December 14, 2018

Wisconsin Department of Natural Resources
Attn: Mr. Keld Lauridsen
2984 Shawano Ave.
Green Bay, WI 54313

Subject:

Former V&L Stripping
864 Mather Street
Green Bay, WI 54303
BRRTS #02-05-216722

Dear Keld:

This letter will summarize the results of recent groundwater sampling at the site by REI. Samples were collected on October 30, 2018. The most recent prior event was conducted by Shaw Environmental in September 2010. The site location is shown on Figure 1.

Since the last sampling event, Mather Street has been reconstructed, and as such, a number of the monitoring wells have been destroyed. During the sampling event, REI conducted reconnaissance of the monitoring well network relative to the monitoring wells last sampled in 2010. The site layout is shown on Figure 2. A summary of the monitoring well network is as follows:

- MW100 – remains and was sampled
- MW200 – remains, but was dry on October 30, 2018
- MW300 – remains and was sampled
- MW400 – was destroyed during road reconstruction
- MW600 – appears to have been installed for the Randy's Mobil Service (03-05-111777) investigation. Was not located, may have been destroyed during road construction.
- MW1000 - remains and was sampled
- MW2000 – destroyed during road construction
- MW2100 – remains and was sampled
- MW3200 – remains and was sampled
- PZ1700 – appears to remain, but is covered by a layer of concrete, likely accessible in the future
- TW800 – destroyed during road construction
- TW900 – could not be located inside occupied building due to carpeting and merchandise
- TW1100 – could not be located, but has not been sampled since 2003, assumed to be properly abandoned
- TW1300 – destroyed during road construction
- TW1400 - could not be located inside occupied building due to carpeting and merchandise
- TW1500 - could not be located, but has not been sampled since 2003, assumed to be properly abandoned
- TW3100 - could not be located, but has not been sampled since 2003, assumed to be properly abandoned
- TW3500 - could not be located, but has not been sampled since 2003, assumed to be properly abandoned

According to Mr. Ken Juza, temporary wells TW900 and TW1400, located inside the building, remain. The occupant will be vacating the property in 2019, and these temporary wells will be accessible in the future.

In general, contaminant concentrations in the monitoring wells sampled are consistent with the previous data from 2010. Historical and recent sample results are summarized on Tables 2a-2r. The complete analytical report is attached. Based on historical data, it may not be necessary to replace all of the monitoring wells that have been destroyed. Replacement of MW600, and a well east of MW2000 may be sufficient to monitor the plume.

The groundwater elevation on October 30, 2018 was the lowest recorded since 2007 (Table 3), the last time MW200 was dry. Groundwater flow for the October 30, 2018 event was consistent to the southwest as previous demonstrated by Shaw (Figure 2). The estimated extent of CVOC contamination is shown on Figure 4.

It also appears appropriate to proceed with the CAP ME 18 injection as detailed in the September 11, 2018 work plan. Implementation of the injection and installation of the sub-slab depressurization system could then be performed prior to any further occupancy of the building.

Thank you for your assistance with this project. Please contact me to discuss further at (715) 675-9784 or email me at Adelforge@REIengineering.com.

Sincerely,
REI Engineering, Inc.

Andrew R. Delforge, P.G.
Hydrogeologist/Project Manager

CC: Ken Juza, 1478 Norfield Road, Suamico, WI 54173

Enclosures

TABLE 3
MONITORING WELL DATA
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

	MW100	MW200	MW300	MW400	MW600	MW1000	MW2000	MW2100	MW3200	PZ1700
Top of Casing Elevation	594.72	595.09	594.70	594.22	594.33	595.11	593.54	594.31	592.70	594.32
Depth to Water (feet)										
8/16/07	8.20	Dry	8.28	7.75	NM	NM	7.36	8.09	6.20	8.74
4/10/08	6.39	6.69	6.67	6.46	NM	NM	6.23	6.80	3.46	6.81
5/12/09	7.05	7.37	7.12	6.87	NM	NM	6.51	7.25	4.73	7.13
6/8/10	7.56	7.92	7.57	7.19	NM	NM	6.64	7.57	5.39	7.41
9/28/10	7.01	7.43	7.14	6.81	7.42	8.09	6.46	7.39	4.79	10.42
10/30/18	7.87	Dry	7.82	Destroyed	Destroyed	8.10	Destroyed	7.41	5.12	NM
Groundwater Elevation										
8/16/07	586.52	Dry	586.42	586.47	NM	NM	586.97	586.24	588.13	585.59
4/10/08	588.33	588.40	588.03	587.76	NM	NM	588.10	587.53	590.87	587.52
5/12/09	587.67	587.72	587.58	587.35	NM	NM	587.82	587.08	589.60	587.20
6/8/10	587.16	587.17	587.13	587.03	NM	NM	587.69	586.76	588.94	586.92
9/28/10	587.71	587.66	587.56	587.41	586.91	586.24	587.87	586.94	589.54	583.91
10/30/18	586.85	Dry	586.88	Destroyed	Destroyed	586.23	Destroyed	586.92	589.21	NM

NM = Not Measured

NI = Not Installed

TABLE 2a
MW100 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			MW100									
PARAMETER	**ES**	**PAL**	***8/31/98***	***3/23/00***	***5/21/01***	***12/4/02***	***8/16/07***	***4/10/08***	***5/12/19***	***6/8/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)												
Benzene	5	0.5	<32	<10	<38	<77.5	<16	<20.5	<16.4	<32	<20	<12.3
Ethylbenzene	700	140	NDA	NDA	NDA	<125	<22	<27	<21.6	<80	<50	<10.9
Naphthalene	100	10	NDA	NDA	NDA	<200	<30	<37	<35.6	*75*	<25	<58.8
Methyl-tert-Butyl Ether	60	12	NDA	NDA	NDA	<75	<24	<30.5	<24.4	<80	<50	<62.3
Toluene	800	160	<35	<10	<26	<75	<27	<33.5	<26.8	<80	<50	<8.6
cis-1,2-Dichloroethene	70	7	**200**	**230**	**400**	**285**	**3,300**	**1,530**	**2,200**	**8,200**	**1,400**	**1,500**
trans-1,2-Dichloroethene	100	20	<38	<25	<70	<97.5	**800**	**403**	**574**	**1,900**	**490**	**654**
Vinyl Chloride	0.2	0.02	<15	<25	<38	<50	<7.2	<9.0	<7.2	<32	<20	<8.7
Tetrachloroethene	5	0.5	**10,000**	**10,000**	**26,000**	**4,930**	**1,300**	**5,410**	**3,170**	**440**	**5,900**	**6,580**
Trichloroethene	5	0.5	**3,800**	**2,300**	**8,200**	**1,050**	**5,800**	**3,640**	**3,200**	**3,200**	**1,900**	**4,150**
Total Trimethylbenzenes	480	96	NDA	NDA	NDA	<177.5	<72	<90	<72	<64	<40	<85.7
Total Xylenes	2,000	400	NDA	NDA	NDA	<230	<105	<131.5	<72	<80	<50	<36.4
Geochemical Indicator Parameters												
Ferrous Iron (mg/L)			NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.028
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.38
Chloride (mg/L)			NA	NA	NA	NA	NA	NA	NA	NA	NA	64.8
Dissolved Manganese (mg/L)			NA	NA	NA	NA	NA	NA	NA	0.34	0.32	350
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA	NA	NA	NA	370	280	NA
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA	NA	NA	NA	2.2	0.4	NA
Dissolved Sulfate (mg/L)			NA	NA	NA	NA	NA	NA	NA	47	42	NA
Total Organic Carbon (mg/L)			NA	NA	NA	NA	NA	NA	NA	6.00	6.23	7.4
Dissolved Ethane (ug/L)			NA	NA	NA	NA	NA	NA	NA	<14	<14	<0.58
Dissolved Ethene (ug/L)			NA	NA	NA	NA	NA	NA	NA	<11	<11	<0.52
Dissolved Methane (ug/L)			NA	NA	NA	NA	NA	NA	NA	3,150	471	770
Field Parameters												
Temperature (^{o}F)			NA	NA	NA	NA	NA	NA	NA	59.79	69.49	63.40
Conductivity (ms/cm)			NA	NA	NA	NA	NA	NA	NA	848	891	958
Dissolved Oxygen (mg/L)			NA	NA	NA	NA	NA	NA	NA	0.30	0.43	7.03
pH			NA	NA	NA	NA	NA	NA	NA	7.10	7.01	7.08
Redox Potential (mV)			NA	NA	NA	NA	NA	NA	NA	-47	-10.4	-90.6

NDA = No Data Available, laboratory reports not provided

PAL = Preventive Action Limit

ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

j - Estimated Value between detection limit and quantification limit

TABLE 2b
MW200 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			MW200									
PARAMETER	**ES**	**PAL**	***8/31/98***	***3/23/00***	***5/21/01***	***12/4/02***	***8/16/07***	***4/10/08***	***5/12/09***	***6/8/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)												
Benzene	5	0.5	1.4	<1.0	<1.4	<31	Dry	<16.4	<10.2	<8	<5	Dry
Ethylbenzene	700	140	NDA	NDA	NDA	<50		<21.6	<13.5	<20	<13	
Naphthalene	100	10	NDA	NDA	NDA	<80		<29.6	<22.2	<10	<6.3	
Methyl-tert-Butyl Ether	60	12	NDA	NDA	NDA	<30		<24.4	<15.2	<20	<13	
Toluene	800	160	<0.35	<1.0	<0.65	<30		<26.8	<16.8	<20	<13	
cis-1,2-Dichloroethene	70	7	**310**	**270**	**210**	**188**		**78.7**	*35.4*	**420**	**330**	
trans-1,2-Dichloroethene	100	20	*93*	**330**	**450**	**171**		**116**	*41.3*	**590**	**360**	
Vinyl Chloride	0.2	0.02	<1.5	<2.5	**1.3j**	<20		<7.2	<4.5	<8	<5	
Tetrachloroethene	5	0.5	**140**	**8.9**	**200**	**233**		**4,100**	**2,370**	**350**	**130**	
Trichloroethene	5	0.5	**520**	**170**	**210**	**89**		**1,660**	**590**	**1,900**	**1,500**	
Total Trimethylbenzenes	480	96	NDA	NDA	NDA	<71		<72	<45	<16	<10	
Total Xylenes	2,000	400	NDA	NDA	NDA	<92		<105.2	<45	<20	<13	
Geochemical Indicator Parameters												
Ferrous Iron (mg/L)			NA	NA	NA	NA		NA	NA	NA	NA	
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA		NA	NA	NA	NA	
Chloride (mg/L)			NA	NA	NA	NA		NA	NA	NA	NA	
Dissolved Manganese (mg/L)			NA	NA	NA	NA		NA	NA	0.19	0.16	
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA		NA	NA	430	310	
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA		NA	NA	<0.024	<0.024	
Dissolved Sulfate (mg/L)			NA	NA	NA	NA		NA	NA	56	29	
Total Organic Carbon (mg/L)			NA	NA	NA	NA		NA	NA	20.80	12.30	
Dissolved Ethane (ug/L)			NA	NA	NA	NA		NA	NA	<14	<14	
Dissolved Ethene (ug/L)			NA	NA	NA	NA		NA	NA	<11	<11	
Dissolved Methane (ug/L)			NA	NA	NA	NA		NA	NA	40	41.3	
Field Parameters												
Temperature (^{o}F)			NA	NA	NA	NA		NA	NA	56.93	58.77	
Conductivity (ms/cm)			NA	NA	NA	NA		NA	NA	977	788	
Dissolved Oxygen (mg/L)			NA	NA	NA	NA		NA	NA	0.59	0.45	
pH			NA	NA	NA	NA		NA	NA	6.99	6.84	
Redox Potential (mV)			NA	NA	NA	NA		NA	NA	-285	-264.0	

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TABLE 2c
MW300 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			MW300									
PARAMETER	**ES**	**PAL**	***8/31/98***	***3/23/00***	***5/21/01***	***12/4/02***	***8/16/07***	***4/10/08***	***5/12/09***	***6/8/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)												
Benzene	5	0.5	<0.32	<0.10	*0.92*	<0.31	<4.1	<20.5	<10.2	<10	<10	<0.25
Ethylbenzene	700	140	NDA	NDA	NDA	<0.5	<5.4	<27	<13.5	<25	<25	<0.22
Naphthalene	100	10	NDA	NDA	NDA	<80	<29.6	<29.6	<22.2	<13	<13	<1.2
Methyl-tert-Butyl Ether	60	12	NDA	NDA	NDA	<0.3	<6.1	<30.5	<15.2	<25	<25	<1.2
Toluene	800	160	<0.35	<0.10	0.34	<0.30	<6.7	<33.5	<16.8	<25	<25	<0.17
cis-1,2-Dichloroethene	70	7	**50**	*18*	**36**	**24.4**	**360**	**266**	**520**	**630**	**620**	**461**
trans-1,2-Dichloroethene	100	20	*75*	*18*	*39*	7.13	**670**	**492**	**1,100**	**930**	**790**	**438**
Vinyl Chloride	0.2	0.02	<0.15	<0.25	**0.61**	<0.2	<1.8	<9.0	<4.5	<10	<10	**0.55j**
Tetrachloroethene	5	0.5	*2.4*	**5.2**	<0.85	*2.85*	**1,200**	**5,350**	**1,750**	**2,200**	**2,000**	**8.4**
Trichloroethene	5	0.5	*2.4*	**12**	*2*	*3.61*	**1,000**	**1,200**	**1,190**	**3,400**	**3,700**	*3.2*
Total Trimethylbenzenes	480	96	NDA	NDA	NDA	<0.71	<19	<90	<45	<20	<20	<1.71
Total Xylenes	2,000	400	NDA	NDA	NDA	<0.92	<26.3	<131.5	<45	<25	<25	<0.73
Geochemical Indicator Parameters												
Ferrous Iron (mg/L)			NA	NA	NA	NA		NA	NA	NA	NA	<0.028
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA		NA	NA	NA	NA	<0.38
Chloride (mg/L)			NA	NA	NA	NA		NA	NA	NA	NA	57.6
Dissolved Manganese (mg/L)			NA	NA	NA	NA		NA	NA	0.19	0.16	217
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA		NA	NA	430	310	NA
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA		NA	NA	<0.024	<0.024	NA
Dissolved Sulfate (mg/L)			NA	NA	NA	NA		NA	NA	56	29	35.5
Total Organic Carbon (mg/L)			NA	NA	NA	NA		NA	NA	20.80	12.30	11.6
Dissolved Ethane (ug/L)			NA	NA	NA	NA		NA	NA	<14	<14	<0.58
Dissolved Ethene (ug/L)			NA	NA	NA	NA		NA	NA	<11	<11	<0.52
Dissolved Methane (ug/L)			NA	NA	NA	NA		NA	NA	40	41.3	4.0
Field Parameters												
Temperature (^oF)			NA	NA	NA	NA		NA	NA	56.93	58.77	61.5
Conductivity (ms/cm)			NA	NA	NA	NA		NA	NA	977	788	873
Dissolved Oxygen (mg/L)			NA	NA	NA	NA		NA	NA	0.59	0.45	5.69
pH			NA	NA	NA	NA		NA	NA	6.99	6.84	6.98
Redox Potential (mV)			NA	NA	NA	NA		NA	NA	-285	-264.0	-78.7

