

From: Andy Delforge <adelforge@reiengineering.com>
Sent: Wednesday, May 15, 2024 11:06 AM
To: Schultz, Josie M - DNR
Subject: RE: V&L Stripping Methane 02-05-216722
Attachments: 0205216722-V&L Stripping Methane-2.pdf



CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.




Here is an amended report. Checked it again yesterday in SVE-4, and luckily still no issue. Let me know if you need anything else.

Thank you,



Andrew R. Delforge, P.G. – Senior Hydrogeologist

 <p>REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING</p> <p>4080 N. 20th Avenue Wausau, WI 54401</p> <p>REIengineering.com</p> 	<p>Andrew R. Delforge, P.G. Senior Hydrogeologist Adelforge@REIengineering.com</p> <p>Tel: 1-877-734-7745 715-675-9784</p> <p>Cell: 715-551-4434</p> <p>Fax: 715-675-4060</p>
--	--

Connect with us :   

Confidentiality Notice: This message is intended for the recipient only. If you have received this e-mail in error please disregard.

From: Schultz, Josie M - DNR <josie.schultz@wisconsin.gov>
Sent: Thursday, May 9, 2024 2:55 PM
To: Andy Delforge <adelforge@reiengineering.com>
Subject: RE: V&L Stripping Methane 02-05-216722

Hi Andy - I discussed this with the peer review group and statewide experts today and unfortunately they've requested that specifically SVE-4 be sampled since it's the closest to the residence.

We are committed to service excellence.

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

Josie Schultz

Cell Phone: (920) 366-5685

Josie.Schultz@Wisconsin.gov

From: Andy Delforge <adelforge@reiengineering.com>

Sent: Thursday, May 9, 2024 12:07 PM

To: Schultz, Josie M - DNR <josie.schultz@wisconsin.gov>

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

**CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Ahh, because its the closest one to mw800 and I misread your email 🤔

Thank you,

Andrew Delforge, P.G.

Hydrogeologist

Office: [715.675.9784](tel:715.675.9784)

Cell: [715.551.4434](tel:715.551.4434)

www.REEngineering.com

On May 9, 2024, at 8:37 AM, Schultz, Josie M - DNR <josie.schultz@wisconsin.gov> wrote:

Hi Andy,

I received the update via the submittal portal. Is there are reason that SVE-2 was sampled instead of SVE-4?

Thanks,

Josie

We are committed to service excellence.

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

Josie Schultz

Cell Phone: (920) 366-5685

Josie.Schultz@Wisconsin.gov

From: Schultz, Josie M - DNR
Sent: Wednesday, May 1, 2024 10:42 AM
To: Andy Delforge <adelforge@reiengineering.com>
Cc: Ken Juza <kenjuz37@gmail.com>
Subject: V&L Stripping Methane 02-05-216722

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.
 1. 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.
 2. 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

We are committed to service excellence.

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

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

<image001.gif>

dnr.wi.gov

<image002.gif>

<image003.gif>

<image004.gif>

<image005.gif>

<image006.gif>

May 15, 2024



Wisconsin Department of Natural Resources

Attn: Ms. Josie Schultz

2984 Shawano Ave.

Green Bay, WI 54313



Subject:

Former V&L Stripping – Closure Report Follow-Up
Methane Screening & Injection Oil Thickness
864 Mather Street
Green Bay, WI 54303
BRRTS #02-05-216722

Dear Josie:

This letter will summarize methane screening the V&L Stripping site, and includes a history of CAP-18 injection oil thickness in monitoring wells MW100 and MW300. Work performed was based on our discussion and your email dated May 1, 2024.

Methane Screening

Based on elevated dissolved methane concentrations in MW800, the WDNR requested methane gas screening in the vadose zone. Soil vapor extraction well SVE-2 is located within 5 feet of MW800. Historical reports indicate that the SVE wells are constructed with PVC screen from 3-13' below land surface (bls). At the wellhead, the riser is one-inch PVC. On May 6, 2024, REI conducted methane screening based on procedures from a previous study conducted by Shaw Environmental and a report provided by the Department, dated July 13, 2006.

Once the well was opened, tubing was lowered approximately five (5) feet into the well and connected to a Lantec Model GEM-2000 infrared gas analyzer. The meter records continuous percentage readings for methane, carbon dioxide, oxygen, and the balance.

Initial readings for methane in SVE-2 were 0.0%. The meter was allowed to run for 10 minutes, with the reading at 10 minutes being 0.0%. The wellhead was then sealed around the tubing. At 10 minutes, the methane reading was 0.0%, and at 30 minutes, the reading was again 0.0%.

