From:	Gregory Prom (MP)
To:	Sager, John E - DNR; Jamie Mehle (SWLP)
Cc:	Lacie Glaeser; Joscelyn Skandel (SWLP); DeVenecia, Eric R - DNR; Jacobson, Matthew J - DNR; Symons, Brian D; Paddock, Jeffrey J - DNR; Aukerman, Ken
Subject:	RE: [EXTERNAL MAIL] RE: Superior Graymont Incident Analytical Results
Date:	Monday, July 1, 2024 9:24:45 AM
Attachments:	image007.png M-SWL&P East Biosparge System Update.pdf

John,

I have attached a memo of what Foth has proposed for re-starting of the bio-sparge system and how to prevent a re-occurrence of an unintentional discharge. A report of the actions taken at the stormwater pond will be completed and will either be in the Q2 groundwater monitoring report or a stand-alone report that will be submitted later this month.

If you have any questions, please let me know.

Thanks,

Greg Prom

Senior Environmental Compliance Specialist
Minnesota Power/ALLETE
30 West Superior Street
Duluth, Minnesota 55802

Office: 218-355-3191
Cell: 218-461-6856
Email: gprom@allete.com

From: Sager, John E - DNR <John.Sager@wisconsin.gov>
Sent: Monday, July 1, 2024 7:26 AM
To: Jamie Mehle (SWLP) <JMehle@swlp.com>; Gregory Prom (MP) <gprom@mnpower.com>
Cc: Lacie Glaeser <lglaeser@graymont.com>; Joscelyn Skandel (SWLP) <jskandel@swlp.com>; DeVenecia, Eric R - DNR <Eric.DeVenecia@wisconsin.gov>; Jacobson, Matthew J - DNR <Matthew.Jacobson@wisconsin.gov>; Symons, Brian D <Brian.Symons@Foth.com>; Paddock, Jeffrey J - DNR <jeffrey.paddock@wisconsin.gov>
Subject: RE: [EXTERNAL MAIL] RE: Superior Graymont Incident Analytical Results

Greg,
To close out the spill file for this incident please include a description of the discharge and response actions taken including any documentation. Contact me if you have any questions.

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

John Sager
Hydrogeologist – Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
1701 N. 4th St.
Superior, WI 54880
Phone: (715) 919-7239
john.sager@wisconsin.gov

dnr.wi.gov

From: Sager, John E - DNR
Sent: Thursday, June 27, 2024 12:04 PM
To: Jamie Mehle (SWLP) <JMehle@swlp.com>; Gregory Prom (MP) <gprom@mnpower.com>
Cc: Lacie Glaeser <lglaeser@graymont.com>; Joscelyn Skandel (SWLP) <jskandel@swlp.com>; DeVenecia, Eric R - DNR <Eric.DeVenecia@wisconsin.gov>; Jacobson, Matthew J - DNR <Matthew.Jacobson@wisconsin.gov>; Symons, Brian D <Brian.Symons@Foth.com>; Paddock, Jeffrey J - DNR <jeffrey.paddock@wisconsin.gov>

Subject: RE: [EXTERNAL MAIL] RE: Superior Graymont Incident Analytical Results

Jamie and Greg,

Please provide me or have Foth provide an update on the current air sparge system operation and actions planned or taken to prevent another discharge to the stormwater pond.

Thanks.

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

John Sager
Hydrogeologist – Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
1701 N. 4th St.
Superior, WI 54880
Phone: (715) 919-7239
john.sager@wisconsin.gov


dnr.wi.gov


From: Jamie Mehle (SWLP) <JMehle@swlp.com>
Sent: Thursday, June 27, 2024 8:51 AM
To: Jacobson, Matthew J - DNR <Matthew.Jacobson@wisconsin.gov>; Gregory Prom (MP) <gprom@mnpower.com>; Sager, John E - DNR <John.Sager@wisconsin.gov>
Cc: Lacie Glaeser <lglaeser@graymont.com>; Joscelyn Skandel (SWLP) <jskandel@swlp.com>; DeVenecia, Eric R - DNR <Eric.DeVenecia@wisconsin.gov>
Subject: RE: [EXTERNAL MAIL] RE: Superior Graymont Incident Analytical Results

Thanks Matthew!