NDA = No Data Available, laboratory reports not provided

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TABLE 2d
MW400 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			MW400									
PARAMETER	**ES**	**PAL**	***8/31/98***	***3/23/00***	***5/21/01***	***12/4/02***	***8/16/07***	***4/10/08***	***5/12/09***	***6/8/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)												
Benzene	5	0.5	<0.32	<0.40	*<1.4*	<31	<10	<20.5	<41	<32	<20	Destroyed by Road Resconstruction
Ethylbenzene	700	140	NDA	NDA	NDA	<50	<14	<27	<54	<80	<50	
Naphthalene	100	10	NDA	NDA	NDA	<80	<18	<37	<89	<40	<25	
Methyl-tert-Butyl Ether	60	12	NDA	NDA	NDA	<30	<15	<30.5	<61	<80	<50	
Toluene	800	160	<0.35	<0.40	<0.65	<30	<17	<33.5	<67	<80	<50	
cis-1,2-Dichloroethene	70	7	**120**	**81**	**190**	**214**	**1,400**	**1,920**	**3,010**	**2,400**	**2,300**	
trans-1,2-Dichloroethene	100	20	**280**	**170**	**400**	**258**	**1,200**	**1,280**	**1,970**	**1,400**	**1,400**	
Vinyl Chloride	0.2	0.02	<0.15	<1.0	**1.4j**	<20	<4.5	<9.0	<18	<32	<20	
Tetrachloroethene	5	0.5	**34**	**21**	**120**	**526**	**3,500**	**1,830**	**83**	**6,000**	**6,500**	
Trichloroethene	5	0.5	**77**	**55**	**120**	**140**	**5,100**	**8,910**	**8,660**	**8,660**	**7,100**	
Total Trimethylbenzenes	480	96	NDA	NDA	NDA	<71	<65	<90	<180	<64	<40	
Total Xylenes	2,000	400	NDA	NDA	NDA	<92	<66	<131.5	<180	<80	<50	
Geochemical Indicator Parameters												
Ferrous Iron (mg/L)			NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chloride (mg/L)			NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dissolved Manganese (mg/L)			NA	NA	NA	NA	NA	NA	NA	0.19	0.16	
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA	NA	NA	NA	430	310	
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA	NA	NA	NA	<0.024	<0.024	
Dissolved Sulfate (mg/L)			NA	NA	NA	NA	NA	NA	NA	56	29	
Total Organic Carbon (mg/L)			NA	NA	NA	NA	NA	NA	NA	20.80	12.30	
Dissolved Ethane (ug/L)			NA	NA	NA	NA	NA	NA	NA	<14	<14	
Dissolved Ethene (ug/L)			NA	NA	NA	NA	NA	NA	NA	<11	<11	
Dissolved Methane (ug/L)			NA	NA	NA	NA	NA	NA	NA	40	41.3	
Field Parameters												
Temperature (^{o}F)			NA	NA	NA	NA	NA	NA	NA	56.93	58.77	
Conductivity (ms/cm)			NA	NA	NA	NA	NA	NA	NA	977	788	
Dissolved Oxygen (mg/L)			NA	NA	NA	NA	NA	NA	NA	0.59	0.45	
pH			NA	NA	NA	NA	NA	NA	NA	6.99	6.84	
Redox Potential (mV)			NA	NA	NA	NA	NA	NA	NA	-285	-264.0	

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TABLE 2e
MW600 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			MW600
PARAMETER	**ES**	**PAL**	***9/28/10***
Detected VOC's (ug/L)			
Benzene	5	0.5	**39**
Ethylbenzene	700	140	<2
Naphthalene	100	10	<1
Methyl-tert-Butyl Ether	60	12	**250**
Toluene	800	160	<2
cis-1,2-Dichloroethene	70	7	<2
trans-1,2-Dichloroethene	100	20	<2
Vinyl Chloride	0.2	0.02	<0.8
Tetrachloroethene	5	0.5	<2
Trichloroethene	5	0.5	<0.8
Total Trimethylbenzenes	480	96	<1.6
Total Xylenes	2,000	400	<2
Geochemical Indicator Parameters			
Ferrous Iron (mg/L)			NA
Nitrate-Nitrogen (mg/L)			NA
Chloride (mg/L)			NA
Dissolved Manganese (mg/L)			NA
Total Alkalinity ($AaCO_3$)			NA
Dissolved Nitrate/Nitrite (mg/L)			NA
Dissolved Sulfate (mg/L)			NA
Total Organic Carbon (mg/L)			NA
Dissolved Ethane (ug/L)			NA
Dissolved Ethene (ug/L)			NA
Dissolved Methane (ug/L)			NA
Field Parameters			
Temperature (^oF)			54.63
Conductivity (ms/cm)			1,139
Dissolved Oxygen (mg/L)			0.73
pH			7.19
Redox Potential (mV)			61.0

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TABLE 2f
MW1000 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			MW1000						
PARAMETER	**ES**	**PAL**	***4/29/97***	***3/23/00***	***5/21/02***	***12/4/02***	***6/9/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)									
Benzene	5	0.5	<0.21	<0.10	*<0.29*	<0.31	<0.2	<0.2	<0.25
Ethylbenzene	700	140	NDA	NDA	NDA	<0.5	<0.50	<0.50	<0.22
Naphthalene	100	10	NDA	NDA	NDA	<0.8	<0.25	<0.25	<1.2
Methyl-tert-Butyl Ether	60	12	NDA	NDA	NDA	<0.3	<0.50	<0.50	<1.2
Toluene	800	160	<1.5	<0.10	0.3j	<0.3	<0.50	<0.50	<0.17
cis-1,2-Dichloroethene	70	7	<0.32	3.2	0.5j	0.245j	<0.50	<0.50	<0.27
trans-1,2-Dichloroethene	100	20	<0.11	<0.25	<0.35	<0.39	<0.50	<0.50	<1.1
Vinyl Chloride	0.2	0.02	<0.045	<0.25	**<0.19**	<0.2	<0.2	<0.2	<0.17
Tetrachloroethene	5	0.5	*0.63*	*2.7*	<0.85	*0.515j*	<0.50	<0.50	<0.33
Trichloroethene	5	0.5	0.47	**16**	*1.8*	*0.685j*	0.45j	<0.2	<0.26
Total Trimethylbenzenes	480	96	NDA	NDA	NDA	<0.71	<0.4	<0.4	<1.71
Total Xylenes	2,000	400	NDA	NDA	NDA	<0.92	<0.50	<0.50	<0.73
Geochemical Indicator Parameters									
Ferrous Iron (mg/L)			NA	NA	NA	NA	NA	NA	<0.028
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA	NA	NA	3.7
Chloride (mg/L)			NA	NA	NA	NA	NA	NA	169
Dissolved Manganese (mg/L)			NA	NA	NA	NA	0.19	0.16	1,540
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA	430	310	NA
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA	<0.024	<0.024	NA
Dissolved Sulfate (mg/L)			NA	NA	NA	NA	56	29	162
Total Organic Carbon (mg/L)			NA	NA	NA	NA	20.80	12.30	2.9
Dissolved Ethane (ug/L)			NA	NA	NA	NA	<14	<14	<0.58
Dissolved Ethene (ug/L)			NA	NA	NA	NA	<11	<11	<0.52
Dissolved Methane (ug/L)			NA	NA	NA	NA	40	41.3	<1.4
Field Parameters									
Temperature (^oF)			NA	NA	NA	NA	54.63	64.00	60.2
Conductivity (ms/cm)			NA	NA	NA	NA	1,139	1,827	1,339
Dissolved Oxygen (mg/L)			NA	NA	NA	NA	0.73	1.95	1.58
pH			NA	NA	NA	NA	7.19	7.11	7.26
Redox Potential (mV)			NA	NA	NA	NA	61	90.9	109.1

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ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

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j - Estimated Value between detection limit and quantification limit

TABLE 2g
MW2000 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			MW2000							
PARAMETER	**ES**	**PAL**	***12/4/02***	***4/1/03***	***8/16/07***	***4/10/08***	***5/12/09***	***6/9/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)										
Benzene	5	0.5	<0.31	<0.31	<0.41	<0.41	<0.41	<0.20	<0.20	Destroyed by Road Resconstruction
Ethylbenzene	700	140	<0.5	<0.5	<0.54	<0.54	<0.54	<0.50	<0.50	
Naphthalene	100	10	<0.8	<0.8	<0.74	<0.74	<0.89	<0.25	<0.25	
Methyl-tert-Butyl Ether	60	12	<0.3	<0.3	<0.61	<0.61	<0.61	<0.50	<0.50	
Toluene	800	160	<0.3	<0.3	<0.67	<0.67	<0.67	<0.50	<0.50	
cis-1,2-Dichloroethene	70	7	<0.23	<0.23	<0.83	<0.83	<0.83	<0.50	<0.50	
trans-1,2-Dichloroethene	100	20	<0.396	<0.39	<0.89	<0.89	<0.89	<0.50	<0.50	
Vinyl Chloride	0.2	0.02	<0.2	<0.2	<0.18	<0.18	<0.18	<0.20	<0.20	
Tetrachloroethene	5	0.5	<0.32	<0.32	<0.45	<0.45	<0.45	<0.50	*3.2*	
Trichloroethene	5	0.5	<0.36	<0.36	<0.48	<0.48	<0.48	<0.20	*0.74*	
Total Trimethylbenzenes	480	96	<0.71	<0.71	<1.80	<1.80	<1.80	<0.40	<0.40	
Total Xylenes	2,000	400	<0.92	<0.92	<2.63	<2.63	<1.8	<0.50	<0.50	
Geochemical Indicator Parameters										
Ferrous Iron (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Chloride (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Manganese (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Sulfate (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Total Organic Carbon (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Ethane (ug/L)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Ethene (ug/L)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Methane (ug/L)			NA	NA	NA	NA	NA	NA	NA	
Field Parameters										
Temperature (^oF)			NA	NA	NA	NA	NA	NA	NA	
Conductivity (ms/cm)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Oxygen (mg/L)			NA	NA	NA	NA	NA	NA	NA	
pH			NA	NA	NA	NA	NA	NA	NA	
Redox Potential (mV)			NA	NA	NA	NA	NA	NA	NA	

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ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

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j - Estimated Value between detection limit and quantification limit

TABLE 2h
MW2100 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			MW2100							
PARAMETER	**ES**	**PAL**	***12/4/02***	***4/1/03***	***8/16/07***	***4/10/08***	***5/12/09***	***6/9/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)										
Benzene	5	0.5	<15.5	<0.31	<0.41	<0.41	<0.82	<0.40	<0.40	<0.25
Ethylbenzene	700	140	<25	<0.5	<0.54	<0.54	<1.1	<1.0	<1.0	<0.22
Naphthalene	100	10	<40	<0.8	<0.74	<0.74	<1.8	<0.50	<0.50	<1.2
Methyl-tert-Butyl Ether	60	12	<15	<0.3	<0.61	<0.61	<1.2	<1.0	<1.0	<1.2
Toluene	800	160	<15	<0.3	<0.67	<0.67	<1.3	<1.0	<1.0	<0.17
cis-1,2-Dichloroethene	70	7	**241**	**181**	**230**	**147**	**130**	**130**	**220**	**148**
trans-1,2-Dichloroethene	100	20	<19.5	12.2	11	5.5	5.6	5.0	8.8	9.1
Vinyl Chloride	0.2	0.02	<10	<0.2	**1.4**	<0.18	<0.36	**0.54j**	**0.74j**	**0.67j**
Tetrachloroethene	5	0.5	<16	<0.32	<0.45	<0.45	<0.9	<1.0	<1.0	<0.33
Trichloroethene	5	0.5	<18	*2.1*	0.55j	<0.48	<0.96	*0.56j*	*0.64j*	*0.89j*
Total Trimethylbenzenes	480	96	<35.5	<0.71	<1.80	<1.80	<3.6	<0.80	<0.80	<1.71
Total Xylenes	2,000	400	<46	<0.92	<2.63	<2.63	<3.6	<1.0	<1.0	<0.73
Geochemical Indicator Parameters										
Ferrous Iron (mg/L)			NA	NA	NA	NA	NA	NA	NA	<0.028
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA	NA	NA	NA	<0.075
Chloride (mg/L)			NA	NA	NA	NA	NA	NA	NA	602
Dissolved Manganese (mg/L)			NA	NA	NA	NA	NA	NA	NA	218
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Sulfate (mg/L)			NA	NA	NA	NA	NA	NA	NA	54.6
Total Organic Carbon (mg/L)			NA	NA	NA	NA	NA	NA	NA	0.48j
Dissolved Ethane (ug/L)			NA	NA	NA	NA	NA	NA	NA	<0.58
Dissolved Ethene (ug/L)			NA	NA	NA	NA	NA	NA	NA	<0.52
Dissolved Methane (ug/L)			NA	NA	NA	NA	NA	NA	NA	253
Field Parameters										
Temperature (^oF)			NA	NA	NA	NA	NA	NA	NA	59.3
Conductivity (ms/cm)			NA	NA	NA	NA	NA	NA	NA	1,801
Dissolved Oxygen (mg/L)			NA	NA	NA	NA	NA	NA	NA	7.11
pH			NA	NA	NA	NA	NA	NA	NA	7.51
Redox Potential (mV)			NA	NA	NA	NA	NA	NA	NA	-96.0

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TABLE 2i
MW3200 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			MW3200						
PARAMETER	**ES**	**PAL**	***4/1/03***	***8/16/07***	***4/10/08***	***5/12/09***	***6/9/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)									
Benzene	5	0.5	<0.31	<0.41	<0.41	<0.41	<0.20	<0.20	<0.25
Ethylbenzene	700	140	<0.5	<0.54	<0.54	<0.54	<0.50	<0.50	<0.22
Naphthalene	100	10	<0.8	<0.74	<0.74	<0.89	<0.25	<0.25	<1.2
Methyl-tert-Butyl Ether	60	12	<0.3	<0.61	<0.61	<0.61	<0.50	<0.50	<1.2
Toluene	800	160	<0.3	<0.67	<0.67	<0.67	<0.50	<0.50	<0.17
cis-1,2-Dichloroethene	70	7	<0.23	<0.83	<0.83	<0.83	<0.50	<0.50	<0.27
trans-1,2-Dichloroethene	100	20	<0.39	<0.89	<0.89	<0.89	<0.50	<0.50	<1.1
Vinyl Chloride	0.2	0.02	<0.2	<0.18	<0.18	<0.18	<0.20	<0.20	<0.17
Tetrachloroethene	5	0.5	<0.2	<0.18	<0.18	<0.18	<0.20	<0.20	*0.65j*
Trichloroethene	5	0.5	**13.5**	<0.45	*0.52j*	*0.81j*	<0.50	<0.50	0.47j
Total Trimethylbenzenes	480	96	<0.71	<1.80	<1.80	<1.80	<0.40	<0.40	<1.71
Total Xylenes	2,000	400	<0.92	<2.63	<2.63	<1.8	<0.50	<0.50	<0.73
Geochemical Indicator Parameters									
Ferrous Iron (mg/L)			NA	NA	NA	NA	NA	NA	<0.028
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA	NA	NA	<0.075
Chloride (mg/L)			NA	NA	NA	NA	NA	NA	39.9
Dissolved Manganese (mg/L)			NA	NA	NA	NA	NA	NA	224
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA	NA	NA	NA
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA	NA	NA	NA
Dissolved Sulfate (mg/L)			NA	NA	NA	NA	NA	NA	10.6
Total Organic Carbon (mg/L)			NA	NA	NA	NA	NA	NA	20.1
Dissolved Ethane (ug/L)			NA	NA	NA	NA	NA	NA	<0.58
Dissolved Ethene (ug/L)			NA	NA	NA	NA	NA	NA	<0.52
Dissolved Methane (ug/L)			NA	NA	NA	NA	NA	NA	10.2
Field Parameters									
Temperature (^oF)			NA	NA	NA	NA	NA	NA	51.2
Conductivity (ms/cm)			NA	NA	NA	NA	NA	NA	757
Dissolved Oxygen (mg/L)			NA	NA	NA	NA	NA	NA	4.91
pH			NA	NA	NA	NA	NA	NA	7.00
Redox Potential (mV)			NA	NA	NA	NA	NA	NA	-109.5

