694	49,426		7.6	0.30	0.315	2,541,347	7.2	0.51	5,667,843	6.8	0.19
05/22/18		16,428,757	19,063					2,547,991			5,681,939		
05/24/18		16,455,003	26,246					2,557,801			5,698,300		
05/29/18		16,462,967	7,964					2,562,178			5,702,537		
	06/01/18	*16,466,594*		**May**			**Pounds Cr**						
06/01/18		16,467,299	4,332	**136,382**			**0.358**	2,563,476			5,705,975		
06/05/18		16,476,100	8,801					2,566,515			5,712,597		

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N.W. Mauthe Superfund Site
Appleton, Wisconsin
Terracon Project No. 58117057

	OUTFALL 001							Manhole #1			Manhole #2		
Date Actual	Date For Linear Interpolation	Metered Discharge Reading (gallons)	Gallons Discharged Between Meter Reading	Monthly Discharge (gallons)	pH	Hexavalent Chromium Lab Analysis (mg/L) [Local Limit 4.5 mg/L]	Total Chromium Lab Analysis[1] (mg/L) [Local Limit 7.0 mg/L]	Flow Totalizer #1 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)	Flow Totalizer #2 Reading (gallons)	pH	Hexavalent Chromium Hach Test Kit (mg/L)
06/07/18		16,480,044	3,944		7.6	0.38	0.382	2,568,258	7.1	0.53	5,715,101	7.3	0.21
06/30/18		16,537,167	57,123					2,588,614			5,756,117		
	07/01/18	*16,537,690*		**June**			**Pounds Cr**						
07/01/18		16,538,238	1,071	**71,096**			**0.226**	2,589,032			5,756,879		
07/05/18		16,542,427	4,189		7.6	0.31	0.311	2,591,176	7.2	0.57	5,759,920	7.1	0.16
07/12/18		16,545,145	2,718					2,594,639			5,763,368		
07/19/18		16,553,309	8,164					2,597,639			5,766,777		
07/31/18		16,571,725	18,416					2,604,452			5,779,752		
	08/01/18	*16,571,996*		**July**			**Pounds Cr**						
08/01/18		16,572,495	770	**34,306**			**0.089**	2,589,032			5,756,879		
08/08/18		16,581,462	8,967		--	0.43	0.438	2,608,818	7.1	0.55	5,785,813	7.0	0.27
08/31/18		16,637,913	56,451					2,629,840			5,828,591		
	09/01/18	*16,640,165*		**August**			**Pounds Cr**						
09/01/18		16,641,711	3,798	**68,169**			**0.125**	2,631,151			5,831,336		
09/06/18		16,695,169	53,458		7.5	0.24	0.256	2,646,502	7.1	0.59	5,871,311	6.7	0.08
09/17/18		16,734,724	39,555					2,659,921			5,899,762		
09/18/18		16,738,499	3,775					2,660,806			5,903,277		
09/30/18		16,775,825	37,326					2,672,955			5,932,062		
	10/01/18	*16,776,168*		**September**			**Pounds Cr**						
10/01/18		16,776,700	875	**136,003**			**0.290**	2,673,387			5,932,454		
10/03/18		16,785,853	9,153		7.8	0.30	0.303	2,675,556	7.3	0.60	5,940,463	7.1	0.22
10/25/18		16,899,216	113,363					2,709,668			6,027,153		
	11/01/18	*16,908,245*		**October**			**Pounds Cr**						
11/01/18		16,908,712	9,496	**132,077**			**0.333**	2,713,560			6,033,788		
11/07/18		16,921,099	12,387		7.7	0.38	0.424	2,717,458	7.1	0.36	6,044,211	6.8	0.34
11/12/18		16,936,140	15,041					2,723,181			6,054,634		
11/14/18		16,940,487	4,347					2,725,362			6,057,406		
11/16/18		16,944,318	3,831					2,727,099			6,059,771		
11/19/18		16,949,417	5,099					2,729,266			6,063,298		
	12/01/18	*16,964,903*		**November**			**Pounds Cr**						
12/06/18		16,972,133	22,716	**56,658**			**0.200**	2,738,784			6,080,566		
12/06/18		16,972,133	0		8.0	0.52	0.521	2,738,784	7.4	0.53	6,080,566	7.2	0.45
	01/01/19	*17,020,007*		**December**			**Pounds Cr**						
01/04/19		17,021,076	48,943	**55,104**			**0.239**	2,757,483			6,116,420		
01/10/19		17,051,054	29,978		7.8	0.26	0.246	2,765,903	7.2	0.41	6,140,244	7.0	0.18
	02/01/19	*17,085,876*		**January**			**Pounds Cr**						
02/01/19		17,086,762	35,708	**65,869**			**0.135**	2,779,438			6,166,376		
02/07/19		17,092,183	5,421		8.0	0.36	0.398	2,781,163	7.5	0.37	6,170,668	7.3	0.35
	03/01/19	*17,108,085*		**February**			**Pounds Cr**						
03/01/19		17,108,314	16,131	**22,209**			**0.074**	2,786,817			6,183,118		
03/07/19		17,112,149	3,835		7.9	0.29	0.296	2,788,121	7.4	--	6,186,219	7.4	--
03/26/19		17,201,867	89,718					2,810,744			6,261,318		
	04/01/19	*17,220,303*		**March**			**Pounds Cr**						
04/02/19		17,221,255	19,388	**112,218**			**0.277**	2,818,615			6,274,417		
04/02/19		17,221,255	0					2,818,615	7.2	0.53	6,274,417	7.2	0.15