Jamison J. Mehle, P.E. (MN & WI)
Senior Engineer
Superior Water, Light & Power
Office: 715-395-6288
Cell: 218-393-6391

From: Jacobson, Matthew J - DNR <Matthew.Jacobson@wisconsin.gov>
Sent: Thursday, June 27, 2024 8:29 AM
To: Jamie Mehle (SWLP) <JMehle@swlp.com>; Gregory Prom (MP) <gprom@mnpower.com>; Sager, John E - DNR <John.Sager@wisconsin.gov>
Cc: Lacie Glaeser <lglaeser@graymont.com>; Joscelyn Skandel (SWLP) <jskandel@swlp.com>; DeVenecia, Eric R - DNR <Eric.DeVenecia@wisconsin.gov>
Subject: RE: [EXTERNAL MAIL] RE: Superior Graymont Incident Analytical Results

Jamie,

Given the sample results provided, I don't see any reason to why the stormwater could not be discharged. Just a reminder that the pond is a stormwater pond, not designed for wastewater or contaminated water, so it behooves Graymont to continue to ensure that the discharge is consistent with the stormwater permit and their SWPPP.

If Graymont has any questions on their SWPPP and the pond, please reach out to me.

Thanks again.

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Matthew Jacobson
Cell: (715) 928-0485
Matthew.Jacobson@Wisconsin.gov

From: Jamie Mehle (SWLP) <JMehle@swlp.com>
Sent: Wednesday, June 26, 2024 11:21 AM
To: Jacobson, Matthew J - DNR <Matthew.Jacobson@wisconsin.gov>; Gregory Prom (MP) <gprom@mnpower.com>; Sager, John E - DNR <John.Sager@wisconsin.gov>
Cc: Lacie Glaeser <lglaeser@graymont.com>; Joscelyn Skandel (SWLP) <jskandel@swlp.com>; DeVenecia, Eric R - DNR <Eric.DeVenecia@wisconsin.gov>
Subject: RE: [EXTERNAL MAIL] RE: Superior Graymont Incident Analytical Results

Matthew and John

Attached are the results from the sample that was taken from the pond last Friday (6/21).

The results show that all of the VOC and oil and grease concentrations are below 1 ug/L or no detections. The concentrations of PAHs that are shown are estimated, below reporting limits and the PALs.

Please reply to all so Graymont knows if they can now release the water from their pond. As you are aware, we have been having endless rains up here and the pond is very full.

Thanks

Jamie

Jamison J. Mehle, P.E. (MN & WI)
Senior Engineer
Superior Water, Light & Power
Office: 715-395-6288
Cell: 218-393-6391

From: Jacobson, Matthew J - DNR <Matthew.Jacobson@wisconsin.gov>
Sent: Thursday, June 20, 2024 1:30 PM
To: Gregory Prom (MP) <gprom@mnpower.com>; Sager, John E - DNR <John.Sager@wisconsin.gov>
Cc: Lacie Glaeser <lglaeser@graymont.com>; Jamie Mehle (SWLP) <JMehle@swlp.com>; Joscelyn Skandel (SWLP) <jskandel@swlp.com>; DeVenecia, Eric R - DNR <Eric.DeVenecia@wisconsin.gov>
Subject: RE: [EXTERNAL MAIL] RE: Superior Graymont Incident Analytical Results

content is safe.

Greg,

Without a sample from the pond, it would be difficult for Graymont to know if they can release the water or not. The industrial permit for Graymont does not allow for the discharge of contaminated water, so I would suspect they would want a sample from the pond to ensure they are not violating the conditions of the stormwater permit.

Let me know if you have any questions.

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Matthew Jacobson
Cell: (715) 928-0485
Matthew.Jacobson@Wisconsin.gov

From: Gregory Prom (MP) <gprom@mnpower.com>
Sent: Thursday, June 20, 2024 12:40 PM
To: Sager, John E - DNR <John.Sager@wisconsin.gov>
Cc: Lacie Glaeser <lglaeser@graymont.com>; Jamie Mehle (SWLP) <JMehle@swlp.com>; Joscelyn Skandel (SWLP) <jskandel@swlp.com>; Jacobson, Matthew J - DNR <Matthew.Jacobson@wisconsin.gov>; DeVenecia, Eric R - DNR <Eric.DeVenecia@wisconsin.gov>
Subject: RE: [EXTERNAL MAIL] RE: Superior Graymont Incident Analytical Results

You are correct that they were supposed to have gotten a second sample from the pond after it was pumped but they didn't do it. The analytical is from the pumped out water so the pond water would have theoretically be less.

I am working with the City on the getting approval to discharge at the treatment facility.