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j - Estimated Value between detection limit and quantification limit

TABLE 2j
PZ1700 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			PZ1700							
PARAMETER	**ES**	**PAL**	***12/4/02***	***4/1/03***	***8/16/07***	***4/10/08***	***5/12/09***	***6/9/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)										
Benzene	5	0.5	<0.31	<0.31	<0.41	<0.41	<0.41	<0.20	<0.20	Flush Mount Concreted In
Ethylbenzene	700	140	<0.5	<0.5	<0.54	<0.54	<0.54	<0.50	<0.50	
Naphthalene	100	10	<0.8	<0.8	<0.74	<0.74	<0.89	<0.25	0.47j	
Methyl-tert-Butyl Ether	60	12	<0.3	<0.3	<0.61	<0.61	<0.61	<0.50	<0.50	
Toluene	800	160	<0.3	<0.3	<0.67	<0.67	<0.67	<0.50	<0.50	
cis-1,2-Dichloroethene	70	7	<0.23	0.75j	<0.83	<0.83	<0.83	<0.50	<0.50	
trans-1,2-Dichloroethene	100	20	<0.39	<0.39	<0.89	<0.89	<0.89	<0.50	<0.50	
Vinyl Chloride	0.2	0.02	<0.2	<0.2	<0.18	<0.18	<0.18	<0.20	<0.20	
Tetrachloroethene	5	0.5	<0.32	*0.638j*	<0.45	<0.45	0.47j	<0.50	<0.50	
Trichloroethene	5	0.5	<0.36	*0.924j*	*1.2j*	<0.48	<0.48	0.20j	<0.20	
Total Trimethylbenzenes	480	96	<0.71	<0.71	<1.80	<1.80	<1.80	<0.40	0.46	
Total Xylenes	2,000	400	<0.92	<0.92	<2.63	<2.63	<1.8	<0.50	<0.5	
Geochemical Indicator Parameters										
Ferrous Iron (mg/L)			NA	NA	NA	NA	NA	NA	NA	May Be Accessible
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Chloride (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Manganese (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Sulfate (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Total Organic Carbon (mg/L)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Ethane (ug/L)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Ethene (ug/L)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Methane (ug/L)			NA	NA	NA	NA	NA	NA	NA	
Field Parameters										
Temperature (^oF)			NA	NA	NA	NA	NA	NA	NA	
Conductivity (ms/cm)			NA	NA	NA	NA	NA	NA	NA	
Dissolved Oxygen (mg/L)			NA	NA	NA	NA	NA	NA	NA	
pH			NA	NA	NA	NA	NA	NA	NA	
Redox Potential (mV)			NA	NA	NA	NA	NA	NA	NA	

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Italic	= Exceeds Preventative Action Limit

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j - Estimated Value between detection limit and quantification limit

TABLE 2k
TW800 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			TW800				
PARAMETER	**ES**	**PAL**	***10/10/02***	***4/1/03***	***6/8/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)							
Benzene	5	0.5	<0.31	<0.31	<20	<16	Destroyed by Road Reconstruction
Ethylbenzene	700	140	<0.5	<0.5	<50	<40	
Naphthalene	100	10	<0.8	<0.8	<25	<20	
Methyl-tert-Butyl Ether	60	12	<0.3	<0.3	<50	<40	
Toluene	800	160	1.07	0.662j	<50	<40	
cis-1,2-Dichloroethene	70	7	**8,520**	<0.23	**5,500**	**8,500**	
trans-1,2-Dichloroethene	100	20	**364**	**354**	**910**	**1,610**	
Vinyl Chloride	0.2	0.02	**10.8**	**11.4**	<20	<16	
Tetrachloroethene	5	0.5	**3,060**	**2,200**	**1,100**	**230**	
Trichloroethene	5	0.5	**20,000**	**14,600**	**2,300**	**2,200**	
Total Trimethylbenzenes	480	96	<0.71	<0.71	<0.40	<32	
Total Xylenes	2,000	400	<0.92	<0.92	<50	<40	
Geochemical Indicator Parameters							
Ferrous Iron (mg/L)			NA	NA	NA	NA	
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA	
Chloride (mg/L)			NA	NA	NA	NA	
Dissolved Manganese (mg/L)			NA	NA	NA	NA	
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA	
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA	
Dissolved Sulfate (mg/L)			NA	NA	NA	NA	
Total Organic Carbon (mg/L)			NA	NA	NA	NA	
Dissolved Ethane (ug/L)			NA	NA	NA	NA	
Dissolved Ethene (ug/L)			NA	NA	NA	NA	
Dissolved Methane (ug/L)			NA	NA	NA	NA	
Field Parameters							
Temperature (^oF)			NA	NA	NA	NA	
Conductivity (ms/cm)			NA	NA	NA	NA	
Dissolved Oxygen (mg/L)			NA	NA	NA	NA	
pH			NA	NA	NA	NA	
Redox Potential (mV)			NA	NA	NA	NA	

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ES = Enforcement Standards

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j - Estimated Value between detection limit and quantification limit

TABLE 2l
TW900 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			TW900			
PARAMETER	**ES**	**PAL**	***10/10/02***	***4/1/03***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)						
Benzene	5	0.5	<310	<0.31	<40	Could Not Locate Inside Building
Ethylbenzene	700	140	<500	<0.5	<100	
Naphthalene	100	10	<800	<0.8	<50	
Methyl-tert-Butyl Ether	60	12	<300	<0.3	<100	
Toluene	800	160	<300	0.484j	<100	
cis-1,2-Dichloroethene	70	7	**250**	**316**	**780**	
trans-1,2-Dichloroethene	100	20	<390	*33.6*	**730**	
Vinyl Chloride	0.2	0.02	<200	**1.03**	<40	
Tetrachloroethene	5	0.5	**11,300**	**16,000**	**21,000**	
Trichloroethene	5	0.5	**7,450**	**4,910**	**6,200**	
Total Trimethylbenzenes	480	96	<710	<0.71	<80	
Total Xylenes	2,000	400	<920	<0.92	<100	
Geochemical Indicator Parameters						
Ferrous Iron (mg/L)			NA	NA	NA	
Nitrate-Nitrogen (mg/L)			NA	NA	NA	
Chloride (mg/L)			NA	NA	NA	
Dissolved Manganese (mg/L)			NA	NA	NA	
Total Alkalinity ($AaCO_3$)			NA	NA	NA	
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	
Dissolved Sulfate (mg/L)			NA	NA	NA	
Total Organic Carbon (mg/L)			NA	NA	NA	
Dissolved Ethane (ug/L)			NA	NA	NA	
Dissolved Ethene (ug/L)			NA	NA	NA	
Dissolved Methane (ug/L)			NA	NA	NA	
Field Parameters						
Temperature (^oF)			NA	NA	NA	
Conductivity (ms/cm)			NA	NA	NA	
Dissolved Oxygen (mg/L)			NA	NA	NA	
pH			NA	NA	NA	
Redox Potential (mV)			NA	NA	NA	

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PAL = Preventive Action Limit

ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

j - Estimated Value between detection limit and quantification limit

TABLE 2m
TW1100 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			TW1100	
PARAMETER	**ES**	**PAL**	***10/10/02***	***4/1/03***
Detected VOC's (ug/L)				
Benzene	5	0.5	*1.80*	*1.48*
Ethylbenzene	700	140	<0.5	<0.5
Naphthalene	100	10	<0.8	<0.8
Methyl-tert-Butyl Ether	60	12	<0.3	<0.3
Toluene	800	160	<0.3	<0.3
cis-1,2-Dichloroethene	70	7	**306**	**252**
trans-1,2-Dichloroethene	100	20	**343**	**359**
Vinyl Chloride	0.2	0.02	**1.97**	**1.34**
Tetrachloroethene	5	0.5	**54.8**	**78.1**
Trichloroethene	5	0.5	**626.0**	**306.0**
Total Trimethylbenzenes	480	96	<0.71	<0.71
Total Xylenes	2,000	400	<0.92	<0.92
Geochemical Indicator Parameters				
Ferrous Iron (mg/L)			NA	NA
Nitrate-Nitrogen (mg/L)			NA	NA
Chloride (mg/L)			NA	NA
Dissolved Manganese (mg/L)			NA	NA
Total Alkalinity ($AaCO_3$)			NA	NA
Dissolved Nitrate/Nitrite (mg/L)			NA	NA
Dissolved Sulfate (mg/L)			NA	NA
Total Organic Carbon (mg/L)			NA	NA
Dissolved Ethane (ug/L)			NA	NA
Dissolved Ethene (ug/L)			NA	NA
Dissolved Methane (ug/L)			NA	NA
Field Parameters				
Temperature (^oF)			NA	NA
Conductivity (ms/cm)			NA	NA
Dissolved Oxygen (mg/L)			NA	NA
pH			NA	NA
Redox Potential (mV)			NA	NA

NDA = No Data Available, laboratory reports not provided

PAL = Preventive Action Limit

ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

j - Estimated Value between detection limit and quantification limit

TABLE 2n
TW1300 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			TW1300			
PARAMETER	**ES**	**PAL**	***10/10/02***	***4/1/03***	***6/8/10***	***9/28/10***
Detected VOC's (ug/L)						
Benzene	5	0.5	<0.31	<155	*3.2*	<2
Ethylbenzene	700	140	<0.5	<250	<8.0	<5
Naphthalene	100	10	<0.8	<400	<4.0	<2.5
Methyl-tert-Butyl Ether	60	12	<0.3	<150	<8.0	<5
Toluene	800	160	0.683j	<150	<8.0	<5
cis-1,2-Dichloroethene	70	7	**1,130**	**696**	**890**	**1,000**
trans-1,2-Dichloroethene	100	20	**745**	**299**	**590**	**820**
Vinyl Chloride	0.2	0.02	**3.04**	<100	<3.2	<2
Tetrachloroethene	5	0.5	**825**	**763**	**130**	**170**
Trichloroethene	5	0.5	**6,030**	**2,540**	**71**	**55**
Total Trimethylbenzenes	480	96	<0.71	<355	<6.4	<4
Total Xylenes	2,000	400	<0.92	<460	<8.0	<5
Geochemical Indicator Parameters						
Ferrous Iron (mg/L)			NA	NA	NA	NA
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA
Chloride (mg/L)			NA	NA	NA	NA
Dissolved Manganese (mg/L)			NA	NA	NA	NA
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA
Dissolved Sulfate (mg/L)			NA	NA	NA	NA
Total Organic Carbon (mg/L)			NA	NA	NA	NA
Dissolved Ethane (ug/L)			NA	NA	NA	NA
Dissolved Ethene (ug/L)			NA	NA	NA	NA
Dissolved Methane (ug/L)			NA	NA	NA	NA
Field Parameters						
Temperature (^oF)			NA	NA	NA	NA
Conductivity (ms/cm)			NA	NA	NA	NA
Dissolved Oxygen (mg/L)			NA	NA	NA	NA
pH			NA	NA	NA	NA
Redox Potential (mV)			NA	NA	NA	NA

NDA = No Data Available, laboratory reports not provided

PAL = Preventive Action Limit

ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

j - Estimated Value between detection limit and quantification limit

TABLE 2o
TW1400 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			TW1400				
PARAMETER	**ES**	**PAL**	***10/10/02***	***4/1/03***	***6/8/10***	***9/28/10***	***10/30/18***
Detected VOC's (ug/L)							
Benzene	5	0.5	<0.31	<155	<6.4	<0.8	Could Not Locate Inside Building
Ethylbenzene	700	140	<0.5	<250	<16	<2	
Naphthalene	100	10	<0.8	<400	<8.0	<1	
Methyl-tert-Butyl Ether	60	12	<0.3	<150	<16	<2	
Toluene	800	160	<0.3	<150	<16	<2	
cis-1,2-Dichloroethene	70	7	**222**	<115	**120**	**74**	
trans-1,2-Dichloroethene	100	20	**644**	**347**	**300**	**190**	
Vinyl Chloride	0.2	0.02	**0.789**	<100	<6.4	<0.8	
Tetrachloroethene	5	0.5	**1,990**	**2,960**	**1,700**	**260**	
Trichloroethene	5	0.5	**1,200**	**1,820**	**76**	**120**	
Total Trimethylbenzenes	480	96	<0.71	<355	<12.8	<1.6	
Total Xylenes	2,000	400	<0.92	<460	<8.0	<5	
Geochemical Indicator Parameters							
Ferrous Iron (mg/L)			NA	NA	NA	NA	
Nitrate-Nitrogen (mg/L)			NA	NA	NA	NA	
Chloride (mg/L)			NA	NA	NA	NA	
Dissolved Manganese (mg/L)			NA	NA	NA	NA	
Total Alkalinity ($AaCO_3$)			NA	NA	NA	NA	
Dissolved Nitrate/Nitrite (mg/L)			NA	NA	NA	NA	
Dissolved Sulfate (mg/L)			NA	NA	NA	NA	
Total Organic Carbon (mg/L)			NA	NA	NA	NA	
Dissolved Ethane (ug/L)			NA	NA	NA	NA	
Dissolved Ethene (ug/L)			NA	NA	NA	NA	
Dissolved Methane (ug/L)			NA	NA	NA	NA	
Field Parameters							
Temperature (^oF)			NA	NA	NA	NA	
Conductivity (ms/cm)			NA	NA	NA	NA	
Dissolved Oxygen (mg/L)			NA	NA	NA	NA	
pH			NA	NA	NA	NA	
Redox Potential (mV)			NA	NA	NA	NA	

