

From: Stephen Meer, P.E. <smeer@thesigmagroup.com>
Sent: Monday, August 10, 2020 9:11 AM
To: Michalets, Linda M - DNR
Subject: RE: Biogenesis info
Attachments: 16366 Fig4 SQM PFAS.pdf; 16366 Fig5A GWQM PFAS.pdf; 16366 Fig5B GWQM 14dioxane.pdf

Good morning Linda,
Attached are the figures that we discussed. Hope these help and let me know if you need anything else.

Thanks,

Stephen R. Meer, P.E.
Senior Engineer
The Sigma Group, Inc.
414-643-4124 (direct)
414-588-8910 (mobile)
1300 W. Canal Street, Milwaukee, WI 53233
www.thesigmagroup.com | smeer@thesigmagroup.com



This electronic transmission is strictly confidential and intended solely for the addressee. If you are not the intended addressee, you must not disclose, copy or take any action in reliance of this transmission.

From: Michalets, Linda M - DNR <Linda.Michalets@wisconsin.gov>
Sent: Tuesday, July 28, 2020 11:03 AM
To: Stephen Meer, P.E. <smeer@thesigmagroup.com>
Subject: Biogenesis info

Hi Steve,
Thanks for working on a couple of figures to add to the Biogenesis status report. I just wanted to send you this link to the DHS website, which has information the DNR uses to interpret the groundwater data (under the Standards tab). I hope this will help in preparing the groundwater figure.

<https://www.dhs.wisconsin.gov/chemical/pfas.htm>

Thanks!
Linda

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Linda Michalets

Temporary Cell Phone: (262) 894-0986

Linda.Michalets@wisconsin.gov



ANALYTICAL KEY

PFOA = Perfluorooctanoic acid
 PFOS = Perfluorooctanesulfonic acid

All units are micrograms per kilogram (equivalent to parts per billion, ppb)

"J" = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value
 "B" = Compound was found in the blank and sample
 "F1" = MS and/or MSD Recovery is outside acceptance limits
 "F2" = MS/MSD RPD exceeds control limits

BOLD = Concentration exceeds Groundwater Pathway RCL
 [] = Concentration exceeds Non-Industrial Direct Contact RCL (any depth)
 { } = Concentration exceeds Industrial Direct Contact RCL (any depth)

Soil Sample Location:	SGP-114
Sample Depth (feet bgs):	4-5
Sample Collection Date:	10/11/19
PFAs	
PFOA	0.25
PFOS	4.2

Soil Sample Location:	SGP-112
Sample Depth (feet bgs):	4-5
Sample Collection Date:	10/11/19
PFAs	
PFOA	0.73
PFOS	29 F2

Soil Sample Location:	SMW-104R
Sample Depth (feet bgs):	4-5
Sample Collection Date:	10/11/19
PFAs	
PFOA	0.24
PFOS	47

Soil Sample Location:	SGP-111
Sample Depth (feet bgs):	4-5
Sample Collection Date:	10/11/19
PFAs	
PFOA	0.22 J
PFOS	62

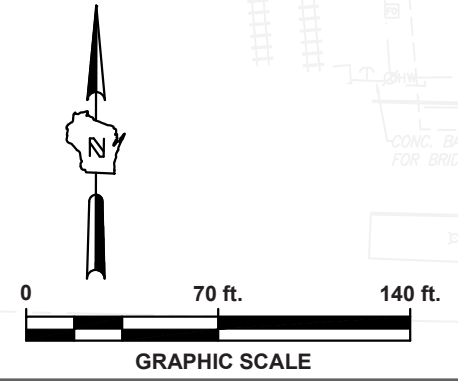
Soil Sample Location:	SGP-117
Sample Depth (feet bgs):	4-5
Sample Collection Date:	10/11/19
PFAs	
PFOA	<0.098
PFOS	1.0

Soil Sample Location:	SGP-118
Sample Depth (feet bgs):	4-5
Sample Collection Date:	10/11/19
PFAs	
PFOA	<0.099
PFOS	0.38 J

Soil Sample Location:	SGP-119
Sample Depth (feet bgs):	4-5
Sample Collection Date:	10/11/19
PFAs	
PFOA	<0.096
PFOS	0.29 J

LEGEND

⊕ Soil Boring / Monitoring Well
 ● Soil Boring



Single Source. Sound Solutions. GROUP

SOIL QUALITY MAP - PFAS

610 W. RAWSON AVE.
OAK CREEK, WI

FIGURE

4

Project: 16386 | Directory: CAD | Filename: Fig11_Conceptual_LAP.pdf | Created By: JJK | Date: 8/22/2018

APPROXIMATE SITE BOUNDARY

Location:	TW-104	TW-104R	SMW-104R		
Date:	3/29/19	5/1/19	1/10/20	4/14/20	5/27/20
PFOA	67	7.0	0.81 J	<0.76	73
PFHxS	4500 B	200 B	0.50 JB	0.28JB	2500 B
PFOS	1500	79	<0.49	<0.48	790