Thanks,

Greg

From: Sager, John E - DNR <John.Sager@wisconsin.gov>

Sent: Thursday, June 20, 2024 11:45 AM
To: Gregory Prom (MP) <gprom@mnpower.com>
Cc: Lacie Glaeser <lglaeser@graymont.com>; Jamie Mehle (SWLP) <JMehle@swlp.com>; Joscelyn Skandel (SWLP) <jskandel@swlp.com>; Jacobson, Matthew J - DNR <Matthew.Jacobson@wisconsin.gov>; DeVenecia, Eric R - DNR <Eric.DeVenecia@wisconsin.gov>
Subject: [EXTERNAL MAIL] RE: Superior Graymont Incident Analytical Results

Greg,

I have included Matt Jacobson and Eric DeVenecia from the DNR wastewater Program in this email for their input as well. I do have a question. I thought SWL&P (Bay West) was going to collect samples from both the frac tank as well as the pond. Based on the results you sent is appears only one sample from the frac tank was collected? Please confirm.

Also, just to confirm, the water in the frac tank is wastewater at this point so this water will need to be disposed of through a wastewater treatment plant. Has the city of Superior given approval to accept this water yet?

Thanks.

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

John Sager
Hydrogeologist – Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
1701 N. 4th St.
Superior, WI 54880
Phone: (715) 919-7239
john.sager@wisconsin.gov

dnr.wi.gov

From: Gregory Prom (MP) <gprom@mnpower.com>
Sent: Wednesday, June 19, 2024 7:45 AM

To: Sager, John E - DNR <John.Sager@wisconsin.gov>
Cc: Lacie Glaeser <lglaeser@graymont.com>; Jamie Mehle (SWLP) <JMehle@swlp.com>; Joscelyn Skandel (SWLP) <jskandel@swlp.com>
Subject: RE: Superior Graymont Incident Analytical Results

John,

I got the analytical results late yesterday from the Graymont stormwater pond. The sample was collected from the water that was sucked off the pond and into the FRAC tank. Graymont requested that WDNR review the analytical and provide approval to discharge the water that has accumulated in the pond since the water was pumped out by Bay West. The plug was left in place pending analytical results.

The petroleum analytical was no detection for oil and grease. For the volatile organic compounds (VOCs), there is a benzene detection at .24 ug/L and Naphthalene at .50 ug/l. Both of the samples were flagged as estimated values. They are below the preventative action levels.

The pond is full from all of the rain. It is my understanding that there is no sheen on the water and there have been no additional "events" since it was pumped out. Please respond to everyone on this email so Graymont can release the stormwater.
I am working on getting permission to discharge the Frac tank water to the sanitary sewer. I assume they are at capacity with all the rain as well.

Thanks,

Greg Prom

Senior Environmental Compliance Specialist
Minnesota Power/ALLETE
30 West Superior Street
Duluth, Minnesota 55802

Office: 218-355-3191
Cell: 218-461-6856
Email: gprom@allete.com


minnesota power
AN ALLETE COMPANY

Memorandum

5117 West Terrace Drive, Suite 401
Madison, WI 53718
(608) 242-5900
foth.com

June 12, 2024

TO: Greg Prom, Minnesota Power/ALLETE
Jamie Mehle, SWL&P

CC: Larry Kramka, Foth
Ken Aukerman, Foth
Jill Dekart, Foth

FR: Brian Stanul, Foth
Brian Symons, Foth

RE: SWL&P East Biosparge/Soil Vapor Extraction System Operation Issues

Background

During the startup of the east biosparge/soil vapor extraction (SVE) system on April 22-26, 2024, the east biosparge/SVE system was operating as designed. A minor amount of air bubbling in the Graymont Pond was observed at this event as it was during the 2023 startup events. Short circuiting of air flow at B-A-4 and B-A-20 had been observed during the 2023 startup, so those wells were shut off. During the 2023 startup event, subsequent weekly, and monthly inspection events thereafter, the east biosparge/SVE system was also operating as designed. Furthermore, no air bubbling at B-A-4 and B-A-20 was observed.

On May 29, 2024, Envirocon mobilized to make repairs and abandon several biosparge wells associated with the east biosparge/SVE system. Foth also mobilized to the Superior Water, Light & Power (SWL&P) site to shut down the east biosparge/SVE system so that Envirocon could perform the well repairs. On the afternoon of May 29, 2024, after Envirocon completed the east biosparge well repairs, Foth Infrastructure & Environment, LLC (Foth) restarted the biosparge/SVE system. After the east biosparge/SVE system restart, the wellhead at biosparge well B-B-7 was observed to be leaking. Foth shut the system down so that the wellhead could be repaired. Envirocon repaired the wellhead. The system remained shut down over the following weekend to allow the repair to set.

