From: Schultz, Josie M - DNR

**Sent:** Wednesday, May 1, 2024 10:42 AM

**To:** Andy Delforge

Cc: Ken Juza

**Subject:** V&L Stripping Methane 02-05-216722

**Attachments:** FW: Methane Sampling Results

Hi Andy,

Thank you for the conversation this morning. I was able to discuss the methane accumulation in wells with statewide experts, along with the injection oil in MW300. Before DNR can move forward with closure approval, we will need additional information for both of these items:

- 1. Methane was detected in monitoring well MW800 at concentrations of 4,240 ug/L in November of 2023, and DNR is concerned with potential methane gas accumulation at the neighboring home. DNR is requesting that soil vapor extraction point SVE-4 have methane sampled.
  - a. Attached to this email is a submittal for a methane study performed at a site in Milwaukee, which includes sampling procedures. Based on results from this study, DNR is requesting open cap monitoring of SVE-4 with a multi-gas meter.
  - b. If elevated methane concentrations are detected in SVE-4, then DNR will request that methane be sampled in the sub-slab of the neighboring home at 856 Mather Street.
- 2. DNR is requesting that historic CAP-18 injection oil thickness measurement be submitted, if available, and thickness of oil in this monitoring well be measured at time of methane testing.

Please let me know if you have any questions.

Thanks, Josie

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#### Josie M. Schultz

Hydrogeologist – Northeast Region Remediation and Redevelopment Team Wisconsin Department of Natural Resources 110 S. Neenah Avenue, Sturgeon Bay, WI 54235

Cell Phone: 920-366-5685 Josie.Schultz@Wisconsin.gov



#### Shaw Environmental, Inc.

N™ Shaw Environmental, Inc.

111 West Pleasant Street, Suite 105 Milwaukee, WI 53212-3939 Tel 414.291.2350

Fax: 414.291.2385

July 13, 2006

Mr. Samuel D. Dickman Dickman Real Estate 626 East Wisconsin Avenue Milwaukee, Wisconsin 53202

RE: **Methane Study** 

Selig Drive and Milwaukee Street

Milwaukee, Wisconsin Shaw Project No. 121921

Dear Mr. Dickman:

Shaw Environmental, Inc. (Shaw) performed a pre-construction limited methane study on the property located at the corner of Selig Drive and Milwaukee Road, Milwaukee, Wisconsin (hereinafter referenced to as the "Site"). The Site encompasses approximately 2.6 acres within Milwaukee's Menomonee River Valley. The Menomonee River Valley was originally a marsh/wetlands area, and historically was filled with various fill materials. The Valley's native soil and fill types are known to generate methane. The purpose of the study was to determine the potential for methane generation of the subsurface materials identified at the Site. The following sections detail the procedures and results of the study, and present recommendations for passive methane abatement of the proposed structure.

## Monitoring Point Installation

On June 27, 2006, Shaw supervised the installation of three methane monitoring points (MP-1 to MP-3). Two of the methane monitoring points (MP-1 and MP-2) were installed in the northwest corner (office area) of the proposed structure, and one (MP-3) monitoring point was installed in the warehouse and shop area of the structure. The location of the monitoring points was based on evaluating the building footprint as indicated on the proposed site plan, and utilized the northwestern structures survey corner stake for dimensions. Methane monitoring point locations were influenced by the presence of an underground electric line that leads to a petroleum above ground storage tank, owned and operated by Edgerton Contractors. The proposed Site plan and methane monitoring point locations are presented on the attached Figure 1.

Gestra Engineering, Inc. advanced 2.25 inch diameter hollow stem augers until native sediments and groundwater were encountered at approximately 16 feet below ground surface. One inch diameter flush threaded PVC schedule 40 vapor monitoring points were installed above the native sediments/groundwater table. A sand filter pack was placed around the factory slot cut portion of the wells. On top of the filter pack, fine sand was placed which then was sealed from the surface using hydrated 3/8 inch bentonite chips. A secure cap and sampling port was placed on the monitoring point. The sampling port allows for open-to-the-atmosphere collection or closed-to-the-atmosphere collection gas sampling.

Mr. Samuel D. Dickman July 13, 2006, Page 2

The open cap readings were intended to simulate passive venting conditions. The closed cap readings were intended to simulate gas accumulation in a closed space. The attached monitoring well construction forms detail specifications of the individual vapor monitoring points.

# Lithology

Soil samples were collected using a split spoon sampler that was driven into the subsurface. At the surface, approximately 2 feet of clay was encountered at the monitoring point locations. It is believed that the clay was placed on site as a cap covering the imported fill below. The imported fill material was located from below the clay cap to approximately 14 to 16 feet below grade (fbg). The fill materials consisted of silty clays, sandy clays, sand with gravel, foundry sands with clinkers, wood debris, and brick. Native estuarine soils, consisting of saturated sand with shells, were encountered at 14-16 feet fbg. Each sample collected was visually classified and field screened using a Photoionization Detector (PID). Results from the PID field screening indicate the presence of volatile vapors in the soil. The attached soil boring logs detail the lithology, provide a monitoring point diagram and include PID results.