Italicized red type metered discharge reading was calculated by linear interpolation to 12 midnight.

Industrial User (Wastewater Discharge) Permit 18-21 Outfall 001 Effluent Limits		
pH	Hexavalent Chromium	Total Chromium
Between 5.0 and 12.4 s.u.	<4.5 mg/L	<7.0 mg/L

[1] Beginning in September 2018, the Total Chromium lab sample was not filtered. Previously, through August 2018, the sample was filtered (0.45 micron filter).
* On 3/31/18, the MH1 flowmeter face was blank. Upon replacing the batteries, the totalizer reading reverted to 2,472,869 gallons, a difference of -112,848 gallons from the previous known total.

TABLE 2
City of Appleton Compliance Limits, Outfall 001
N.W. Mauthe Superfund Site - Appleton, WI

		Aluminum (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Chromium Total[1] (mg/L)	Copper (mg/L)	Cyanide (mg/L)	Lead (mg/L)	Mercury (mg/L)	Nickel (mg/L)	Zinc (mg/L)	Hexavalent Chromium (mg/L)
Permit #18-21 Limits		70	1.0	0.3	7.0	3.5	1.0	2.0	0.002	2.0	10.0	4.5
Sampler	Sample Date											
CH2M Hill	02/20/97	<.02	<.003	<.00050	0.04	<.01	<.00001	<.005	<.0002	<.005	0.0051	<.01
CH2M Hill	03/24/98	0.0152	<.002	<.00004	0.0637	<.0095	<.0017	<.0006	<.000015	<.0095	0.0046	0.1000
Appleton	04/29/98	<.011	<.002	<.005	0.2200	<.05	0.0020	<.1	<.0002	<.04	<.005	NA
Appleton	10/07/98	<.011	<.002	0.0050	0.1700	<.05	<.001	<.1	<.0002	<.04	0.0250	NA
MCO	03/18/99	<.009	<.003	<.00031	NA	.00068****	<.000032	<.0024	<.00005	.00351****	<.012	<.0036
Appleton	03/18/99	<.011	<.002	<.005	<0.05	<.05	0.0010	0.1000	<.00005	0.0400	0.0180	NA
Appleton	09/21/99	<.011	<.002	<.005	<.05	<.05	0.0030	<.1	<.00015	<.04	0.0080	NA
Appleton	02/15/00	<.015	<.0020	<.005	0.0900	<.05	<.001	<.1	<.00013	<.04	0.0280	NA
MCO	03/13/00	<.009	<.003	<.00031	0.1400	<.0006	<.0044	<.0024	<.00005	0.0012	<.012	NA
Appleton	02/21/01	<0.15	<.002	<.005	0.11	<.05	0.001	<.1	<.00013	<.04	0.042	NA
MCO	03/01/01	<.034	<.0027	.012 ****	0.25	.0088 ****	<.0033	<.17	<.00005	.036 ****	0.015	<.0036
Appleton	10/02/01	0.016	<.002	<.005	0.14	<.05	<.001	<.1	<.00013	<.04	0.065	NA
MCO	03/19/02	<.034	<.0027	<.0075	0.36	<.0077	<.0027	<.17	<.00005	<.017	<.012	<.0036
Appleton	05/02/02	<.049	<.012	<.014	0.362	<.015	<.0014	<.060	<.00011	<.011	<.009	NA