On June 4, 2024, Foth remobilized to the SWL&P site and restarted the east biosparge/SVE system using a six-step startup approach, compared to the four-step startup approach done April 22-26, 2024, to focus on startup of biosparge well B-B-7 that was repaired (Steps 2, 4, and 5 below).

1. The biosparge system can be restarted as usual with the ATM manifold at 100% and the 1-2-3 and 4-5 manifolds closed.

2. Remove the well covers for B-B-9, B-B-8, B-B-7, and B-B-6. We may need to look at B-B-5 to B-B-1 depending on what we find when we pressurize manifold 4-5.

3. Open manifold 1-2-3 to where it was set before you shut down the system last week, around 50%. Reduce the ATM manifold opening.

4. Open manifold 4-5 to about 10% and adjust the ATM manifold. Check the well head pressure gauges (or use the manometer) at B-B-9, B-B-8, B-B-7, and B-B-6. Make sure the repair at B-B-7 is not leaking. An abnormally high pressure at any of the well heads may indicate some type of blockage in the header.

5. Open manifold 4-5 about 10% at a time until the opening is the same as before the shutdown (about 50%). Observe the wellhead pressures. If any of the well head pressures get too high, reduce the 4-5 manifold opening. Use the April 2024 start-up readings for reference.

6. Observe the manifold and well head pressures while the system stabilizes. Allow the system at least 2 hours to stabilize.

When manifold 4-5 was being brought up to its operational pressure in Step 4 and the ATM manifold was closed completely, groundwater was observed bubbling out several biosparge wells associated with the east biosparge/SVE system manifold 1-2-3. Biosparge wells B-A-20 and B-A-4 had groundwater and B-A-26 had what appeared to be water with an oily sheen bubbling out from under their respective well covers. Air was observed to be bubbling in the Graymont storm water basin. A portion of the water with an oily sheen flowed from biosparge well B-A-26 into the Graymont storm water basin.

Foth closed the wellheads at B-A-26, B-A-20, and B-A-4 and reduced the pressure on manifold 1-2-3. After the adjustments were made, the bubbling stopped; and Foth shut both the east and west remediation systems down.

Discussion

As the east and west biosparge/SVE systems are optimized during this first year of operation, the balancing of the injected air with the outlet through the manifolds is the primary objective. The optimization of pressurization within the groundwater system at each biosparge and SVE well is iterative.

On June 4, 2024, the east biosparge/SVE system exhibited a response to apparent over pressure and too much air injection. The injected air in the east biosparge/SVE system was following preferential flow paths around the three biosparge wells, and in the Graymont Pond, an increased rate of bubbling was observed. Closing the leaking well heads and reducing the east biosparge/SVE system operating pressures to manifold 1-2-3 eliminated the excessive air bubbling and non aqueous phase liquids-(NAPL) like substance release issues.

Recommendations

Foth recommends the following adjustments to the operation of the east biosparge/SVE system:

- Keep biosparge wells B-A-4, B-A-20, and B-A-26 off to prevent further soil disturbance adjacent to the wells and allow adjacent soil to recompact naturally. Temporarily or even long-term shut down of wells B-A-4, B-A-20, and B-A-26 will have minimal effect on the overall east biosparge/SVE system operation. Minor repairs to the three well heads could allow future operation of these wells, albeit at a lower air flow rate. This can be evaluated over time.
- Reduce the operating pressure (<4.5 pounds per square inch gauge [psig]) and total air flow the east biosparge wells (100-125 standard cubic feet per minute [scfm]) and discharge excess air to the atmosphere (52-77 scfm),
- Adjust the east SVE system accordingly so measurable vacuum is observed at nearby vapor monitoring points indicating the east SVE system is capturing biosparged volatile organic compounds (VOC).
- Install mufflers on both east and west biosparge atmospheric discharge manifold outlets to mitigate the increased sound levels caused by increasing the air discharge to the atmosphere.
- When remediation system operational adjustments are made, the system will be monitored daily the first week (e.g., during Quarter 2 - 2024 site monitoring), weekly through July 31, 2024, and monthly thereafter to ensure the system has properly stabilized.