# **Methane Monitoring Procedures**

Methane monitoring started on June 29<sup>th</sup>, 2006 and was completed on July 7<sup>th</sup>, 2006. A PID and Lantec® Model GEM-500 infrared gas analyzer were used to collect and analyze gas samples. Both instruments we calibrated before each days use. The gas monitoring wells were purged with the objective of recording the conditions of the gas around the probe and not gases that can be pulled to the casing via the purging process.

The monitoring consisted of collecting percent methane, oxygen, carbon dioxide, and lower explosive limit of methane readings from the three monitoring points. Temperature, barometric pressure and PID readings were also recorded.

Two sets of readings were collected from the three monitoring points. One set of readings were collected with the caps open to the atmosphere (June 29, 2006 through July 3, 2006). This set of readings is intended to simulate passive venting conditions, and is called open cap monitoring. The second set of readings was collected with the caps closed to the atmosphere (July 5, 2006 through July 17, 2006). The second set of readings is intended to simulate gas accumulation in a closed space, and is called closed cap monitoring. The results of the methane monitoring are summarized in Table 1.

# Methane Monitoring Results

Open Cap Monitoring

Detected concentrations of methane ranged from 0.0 to 9.5 percent. The highest concentrations of methane were reported during the initial two days, and concentrations decreased to zero as the days passed. During the initial two days of testing, all three monitoring points had recorded readings above the Wisconsin Department of Natural Resources (WDNR) recommended limit of 1.25% methane gas.

Closed Cap Monitoring

Detected concentrations of methane ranged from 0.0 to 1.0 percent. The highest concentrations of methane were reported during the first day, and concentrations decreased to zero during the next two days. The three monitoring points did not have recorded readings above the WDNR recommended limit of 1.25% methane gas.

Mr. Samuel D. Dickman July 13, 2006, Page 3

### Conclusions

Materials (native sediment and fill) with potential for methane generation are present in the subsurface beneath the Site. Methane concentrations were detected at levels above the WDNR recommended limit of 1.25% methane gas in the three monitoring points during the study; however, the concentrations decreased by the end of the study.

The WDNR recommends that enclosed structures not be built on properties which exhibit methane concentrations greater than 1.25% total methane; however, construction can be completed with the implementation of engineered systems or alternative construction techniques.

The Menomonee River Valley is considered as a historic fill site, and is governed by Wisconsin Administrative Code (WAC), Chapter NR 500. Historic fill sites require an exemption from the WDNR to construct a building.

## Recommendations

The following recommendations are provided based on the results of this study, Shaw's experience working in the valley and WDNR regulations:

- Prepare an exemption to construct on a Historic Fill Site, and submit to the WDNR for review;
- Design a passive methane abatement system to incorporate into the structure prior to construction. The system will be highly dependent on the buildings final dimensions, foundation and construction;
- Abandon the three methane monitoring points per WAC NR 141.

## Closing

Shaw appreciates the opportunity to be of service on this project. We would be happy to meet with you to discuss this study. If you have any questions regarding the information contained herein, or if we can be of additional service, please contact the undersigned at your convenience.