Appleton	11/12/02	0.027	<.0082	<.00053	0.23	<.009	<.0007	<.00084	<.000028	0.0044	0.0081	NA
Appleton	02/11/03	<0.027	<.0082	<.00053	0.086	<.0009	<.0014	<.0013	<.000028	0.0036	<.0025	NA
Appleton	03/24/03	<.045	<.0027	<.0088	0.13	0.075	<.0050	<.16	<.000050	<.019	<.0044	<.0036
Appleton	10/23/03	0.0045	0.0013	<0.0001	0.221	<0.0008	<0.005	<0.0006	0.0002	<0.025	<0.010	NA
Appleton	03/24/04	<0.050	<0.0026	<0.010	0.15	<0.0060	<0.0050	<0.16	<0.000025	<0.020	<0.010	NA
Appleton	11/09/04	0.0071	<0.0012	<0.0001	0.04	0.0008	<0.005	<0.008	<0.0002	0.0013	<0.01	NA
MCO	08/08/05	0.023	<0.0035	<0.0003	0.039	0.0019	<0.0037	<0.0011	<0.000026	<0.0044	0.0024	<0.005
Appleton	11/05/06	0.0052	<0.0012	<0.0001	0.088	<0.0005	<0.005	<0.0008	<0.0002	0.0017	<0.010	NA
Appleton	02/23/06	0.0021	<0.0012	<0.0001	0.08	<0.0005	<0.0005	<0.0008	<0.0002	0.0022	<0.010	NA
MCO	03/23/06	<0.20	<0.0076	<0.00074	0.32	0.0018	0.0043	<0.0034	<0.000026	0.0033	<0.020	NA
Appleton	06/27/06	<0.200	<0.0076	<0.00074	0.700	0.0016	<0.0094	<0.0034	<0.000072	0.0021	<0.020	<0.350
Appleton	10/05/06	0.037	<0.00011	<0.0001	4.575	0.0068	0.01	<0.001	<0.0002	0.0026	<0.010	NA
Appleton	03/22/07	<0.07	<0.07	<0.01	1.9	3.5	<0.004	<0.03	<0.0002	<0.04	<0.01	NA
MCO	04/02/07	0.0383	0.00024	0.000086	1.41	0.0041	<0.0094	0.00013	<0.00019	0.0035	0.009	NA
Appleton	12/04/07	<0.07	<0.001	<0.01	3.4	<0.01	0.008	<0.03	<0.0002	<0.04	<0.01	1.5
Appleton	01/16/08	0.21	<0.005	<0.01	<0.03	0.02	0.017	0.06	0.0003	<0.04	0.04	NA
OMNNI	04/08/08	0.0114	0.00043	0.00011	0.864	0.0043	0.014 J	0.000095 J	<0.0001	0.0024	0.0071	0.063
Appleton	08/19/08	<0.08	<0.001	<0.01	0.95	<0.01	0.005	<0.03	0.0002	<0.02	<0.01	NA
Appleton	03/31/09	<0.09	<0.012	<0.01	0.99	<0.01	<0.008	<0.05	<0.0002	<0.02	<0.01	NA
OMNNI	04/07/09	<0.0151	0.003 J	0.00040 J	0.767	0.0024 J	<0.0060	<0.0014	<0.00010	0.0016 J	0.0137 J	0.84
Appleton	09/22/09	<0.08	<0.006	<0.01	2.3	<0.01	<0.008	<0.05	<0.0002	<0.02	<0.01	NA
Appleton	03/02/10	<0.06	<0.002	<0.01	1.6	<0.01	<0.008	<0.03	<0.0002	<0.01	<0.01	NA
OMNNI	04/06/10	0.0501 J	<0.0014	0.00043 J	1.16	0.0024 J	<0.0061	<0.00075	<0.0001	0.0023 J	0.0046 J	1.3
Appleton	11/02/10	<0.10	<0.010	<0.01	0.71	<0.01	<0.008	<0.03	<0.0002	<0.01	<0.01	NA
Appleton	02/24/11	<0.08	<0.001	<0.01	1.5	<0.01	0.008	<0.04	<0.0002	<0.02	<0.01	NA