NDA = No Data Available, laboratory reports not provided

PAL = Preventive Action Limit

ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

j - Estimated Value between detection limit and quantification limit

TABLE 2p
TW1500 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			TW1400	
PARAMETER	**ES**	**PAL**	***10/10/02***	***4/1/03***
Detected VOC's (ug/L)				
Benzene	5	0.5	<0.31	<0.31
Ethylbenzene	700	140	<0.5	<0.5
Naphthalene	100	10	<0.8	<0.8
Methyl-tert-Butyl Ether	60	12	<0.3	<0.3
Toluene	800	160	<0.3	<0.3
cis-1,2-Dichloroethene	70	7	*16.6*	*9.23*
trans-1,2-Dichloroethene	100	20	2.92	<0.2
Vinyl Chloride	0.2	0.02	<0.2	<0.2
Tetrachloroethene	5	0.5	0.339j	0.351j
Trichloroethene	5	0.5	*0.664j*	<0.36
Total Trimethylbenzenes	480	96	<0.71	<0.71
Total Xylenes	2,000	400	<0.92	<0.92
Geochemical Indicator Parameters				
Ferrous Iron (mg/L)			NA	NA
Nitrate-Nitrogen (mg/L)			NA	NA
Chloride (mg/L)			NA	NA
Dissolved Manganese (mg/L)			NA	NA
Total Alkalinity ($AaCO_3$)			NA	NA
Dissolved Nitrate/Nitrite (mg/L)			NA	NA
Dissolved Sulfate (mg/L)			NA	NA
Total Organic Carbon (mg/L)			NA	NA
Dissolved Ethane (ug/L)			NA	NA
Dissolved Ethene (ug/L)			NA	NA
Dissolved Methane (ug/L)			NA	NA
Field Parameters				
Temperature (^oF)			NA	NA
Conductivity (ms/cm)			NA	NA
Dissolved Oxygen (mg/L)			NA	NA
pH			NA	NA
Redox Potential (mV)			NA	NA

NDA = No Data Available, laboratory reports not provided

PAL = Preventive Action Limit

ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

j - Estimated Value between detection limit and quantification limit

TABLE 2q
TW3100 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			TW3100
PARAMETER	**ES**	**PAL**	***4/1/03***
Detected VOC's (ug/L)			
Benzene	5	0.5	<0.31
Ethylbenzene	700	140	<0.5
Naphthalene	100	10	<0.8
Methyl-tert-Butyl Ether	60	12	<0.3
Toluene	800	160	<0.3
cis-1,2-Dichloroethene	70	7	<0.23
trans-1,2-Dichloroethene	100	20	<0.39
Vinyl Chloride	0.2	0.02	<0.2
Tetrachloroethene	5	0.5	<0.32
Trichloroethene	5	0.5	<0.36
Total Trimethylbenzenes	480	96	<0.71
Total Xylenes	2,000	400	<0.92
Geochemical Indicator Parameters			
Ferrous Iron (mg/L)			NA
Nitrate-Nitrogen (mg/L)			NA
Chloride (mg/L)			NA
Dissolved Manganese (mg/L)			NA
Total Alkalinity ($AaCO_3$)			NA
Dissolved Nitrate/Nitrite (mg/L)			NA
Dissolved Sulfate (mg/L)			NA
Total Organic Carbon (mg/L)			NA
Dissolved Ethane (ug/L)			NA
Dissolved Ethene (ug/L)			NA
Dissolved Methane (ug/L)			NA
Field Parameters			
Temperature (^oF)			NA
Conductivity (ms/cm)			NA
Dissolved Oxygen (mg/L)			NA
pH			NA
Redox Potential (mV)			NA

NDA = No Data Available, laboratory reports not provided

PAL = Preventive Action Limit

ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

j - Estimated Value between detection limit and quantification limit

TABLE 2r
TW3500 GROUNDWATER ANALYTICAL RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

			TW3500
PARAMETER	**ES**	**PAL**	***6/19/03***
Detected VOC's (ug/L)			
Benzene	5	0.5	<0.31
Ethylbenzene	700	140	<0.5
Naphthalene	100	10	<0.8
Methyl-tert-Butyl Ether	60	12	<0.3
Toluene	800	160	<0.3
cis-1,2-Dichloroethene	70	7	<0.23
trans-1,2-Dichloroethene	100	20	<0.39
Vinyl Chloride	0.2	0.02	<0.2
Tetrachloroethene	5	0.5	0.431j
Trichloroethene	5	0.5	<0.36
Total Trimethylbenzenes	480	96	<0.71
Total Xylenes	2,000	400	<0.92
Geochemical Indicator Parameters			
Ferrous Iron (mg/L)			NA
Nitrate-Nitrogen (mg/L)			NA
Chloride (mg/L)			NA
Dissolved Manganese (mg/L)			NA
Total Alkalinity ($AaCO_3$)			NA
Dissolved Nitrate/Nitrite (mg/L)			NA
Dissolved Sulfate (mg/L)			NA
Total Organic Carbon (mg/L)			NA
Dissolved Ethane (ug/L)			NA
Dissolved Ethene (ug/L)			NA
Dissolved Methane (ug/L)			NA
Field Parameters			
Temperature (^oF)			NA
Conductivity (ms/cm)			NA
Dissolved Oxygen (mg/L)			NA
pH			NA
Redox Potential (mV)			NA

NDA = No Data Available, laboratory reports not provided

PAL = Preventive Action Limit

ES = Enforcement Standards

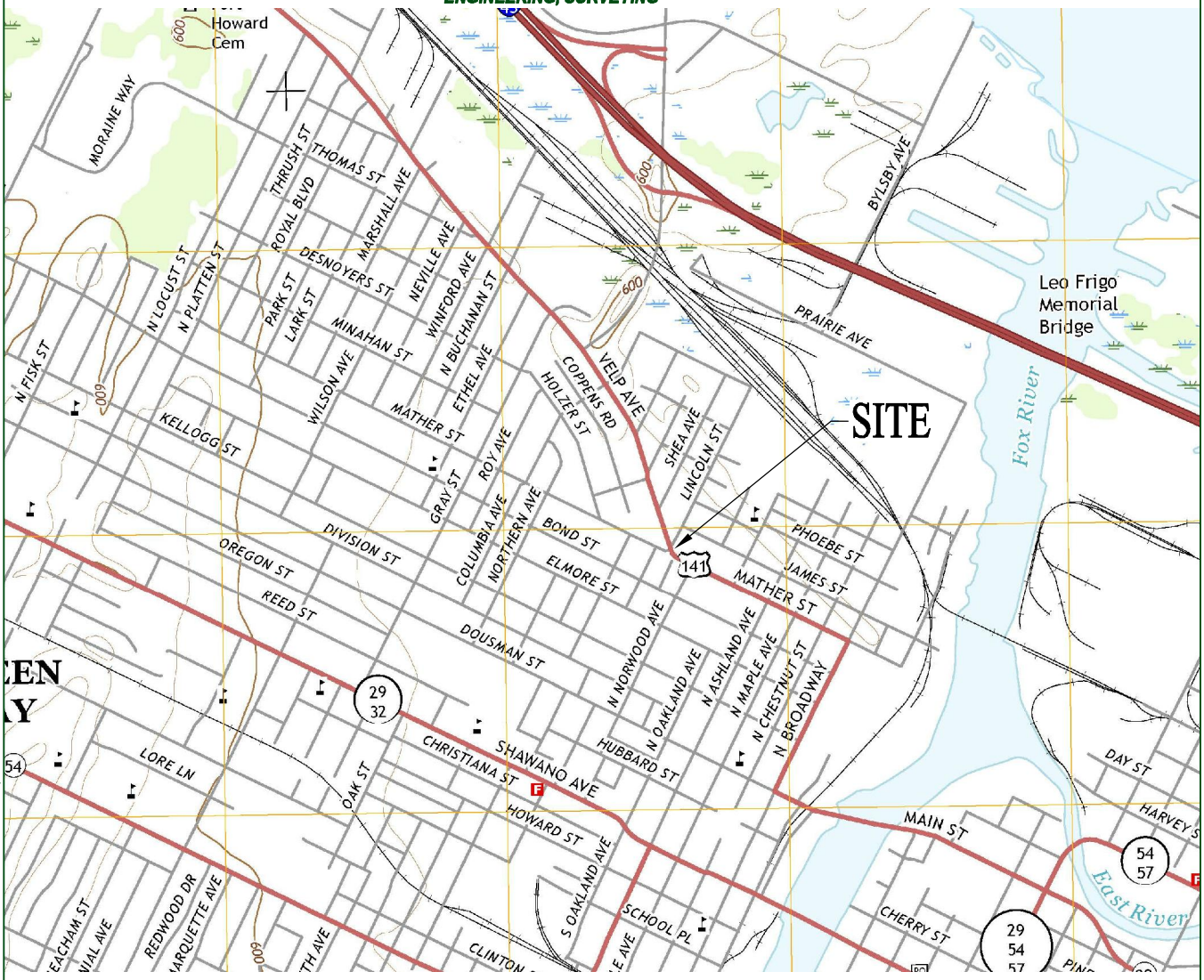
BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

j - Estimated Value between detection limit and quantification limit

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING



SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2

1000 500 0 METERS 1000 2000

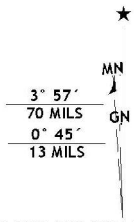
1 0.5 0 1

MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988



UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

GREEN BAY WEST QUADRANGLE
WISCONSIN-BROWN CO.
7.5-MINUTE SERIES

QUADRANGLE LOCATION

REI ENGINEERING, INC.

V&L STRIPPING (FORMER)
864 MATHER STREET
GREEN BAY, WISCONSIN 54303

FIGURE 1 : VICINITY MAP

PROJECT NO.	DRAWN BY:	DATE:
8318	MCM	9/10/2018

DRAWING FILE: P:\8300-8399\8318 - V&L STRIPPING\DWG\8318-VICN.DWG LAYOUT: VICN PLOTTED: SEP 10, 2018 - 7:39AM PLOTTED BY: MATTM

RANDY'S MOBIL SERVICE CENTER
CLOSED LUST SITE
(BRRTS# 03-05-111777)

MW300 (RMSC)
SUMP1 (RMSC)
MW700 (RMSC)
MW800 (RMSC)
MW1100 (RMSC)
SUMP2 (RMSC)
MW900 (RMSC)
MW600 (RMSC)
MW1200 (RMSC)
MW1000 (RMSC)
MW2100 (RMSC)
MW2000 (RMSC)
MW400
TW3100
TW3500
VP3600
TW1100
TW1500
SVE-1
MW200 (RMSC)
MW3200 (RMSC)
TW900
MW300 (RMSC)
TW1400
SVE-3
MW100 (RMSC)
SVE-4
SVE-2
TW800
PZ1700
VP3700
TW1300

LEGEND

0 40
SCALE: 1" = 40'

- TEMPORARY MONITORING WELL
- TEMPORARY MONITORING WELL (ABANDONED/DESTROYED)
- MONITORING WELL
- MONITORING WELL (ABANDONED/DESTROYED)
- PIEZOMETER
- SOIL VAPOR EXTRACTION WELL
- VAPOR PROBE
- SUMP
- SUMP (ABANDONED/DESTROYED)
- (RMSC) INSTALLED AS PART OF RANDY'S MOBIL SERVICE CENTER CLOSED LUST SITE (BRRTS# 03-05-111777)
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER
- NATURAL GAS LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- PROPERTY BOUNDARY (APPROXIMATE)

REI Engineering, INC.

REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

V&L STRIPPING (FORMER)
864 MATHER STREET
GREEN BAY, WISCONSIN 54303

FIGURE 2 : DETAILED SITE MAP

PROJECT No.	DRAWN BY:	DATE:
8318	MCM	12/10/2018

DRAWING FILE: P:\8300-8399\8318 - V&L STRIPPING\DWG\8318-SITE.DWG LAYOUT: ENV_HORZ-11X17 PLOTTED: DEC 10, 2018 - 1:31PM PLOTTED BY: MATTM

RANDY'S MOBIL SERVICE CENTER
CLOSED LUST SITE
(BRRTS# 03-05-111777)

MW300 (RMSC)
SUMP1 (RMSC)
MW700 (RMSC)
MW800 (RMSC)
MW1100 (RMSC)
SUMP2 (RMSC)
MW900 (RMSC)
MW600 (RMSC)
MW1200 (RMSC)
MW1000 (RMSC)
586.23
MW2100 (RMSC)
586.92
TW3100
TW3500
VP3600
589.21
MW3200 (RMSC)
TW1100
TW1500
SVE-1
MW200 (RMSC)
587.00
587.75
TW1900
MW300 (RMSC)
586.88
586.75
TW1400
SVE-3
MW100 (RMSC)
586.85
MW400
SVE-2
SVE-4
TW800
PZ1700
587.50
587.25
VP3700
TW1300
586.75
587.00
MW2000 (RMSC)
586.75
587.00

LEGEND

SCALE: 1" = 40'

- TEMPORARY MONITORING WELL
- TEMPORARY MONITORING WELL (ABANDONED/DESTROYED)
- MONITORING WELL
- MONITORING WELL (ABANDONED/DESTROYED)
- PIEZOMETER
- SOIL VAPOR EXTRACTION WELL
- VAPOR PROBE
- SUMP
- SUMP (ABANDONED/DESTROYED)
- (RMSC) INSTALLED AS PART OF RANDY'S MOBIL SERVICE CENTER CLOSED LUST SITE (BRRTS# 03-05-111777)
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER
- NATURAL GAS LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- PROPERTY BOUNDARY (APPROXIMATE)

REI Engineering, INC.

REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

V&L STRIPPING (FORMER)
864 MATHER STREET
GREEN BAY, WISCONSIN 54303

FIGURE 3 : GROUNDWATER FLOW (10/30/2018)

PROJECT No.	DRAWN BY:	DATE:
8318	MCM	12/10/2018

DRAWING FILE: P:\8300-8399\8318 - V&L STRIPPING\DWG\8318-GW FLOW 103018.DWG LAYOUT: ENV_HORZ-11X17 PLOTTED: DEC 10, 2018 - 1:54PM PLOTTED BY: MATTM

RANDY'S MOBIL SERVICE CENTER
CLOSED LUST SITE
(BRRTS# 03-05-111777)

MW300 (RMSC)
SUMP1 (RMSC)
MW700 (RMSC)
MW800 (RMSC)
MW1100 (RMSC)
SUMP2 (RMSC)
MW900 (RMSC)
MW600 (RMSC)
MW1200 (RMSC)
MW1000 (RMSC)
MW2100 (RMSC)
MW2000 (RMSC)
TW3100
TW3500
VP3600
TW1100
TW1500
SVE-1
MW200 (RMSC)
MW3200 (RMSC)
TW900
MW300 (RMSC)
TW1400
SVE-3
MW100 (RMSC)
MW400
SVE-4
SVE-2
VP3700
TW800
PZ1700
TW1300

ESTIMATED EXTENT OF DISSOLVED PHASE CHLORINATED VOLATILE ORGANIC COMPOUNDS EXCEEDING THE NR140 ENFORCEMENT STANDARD

N

REI Engineering, INC.