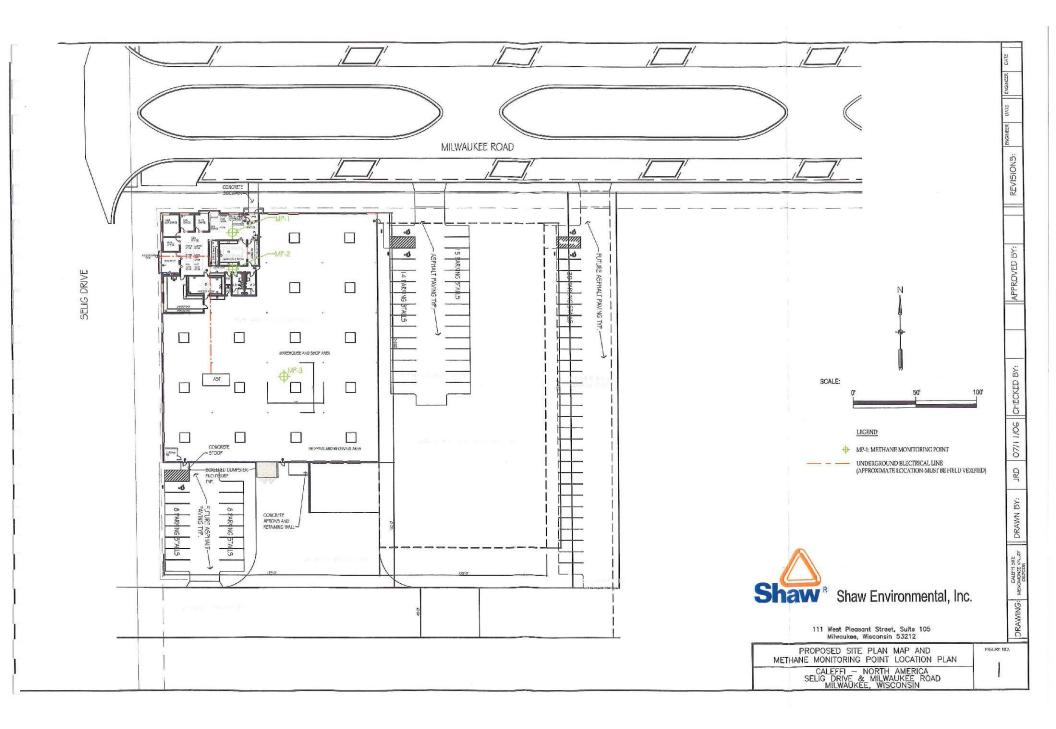
Sincerely,

SHAW ENVIRONMENTAL, INC.

Timpf Pulekl Timothy P. Welch, P.G.

Project Manager

Paul S. Zovic District Manager Figure



Table

Table 1 Summary: Landfill Gas Field Measurements Proposed Caleffi Property Milwaukee Street and Selig Drive Milwaukee, Wisconsin

Well Number				MF	P-1		
Measurement Date		6/29/2006	6/30/2006	7/3/2006	7/5/2006	7/6/2006	7/7/2006
Сар	open/closed	open	open	ореп	closed	closed	closed
Methane (CH₄)	% by volume	4.8	4.6	0.0	0.8	0.0	0.0
Carbon Dioxide (CO₂)	% by volume	0.0	0.0	0.0	0.0	0.0	0.0
Oxygen (O <sub>2</sub> )	% by volume	13.6	13.8	6.8	13.5	9.9	10.2
Methane LEL	%	82.0	92.0	0.0	1.6	0.0	0.0
PID	ppmv	0.0	0.0	0.0	0.0	0.0	0.0
Temperature	deg. C	25.56	26.67	22.80	22.00	23.88	22.00
Barometric Pressure	in. Hg	30.18	30.07	30.00	30.09	30.29	30.31

#### NOTES

deg. C = degrees Celsius, obtained on-line in. Hg = inches of mercury, obtained on-line LEL = lower explosive limit (the LEL for CH4 is 5% CH4 by volume) MP = methane monitoring point PID = photoionization detector

ppmv = parts per million by volume



Table 1 Summary: Landfill Gas Field Measurements Proposed Caleffi Property Milwaukee Street and Selig Drive Milwaukee, Wisconsin

Well Number				MF	P-2		
Measurement Date		6/29/2006	6/30/2006	7/3/2006	7/5/2006	7/6/2006	7/7/2006
Сар	open/closed	open	open	open	closed	closed	closed
Methane (CH₄)	% by volume	6.4	4.6	0.0	1.0	0.0	0.0
Carbon Dioxide (CO <sub>2</sub> )	% by volume	0.3	1.3	1.1	2.0	1.1	1.6
Oxygen (O <sub>2</sub> )	% by volume	9.8	10.2	11.4	5.2	8.1	7.1
Methane LEL	%	132.0	92.0	0.0	2.0	0.0	0.0
PID	ppmv	0.0	0.0	0.0	0.0	0.0	0.0
Temperature	deg. C	25.56	26.67	22.80	22.00	22.88	22.00
Barometric Pressure	in. Hg	30.18	30.07	30.00	30.09	30.29	30.31

#### NOTES

deg. C = degrees Celsius, obtained on-line

in. Hg = inches of mercury, obtained on-line

LEL = lower explosive limit

(the LEL for CH4 is 5% CH4 by volume)

MP = methane monitoring point

PID = photoionization detector

ppmv = parts per million by volume



Table 1 Summary: Landfill Gas Field Measurements Proposed Caleffi Property Milwaukee Street and Selig Drive Milwaukee, Wisconsin

Well Number				MF	0-3		
Measurement Date		6/29/2006	6/30/2006	7/3/2006	7/5/2006	7/6/2006	7/7/2006
Сар	open/closed	open	open	open	closed	closed	closed
Methane (CH <sub>4</sub> )	% by volume	0.0	9.5	0.0	0.9	0.0	0.0
Carbon Dioxide (CO <sub>2</sub> )	% by volume	0.0	2.2	0.2	1.4	0.1	0.8
Oxygen (O₂)	% by volume	18.2	6.8	17.3	14.3	16.7	15.8
Methane LEL	%	0.0	190.0	0.0	1.8	0.0	0.0
PID	ppmv	0.0	0.0	0.0	0.0	0.0	0.0
Temperature	deg. C	25.56	26.67	22.80	22.00	22.88	22.00
Barometric Pressure	in. Hg	30.18	30.07	30.00	30.09	30.29	30.31