OMNNI	04/05/11	0.0725 J	0.0025 J	<0.00026	0.401	0.0028 J	<0.0061	<0.0014	<0.00010	0.00053 J	0.0023 J	0.40
Appleton	10/26/11	<0.08	<0.005	<0.01	1.2	<0.01	0.007	<0.04	<0.0002	<0.02	<0.01	NA
Appleton	03/21/12	<0.11	<0.004	<0.01	1.3	0.01	0.007	<0.04	<0.0002	<0.02	<0.01	NA
Terracon	04/05/12	<0.0695	<0.0047	<0.00039	0.696	0.014 J	<0.0061	<0.0014	<0.00010	0.001 J	<0.0053	0.83
Appleton	10/04/12	0.0865	0.0051	0.00049	1.43	0.0028 J	0.026	0.0022	0.0001	0.00019 J	<0.0053	NA
Terracon	04/11/13	0.078	<0.004	<0.00048	0.431	0.0024 J	<0.0038	<0.027	<0.00010	0.00013 J	<0.0024	0.42
Appleton	04/17/13	<0.0714	<0.0042	<0.00048	0.279	0.0029 J	<0.0038	<0.027	<0.00010	0.00062 J	<0.0024	NA
Appleton	11/20/13	<0.0714	<0.0042	<0.00048	1.13	0.0018 J	0.0044 J	<0.027	<0.00010	0.00085 J	0.0034 J	NA
Appleton	04/15/14	0.119 J	<0.0068	<0.001	0.27	0.0036 J	<0.060	<0.0016	<0.00010	<0.0013	<0.0058	NA
Terracon	05/13/14	0.116 J	<0.0068	<0.001	0.273	0.0034 J	<0.060	0.0040 J	<0.00010	<0.0013	0.0064 J	0.28
Appleton	9/24/2014	<0.0655	<0.0068	<0.001	0.757	<0.0034	<0.010	<0.0016	<0.00010	<0.0013	<0.0058	NA
Terracon	4/15/2015	0.054 J	<0.0072	<0.00060	0.858	0.0041 J	<0.010	<0.0030	<0.00010	<0.0014	0.0026 J	0.92
Appleton	6/3/2015	<0.0655	<0.0068	<0.001	0.504	<0.0034	<0.020	<0.0016	<0.00010	0.0013 J	<0.0058	NA
Appleton	10/21/2015	0.105 J	<0.0068	<0.0010	0.676	<0.0034	<0.010	0.0024 J	<0.00010	<0.0013	0.0078 J	NA
Terracon	5/12/2016	0.0637 J	<0.0072	<0.00060	0.645	<0.0036	<0.0068	<0.0030	<0.00013	0.0018 J	<0.0013	0.70
Appleton	5/17/2016	<0.090	<0.001	<0.010	0.530	<0.010	<0.007	<0.030	<0.0002	<0.020	<0.01	NA
Appleton	11/1/2016	<0.090	<0.010	<0.010	0.560	<0.010	<0.007	<0.030	<0.0002	<0.020	<0.010	NA
Appleton	4/27/2017	<0.060	<0.001	<0.010	0.370	<0.010	0.007	<0.030	<0.0002	<0.020	<0.010	NA
Terracon	6/8/2017	<0.0555	<0.0083	<0.0013	0.345	<0.0063	<0.0068	<0.0043	<0.00013	<0.0026	<0.0093	0.35
Appleton	11/9/2017	<0.060	0.001	0.010	0.770	<0.010	<0.007	<0.030	<0.0002	<0.020	<0.010	NA
Appleton	5/22/2018	NA	<0.015	<0.0006	0.319	0.005	0.010	<0.005	<0.0002	0.005	<0.002	NA
Terracon	6/7/2018	0.0713 J	<0.0083	<0.0013	0.382	<0.0063	<0.014	<0.0043	<0.00013	<0.0026	<0.0093	0.38
Appleton	11/14/2018	Results not yet available										