LEGEND

0 40
SCALE: 1" = 40'

- TEMPORARY MONITORING WELL
- TEMPORARY MONITORING WELL (ABANDONED/DESTROYED)
- MONITORING WELL
- MONITORING WELL (ABANDONED/DESTROYED)
- PIEZOMETER
- SOIL VAPOR EXTRACTION WELL
- VAPOR PROBE
- SUMP
- SUMP (ABANDONED/DESTROYED)
- (RMSC) INSTALLED AS PART OF RANDY'S MOBIL SERVICE CENTER CLOSED LUST SITE (BRRTS# 03-05-111777)
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER
- NATURAL GAS LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- PROPERTY BOUNDARY (APPROXIMATE)

REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

V&L STRIPPING (FORMER)
864 MATHER STREET
GREEN BAY, WISCONSIN 54303

FIGURE 4 : GROUNDWATER CONTAMINATION (10/30/2018)

PROJECT No.	DRAWN BY:	DATE:
8318	MCM	12/10/2018

DRAWING FILE: P:\8300-8399\8318 - V&L STRIPPING\DWG\8318-GW CONT 103018.DWG LAYOUT: ENV_HORZ-11X17 PLOTTED: DEC 10, 2018 - 2:31PM PLOTTED BY: MATTM

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

November 26, 2018

Andy Delforge
REI
4080 North 20th Avenue
Wausau, WI 54401

RE: Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Dear Andy Delforge:
Enclosed are the analytical results for sample(s) received by the laboratory on November 01, 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.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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

Sincerely,

Brian Basten
brian.basten@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: 8318 V&L STRIPPING
Pace Project No.: 40178763

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: 8318 V&L STRIPPING
Pace Project No.: 40178763

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40178763001	**MW-1000**	Water	10/30/18 11:00	11/01/18 09:00
40178763002	**MW-2100**	Water	10/30/18 11:50	11/01/18 09:00
40178763003	**MW-300**	Water	10/30/18 13:50	11/01/18 09:00
40178763004	**MW-100**	Water	10/30/18 15:30	11/01/18 09:00
40178763005	**MW-3200**	Water	10/30/18 16:40	11/01/18 09:00

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

SAMPLE ANALYTE COUNT

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40178763001	**MW-1000**	EPA 8015B Modified	ALD	3	PASI-G
		EPA 6010	TXW	1	PASI-G
		EPA 8260	HNW	64	PASI-G
		HACH 8146	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40178763002	**MW-2100**	EPA 8015B Modified	ALD	3	PASI-G
		EPA 6010	TXW	1	PASI-G
		EPA 8260	HNW	64	PASI-G
		HACH 8146	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40178763003	**MW-300**	EPA 8015B Modified	ALD	3	PASI-G
		EPA 6010	TXW	1	PASI-G
		EPA 8260	HNW	64	PASI-G
		HACH 8146	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40178763004	**MW-100**	EPA 8015B Modified	ALD	3	PASI-G
		EPA 6010	TXW	1	PASI-G
		EPA 8260	HNW	64	PASI-G
		HACH 8146	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40178763005	**MW-3200**	EPA 8015B Modified	ALD	3	PASI-G
		EPA 6010	TXW	1	PASI-G
		EPA 8260	HNW	64	PASI-G
		HACH 8146	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Sample: MW-1000 **Lab ID: 40178763001** Collected: 10/30/18 11:00 Received: 11/01/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV	Analytical Method: EPA 8015B Modified								
Ethane	**<0.58**	ug/L	5.6	0.58	1		11/06/18 08:07	74-84-0	
Ethene	**<0.52**	ug/L	5.0	0.52	1		11/06/18 08:07	74-85-1	
Methane	**<1.4**	ug/L	2.8	1.4	1		11/06/18 08:07	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**1540**	ug/L	5.1	1.5	1	11/09/18 08:33	11/14/18 17:43	7439-96-5	M0
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		11/02/18 23:30	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		11/02/18 23:30	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		11/02/18 23:30	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		11/02/18 23:30	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		11/02/18 23:30	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		11/02/18 23:30	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		11/02/18 23:30	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		11/02/18 23:30	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		11/02/18 23:30	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		11/02/18 23:30	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		11/02/18 23:30	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		11/02/18 23:30	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		11/02/18 23:30	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		11/02/18 23:30	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		11/02/18 23:30	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		11/02/18 23:30	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		11/02/18 23:30	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		11/02/18 23:30	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		11/02/18 23:30	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		11/02/18 23:30	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		11/02/18 23:30	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		11/02/18 23:30	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		11/02/18 23:30	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		11/02/18 23:30	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		11/02/18 23:30	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		11/02/18 23:30	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		11/02/18 23:30	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		11/02/18 23:30	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		11/02/18 23:30	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		11/02/18 23:30	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		11/02/18 23:30	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		11/02/18 23:30	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		11/02/18 23:30	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		11/02/18 23:30	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		11/02/18 23:30	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		11/02/18 23:30	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		11/02/18 23:30	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		11/02/18 23:30	87-68-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Sample: MW-1000 **Lab ID: 40178763001** Collected: 10/30/18 11:00 Received: 11/01/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		11/02/18 23:30	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		11/02/18 23:30	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		11/02/18 23:30	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		11/02/18 23:30	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		11/02/18 23:30	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		11/02/18 23:30	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		11/02/18 23:30	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		11/02/18 23:30	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		11/02/18 23:30	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		11/02/18 23:30	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		11/02/18 23:30	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		11/02/18 23:30	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		11/02/18 23:30	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		11/02/18 23:30	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		11/02/18 23:30	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		11/02/18 23:30	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		11/02/18 23:30	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		11/02/18 23:30	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		11/02/18 23:30	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		11/02/18 23:30	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		11/02/18 23:30	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		11/02/18 23:30	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		11/02/18 23:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		11/02/18 23:30	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		1		11/02/18 23:30	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		11/02/18 23:30	2037-26-5	
Iron, Ferrous	Analytical Method: HACH 8146								
Iron, Ferrous	**<0.028**	mg/L	0.093	0.028	1		11/05/18 14:45		H6
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.7**	mg/L	0.22	0.075	1		11/01/18 10:58	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**169**	mg/L	20.0	5.0	10		11/02/18 12:21	16887-00-6	
Sulfate	**162**	mg/L	30.0	10.0	10		11/02/18 12:21	14808-79-8	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**2.9**	mg/L	0.84	0.25	1		11/15/18 19:35	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Sample: MW-2100 **Lab ID: 40178763002** Collected: 10/30/18 11:50 Received: 11/01/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV	Analytical Method: EPA 8015B Modified								
Ethane	**<0.58**	ug/L	5.6	0.58	1		11/06/18 08:14	74-84-0	
Ethene	**<0.52**	ug/L	5.0	0.52	1		11/06/18 08:14	74-85-1	
Methane	**253**	ug/L	2.8	1.4	1		11/06/18 08:14	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**218**	ug/L	5.1	1.5	1	11/09/18 08:33	11/14/18 17:52	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		11/02/18 23:52	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		11/02/18 23:52	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		11/02/18 23:52	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		11/02/18 23:52	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		11/02/18 23:52	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		11/02/18 23:52	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		11/02/18 23:52	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		11/02/18 23:52	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		11/02/18 23:52	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		11/02/18 23:52	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		11/02/18 23:52	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		11/02/18 23:52	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		11/02/18 23:52	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		11/02/18 23:52	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		11/02/18 23:52	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		11/02/18 23:52	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		11/02/18 23:52	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		11/02/18 23:52	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		11/02/18 23:52	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		11/02/18 23:52	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		11/02/18 23:52	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		11/02/18 23:52	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		11/02/18 23:52	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		11/02/18 23:52	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		11/02/18 23:52	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		11/02/18 23:52	107-06-2	
1,1-Dichloroethene	**0.25J**	ug/L	1.0	0.24	1		11/02/18 23:52	75-35-4	
cis-1,2-Dichloroethene	**148**	ug/L	1.0	0.27	1		11/02/18 23:52	156-59-2	
trans-1,2-Dichloroethene	**9.1**	ug/L	3.6	1.1	1		11/02/18 23:52	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		11/02/18 23:52	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		11/02/18 23:52	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		11/02/18 23:52	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		11/02/18 23:52	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		11/02/18 23:52	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		11/02/18 23:52	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		11/02/18 23:52	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		11/02/18 23:52	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		11/02/18 23:52	87-68-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Sample: MW-2100 **Lab ID: 40178763002** Collected: 10/30/18 11:50 Received: 11/01/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		11/02/18 23:52	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		11/02/18 23:52	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		11/02/18 23:52	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		11/02/18 23:52	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		11/02/18 23:52	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		11/02/18 23:52	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		11/02/18 23:52	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		11/02/18 23:52	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		11/02/18 23:52	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		11/02/18 23:52	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		11/02/18 23:52	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		11/02/18 23:52	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		11/02/18 23:52	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		11/02/18 23:52	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		11/02/18 23:52	79-00-5	
Trichloroethene	**0.89J**	ug/L	1.0	0.26	1		11/02/18 23:52	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		11/02/18 23:52	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		11/02/18 23:52	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		11/02/18 23:52	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		11/02/18 23:52	108-67-8	
Vinyl chloride	**0.67J**	ug/L	1.0	0.17	1		11/02/18 23:52	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		11/02/18 23:52	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		11/02/18 23:52	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		11/02/18 23:52	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		11/02/18 23:52	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		11/02/18 23:52	2037-26-5	
Iron, Ferrous	Analytical Method: HACH 8146								
Iron, Ferrous	**<0.028**	mg/L	0.093	0.028	1		11/05/18 14:49		H6
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**<0.075**	mg/L	0.22	0.075	1		11/01/18 11:10	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**602**	mg/L	40.0	10.0	20		11/02/18 12:34	16887-00-6	
Sulfate	**54.6**	mg/L	3.0	1.0	1		11/01/18 11:10	14808-79-8	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**0.48J**	mg/L	0.84	0.25	1		11/15/18 19:56	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Sample: MW-300 **Lab ID: 40178763003** Collected: 10/30/18 13:50 Received: 11/01/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV	Analytical Method: EPA 8015B Modified								
Ethane	**<0.58**	ug/L	5.6	0.58	1		11/06/18 08:21	74-84-0	
Ethene	**<0.52**	ug/L	5.0	0.52	1		11/06/18 08:21	74-85-1	
Methane	**4.0**	ug/L	2.8	1.4	1		11/06/18 08:21	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**217**	ug/L	5.1	1.5	1	11/09/18 08:33	11/14/18 18:02	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		11/03/18 00:13	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		11/03/18 00:13	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		11/03/18 00:13	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		11/03/18 00:13	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		11/03/18 00:13	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		11/03/18 00:13	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		11/03/18 00:13	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		11/03/18 00:13	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		11/03/18 00:13	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		11/03/18 00:13	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		11/03/18 00:13	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		11/03/18 00:13	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		11/03/18 00:13	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		11/03/18 00:13	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		11/03/18 00:13	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		11/03/18 00:13	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		11/03/18 00:13	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		11/03/18 00:13	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		11/03/18 00:13	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		11/03/18 00:13	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		11/03/18 00:13	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		11/03/18 00:13	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		11/03/18 00:13	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		11/03/18 00:13	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		11/03/18 00:13	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		11/03/18 00:13	107-06-2	
1,1-Dichloroethene	**0.28J**	ug/L	1.0	0.24	1		11/03/18 00:13	75-35-4	
cis-1,2-Dichloroethene	**461**	ug/L	10.0	2.7	10		11/05/18 09:01	156-59-2	
trans-1,2-Dichloroethene	**438**	ug/L	36.4	10.9	10		11/05/18 09:01	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		11/03/18 00:13	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		11/03/18 00:13	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		11/03/18 00:13	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		11/03/18 00:13	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		11/03/18 00:13	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		11/03/18 00:13	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		11/03/18 00:13	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		11/03/18 00:13	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		11/03/18 00:13	87-68-3	