#### NOTES

deg. C = degrees Celsius, obtained on-line in. Hg = inches of mercury, obtained on-line

LEL = lower explosive limit

(the LEL for CH4 is 5% CH4 by volume)

MP = methane monitoring point

PID = photoionization detector

ppmv = parts per million by volume



Soil Boring Logs

State of Wisconsin

## SOIL BORING LOG INFORMATION

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111 West Pleasant Street, Suite 105 Milwaukee, WI 53212-3939

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State of Wisconsin
Department of Natural Resources

# SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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SS-2 24 7 6 SS 15 8 13 7 FOUNDRY SAND, black (7.5YR2.5/1), moist (Fill)  SS-3 24 5 8 9 9 9  SS-4 24 2 10 SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature   Firm Shaw Environmental & Infrastructure, Inc. Tel: 414-291-2350				E							$\bowtie$				1				
SS-2 24 7 6 SS 15 8 13 7 FOUNDRY SAND, black (7.5YR2.5/1), moist (Fill)  SS-3 24 5 8 9 9 9  SS-4 24 2 10 SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature   Firm Shaw Environmental & Infrastructure, Inc. Tel: 414-291-2350				_3							$\bowtie$								
SS-2 24 7 6 SS 15 8 13 7 FOUNDRY SAND, black (7.5YR2.5/1), moist (Fill)  SS-3 24 5 8 9 9 9  SS-4 24 2 10 SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature   Firm Shaw Environmental & Infrastructure, Inc. Tel: 414-291-2350				F												1			
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SS-2 24 7 6 SS 15 8 13 7 FOUNDRY SAND, black (7.5YR2.5/1), moist (Fill)  SS-3 24 5 8 9 9 9  SS-4 24 2 10 SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature   Firm   Shaw Environmental & Infrastructure, Inc. Tel: 414-291-2350	SS	20	11	E							$\bowtie$								
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SS-2 24 5 8 FOUNDRY SAND, black (7.5YR2.5/1), moist (Fill)  SS-3 24 5 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	V1			F	ŀ					3 W									1
SS-3 24 5 8 17 7 8 9 9 9 SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  SS-4 24 2 SS 20 3 10 SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  I hereby certify that the information on this form is tade and correct to the best of my knowledge.  Signature Firm Shaw Environmental & Infrastructure, Inc.  Tel: 414-291-2350	SS-2	24	7	F-6									5						
SS-3 SS 17 7 8 SS 24 5 SS 24 5 SS 24 24 2 SS 20 3 Increase GRAVEL, brown (7.5YR5/4), moist (Fill)  SSN 27 10 SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature  Firm Shaw Environmental & Infrastructure, Inc.  Tel: 414-291-2350	33	13	13	<b>F</b> ,	FOL	MDRV SAN	ID black	(7.5VR)	5/1)	1	$\longrightarrow$		1						
SS-4 24 2 10 SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  1 hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature Firm Shaw Environmental & Infrastructure, Inc.  Tel: 414-291-2350	١٨		1.3	F'			i, black	(7.511)2.	5/1),			計						1	
SS-4 24 2 10 SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  1 hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature Firm Shaw Environmental & Infrastructure, Inc.  Tel: 414-291-2350	L	1		E <sub>R</sub>							$\otimes$						1		
SS-4 24 2 10 SAND trace GRAVEL, brown (7.5YR5/4), ss 2 3 11 SAND trace GRAVEL, brown (7.5YR5/4), moist (Fill)  I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature Firm Shaw Environmental & Infrastructure, Inc.  Tel: 414-291-2350	SS-3	24 17	5 7	F°						sw			: 7						
SS-4 24 2	V		8	<u>_</u> 9								8:目							
SS-4 20 3 E SAND trace GRAVEL, brown (7.5 Y R 5/4), moist (Fill)  I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature Firm Shaw Environmental & Infrastructure, Inc.  Tel: 414-291-2350	1/	\		E												<u> </u>			
I hereby certify that the information on ints form is true and correct to the best of my knowledge.  Signature  Firm Shaw Environmental & Infrastructure, Inc.  Tel: 414-291-2350	86.4	1 24	,	10	CAN	ID CB	AXIDE L.	(7.53	(TD 6 /4)										
I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature  Firm Shaw Environmental & Infrastructure, Inc.  Tel: 414-291-2350	SS	20	3	E			AVEL, bro	own (7.5)	Y K5/4),		$\otimes$		<u>;</u>						
I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature   Firm   Shaw Environmental & Infrastructure, Inc.   Tel: 414-291-2350	()		3	-11						sw					42 42				
I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature   Firm   Shaw Environmental & Infrastructure, Inc.   Tel: 414-291-2350	V	V		F							$\otimes \!\!\! \otimes$	計以							
Signature   Firm   Shaw Environmental & Infrastructure, Inc.   Tel: 414-291-2350	L	1			<u> </u>	150				<u> </u>	XXXX	थः⊟	::]				<u> </u>	<u></u>	
Billary Environmental de l'inflastracture, Inc.		7	fy tha	the inf	ormation	on this found is	true and co	160											
	Signa	ture (	بمسير		of the	K	***********	10.0								17_303	19		