[1] Beginning in September 2018, the Total Chromium lab sample was not filtered. Previously, through August 2018, the sample was filtered (0.45 micron filter).

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

January 15, 2019

Scott Hodgson
Terracon, Inc. - Franklin
9856 South 57th Street
Franklin, WI 53132

RE: Project: 58117057 MAUTHE
Pace Project No.: 40181884

Dear Scott Hodgson:
Enclosed are the analytical results for sample(s) received by the laboratory on January 10, 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,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 58117057 MAUTHE
Pace Project No.: 40181884

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

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SAMPLE SUMMARY

Project: 58117057 MAUTHE
Pace Project No.: 40181884

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40181884001	**OUTFALL-001**	Water	01/10/19 07:42	01/10/19 14:15

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SAMPLE ANALYTE COUNT

Project: 58117057 MAUTHE
Pace Project No.: 40181884

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40181884001	**OUTFALL-001**	EPA 6010	TXW	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G

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SUMMARY OF DETECTION

Project: 58117057 MAUTHE
Pace Project No.: 40181884

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40181884001	**OUTFALL-001**					
EPA 6010	Chromium	246	ug/L	10.0	01/14/19 15:11	
SM 3500-Cr B (Online)	Chromium, Hexavalent	0.26	mg/L	0.043	01/10/19 15:40	

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PROJECT NARRATIVE

Project: 58117057 MAUTHE
Pace Project No.: 40181884

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Terracon, Inc. - Franklin
Date: January 15, 2019

General Information:
1 sample was 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:

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PROJECT NARRATIVE

Project: 58117057 MAUTHE
Pace Project No.: 40181884

Method: **SM 3500-Cr B (Online)**
Description: Chromium, Hexavalent
Client: Terracon, Inc. - Franklin
Date: January 15, 2019

General Information:
1 sample was analyzed for SM 3500-Cr B (Online). 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.

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.

Pace Analytical Services, LLC
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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 58117057 MAUTHE
Pace Project No.: 40181884

Sample: OUTFALL-001 **Lab ID: 40181884001** Collected: 01/10/19 07:42 Received: 01/10/19 14:15 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	**246**	ug/L	10.0	2.5	1	01/11/19 07:18	01/14/19 15:11	7440-47-3	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.26**	mg/L	0.043	0.013	2.5		01/10/19 15:40		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58117057 MAUTHE
Pace Project No.: 40181884

QC Batch: 311221 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40181884001

METHOD BLANK: 1815475 Matrix: Water
Associated Lab Samples: 40181884001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<2.5	10.0	01/14/19 14:13	

LABORATORY CONTROL SAMPLE: 1815476

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	491	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1815477 1815478

Parameter	Units	40181754001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	45.5	500	500	573	602	106	111	75-125	5	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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QUALITY CONTROL DATA

Project: 58117057 MAUTHE
Pace Project No.: 40181884

QC Batch: 311198
QC Batch Method: SM 3500-Cr B (Online)
Associated Lab Samples: 40181884001

Analysis Method: SM 3500-Cr B (Online)
Analysis Description: Chromium, Hexavalent by 3500

METHOD BLANK: 1815353 Matrix: Water
Associated Lab Samples: 40181884001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0051	0.017	01/10/19 15:40	

LABORATORY CONTROL SAMPLE: 1815354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	0.3	0.30	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1815358 1815359

Parameter	Units	40181884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	0.26	0.75	0.75	1.0	1.0	104	102	90-110	2	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

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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QUALIFIERS

Project: 58117057 MAUTHE
Pace Project No.: 40181884

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

Pace Analytical Services, LLC
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Green Bay, WI 54302
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 58117057 MAUTHE
Pace Project No.: 40181884

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40181884001	**OUTFALL-001**	EPA 3010	311221	EPA 6010	311372
40181884001	**OUTFALL-001**	SM 3500-Cr B (Online)	311198		

Pace Analytical®
www.pacelabs.com

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

4018 1884

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:	Terracon
Branch/Location:	Milwaukee
Project Contact:	Scott Hodgson
Phone:	414-209-7640
Project Number:	58117057
Project Name:	Mauthe
Project State:	WI
Sampled By (Print):	Scott A. Hodgson
Sampled By (Sign):	Scott A. Hodgson
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	Same
Mail To Address:	
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) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: Total Chromium	Analyses Requested: Hex Chromium	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	OUTFALL-001	1/10/19	0742	WW	N	D	1-200	1-250			