ANALYTICAL KEY

PFOA = Perfluorooctanoic acid
 PFOHxS = Perfluorohexanesulphonic acid
 PFOS = Perfluorooctanesulfonic acid

All concentrations reported in nanograms per liter (parts per trillion, or ppt)
 "J" = Analyte detected between Limit of Detection and Limit of Quantitation.
 "B" = analyte detected in Field Blank
 "I" = Value is EMPC (estimated maximum possible concentration)

BOLD = Concentration exceeds NR 140 ES
ITALICS = Concentration exceeds NR 140 PAL

Location:	SMW-3		
Date:	1/9/20	4/14/20	5/26/20
PFOA	0.81 J	26	28
PFHxS	13 B	26 B	23 B
PFOS	<0.48	8.8	4.9

Location:	MW-14	SMW-14R		
Date:	3/29/19	1/10/20	4/14/20	5/27/20
PFOA	6.4	44	29	23
PFHxS	3.0 B	15 B	11 B	9.8B
PFOS	3.7	5.1	7.2	6.2

Location:	SMW-4		
Date:	1/9/20	4/14/20	5/26/20
PFOA	<0.77	1.5 J	5.9
PFHxS	0.37 JB	1.3 JB	3.1 B
PFOS	<0.49	<0.48	1.8

Location:	MW-27
Date:	3/29/19
PFOA	3.0
PFHxS	1.7 J B
PFOS	1.2 J

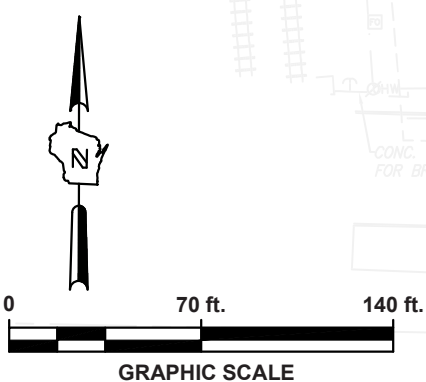
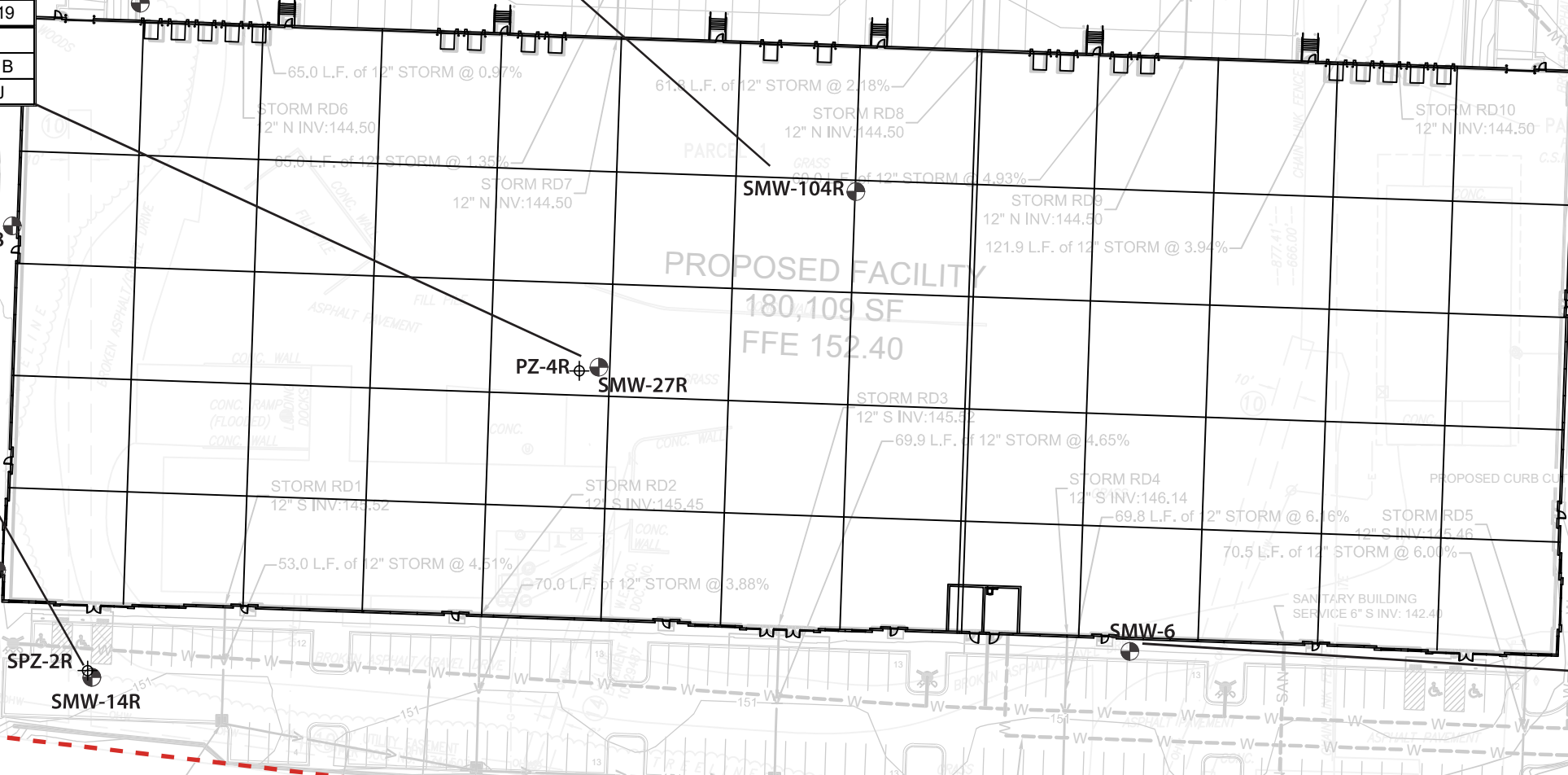
Location:	SMW-5		
Date:	1/9/20	4/14/20	5/26/20
PFOA	1.0 J	1.8	1.1 J
PFHxS	5.7 B	4.5 B	4.7 B
PFOS	3.5 I	3.8	3.2