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring Numbe	r	B-2	Use only as an attachment to Form 4400-	122.						Pag	ge 2	of	2
Sample									Soil	Prope	erties		
(E)	ಭ	ge	Soil/Rock Description			÷		6)					
Pe Att De	olin	n Fe	And Geologic Origin For					SSIV	4)		٠,		ž.
gth Ty	Blow Counts	Depth In Feet	Each Major Unit	CS	ohic	1		pre	sture	bi ti	icit	6	nen men
Number and Type Length Att. & Recovered (in)	Blo	Dep		US	Graphic 1 oo	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
SS-5 24 SS 22	3	E	SANDY CLAY, dark gray (7.5YR5/4),	1	1///	力	3	0 01	~ ~			<u> </u>	<u> </u>
35   22	5 3	-	moist to wet at 14 feet below grade (fbg)			3:目				1			·
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/\		-					1						
SS-6 24	2	-14		CL		第.国.		1					
SS-6 24 SS 24	3	Ė l				引目				1			
IVI I	4	-15								1			
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SS-7 24 SS 20	] 5	F **	SAND, brown (7.5YR5/4) wet				0						
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IAI I	4	<u></u> 17 ⋅		SP							ļ		
W		<u> </u>				) 기							
7		18	End Of Boring at 18 fbg	1	1.33.55	4							
			Monitoring Well MP-1 set at 15 fbg										
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State of Wisconsin Department of Natural Resources

# SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			Rou	te To:		/astewater   /Redevelopment	Waste Other	Manage	ment								
														Page	: 1	of 2	)
Facility		t Nam	e				License	/Permit/l	Monitor	ing Nu	ımber	I	Boring 1	Numbe	ľ		
Cale		By: 1	Jame of	crew ch	nief (first, last) a	and Firm	Date D	illing St	orted		Date	e Drillin	og Com	plated	B-3		ng Method
	m Wo			CICW CI	ner (mst, iast) t	uid I IIII	Date D	ining De	arteu		Date		ig Com	protect		1	llow stem
Gest	tra 💮								2006				5/27/2	006_		aug	ger
WI Un	ique W	ell No		DNR V	Well ID No.	Common Well Name	Final S	atic Wat		1	Surface	Elevat		1	Bo		Diameter
Local	Grid Or	igin	(es	timated:	1) or Bo	MP-3		Feet N			})	ocal G	t MSI			4.3	inches
State I		-6	L (		N,	E S/C/N	1	at <u>43</u>	<u>° 1</u>		38.5"			ΠN			□ E
	1/4	of	1	/4 of Sec		T N, R	Lo	_		3. 4	12.7"		Feet	□s		F	eet □ W
Facilit	y ID				County		County C	ode			ity/ or \	/illage					
San	mle		1	1	Milwaukee		41	نـــــا	Milw	aukee	: T	<u> </u>	Soil	Prope	rties		
					\$011/1	Rock Description							5011	riope	11103		
	Length Att. & Recovered (in)	unts	Depth In Feet			eologic Origin For						sive					ž.
ber Iype	rth A	Blow Counts	h In			ch Major Unit		CS	hic	Tan	<u>E</u>	pres	sture	pi t	icity x	0	men
Number and Type	Length Att. Recovered (	Blov	Dept			-		ΩS	Graphic Log	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
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SS-3	24	5	-8	CILT	EV CLAV te	ace WOOD DERI	C brown	_	-		. 5						
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		fy that	the inf	ormation	on this form is	true and correct to the											
Signa	nure.	,,,,,,,	إنرسي	1	L		haw Env							17,202	.0		414-291-2350

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring	Numb	er	B-3	Use only as an attachment to Form 4400-	122.						Pao	e 2	of	2
Sam	ple						T			Soil	Prope			
	એ (દ્વ	ž.	et	Soil/Rock Description					4)					0
, e	Art.	oun	In Fe	And Geologic Origin For			_		ssiv	ນ		シ.		ıts
mbe 1.7.	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Each Major Unit	CS	Graphic	II gran	PID:FID	Compressive Strength	Moisture Content	nid it	ficit	9	)/ nmer
Z	Re Le		De		n s	Grap Log	Well Diagram	E E	Compres Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S S Number and Type	24 24	7	-	SAND with GRAVEL and FOUNDRY		$\bowtie$		3						
- IVI		7 8	-13	SAND, black (7.5YR2.5/1), moist to wet at 15 feet below grade (fbg)			<b>第</b> :目:							
M	1	O.	F "	(20B)	SW	$\bowtie$								
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SS-6 SS	24 20	5 6	- 1			$\bowtie$	計	2		}				
IYI		7 8	-15			$\bowtie$								
M		Ÿ	Ė !	SILTY CLAY, brown (7.5YR5/4), wet	CL-M									
4 20	.	_	F <sub>16</sub>		DE-W									
SS-7 SS	24 18	7 7	E	SAND, brown (7.5YR5/4), wet				0						
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4			-18	End Of Boring at 18 fbg	ļ	1888	4							
1				Monitoring Well MP-1 set at 16 fbg					1					
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Monitoring Well Construction Forms