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:
Scott A. Hodgson	1/10/19 0830	PACE	1/10/19 0955
PACE	1/10/19 1415		1/10/19 1415

PACE Project No.: 40181884
Receipt Temp = ROI °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal Present / Not Present
Intact / Not Intact

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

Sample Preservation Receipt Form

Client Name: TerraCon

Project # 40181884

All containers needing preservation have been checked and noted below: ☑Yes ☐No ☐N/A

Lab Lot# of pH paper: 10052621 Lab Std #ID of preservation (if pH adjusted):

Initial when completed: JR Date/ Time:

Pace Lab #	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN							
001																															X		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 ☑N/A ***If yes look in headspace column**

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	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	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	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical 1241 Bellevue Street, Green Bay, WI 54302	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: 25Apr2018
	Document No.: **F-GB-C-031-Rev.07**	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: Terracon

Project #: **WO#: 40181884**

40181884

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

Cooler Temperature Uncorr: NDI /Corr: _____

Temp Blank Present: ☐ yes ☑ no **Biological Tissue is Frozen:** ☐ yes ☐ no

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

Person examining contents:
Date: 1-10-19
Initials: JK

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	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes ☐No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10. Client used water solvable ink on labels
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11. 1-10-19 JK
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☒Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
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: AL for DM **Date:** 1/10/19

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

February 14, 2019

Scott Hodgson
Terracon, Inc. - Franklin
9856 South 57th Street
Franklin, WI 53132

RE: Project: 58117057 MAUTHE
Pace Project No.: 40182859

Dear Scott Hodgson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 07, 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,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 58117057 MAUTHE
Pace Project No.: 40182859

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

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

SAMPLE SUMMARY

Project: 58117057 MAUTHE
Pace Project No.: 40182859

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40182859001	**OUTFALL-001**	Water	02/07/19 07:35	02/07/19 10:48

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

SAMPLE ANALYTE COUNT

Project: 58117057 MAUTHE
Pace Project No.: 40182859

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40182859001	**OUTFALL-001**	EPA 6010	TXW	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G

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

SUMMARY OF DETECTION

Project: 58117057 MAUTHE
Pace Project No.: 40182859

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40182859001	**OUTFALL-001**					
EPA 6010	Chromium	398	ug/L	10.0	02/11/19 18:20	
SM 3500-Cr B (Online)	Chromium, Hexavalent	0.36	mg/L	0.043	02/07/19 13:30	

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

PROJECT NARRATIVE

Project: 58117057 MAUTHE
Pace Project No.: 40182859

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Terracon, Inc. - Franklin
Date: February 14, 2019

General Information:
1 sample was 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:

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

PROJECT NARRATIVE

Project: 58117057 MAUTHE
Pace Project No.: 40182859

Method: **SM 3500-Cr B (Online)**
Description: Chromium, Hexavalent
Client: Terracon, Inc. - Franklin
Date: February 14, 2019

General Information:
1 sample was analyzed for SM 3500-Cr B (Online). 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.

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.

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

ANALYTICAL RESULTS

Project: 58117057 MAUTHE
Pace Project No.: 40182859

Sample: OUTFALL-001 **Lab ID: 40182859001** Collected: 02/07/19 07:35 Received: 02/07/19 10:48 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	**398**	ug/L	10.0	2.5	1	02/11/19 07:26	02/11/19 18:20	7440-47-3	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.36**	mg/L	0.043	0.013	2.5		02/07/19 13:30		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 58117057 MAUTHE
Pace Project No.: 40182859

QC Batch: 313205
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 40182859001

METHOD BLANK: 1824680 Matrix: Water
Associated Lab Samples: 40182859001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<2.5	10.0	02/11/19 17:35	

LABORATORY CONTROL SAMPLE: 1824681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	510	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824682 1824683

Parameter	Units	40182895004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	<2.5	500	500	498	503	100	101	75-125	1	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

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

QUALITY CONTROL DATA

Project: 58117057 MAUTHE
Pace Project No.: 40182859

QC Batch: 313096
QC Batch Method: SM 3500-Cr B (Online)
Associated Lab Samples: 40182859001