LEGEND

Monitoring Well (circle with dot)
 Piezometer (circle with cross)

Location:	SMW-6		
Date:	1/9/20	4/14/20	5/26/20
PFOA	7.6	5.2	4.3
PFHxS	2.1 B	2.1 B	2.0B
PFOS	0.96 J	1.6 J	0.70J

Location:	SMW-2			
Date:	3/29/19	1/10/20	4/14/20	5/27/20
PFOA	0.88 J	0.84 J	0.81 J	<0.76
PFHxS	0.67 JB	0.60 JB	0.50 JB	0.28JB
PFOS	0.73 J	0.82 J	<0.49	<0.48



GROUNDWATER QUALITY MAP - PFAS

610 W. RAWSON AVE.
 OAK CREEK, WI

FIGURE
5A

Project: 16386 | Directory: CAD | Filename: Fig11_Conceptual_LAP.pdf | Created By: JJK | Date: 8/22/2018

APPROXIMATE SITE BOUNDARY

Well Location:	TW-104	SMW-104R		
Date:	3/29/19	1/10/20	4/14/20	5/27/20
1,4-Dioxane	1.2	<0.44	<0.44	<0.44

Well Location:	SMW-3		
Date:	1/9/20	4/13/20	5/26/20
1,4-Dioxane	12	4.4	3.2

Well Location:	SMW-7		
Date:	1/9/20	4/14/20	5/27/20
1,4-Dioxane	19	19	21

Well Location:	SMW-4		
Date:	1/9/20	4/13/20	5/26/20
1,4-Dioxane	9.2	7.1	1.4

LEGEND

- Monitoring Well
- Piezometer
- Approximate extent of groundwater impacts > NR 140 ES
- Approximate extent of groundwater impacts > NR 140 PAL

Well Location:	SMW-8		
Date:	1/9/20	4/14/20	5/27/20
1,4-Dioxane	5.1	11	3.7

Well Location:	SMW-5		
Date:	1/9/20	4/13/20	5/26/20
1,4-Dioxane	<0.44	2.5	<0.44

Well Location:	SPZ-4R		
Date:	1/10/20	4/14/20	5/27/20
1,4-Dioxane	39	46	30

Well Location:	SMW-9		
Date:	1/9/20	4/14/20	5/27/20
1,4-Dioxane	1.7	6.2	3.8

Well Location:	SMW-6		
Date:	1/9/20	4/14/20	5/26/20
1,4-Dioxane	99	27	25

Well Location:	SPZ-2R		
Date:	1/10/20	4/14/20	5/27/20
1,4-Dioxane	91	83	87

ANALYTICAL KEY

All concentrations reported in micrograms per liter

"J" = Analyte detected between Limit of Detection and Limit of Quantitation.

BOLD = Concentration exceeds NR 140 ES

ITALICS = Concentration exceeds NR 140 PAL

Well Location:	MW-27	SMW-27R		
Date:	3/25/19	1/10/20	4/14/20	5/27/20
1,4-Dioxane	3.2	42	28	29

Well Location:	MW-14	SMW-14R		
Date:	3/29/19	1/10/20	4/14/20	5/27/20
1,4-Dioxane	52	130	91	110

Well Location:	SMW-2			
Date:	3/29/19	1/9/20	4/13/20	5/27/20
1,4-Dioxane	1.5	<0.44	1.5	<0.44

Well Location:	SMW-1		
Date:	1/9/20	4/13/20	5/27/20
1,4-Dioxane	<0.44	<0.44	<0.44

Well Location:	SPZ-1		
Date:	1/9/20	4/13/20	5/27/20
1,4-Dioxane	0.86 J	<0.44	<0.44

0 70 ft. 140 ft.

GRAPHIC SCALE



GROUNDWATER QUALITY MAP - 1,4-DIOXANE FIGURE
5B
 610 W. RAWSON AVE.
 OAK CREEK, WI

Date: 8/22/2018
 Created By: JJK
 Filename: Fig11_Conceptual_LAP.pdf
 Directory: CAD
 Project: 16386