	Watershed/Wastewater	Waste Management	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
	Remediation/Redevelopment[X]	Other	The designation of Market Agents and the same and the sam
Facility/Project Name Caleffi	Remediation/Redevelopment[X]   Local Grid Location of Well	Nft. 🗆 E. Sft.	Well Name MP-1
		S	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Facility License, Permit or Monitoring No.			Wis. Unique Well No. DNR Well ID No.
	Lat. 43 . 1 38.5"1	.ong. 875742.7or	
Facility ID	St. Planeft. N,	ft. E. S/C/N	Date Well Installe 6/227/_/_006
	Section Location of Waste/Sour	rce	111 111 0 d Y Y Y
Type of Well	1/4 of1/4 of Sec_	,T N, R D W	Well Installed By: Name (first, last) and Firm
Well Code51_/_gp	Location of Well Relative to W		- Adam Woerpel
Distance from Waste/ Enf. Stds.		Sidegradient	Gestra
Sourceft. Apply	d Downgradient n X	Not Known	Gestia
A. Protective pipe, top elevation		1. Cap and lock?	X Yes □ No
· · · · · ·	ft. MSL	2. Protective cover	
B. Well casing, top elevation	IL MSL -	a. Inside diamete	r: 1 <sub> in.</sub>
C. Land surface elevation	ft. MSL	b. Length:	ft.
	water to 1	c. Material:	Steel 🔲 04
D. Surface seal, bottom ft. M	SL or 8 ft.	PVC	Other IX
12. USCS classification of soil near scree	en:	d. Additional pro	1,000
1 to 1 to 1 to 1 to 1 to 1 to 1 to 1 to	SW 🗆 SP 🖂	19	e:
SM SC ML MH	CL IX CH 🗆	Li ) Li ) Carl account	Bentonite IX 30
Bedrock 🗆		3. Surface scal:	Concrete 0 01
13. Sieve analysis performed?	Yes X No		144400000
14. Drilling method used: Ro	otary 🗆 5 0	4 Material between	Other D
Hollow Stem A	1 1000	4. Material Detwee	Bentonite IX 30
	Other 🗆		
			Other  Ot
15. Drilling fluid used: Water □ 0 2	Air 🗔 01		al: a. Granular/Chipped Bentonite X 3 3
Drilling Mud 🗆 0 3	None IX 99	bLbs/gal	mud weight Bentonite-sand slurry 35
_ 05		cLbs/gal	mud weight Bentonite slurry 🗆 3 1
16. Drilling additives used?	Yes  X No		nite Bentonite-cement grout 50
			volume added for any of the above
Describe		f. How installed	
17. Source of water (attach analysis, if red	CCO		Tremie pumped D 02
20000 10 to 0 to 0 to 0 to 0 to 0 to 0 to			Gravity IX 08
		6. Bentonite seal:	a. Bentonite granules   33
5 D	er - a	K220L 3	(3/8 in. □1/2 in. Bentonite chips □ 32
E. Bentonite seal, topft. M	SL or	© / c	Other 🗆 🌉
E Fine and son fold	SL or _ 8 ft.	7. Fine sand materi	ial: Manufacturer, product name & mesh size
F. Fine sand, top ft. M	2ru-6rr	a. R.W. Sidley #	
6.11	SL or 9 ft.	13.91	
G. Filter pack, top ft. M	3L or _ / 1L		w
			rial: Manufacturer, product name & mesh size
H. Screen joint, top ft. M	SL or _9 ft.	a. R.W. Sidley #	
	or 14 o	b. Volume adde	
I. Well bottom ft. M	SL or 14ft.	9. Well casing:	Flush threaded PVC schedule 40 IX 23
	n 14 a		Flush threaded PVC schedule 80   24
J. Filter pack, bottom ft. M	SL or _ II.		Other 🛘 🏭
	16 0	10. Screen material	
K. Borehole, bottom ft. M	SL or _ 10 TL	a. Screen type:	Factory cut [X 11
4.25			Continuous slot   0 1
L. Borehole, diameter4.25 in.			Other 🛚 🌉
		b. Manufactures	Monoflex
M. O.D. well casing1.25_ in.		c. Slot size:	0.01 in.
		d. Slotted lengt	
N. I.D. well casing _ 1 in.			I (below filter pack): None 14
	7 - 7	sand	Other IX
I hereby certify that the information on the	s form is true and correct to the	est of my knowledge.	
Signature	Firm		
	Shaw E &	& I	