Analysis Method: SM 3500-Cr B (Online)
Analysis Description: Chromium, Hexavalent by 3500

METHOD BLANK: 1823870 Matrix: Water
Associated Lab Samples: 40182859001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0051	0.017	02/07/19 13:30	

LABORATORY CONTROL SAMPLE: 1823871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	0.3	0.30	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1823872 1823873

Parameter	Units	40182858007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	<0.017	0.3	0.3	0.29	0.29	96	97	90-110	1	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

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

QUALIFIERS

Project: 58117057 MAUTHE
Pace Project No.: 40182859

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 58117057 MAUTHE
Pace Project No.: 40182859

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40182859001	**OUTFALL-001**	EPA 3010	313205	EPA 6010	313285
40182859001	**OUTFALL-001**	SM 3500-Cr B (Online)	313096		

Pace Analytical®
www.pacelabs.com

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

CHAIN OF CUSTODY

4018285 9

*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:	Terracon
Branch/Location:	Milwaukee
Project Contact:	Scott Hodgson
Phone:	414-209-7640
Project Number:	58117057
Project Name:	MauThr
Project State:	WI
Sampled By (Print):	Scott A. Hodgson
Sampled By (Sign):	Scott A. Hodgson
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
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) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: Total Chromium	Analyses Requested: Hex Chromium	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	OUTFALL-001	2/7/19	0735	WW	N	D	1250	1250			

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:
Scott A. Hodgson	2/7/19 0830	Jason Mueller PACE	2/7/19 0930
Jason Mueller PACE	2/7/19 1048	[illegible] Pace	2-7-19 1048
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. 40182859

Receipt Temp = ROT °C

Sample Receipt pH: (OK) Adjusted

Cooler Custody Seal: Present / ~~Not Present~~

Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical Services, LL
1241 Bellevue Street, Suite
Green Bay, WI 5430

Sample Preservation Receipt Form

Client Name: Terracon Project # 40182859

All containers needing preservation have been checked and noted below: ☑Yes ☐No ☐N/A

Lab Lot# of pH paper: 10102681 Lab Std #ID of preservation (if pH adjusted):

Initial when completed: SKW Date/ Time:

Pace Lab #	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN							
001											/		/																	X		2.5 / 5 / 10
002																																	2.5 / 5 / 10
003																																	2.5 / 5 / 10
004																																	2.5 / 5 / 10
005																																	2.5 / 5 / 10
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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 ☑N/A ***If yes look in headspace column**

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	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	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	BP3S	250 mL plastic H2SO4			GN:	

Sample Condition Upon Receipt Form (SCUR)

Project #: WO#: 40182859

Client Name: Terracon

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

Cooler Temperature Uncorr: ROI /Corr: _____

Temp Blank Present: ☐ yes ☑ no **Biological Tissue is Frozen:** ☐ yes ☐ no

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

Person examining contents:
Date: 2-7-19
Initials: SW

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	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	(☑Yes) ~~☐No~~ 2/7/19 SW	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☑Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
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: JL for DM **Date:** 2/7/19

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

March 11, 2019

Scott Hodgson
Terracon, Inc. - Franklin
9856 South 57th Street
Franklin, WI 53132

RE: Project: 58117057 MAUTHE
Pace Project No.: 40183869

Dear Scott Hodgson:
Enclosed are the analytical results for sample(s) received by the laboratory on March 07, 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,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 58117057 MAUTHE
Pace Project No.: 40183869

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

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

SAMPLE SUMMARY

Project: 58117057 MAUTHE
Pace Project No.: 40183869

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40183869001	**OUTFALL 001**	Water	03/07/19 07:35	03/07/19 11:53

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SAMPLE ANALYTE COUNT

Project: 58117057 MAUTHE
Pace Project No.: 40183869

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40183869001	**OUTFALL 001**	EPA 6010	TXW	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G

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SUMMARY OF DETECTION

Project: 58117057 MAUTHE
Pace Project No.: 40183869

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40183869001	**OUTFALL 001**					
EPA 6010	Chromium	296	ug/L	10.0	03/08/19 15:37	
SM 3500-Cr B (Online)	Chromium, Hexavalent	0.29	mg/L	0.043	03/07/19 13:45	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 58117057 MAUTHE
Pace Project No.: 40183869

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Terracon, Inc. - Franklin
Date: March 11, 2019

General Information:
1 sample was 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:

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PROJECT NARRATIVE

Project: 58117057 MAUTHE
Pace Project No.: 40183869

Method: **SM 3500-Cr B (Online)**
Description: Chromium, Hexavalent
Client: Terracon, Inc. - Franklin
Date: March 11, 2019

General Information:
1 sample was analyzed for SM 3500-Cr B (Online). 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.