REPORT OF LABORATORY ANALYSIS

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

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Sample: MW-300 **Lab ID: 40178763003** Collected: 10/30/18 13:50 Received: 11/01/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		11/03/18 00:13	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		11/03/18 00:13	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		11/03/18 00:13	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		11/03/18 00:13	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		11/03/18 00:13	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		11/03/18 00:13	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		11/03/18 00:13	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		11/03/18 00:13	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		11/03/18 00:13	79-34-5	
Tetrachloroethene	**8.4**	ug/L	1.1	0.33	1		11/03/18 00:13	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		11/03/18 00:13	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		11/03/18 00:13	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		11/03/18 00:13	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		11/03/18 00:13	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		11/03/18 00:13	79-00-5	
Trichloroethene	**3.2**	ug/L	1.0	0.26	1		11/03/18 00:13	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		11/03/18 00:13	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		11/03/18 00:13	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		11/03/18 00:13	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		11/03/18 00:13	108-67-8	
Vinyl chloride	**0.55J**	ug/L	1.0	0.17	1		11/03/18 00:13	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		11/03/18 00:13	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		11/03/18 00:13	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		11/03/18 00:13	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		1		11/03/18 00:13	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		11/03/18 00:13	2037-26-5	
Iron, Ferrous	Analytical Method: HACH 8146								
Iron, Ferrous	**<0.028**	mg/L	0.093	0.028	1		11/05/18 14:55		H6
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**<0.38**	mg/L	1.1	0.38	5		11/01/18 11:47	14797-55-8	D3
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**57.6**	mg/L	10.0	2.5	5		11/01/18 11:47	16887-00-6	
Sulfate	**35.5**	mg/L	15.0	5.0	5		11/01/18 11:47	14808-79-8	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**11.6**	mg/L	5.0	1.5	6		11/15/18 21:00	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Sample: MW-100 **Lab ID: 40178763004** Collected: 10/30/18 15:30 Received: 11/01/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV	Analytical Method: EPA 8015B Modified								
Ethane	**<0.58**	ug/L	5.6	0.58	1		11/06/18 08:28	74-84-0	
Ethene	**<0.52**	ug/L	5.0	0.52	1		11/06/18 08:28	74-85-1	
Methane	**770**	ug/L	14.0	6.8	5		11/06/18 10:07	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**350**	ug/L	5.1	1.5	1	11/09/18 08:33	11/14/18 18:04	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<12.3**	ug/L	50.0	12.3	50		11/02/18 11:34	71-43-2	
Bromobenzene	**<12.1**	ug/L	50.0	12.1	50		11/02/18 11:34	108-86-1	
Bromochloromethane	**<18.1**	ug/L	250	18.1	50		11/02/18 11:34	74-97-5	
Bromodichloromethane	**<18.2**	ug/L	60.6	18.2	50		11/02/18 11:34	75-27-4	
Bromoform	**<199**	ug/L	662	199	50		11/02/18 11:34	75-25-2	
Bromomethane	**<48.6**	ug/L	250	48.6	50		11/02/18 11:34	74-83-9	
n-Butylbenzene	**<35.4**	ug/L	118	35.4	50		11/02/18 11:34	104-51-8	
sec-Butylbenzene	**<42.4**	ug/L	250	42.4	50		11/02/18 11:34	135-98-8	
tert-Butylbenzene	**<15.2**	ug/L	50.6	15.2	50		11/02/18 11:34	98-06-6	
Carbon tetrachloride	**<8.3**	ug/L	50.0	8.3	50		11/02/18 11:34	56-23-5	
Chlorobenzene	**<35.5**	ug/L	118	35.5	50		11/02/18 11:34	108-90-7	
Chloroethane	**<67.1**	ug/L	250	67.1	50		11/02/18 11:34	75-00-3	
Chloroform	**<63.7**	ug/L	250	63.7	50		11/02/18 11:34	67-66-3	
Chloromethane	**<109**	ug/L	365	109	50		11/02/18 11:34	74-87-3	
2-Chlorotoluene	**<46.3**	ug/L	250	46.3	50		11/02/18 11:34	95-49-8	
4-Chlorotoluene	**<37.8**	ug/L	126	37.8	50		11/02/18 11:34	106-43-4	
1,2-Dibromo-3-chloropropane	**<88.2**	ug/L	294	88.2	50		11/02/18 11:34	96-12-8	
Dibromochloromethane	**<130**	ug/L	434	130	50		11/02/18 11:34	124-48-1	
1,2-Dibromoethane (EDB)	**<41.5**	ug/L	138	41.5	50		11/02/18 11:34	106-93-4	
Dibromomethane	**<46.8**	ug/L	156	46.8	50		11/02/18 11:34	74-95-3	
1,2-Dichlorobenzene	**<35.3**	ug/L	118	35.3	50		11/02/18 11:34	95-50-1	
1,3-Dichlorobenzene	**<31.4**	ug/L	105	31.4	50		11/02/18 11:34	541-73-1	
1,4-Dichlorobenzene	**<47.2**	ug/L	157	47.2	50		11/02/18 11:34	106-46-7	
Dichlorodifluoromethane	**<25.0**	ug/L	250	25.0	50		11/02/18 11:34	75-71-8	
1,1-Dichloroethane	**<13.6**	ug/L	50.0	13.6	50		11/02/18 11:34	75-34-3	
1,2-Dichloroethane	**<14.0**	ug/L	50.0	14.0	50		11/02/18 11:34	107-06-2	
1,1-Dichloroethene	**<12.2**	ug/L	50.0	12.2	50		11/02/18 11:34	75-35-4	
cis-1,2-Dichloroethene	**1500**	ug/L	50.0	13.6	50		11/02/18 11:34	156-59-2	
trans-1,2-Dichloroethene	**654**	ug/L	182	54.5	50		11/02/18 11:34	156-60-5	
1,2-Dichloropropane	**<14.1**	ug/L	50.0	14.1	50		11/02/18 11:34	78-87-5	
1,3-Dichloropropane	**<41.3**	ug/L	138	41.3	50		11/02/18 11:34	142-28-9	
2,2-Dichloropropane	**<113**	ug/L	378	113	50		11/02/18 11:34	594-20-7	
1,1-Dichloropropene	**<27.0**	ug/L	90.0	27.0	50		11/02/18 11:34	563-58-6	
cis-1,3-Dichloropropene	**<181**	ug/L	605	181	50		11/02/18 11:34	10061-01-5	
trans-1,3-Dichloropropene	**<219**	ug/L	728	219	50		11/02/18 11:34	10061-02-6	
Diisopropyl ether	**<94.4**	ug/L	315	94.4	50		11/02/18 11:34	108-20-3	
Ethylbenzene	**<10.9**	ug/L	50.0	10.9	50		11/02/18 11:34	100-41-4	
Hexachloro-1,3-butadiene	**<59.1**	ug/L	250	59.1	50		11/02/18 11:34	87-68-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Sample: MW-100 **Lab ID: 40178763004** Collected: 10/30/18 15:30 Received: 11/01/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	**<19.6**	ug/L	250	19.6	50		11/02/18 11:34	98-82-8	
p-Isopropyltoluene	**<40.0**	ug/L	133	40.0	50		11/02/18 11:34	99-87-6	
Methylene Chloride	**<29.0**	ug/L	250	29.0	50		11/02/18 11:34	75-09-2	
Methyl-tert-butyl ether	**<62.3**	ug/L	208	62.3	50		11/02/18 11:34	1634-04-4	
Naphthalene	**<58.8**	ug/L	250	58.8	50		11/02/18 11:34	91-20-3	
n-Propylbenzene	**<40.5**	ug/L	250	40.5	50		11/02/18 11:34	103-65-1	
Styrene	**<23.3**	ug/L	77.6	23.3	50		11/02/18 11:34	100-42-5	
1,1,1,2-Tetrachloroethane	**<13.5**	ug/L	50.0	13.5	50		11/02/18 11:34	630-20-6	
1,1,2,2-Tetrachloroethane	**<13.8**	ug/L	50.0	13.8	50		11/02/18 11:34	79-34-5	
Tetrachloroethene	**6580**	ug/L	54.4	16.3	50		11/02/18 11:34	127-18-4	
Toluene	**<8.6**	ug/L	250	8.6	50		11/02/18 11:34	108-88-3	
1,2,3-Trichlorobenzene	**<31.3**	ug/L	250	31.3	50		11/02/18 11:34	87-61-6	
1,2,4-Trichlorobenzene	**<47.6**	ug/L	250	47.6	50		11/02/18 11:34	120-82-1	
1,1,1-Trichloroethane	**<12.2**	ug/L	50.0	12.2	50		11/02/18 11:34	71-55-6	
1,1,2-Trichloroethane	**<27.6**	ug/L	250	27.6	50		11/02/18 11:34	79-00-5	
Trichloroethene	**4150**	ug/L	50.0	12.8	50		11/02/18 11:34	79-01-6	
Trichlorofluoromethane	**<10.7**	ug/L	50.0	10.7	50		11/02/18 11:34	75-69-4	
1,2,3-Trichloropropane	**<29.5**	ug/L	250	29.5	50		11/02/18 11:34	96-18-4	
1,2,4-Trimethylbenzene	**<42.0**	ug/L	140	42.0	50		11/02/18 11:34	95-63-6	
1,3,5-Trimethylbenzene	**<43.7**	ug/L	146	43.7	50		11/02/18 11:34	108-67-8	
Vinyl chloride	**<8.7**	ug/L	50.0	8.7	50		11/02/18 11:34	75-01-4	
m&p-Xylene	**<23.3**	ug/L	100	23.3	50		11/02/18 11:34	179601-23-1	
o-Xylene	**<13.1**	ug/L	50.0	13.1	50		11/02/18 11:34	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		50		11/02/18 11:34	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		50		11/02/18 11:34	1868-53-7	
Toluene-d8 (S)	98	%	70-130		50		11/02/18 11:34	2037-26-5	
Iron, Ferrous	Analytical Method: HACH 8146								
Iron, Ferrous	**<0.028**	mg/L	0.093	0.028	1		11/05/18 14:55		H6
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**<0.38**	mg/L	1.1	0.38	5		11/01/18 11:59	14797-55-8	D3
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**64.8**	mg/L	10.0	2.5	5		11/01/18 11:59	16887-00-6	
Sulfate	**49.9**	mg/L	15.0	5.0	5		11/01/18 11:59	14808-79-8	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**7.4**	mg/L	2.5	0.76	3		11/15/18 22:23	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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ANALYTICAL RESULTS

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Sample: MW-3200 **Lab ID: 40178763005** Collected: 10/30/18 16:40 Received: 11/01/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV	Analytical Method: EPA 8015B Modified								
Ethane	**<0.58**	ug/L	5.6	0.58	1		11/06/18 08:47	74-84-0	
Ethene	**<0.52**	ug/L	5.0	0.52	1		11/06/18 08:47	74-85-1	
Methane	**10.2**	ug/L	2.8	1.4	1		11/06/18 08:47	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese	**224**	ug/L	5.1	1.5	1	11/09/18 08:33	11/14/18 18:07	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		11/05/18 07:35	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		11/05/18 07:35	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		11/05/18 07:35	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		11/05/18 07:35	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		11/05/18 07:35	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		11/05/18 07:35	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		11/05/18 07:35	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		11/05/18 07:35	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		11/05/18 07:35	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		11/05/18 07:35	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		11/05/18 07:35	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		11/05/18 07:35	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		11/05/18 07:35	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		11/05/18 07:35	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		11/05/18 07:35	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		11/05/18 07:35	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		11/05/18 07:35	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		11/05/18 07:35	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		11/05/18 07:35	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		11/05/18 07:35	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		11/05/18 07:35	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		11/05/18 07:35	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		11/05/18 07:35	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		11/05/18 07:35	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		11/05/18 07:35	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		11/05/18 07:35	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		11/05/18 07:35	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		11/05/18 07:35	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		11/05/18 07:35	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		11/05/18 07:35	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		11/05/18 07:35	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		11/05/18 07:35	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		11/05/18 07:35	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		11/05/18 07:35	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		11/05/18 07:35	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		11/05/18 07:35	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		11/05/18 07:35	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		11/05/18 07:35	87-68-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Sample: MW-3200 **Lab ID: 40178763005** Collected: 10/30/18 16:40 Received: 11/01/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		11/05/18 07:35	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		11/05/18 07:35	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		11/05/18 07:35	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		11/05/18 07:35	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		11/05/18 07:35	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		11/05/18 07:35	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		11/05/18 07:35	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		11/05/18 07:35	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		11/05/18 07:35	79-34-5	
Tetrachloroethene	**0.65J**	ug/L	1.1	0.33	1		11/05/18 07:35	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		11/05/18 07:35	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		11/05/18 07:35	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		11/05/18 07:35	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		11/05/18 07:35	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		11/05/18 07:35	79-00-5	
Trichloroethene	**0.47J**	ug/L	1.0	0.26	1		11/05/18 07:35	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		11/05/18 07:35	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		11/05/18 07:35	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		11/05/18 07:35	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		11/05/18 07:35	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		11/05/18 07:35	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		11/05/18 07:35	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		11/05/18 07:35	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		11/05/18 07:35	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		1		11/05/18 07:35	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		11/05/18 07:35	2037-26-5	
Iron, Ferrous	Analytical Method: HACH 8146								
Iron, Ferrous	**<0.028**	mg/L	0.093	0.028	1		11/05/18 14:56		H6
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**<0.075**	mg/L	0.22	0.075	1		11/01/18 12:48	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**39.9**	mg/L	2.0	0.50	1		11/01/18 12:48	16887-00-6	
Sulfate	**10.6**	mg/L	3.0	1.0	1		11/01/18 12:48	14808-79-8	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**20.1**	mg/L	5.0	1.5	6		11/15/18 22:44	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

QC Batch: 305538 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

METHOD BLANK: 1785303 Matrix: Water
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	<0.58	5.6	11/06/18 06:58	
Ethene	ug/L	<0.52	5.0	11/06/18 06:58	
Methane	ug/L	<1.4	2.8	11/06/18 06:58	

LABORATORY CONTROL SAMPLE & LCSD: 1785304 1785305

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	53.6	54.3	53.8	101	100	80-120	1	20	
Ethene	ug/L	50	50.3	49.9	101	100	81-120	1	20	
Methane	ug/L	28.6	28.2	28.1	99	98	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1785306 1785307

Parameter	Units	40178758024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethane	ug/L	<0.58	53.6	53.6	53.6	52.0	100	97	80-120	3	20	
Ethene	ug/L	<0.52	50	50	50.2	48.6	100	97	81-122	3	20	
Methane	ug/L	<1.4	28.6	28.6	28.0	26.9	98	94	44-167	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

QC Batch: 306021 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

METHOD BLANK: 1788889 Matrix: Water
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese	ug/L	<1.5	5.1	11/14/18 17:38	

LABORATORY CONTROL SAMPLE: 1788890

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	500	487	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1788891 1788892

Parameter	Units	40178763001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	1540	500	500	2420	1990	176	91	75-125	19	20	M0

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

QC Batch: 305220 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

METHOD BLANK: 1783592 Matrix: Water
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	11/02/18 07:38	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	11/02/18 07:38	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	11/02/18 07:38	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	11/02/18 07:38	
1,1-Dichloroethane	ug/L	<0.27	1.0	11/02/18 07:38	
1,1-Dichloroethene	ug/L	<0.24	1.0	11/02/18 07:38	
1,1-Dichloropropene	ug/L	<0.54	1.8	11/02/18 07:38	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	11/02/18 07:38	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	11/02/18 07:38	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	11/02/18 07:38	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	11/02/18 07:38	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	11/02/18 07:38	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	11/02/18 07:38	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	11/02/18 07:38	
1,2-Dichloroethane	ug/L	<0.28	1.0	11/02/18 07:38	
1,2-Dichloropropane	ug/L	<0.28	1.0	11/02/18 07:38	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	11/02/18 07:38	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	11/02/18 07:38	
1,3-Dichloropropane	ug/L	<0.83	2.8	11/02/18 07:38	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	11/02/18 07:38	
2,2-Dichloropropane	ug/L	<2.3	7.6	11/02/18 07:38	
2-Chlorotoluene	ug/L	<0.93	5.0	11/02/18 07:38	
4-Chlorotoluene	ug/L	<0.76	2.5	11/02/18 07:38	
Benzene	ug/L	<0.25	1.0	11/02/18 07:38	
Bromobenzene	ug/L	<0.24	1.0	11/02/18 07:38	
Bromochloromethane	ug/L	<0.36	5.0	11/02/18 07:38	
Bromodichloromethane	ug/L	<0.36	1.2	11/02/18 07:38	
Bromoform	ug/L	<4.0	13.2	11/02/18 07:38	
Bromomethane	ug/L	<0.97	5.0	11/02/18 07:38	
Carbon tetrachloride	ug/L	<0.17	1.0	11/02/18 07:38	
Chlorobenzene	ug/L	<0.71	2.4	11/02/18 07:38	
Chloroethane	ug/L	<1.3	5.0	11/02/18 07:38	
Chloroform	ug/L	<1.3	5.0	11/02/18 07:38	
Chloromethane	ug/L	<2.2	7.3	11/02/18 07:38	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	11/02/18 07:38	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	11/02/18 07:38	
Dibromochloromethane	ug/L	<2.6	8.7	11/02/18 07:38	
Dibromomethane	ug/L	<0.94	3.1	11/02/18 07:38	
Dichlorodifluoromethane	ug/L	<0.50	5.0	11/02/18 07:38	
Diisopropyl ether	ug/L	<1.9	6.3	11/02/18 07:38	
Ethylbenzene	ug/L	<0.22	1.0	11/02/18 07:38	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(920)469-2436