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 261, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

	Watershed/Wastewater			MONITORING WELI form 4400-113A	L CONSTRUC Rev. 7-98	CTION
Facility/Project Name Caleffi	Remediation/Redevelopment[X]  Local Grid Location of Well		□ E. V	Vell Name MP-2		
Facility License, Permit or Monitoring No.	16 []	S	C DW.	Wis. Unique Well No.	TOND WALLED	Ma
	Lat. 43 ° 1 _ 38.45 _ 1	ong. 87574	2.73 "or	*		
Facility ID	St. Planeft. N,	ft. E	. s/c/n	Date Well Installe 6/	7/ / 006	-
	Section Location of Waste/Sour	roe	- L			
Type of Well  Well Code51_/_gp	1/4 of1/4 of Sec			Well Installed By: Nam		nd Firm
Distance from Waste/ Enf. Stds.	Location of Well Relative to W		Number	Adam Wo	erpel	_
	u  Upgradient s  d  Downgradient n X	Sidegradient Not Known		Gestra		
A. Protective pipe, top elevation		1. Cap an			IX Yes □	No
B. Well casing, top elevation	ft. MSL	11137	ive cover pi	pe:	1	•
The state of the s	11	a. Insid	le diameter:		1	
	ft. MSL	c. Mat	20.00		Steel 🔲	
D. Surface seal, bottom ft. M	SL or _4 ft.	PV			Other IX	
12. USCS classification of soil near scree	n:	d. Add	litional prote	ection?	☐ Yes [X	Carried Services
GP GM GC GW C		If y	es, describe:			
SM □ SC □ ML□ MH□ ( Bedrock □	CL IX CH L	3. Surface	r scal.		Bentonite IX	30
	Yes IX No	31 Juli			Concrete	Acres .
	1 88	N	11.		Other 🗆	2.2
14. Drilling method used: Ro Hollow Stem A	stary 50	4. Materi	ai octween v	well casing and protect	Bentonite IX	3 0
	Other				Other 🗆	.00000000
		5 Annul	ar space seal	: a. Granular/Chipp		
15. Drilling fluid used: Water 0 2	Air 🗆 01	,	Lbs/gal mi	ud weight Bentonit		
Drilling Mud 🗆 0 3	None X 99	c	_Lbs/gal mi	ad weight Beni	tonite slurry	31
16. Drilling additives used?	Yes X No			æ Bentonite⊣		50
To. Diming accounts used:	705 K 100	KXXX		volume added for any		
Describe		f. Ho	w installed:	T	Tremie 🗆	7 (5)
17. Source of water (attach analysis, if req	uired):			1161	mie pumped  Gravity  X	~ -
		6. Benton	nite seal:	a. Benton	nite granules [	~ ~
		ъ. 🗆	1/4 in. X3	/8 in. □1/2 in. Be	ntonite chips	32
E. Bentonite seal, top ft. MS	SL or ft.	₩ / c			Other	l 🌉
F. Fine sand, top ft. MS	SL or _ 4ft.	7. Fine s	and material	: Manufacturer, produ	ict name & mes	sh size
	2	a.R.W	. Sidley #40	00		
G. Filter pack, top ft, MS	SL or _5 ft.		lume added	- <del> </del>	13	
		8. Filter	pack materia	il: Manufacturer, prod	uct name & me	sh size
H. Screen joint, top ft. M:	SL or _5 ft.			u. Manuacidier, proc	- 3	
I. Well bottom ft. M:	SL or _ 15 ft.	b. Vo 9. Well d	lume added	Flush threaded PVC s	chedule 40 IV	23
1. Well bound		3	asmg.	Flush threaded PVC s		
J. Filter pack, bottom ft. M	SL or 15 ft.		N 10 10 10 10 10 10 10 10 10 10 10 10 10		Other 🗆	. Veeter
		10. Screen	n material; I	PVC		
K. Borehole, bottom ft. MS	SL or _ 18 ft.	a. Scr	reen type:		Factory cut [X	11
4.25				Con	tinuous slot 🔲	01
L. Borehole, diameter4.25_ in.		\		Manaflari	Other 🗆	]
M. O.D. well casing1.25_ in.		b. Ma c. Slo	nufacturer !	AGHORICA	0.0	01_ in.
II. O.D. Won Casing I.Z. IR.		X	otted length:			ft.
N. I.D. well casing _ 1 in.		100 200		below filter pack):	None 🗆	
		sand			Other IX	
I hereby certify that the information on this		est of my knowledge.				
Signature	Firm Shaw E	& ĭ				
1/- 1/-	Date 17 L					