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: 58117057 MAUTHE
Pace Project No.: 40183869

Sample: OUTFALL 001 **Lab ID: 40183869001** Collected: 03/07/19 07:35 Received: 03/07/19 11:53 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	**296**	ug/L	10.0	2.5	1	03/08/19 07:04	03/08/19 15:37	7440-47-3	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.29**	mg/L	0.043	0.013	2.5		03/07/19 13:45		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 58117057 MAUTHE
Pace Project No.: 40183869

QC Batch: 315046 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40183869001

METHOD BLANK: 1833237 Matrix: Water
Associated Lab Samples: 40183869001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<2.5	10.0	03/08/19 15:00	

LABORATORY CONTROL SAMPLE: 1833238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	486	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1833239 1833240

Parameter	Units	40183766001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	0.0037J mg/L	500	500	498	496	99	98	75-125	0	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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QUALITY CONTROL DATA

Project: 58117057 MAUTHE
Pace Project No.: 40183869

QC Batch: 315010 | Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) | Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 40183869001

METHOD BLANK: 1832977 | Matrix: Water
Associated Lab Samples: 40183869001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0051	0.017	03/07/19 11:35	

LABORATORY CONTROL SAMPLE: 1832978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	0.3	0.30	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1832980 1832979

Parameter	Units	40183859004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	<0.0051	0.3	0.3	0.28	0.28	94	92	90-110	2	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

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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QUALIFIERS

Project: 58117057 MAUTHE
Pace Project No.: 40183869

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 58117057 MAUTHE
Pace Project No.: 40183869

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40183869001	**OUTFALL 001**	EPA 3010	315046	EPA 6010	315110
40183869001	**OUTFALL 001**	SM 3500-Cr B (Online)	315010		

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

Page 1 of

40183869

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:	Terracon
Branch/Location:	Milwaukee
Project Contact:	Scott Hodgson
Phone:	414-209-7640
Project Number:	58157057
Project Name:	Mauthe
Project State:	WI
Sampled By (Print):	Scott A. Hodgson
Sampled By (Sign):	Scott A. Hodgson
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	Same
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) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: Total Chromium	Analyses Requested: Hex Chromium	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					N	D					
					N	A					
001	OUTFALL-001	3/7/19	0735	WW			1-250	1-250			

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:
Scott A. Hodgson	3/7/19 0830		3/7/19 1015
	3/7/19 1153		3/7/19 1153

PACE Project No.: 40183869

Receipt Temp = A/I °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal: Present / Not Present; Intact / Not Intact

C019a(27Jun2006)

Version 6.0 06/14/06

ORIGINAL

Pace Analytical Services, LL
1241 Bellevue Street, Suite
Green Bay, WI 5430

Sample Preservation Receipt Form

Client Name: TerraCon Project # 40183869

All containers needing preservation have been checked and noted below: ☑Yes ☐No ☐N/A

Lab Lot# of pH paper: 10V33581 Lab Std #ID of preservation (if pH adjusted):

Initial when completed: JK Date/ Time:

Pace Lab #	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN							
001											1		1																	X		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
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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 ☑N/A ***If yes look in headspace column**

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	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	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	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
	Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: Terracon

Project #: **WO#: 40183869**

40183869

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

Cooler Temperature Uncorr: 10.7 /Corr:

Temp Blank Present: ☐ yes ☑ no **Biological Tissue is Frozen:** ☐ yes ☐ no

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

Person examining contents:
Date: 3-7-19
Initials: JK

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☑No ☐N/A	2. No ~~pH~~ 3-7-19 JK
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	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes ☐No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD:	☐Yes ☑No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☒Yes ☐No ☐N/A	12. Client used water soluble ink 3-7-19 JK
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
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: AL for DM **Date:** 3/7/19