QUALITY CONTROL DATA

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

METHOD BLANK: 1783592 Matrix: Water
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	11/02/18 07:38	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	11/02/18 07:38	
m&p-Xylene	ug/L	<0.47	2.0	11/02/18 07:38	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	11/02/18 07:38	
Methylene Chloride	ug/L	<0.58	5.0	11/02/18 07:38	
n-Butylbenzene	ug/L	<0.71	2.4	11/02/18 07:38	
n-Propylbenzene	ug/L	<0.81	5.0	11/02/18 07:38	
Naphthalene	ug/L	<1.2	5.0	11/02/18 07:38	
o-Xylene	ug/L	<0.26	1.0	11/02/18 07:38	
p-Isopropyltoluene	ug/L	<0.80	2.7	11/02/18 07:38	
sec-Butylbenzene	ug/L	<0.85	5.0	11/02/18 07:38	
Styrene	ug/L	<0.47	1.6	11/02/18 07:38	
tert-Butylbenzene	ug/L	<0.30	1.0	11/02/18 07:38	
Tetrachloroethene	ug/L	<0.33	1.1	11/02/18 07:38	
Toluene	ug/L	<0.17	5.0	11/02/18 07:38	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	11/02/18 07:38	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	11/02/18 07:38	
Trichloroethene	ug/L	<0.26	1.0	11/02/18 07:38	
Trichlorofluoromethane	ug/L	<0.21	1.0	11/02/18 07:38	
Vinyl chloride	ug/L	<0.17	1.0	11/02/18 07:38	
4-Bromofluorobenzene (S)	%	94	70-130	11/02/18 07:38	
Dibromofluoromethane (S)	%	99	70-130	11/02/18 07:38	
Toluene-d8 (S)	%	98	70-130	11/02/18 07:38	

LABORATORY CONTROL SAMPLE: 1783593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	53.0	106	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	45.5	91	67-130	
1,1,2-Trichloroethane	ug/L	50	47.2	94	70-130	
1,1-Dichloroethane	ug/L	50	44.2	88	70-134	
1,1-Dichloroethene	ug/L	50	44.1	88	75-132	
1,2,4-Trichlorobenzene	ug/L	50	50.4	101	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	47.6	95	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	49.8	100	70-130	
1,2-Dichlorobenzene	ug/L	50	50.9	102	70-130	
1,2-Dichloroethane	ug/L	50	43.0	86	73-134	
1,2-Dichloropropane	ug/L	50	41.9	84	79-128	
1,3-Dichlorobenzene	ug/L	50	50.4	101	70-130	
1,4-Dichlorobenzene	ug/L	50	50.6	101	70-130	
Benzene	ug/L	50	49.0	98	69-137	
Bromodichloromethane	ug/L	50	49.4	99	70-130	
Bromoform	ug/L	50	51.2	102	64-133	
Bromomethane	ug/L	50	22.8	46	29-123	

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REPORT OF LABORATORY ANALYSIS

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(920)469-2436

QUALITY CONTROL DATA

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

LABORATORY CONTROL SAMPLE: 1783593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	52.2	104	73-142	
Chlorobenzene	ug/L	50	51.3	103	70-130	
Chloroethane	ug/L	50	39.1	78	59-133	
Chloroform	ug/L	50	48.2	96	80-129	
Chloromethane	ug/L	50	25.3	51	27-125	
cis-1,2-Dichloroethene	ug/L	50	47.9	96	70-134	
cis-1,3-Dichloropropene	ug/L	50	44.5	89	70-130	
Dibromochloromethane	ug/L	50	57.0	114	70-130	
Dichlorodifluoromethane	ug/L	50	28.1	56	12-127	
Ethylbenzene	ug/L	50	51.0	102	86-127	
Isopropylbenzene (Cumene)	ug/L	50	52.0	104	70-130	
m&p-Xylene	ug/L	100	104	104	70-131	
Methyl-tert-butyl ether	ug/L	50	41.0	82	65-136	
Methylene Chloride	ug/L	50	47.3	95	72-133	
o-Xylene	ug/L	50	50.4	101	70-130	
Styrene	ug/L	50	51.6	103	70-130	
Tetrachloroethene	ug/L	50	50.1	100	70-130	
Toluene	ug/L	50	49.8	100	84-124	
trans-1,2-Dichloroethene	ug/L	50	45.6	91	70-133	
trans-1,3-Dichloropropene	ug/L	50	44.5	89	67-130	
Trichloroethene	ug/L	50	49.5	99	70-130	
Trichlorofluoromethane	ug/L	50	49.0	98	69-147	
Vinyl chloride	ug/L	50	35.0	70	48-134	
4-Bromofluorobenzene (S)	%			96	70-130	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1783594 1783595

Parameter	Units	40178783007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.24	50	50	50.9	52.6	102	105	70-136	3	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	44.1	47.0	88	94	67-133	6	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	45.4	47.6	91	95	70-130	5	20	
1,1-Dichloroethane	ug/L	0.43J	50	50	42.6	44.1	84	87	70-139	3	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	43.7	44.5	87	89	72-137	2	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	48.6	51.6	97	103	68-130	6	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	44.3	47.9	89	96	60-130	8	21	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	47.4	49.2	95	98	70-130	4	20	
1,2-Dichlorobenzene	ug/L	<0.71	50	50	50.1	52.2	100	104	70-130	4	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	41.0	42.8	82	86	71-137	4	20	
1,2-Dichloropropane	ug/L	<0.28	50	50	40.6	40.4	81	81	78-130	1	20	
1,3-Dichlorobenzene	ug/L	<0.63	50	50	49.5	51.9	99	104	70-130	5	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	48.7	50.7	97	101	70-130	4	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1783594 1783595

Parameter	Units	40178783007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.25	50	50	47.4	48.6	95	97	66-143	3	20	
Bromodichloromethane	ug/L	<0.36	50	50	48.2	49.0	96	98	70-130	2	20	
Bromoform	ug/L	<4.0	50	50	50.5	51.3	101	103	64-134	2	20	
Bromomethane	ug/L	<0.97	50	50	23.4	25.1	47	50	29-136	7	25	
Carbon tetrachloride	ug/L	<0.17	50	50	51.7	53.9	103	108	73-142	4	20	
Chlorobenzene	ug/L	<0.71	50	50	49.6	51.0	99	102	70-130	3	20	
Chloroethane	ug/L	<1.3	50	50	38.3	39.6	77	79	58-138	3	20	
Chloroform	ug/L	<1.3	50	50	46.2	47.3	92	95	80-131	2	20	
Chloromethane	ug/L	<2.2	50	50	24.5	24.9	49	50	24-125	2	20	
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	45.3	47.2	91	94	68-137	4	22	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	43.0	44.5	86	89	70-130	3	20	
Dibromochloromethane	ug/L	<2.6	50	50	55.5	57.4	111	115	70-131	3	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	24.6	24.6	49	49	10-127	0	20	
Ethylbenzene	ug/L	<0.22	50	50	49.5	51.4	99	103	81-136	4	20	
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	50.9	52.2	102	104	70-132	3	20	
m&p-Xylene	ug/L	<0.47	100	100	101	104	101	104	70-135	2	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	39.2	40.5	78	81	58-142	3	23	
Methylene Chloride	ug/L	<0.58	50	50	45.9	48.0	92	96	69-137	5	20	
o-Xylene	ug/L	<0.26	50	50	48.6	50.8	97	102	70-132	4	20	
Styrene	ug/L	<0.47	50	50	50.0	51.5	100	103	70-130	3	20	
Tetrachloroethene	ug/L	<0.33	50	50	47.8	49.6	96	99	70-132	4	20	
Toluene	ug/L	<0.17	50	50	48.5	49.5	97	99	81-130	2	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	43.8	45.0	88	90	70-136	3	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	43.0	44.2	86	88	67-130	3	20	
Trichloroethene	ug/L	<0.26	50	50	47.5	49.5	95	99	70-131	4	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	46.9	48.0	94	96	66-150	2	20	
Vinyl chloride	ug/L	<0.17	50	50	33.6	34.7	67	69	46-134	3	20	
4-Bromofluorobenzene (S)	%						99	98	70-130			
Dibromofluoromethane (S)	%						101	100	70-130			
Toluene-d8 (S)	%						100	98	70-130			

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

QC Batch: 305518 Analysis Method: HACH 8146
QC Batch Method: HACH 8146 Analysis Description: Iron, Ferrous
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

METHOD BLANK: 1785170 Matrix: Water
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.028	0.093	11/05/18 14:42	H6

LABORATORY CONTROL SAMPLE: 1785171

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.6	0.62	103	80-120	H6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1785172 1785173

Parameter	Units	40178763001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Ferrous	mg/L	<0.028	.6	.6	0.61	0.61	100	99	80-120	1	20	H6

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

QC Batch: 305181 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

METHOD BLANK: 1782891 Matrix: Water
Associated Lab Samples: 40178763001, 40178763002, 40178763003, 40178763004, 40178763005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.50	2.0	11/01/18 11:23	
Nitrate as N	mg/L	<0.075	0.22	11/01/18 11:23	
Sulfate	mg/L	<1.0	3.0	11/01/18 11:23	

LABORATORY CONTROL SAMPLE: 1782892

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.4	102	90-110	
Nitrate as N	mg/L	1.5	1.5	102	90-110	
Sulfate	mg/L	20	20.4	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1782893 1782894

Parameter	Units	40178763005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	39.9	20	20	58.7	58.8	94	94	90-110	0	15	
Nitrate as N	mg/L	<0.075	1.5	1.5	1.6	1.6	104	104	90-110	0	15	
Sulfate	mg/L	10.6	20	20	31.1	31.2	103	103	90-110	0	15	

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REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

QC Batch: 306550 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 40178763001, 40178763002

METHOD BLANK: 1792807 Matrix: Water
Associated Lab Samples: 40178763001, 40178763002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.25	0.84	11/15/18 10:32	

LABORATORY CONTROL SAMPLE: 1792808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.2	87	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1792809 1792810

Parameter	Units	10454377001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	4.0	3	3	7.3	7.5	112	118	80-120	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

QC Batch: 306686 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 40178763003, 40178763004, 40178763005

METHOD BLANK: 1793498 Matrix: Water
Associated Lab Samples: 40178763003, 40178763004, 40178763005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.25	0.84	11/15/18 20:17	

LABORATORY CONTROL SAMPLE: 1793499

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.6	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1793500 1793501

Parameter	Units	40178763003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	11.6	6	6	17.7	17.6	102	100	80-120	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1793502 1793503

Parameter	Units	40179224001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	8.3	3	3	11.6	11.5	110	104	80-120	1	10	

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REPORT OF LABORATORY ANALYSIS

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(920)469-2436

QUALIFIERS

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 8318 V&L STRIPPING
Pace Project No.: 40178763

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40178763001	**MW-1000**	EPA 8015B Modified	305538		
40178763002	**MW-2100**	EPA 8015B Modified	305538		
40178763003	**MW-300**	EPA 8015B Modified	305538		
40178763004	**MW-100**	EPA 8015B Modified	305538		
40178763005	**MW-3200**	EPA 8015B Modified	305538		
40178763001	**MW-1000**	EPA 3010	306021	EPA 6010	306286
40178763002	**MW-2100**	EPA 3010	306021	EPA 6010	306286
40178763003	**MW-300**	EPA 3010	306021	EPA 6010	306286
40178763004	**MW-100**	EPA 3010	306021	EPA 6010	306286
40178763005	**MW-3200**	EPA 3010	306021	EPA 6010	306286
40178763001	**MW-1000**	EPA 8260	305220		
40178763002	**MW-2100**	EPA 8260	305220		
40178763003	**MW-300**	EPA 8260	305220		
40178763004	**MW-100**	EPA 8260	305220		
40178763005	**MW-3200**	EPA 8260	305220		
40178763001	**MW-1000**	HACH 8146	305518		
40178763002	**MW-2100**	HACH 8146	305518		
40178763003	**MW-300**	HACH 8146	305518		
40178763004	**MW-100**	HACH 8146	305518		
40178763005	**MW-3200**	HACH 8146	305518		
40178763001	**MW-1000**	EPA 300.0	305181		
40178763002	**MW-2100**	EPA 300.0	305181		
40178763003	**MW-300**	EPA 300.0	305181		
40178763004	**MW-100**	EPA 300.0	305181		
40178763005	**MW-3200**	EPA 300.0	305181		
40178763001	**MW-1000**	EPA 300.0	305181		
40178763002	**MW-2100**	EPA 300.0	305181		
40178763003	**MW-300**	EPA 300.0	305181		
40178763004	**MW-100**	EPA 300.0	305181		
40178763005	**MW-3200**	EPA 300.0	305181		
40178763001	**MW-1000**	SM 5310C	306550		
40178763002	**MW-2100**	SM 5310C	306550		
40178763003	**MW-300**	SM 5310C	306686		
40178763004	**MW-100**	SM 5310C	306686		
40178763005	**MW-3200**	SM 5310C	306686		

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

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

40178763

(Please Print Clearly)	
Company Name:	REI Engineering Inc
Branch/Location:	Wausau
Project Contact:	Andy Delforge
Phone:	715-675-9784
Project Number:	8318
Project Name:	V+L Stripping
Project State:	WI
Sampled By (Print):	Ryan Resch
Sampled By (Sign):	
PO #:	
Regulatory Program:	WDNR

Quote #:	
Mail To Contact:	Andy Delforge
Mail To Company:	REI Engineering Inc
Mail To Address:	Adelforge@reiengineering.com
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

*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

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

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

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

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO)	PRESERVATION (CODE)*	Analyses Requested	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N	Pick Letter				
001	MW-1000	10/30/18	11:00	GW	N	A	Nitrate, Sulfate, Chloride, Ferrous - Fe			
002	MW-2100		11:50		N	C	TOL			
003	MW-300		1:50		N	D	Mn			
004	MW-100		3:30		N	B	Methane, Ethane, Ethene			
005	MW-3200		4:40		N	J	Volatile Fatty Acids			
					N	B	VOC			

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:
WALTCO	11/01/18 0900	PACE	11/01/18 0900

PACE Project No.
40178763

Receipt Temp = 2.01 °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, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: REI Project # 40178163

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

Lab Lot# of pH paper: 10452687 Lab Std #ID of preservation (if pH adjusted):

Initial when completed: MH Date/ Time:

Pace Lab #	Glass: AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	Plastic: BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	Vials: DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	WGFU	WPFU	General: SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001			1								1		1					6								2					✓		2.5 / 5 / 10
002			1								1		1					6								2					✓		2.5 / 5 / 10
003			1								1		1					6								2					✓		2.5 / 5 / 10
004			1								1		1					6								2					✓		2.5 / 5 / 10
005			1								1		1					6								2					✓		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: VPH 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:	40ml amber vial BAK

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)

Project #: **WO# : 40178763**

40178763

Client Name: REI

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☑ Waltco ☐ Client ☐ Pace Other:

Tracking #: 188354

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: /Corr: ROI

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: 11/1/18
Initials: [initials]

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☑No ☐N/A	2. page # [initials] 11/1/18
Chain of Custody Relinquished:	☐Yes ☑No ☐N/A (corrected, initialed 11/1/18)	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 (corrected, initialed 11/1/18)	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:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
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: [signature] **Date:** 11/1/18

Pace Analytical Energy Services LLC
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November 12, 2018

Brian Basten
Pace Analytical Green Bay
1241 Bellevue Street
Suite 9
Green Bay, WI 54302

RE: **8318 V&L STRIPPING / 40178763**

Pace Workorder: 28576

Dear Brian Basten:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, November 02, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Ruth Welsh 11/12/2018
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email PAESfeedback@pacelabs.com.