On May 14, 2024, REI performed methane screening at SVE-4, adjacent to the nearby residence at 856 Mather Street. SVE-4 is similarly constructed, with the four-inch riser extending to the well head. Once the well was opened, tubing was lowered approximately five (5) feet into the well and connected to a Lantec Model GEM-5000 infrared gas analyzer.

Initial readings for methane in SVE-4 were 0.0%. The meter was allowed to run for 10 minutes, with the reading at 10 minutes being 0.0%. The wellhead was then sealed around the tubing. The initial reading was 0.0%, at 10 minutes, the methane reading was 0.0%, and at 30 minutes, the reading was again 0.0%.



RESPONSIVE. EFFICIENT. INNOVATIVE.

4080 N. 20th Avenue Wausau, WI 54401

715-675-9784 REIengineering.com

WDNR
Attn: Josie Schultz
May 15, 2024

Photographs are included as an attachment.

CAP-18 Injection Oil Thickness

The CAP 19 injection was conducted on June 19 and 20, 2019. A total of 1,648 pounds of CAP-18 were injected from depths of 4-12 feet bls in a grid pattern throughout the contaminant plume. The CAP 18 injectate is essentially food grade mineral oil. Microbes digest the fatty acids and produce hydrogen which is available for the reduction of chlorinated organic contaminants. Reductive dechlorination essentially occurs when each chloride atom of the chlorinated hydrocarbon is replaced with hydrogen.

The first sampling event following injection was conducted on October 28, 2019. A skim of CAP-18 oil was present in MW100, with over a foot in MW300. The next sampling event, conducted February 5, 2020 again showed a skim in MW100 and over a foot in MW300. In subsequent events, no product was present in MW100. Oil thickness in MW300 has varied from approximately 1.5 feet in September 2020 to 0.41 feet on May 6, 2024. The CAP-18 product cannot be effectively measured with a traditional interface probe, and the water level indicator will not read an accurate depth to water after being coated with oil. Therefore thickness measurements are an estimation based on observations from a bailer. Typically approximately one gallon of oil was removed from MW300 during each sampling event. A thickness summary is included as Table A.7

Conclusion and Recommendations

Gaseous methane does not appear to be present within the vadose zone, and there is no risk to adjacent structures. The CAP 18 injection has been successful in enhancing reductive dechlorination at the site. Residual oil in and around MW300 will remain as a hydrogen source to further enhance reductive dichlorination.

Thank you for your assistance with this project, and for your expedient review of the Closure Report. 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.
Senior Hydrogeologist/Project Manager

CC: Ken Juza (electronic)

Enclosures

A.7
INJECTION OIL THICKNESS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

Date	MW100		MW300	
	Injection Date - 6/19/19-6/20/19			
	Depth to Water (Feet)	Oil Thickness (Feet)	Depth to Water (Feet)	Oil Thickness (Feet)
10/28/19	NM*	0.05	NM*	1.20
2/5/20	7.84	0.01	NM*	1.15
5/13/20	7.71	0.00	NM*	0.54
9/3/20	8.38	0.00	9.65*	1.50
8/31/21	7.51	0.00	NM*	0.75
3/29/22	8.15	0.00	NM*	0.54
5/9/23	7.44	0.00	NM*	0.61
8/17/23	NM	0.00	NM*	0.44
11/16/23	8.42	0.00	NM*	0.85
5/6/24	NM	0.00	8.24	0.41

NM = Not Measured

NI = Not Installed

* CAP 18 injection oil present in MW100 & MW300, Unable to obtain accurate DTW



SVE-2, MW800 in background



Open top screening



Initial reading 0.0 % Methane



Reading at 10 minutes - 0.0% methane

V&L Stripping, Methane Screening 864 Mather Street, Green Bay, WI 54303	Photographs REI No. 8318
--	-----------------------------



Closed top reading



Reading at 10 minutes - 0.0% methane



Reading at 30 minutes - 0.0% methane

V&L Stripping, Methane Screening	Photographs
864 Mather Street, Green Bay, WI 54303	REI No. 8318



SVE -4 adjacent to 856 Mather St.



Initial reading - open air - 0.0% methane



10 minute reading - 0.0% methane



Shut-in test

V&L Stripping, Methane Screening	Photographs
864 Mather Street, Green Bay, WI 54303	REI No. 8318



Shut-in measurements initial - 0.0% methane



Shut-in measurements at 10 minutes - 0.0% methane



Shut-in measurements at 30 minutes, 0.0 % methane

V&L Stripping, Methane Screening	Photographs
864 Mather Street, Green Bay, WI 54303	REI No. 8318