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin Department of Natural Resources Route to:	Watershed/Wastewater	Waste Mans	agement [	MONITORING WE Form 4400-113A	LL CONSTRU Rev. 7-98	CTION
	Remediation/Redevelopmer Local Grid Location of Wo	t[X] Other				
Facility/Project Name Caleffi	Local Grid Location of We	<sup>611</sup> □ N.	ft.	Well Name MP-3		
Calem	T103015 85 7	L DS.		\$ i	15315 117 117	<u> </u>
Facility License, Permit or Monitoring No.	Lat. 43 ° 1 _ ' 38.5	sumated: (X) or		Wis. Unique Well No		
Facility ID				Deta Wall Installe		
Facility ID	St. Plane		ft. E. S/C/N	Date Well Installe 6/	_ <i>p</i> 27//_006	
Type of Well	Section Location of Waste	• • • • • • • • • • • • • • • • • • • •	ΠE	Well Installed By: N		
Well Code51_/_gp	1/4 of1/4 of	Sec,T	N, R B	100	Voerpel	and I hill
Distance from Waste/ Enf. Stds.	Location of Well Relative		Gov. Lot Number		1 del pei	
Sourceft. Apply	u ☐ Upgradient s d ☐ Downgradient r	Sidegradient		Gestra		
A. Protective pipe, top elevation		<u> </u>	. Cap and lock?		X Yes	No
, E	ft. MSL	F	2. Protective cover	pipe:		
B. Well casing, top elevation	It WISL		a. Inside diamete	r:	1	in.
C. Land surface elevation	ft_MSL		b. Length:			ft.
	water of the same	1 2000	c. Material:		Steel [	04
D. Surface seal, bottom ft. M			PVC		Other D	X 💹
12. USCS classification of soil near scree		O N	d. Additional pro	tection?	☐ Yes D	X No
	SW D SP D		If yes, describ	e:	<del></del>	
SM □ SC □ ML□ MH□ ( Bedrock □	LIX CH LI		3. Surface scal:		Bentonite D	-
	Stee No. No.		.,		Concrete L	J 01
	Yes X No	<b>M M</b> `	-		Other D	J 🊃
CONTROL PROGRAMMAN	otary 🗆 50		4. Material between	well casing and prote		
Hollow Stem A					Bentonite [	
	Other 🗆 🎎				Other I	
15. Drilling fluid used: Water □ 0 2	Air D 01			al; a. Granular/Chi		
	None IX 99			nud weight Benton		
	Hone ha		cLbs/gal i	nud weight Be	entonite slurry	31
16. Drilling additives used?	Yes X No		d % Benton	nite Bentonit	e-cement grout	J 50
				3 volume added for an	Tremie [	3 01
Describe			f. How installed		remie pumped [	_
17. Source of water (attach analysis, if req	uired):			•	Gravity [	
			6. Bentonite seal:	a. Ben	tomite granules [	
				3/8 in. □1/2 in.	_	1000000
E. Bentonite seal, top ft. M	SL or ft.				_	
			7 7			
F. Fine sand, top ft. MS	SL or _ 5 ft. \	$M \bowtie Z$		al: Manufacturer, pro	auct name & m	
		图》/	a. R.W. Sidley #4			
G. Filter pack, top ft. M:	SL or _6 ft.	相 图/		d_1	_ft <sup>3</sup>	
	ar ( )	増 鬨 ノ	8. Filter pack mate	rial: Manufacturer, pro	oduct name & m	esh size
H. Screen joint, top ft. M	SL or _ 6 ft.		a. R.W. Sidley #			
* ***	er 16 A.		b. Volume adde		_ft3	WF 44
I. Well bottom ft. M:	SL or _16 ft.		9. Well casing:	Flush threaded PVC		
I. Filter pack, bottom ft. M	er ar 16 Ar	イ富ノ		Flush threaded PVO		
1. Filter pack, bottom It. M.	2F 01 _ 70 11.			DVC	Other	******
K. Borehole, bottom ft. M	SLor 18 fts	, the state of the	O. Screen material:	PVC	To atoms and	W
A. Botenote, Bottom	3L 01 _ 10		a. Screen type:	c	Factory cut   ontinuous slot	000 000
L. Borehole, diameter4.25 in.				C	1000 100	
L. Boleikie, diameter m.			b. Manufacturer	Monoflex	_ Other	
M. O.D. well casing1.25_ in.		/	c. Slot size:			0.01 in.
M. O.D. well cashing II.	_		d. Slotted length	h:		0ft.
N. I.D. well casing _ 1 in.	$\sim \alpha/1$	1		l (below filter pack):		□ 14
A. A.D. WOIL CASHING M.	1 /// /		sand	Control Minor Parky	Other	
I hereby certify that the information on thi	Storm is true and correct to	the best of my knr			. 5.1107	- 2022
Signature /	Firm		<u> </u>			54000
11/	/ /	w E & I				

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# Attachment C