Total Number of Pages 17

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LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water
Accreditor:	West Virginia Department of Environmental Protection, Division of Water and Waste Management
Accreditation ID:	395
Scope:	Non-Potable Water
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	State of Virginia
Accreditation ID:	460201
Scope:	Non-Potable Water
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

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SAMPLE SUMMARY

Workorder: 28576 8318 V&L STRIPPING / 40178763

Lab ID	Sample ID	Matrix	Date Collected	Date Received
285760001	MW-1000	Water	10/30/2018 11:00	11/2/2018 11:00
285760002	MW-2100	Water	10/30/2018 11:50	11/2/2018 11:00
285760003	MW-300	Water	10/30/2018 13:50	11/2/2018 11:00
285760004	MW-100	Water	10/30/2018 15:30	11/2/2018 11:00
285760005	MW-3200	Water	10/30/2018 16:40	11/2/2018 11:00

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PROJECT SUMMARY

Workorder: 28576 8318 V&L STRIPPING / 40178763

Sample Comments

Lab ID: 285760002 **Sample ID:** MW-2100 **Sample Type:** N

The analysis for volatile fatty acids, method AM23G, was reported at dilution for sample due to the measured chloride concentration within the sample; matrix interfering compound.

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ANALYTICAL RESULTS

Workorder: 28576 8318 V&L STRIPPING / 40178763

Lab ID: **285760001** Date Received: 11/2/2018 11:00 Matrix: Water

Sample ID: **MW-1000** Date Collected: 10/30/2018 11:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - PAES								
Analysis Desc: AM23G		Analytical Method: AM23G						
Lactic Acid	**0.20 U**	mg/l	0.20	0.014	1	11/6/2018 19:00	KB	
Acetic Acid	**0.14**	mg/l	0.10	0.024	1	11/6/2018 19:00	KB	
Propionic Acid	**0.0068J**	mg/l	0.10	0.0044	1	11/6/2018 19:00	KB	
Formic Acid	**0.30**	mg/l	0.20	0.048	1	11/6/2018 19:00	KB	
Butyric Acid	**0.10 U**	mg/l	0.10	0.0047	1	11/6/2018 19:00	KB	
Pyruvic Acid	**0.10 U**	mg/l	0.10	0.0057	1	11/6/2018 19:00	KB	
i-Pentanoic Acid	**0.10 U**	mg/l	0.10	0.0075	1	11/6/2018 19:00	KB	
Pentanoic Acid	**0.10 U**	mg/l	0.10	0.012	1	11/6/2018 19:00	KB	
i-Hexanoic Acid	**0.20 U**	mg/l	0.20	0.0049	1	11/6/2018 19:00	KB	
Hexanoic Acid	**0.20 U**	mg/l	0.20	0.012	1	11/6/2018 19:00	KB	

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ANALYTICAL RESULTS

Workorder: 28576 8318 V&L STRIPPING / 40178763

Lab ID: **285760002** Date Received: 11/2/2018 11:00 Matrix: Water

Sample ID: **MW-2100** Date Collected: 10/30/2018 11:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - PAES								
Analysis Desc: AM23G		Analytical Method: AM23G						
Lactic Acid	**2.0 U**	mg/l	2.0	0.14	10	11/6/2018 19:56	KB	d
Acetic Acid	**1.0 U**	mg/l	1.0	0.24	10	11/6/2018 19:56	KB	d
Propionic Acid	**1.0 U**	mg/l	1.0	0.044	10	11/6/2018 19:56	KB	d
Formic Acid	**2.5**	mg/l	2.0	0.48	10	11/6/2018 19:56	KB	d
Butyric Acid	**1.0 U**	mg/l	1.0	0.047	10	11/6/2018 19:56	KB	d
Pyruvic Acid	**1.0 U**	mg/l	1.0	0.057	10	11/6/2018 19:56	KB	d
i-Pentanoic Acid	**1.0 U**	mg/l	1.0	0.075	10	11/6/2018 19:56	KB	d
Pentanoic Acid	**1.0 U**	mg/l	1.0	0.12	10	11/6/2018 19:56	KB	d
i-Hexanoic Acid	**2.0 U**	mg/l	2.0	0.049	10	11/6/2018 19:56	KB	d
Hexanoic Acid	**2.0 U**	mg/l	2.0	0.12	10	11/6/2018 19:56	KB	d

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ANALYTICAL RESULTS

Workorder: 28576 8318 V&L STRIPPING / 40178763

Lab ID: **285760003** Date Received: 11/2/2018 11:00 Matrix: Water

Sample ID: **MW-300** Date Collected: 10/30/2018 13:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - PAES								
Analysis Desc: AM23G		Analytical Method: AM23G						
Lactic Acid	**0.20 U**	mg/l	0.20	0.014	1	11/6/2018 20:52	KB	
Acetic Acid	**0.10 U**	mg/l	0.10	0.024	1	11/6/2018 20:52	KB	
Propionic Acid	**0.10 U**	mg/l	0.10	0.0044	1	11/6/2018 20:52	KB	
Formic Acid	**0.10J**	mg/l	0.20	0.048	1	11/6/2018 20:52	KB	
Butyric Acid	**0.10 U**	mg/l	0.10	0.0047	1	11/6/2018 20:52	KB	
Pyruvic Acid	**0.10 U**	mg/l	0.10	0.0057	1	11/6/2018 20:52	KB	
i-Pentanoic Acid	**0.10 U**	mg/l	0.10	0.0075	1	11/6/2018 20:52	KB	
Pentanoic Acid	**0.10 U**	mg/l	0.10	0.012	1	11/6/2018 20:52	KB	
i-Hexanoic Acid	**0.20 U**	mg/l	0.20	0.0049	1	11/6/2018 20:52	KB	
Hexanoic Acid	**0.20 U**	mg/l	0.20	0.012	1	11/6/2018 20:52	KB	

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ANALYTICAL RESULTS

Workorder: 28576 8318 V&L STRIPPING / 40178763

Lab ID: **285760004** Date Received: 11/2/2018 11:00 Matrix: Water

Sample ID: **MW-100** Date Collected: 10/30/2018 15:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - PAES								
Analysis Desc: AM23G		Analytical Method: AM23G						
Lactic Acid	**0.20 U**	mg/l	0.20	0.014	1	11/6/2018 21:49	KB	
Acetic Acid	**0.10 U**	mg/l	0.10	0.024	1	11/6/2018 21:49	KB	
Propionic Acid	**0.10 U**	mg/l	0.10	0.0044	1	11/6/2018 21:49	KB	
Formic Acid	**0.17J**	mg/l	0.20	0.048	1	11/6/2018 21:49	KB	
Butyric Acid	**0.10 U**	mg/l	0.10	0.0047	1	11/6/2018 21:49	KB	
Pyruvic Acid	**0.10 U**	mg/l	0.10	0.0057	1	11/6/2018 21:49	KB	
i-Pentanoic Acid	**0.10 U**	mg/l	0.10	0.0075	1	11/6/2018 21:49	KB	
Pentanoic Acid	**0.10 U**	mg/l	0.10	0.012	1	11/6/2018 21:49	KB	
i-Hexanoic Acid	**0.20 U**	mg/l	0.20	0.0049	1	11/6/2018 21:49	KB	
Hexanoic Acid	**0.20 U**	mg/l	0.20	0.012	1	11/6/2018 21:49	KB	

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ANALYTICAL RESULTS

Workorder: 28576 8318 V&L STRIPPING / 40178763

Lab ID: **285760005** Date Received: 11/2/2018 11:00 Matrix: Water

Sample ID: **MW-3200** Date Collected: 10/30/2018 16:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - PAES								
Analysis Desc: AM23G		Analytical Method: AM23G						
Lactic Acid	**0.20 U**	mg/l	0.20	0.014	1	11/6/2018 22:45	KB	
Acetic Acid	**21**	mg/l	1.0	0.24	10	11/7/2018 10:30	KB	d
Propionic Acid	**2.8**	mg/l	0.10	0.0044	1	11/6/2018 22:45	KB	
Formic Acid	**0.18J**	mg/l	0.20	0.048	1	11/6/2018 22:45	KB	
Butyric Acid	**0.13**	mg/l	0.10	0.0047	1	11/6/2018 22:45	KB	
Pyruvic Acid	**0.041J**	mg/l	0.10	0.0057	1	11/6/2018 22:45	KB	
i-Pentanoic Acid	**0.029J**	mg/l	0.10	0.0075	1	11/6/2018 22:45	KB	
Pentanoic Acid	**0.10 U**	mg/l	0.10	0.012	1	11/6/2018 22:45	KB	
i-Hexanoic Acid	**0.20 U**	mg/l	0.20	0.0049	1	11/6/2018 22:45	KB	
Hexanoic Acid	**0.20 U**	mg/l	0.20	0.012	1	11/6/2018 22:45	KB	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 28576 8318 V&L STRIPPING / 40178763

DEFINITIONS/QUALIFIERS

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
d	The analyte concentration was determined from a dilution.

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QUALITY CONTROL DATA

Workorder: 28576 8318 V&L STRIPPING / 40178763

QC Batch: EDON/3928 Analysis Method: AM23G

QC Batch Method: AM23G

Associated Lab Samples: 285760001, 285760002, 285760003, 285760004, 285760005

METHOD BLANK: 58350

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
EDonors				
Lactic Acid	mg/l	0.20 U	0.20	
Acetic Acid	mg/l	0.10 U	0.10	
Propionic Acid	mg/l	0.10 U	0.10	
Formic Acid	mg/l	0.20 U	0.20	
Butyric Acid	mg/l	0.10 U	0.10	
Pyruvic Acid	mg/l	0.10 U	0.10	
i-Pentanoic Acid	mg/l	0.10 U	0.10	
Pentanoic Acid	mg/l	0.10 U	0.10	
i-Hexanoic Acid	mg/l	0.20 U	0.20	
Hexanoic Acid	mg/l	0.20 U	0.20	

LABORATORY CONTROL SAMPLE: 58351

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors						
Lactic Acid	mg/l	2	2.2	108	70-130	
Acetic Acid	mg/l	2	2.0	101	70-130	
Propionic Acid	mg/l	2	2.0	103	70-130	
Formic Acid	mg/l	2	2.1	106	70-130	
Butyric Acid	mg/l	2	2.1	103	70-130	
Pyruvic Acid	mg/l	2	2.0	102	70-130	
i-Pentanoic Acid	mg/l	2	2.0	100	70-130	
Pentanoic Acid	mg/l	2	2.0	102	70-130	
i-Hexanoic Acid	mg/l	2	1.9	97	70-130	
Hexanoic Acid	mg/l	2	1.9	97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 58352 58353 Original: 285770001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
EDonors											
Lactic Acid	mg/l	0.013	20	21	21	104	106	70-130	1.4	30	d

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QUALITY CONTROL DATA

Workorder: 28576 8318 V&L STRIPPING / 40178763

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 58352 58353 Original: 285770001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Acetic Acid	mg/l	0.21	20	21	21	103	102	70-130	0.63	30	d
Propionic Acid	mg/l	0.006	20	21	21	104	103	70-130	0.5	30	d
Formic Acid	mg/l	0.92	20	24	21	116	99	70-130	15	30	d
Butyric Acid	mg/l	0.009	20	21	21	106	105	70-130	0.99	30	d
Pyruvic Acid	mg/l	0	20	20	20	101	102	70-130	0.52	30	d
i-Pentanoic Acid	mg/l	0	20	21	21	103	103	70-130	0.19	30	d
Pentanoic Acid	mg/l	0	20	21	21	106	106	70-130	0.14	30	d
i-Hexanoic Acid	mg/l	0	20	21	21	107	107	70-130	0.35	30	d
Hexanoic Acid	mg/l	0	20	22	22	110	111	70-130	0.69	30	d

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QUALITY CONTROL DATA

Workorder: 28576 8318 V&L STRIPPING / 40178763

QC Batch: EDON/3930 Analysis Method: AM23G

QC Batch Method: AM23G

Associated Lab Samples: 285760005

METHOD BLANK: 58403

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
EDonors				
Acetic Acid	mg/l	0.10 U	0.10	

LABORATORY CONTROL SAMPLE: 58404

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors						
Acetic Acid	mg/l	2	2.0	102	70-130	

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QUALITY CONTROL DATA QUALIFIERS

Workorder: 28576 8318 V&L STRIPPING / 40178763

QUALITY CONTROL PARAMETER QUALIFIERS

d	The analyte concentration was determined from a dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 28576 8318 V&L STRIPPING / 40178763

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
285760001	MW-1000			AM23G	EDON/3928
285760002	MW-2100			AM23G	EDON/3928
285760003	MW-300			AM23G	EDON/3928
285760004	MW-100			AM23G	EDON/3928
285760005	MW-3200			AM23G	EDON/3928
285760005	MW-3200			AM23G	EDON/3930

Chain of Custody

Pace Analytical®
www.pacelabs.com

28576

Workorder: 40178763 **Workorder Name:** 8318 V&L STRIPPING **Results Requested By:** 11/15/2018

Report / Invoice To	Subcontract To
Brian Basten Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436 Email: brian.basten@pacelabs.com	Pace Analytical Energy Services, LLC 220 William Pitt Way Pittsburgh, PA 15238 P.O.

State of Sample Origin: WI LOD/LOQ

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: BAK						Requested Analysis: Volatile Fatty Acids												LAB USE ONLY
1	MW-1000	10/30/2018 11:00	40178763001	Water	2						X												
2	MW-2100	10/30/2018 11:50	40178763002	Water	2						X												
3	MW-300	10/30/2018 13:50	40178763003	Water	2						X												
4	MW-100	10/30/2018 15:30	40178763004	Water	2						X												
5	MW-3200	10/30/2018 16:40	40178763005	Water	2						X												

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	[signature]	11/1/18 1700	[signature] PACE	11.2.18 1100	
2					
3					

Cooler Temperature on Receipt 2.4 **°C** **Custody Seal** (Y) or N **Received on Ice** (Y) or N **Samples Intact** (Y) or N

Cooler Receipt Form

Client Name: Pace **Project:** 8318 V&L Stripping **Lab Work Order:** 28576

A. **Shipping/Container Information** (circle appropriate response)

Courier: (FedEx) UPS USPS Client Other:_____ **Air bill Present:** (Yes) No

Tracking Number: 4278 9131 8130

Custody Seal on Cooler/Box Present: (Yes) No **Seals Intact:** (Yes) No

Cooler/Box Packing Material: (Bubble Wrap) Absorbent Foam Other:_____

Type of Ice: (Wet) Blue None **Ice Intact:** (Yes) Melted

Cooler Temperature: 2.4°C **Radiation Screened:** Yes (No) **Chain of Custody Present:** (Yes) No

Comments:_____

B. **Laboratory Assignment/Log-in** (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC			✓	
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	
Headspace present?			✓	

Comments:_____

_____

Cooler contents examined/received by : LG **Date:** 11.2.18

Project Manager Review : EPJ **Date:** 11-2-18.

F-PAE-Q-009-rev.01, 3Oct2017