REGION 5
CHICAGO, IL 60604

February 23, 2024

Mr. Kenneth Fuller
200841 Eckes Road (formerly S2550 Eckes Road)
Marshfield, WI 54449

Subject: **Water Sample Results – Fall 2023**
Marathon County, DNR Point ID 804, License #4077
Spickler Landfill Site

Dear Mr. Fuller:

As part of the groundwater monitoring program for the Spickler Landfill, two water samples were collected from your well on September 14, 2023. The results of the sampling found that your water is safe to drink. However, the U.S. Environmental Protection Agency (EPA) and the Wisconsin Department of Natural Resources (WDNR) recommend that monitoring of your well continue because low levels of chemicals associated with the landfill were found in your water.

The results from your water analysis are discussed below, and a summary of all of the data from your well is provided as an attachment to this letter.

Lead

The Wisconsin Preventative Action Limit (PAL) for lead was exceeded in both samples collected from your water well in September. However, both of your water samples were below the Wisconsin Enforcement Standard (ES) for lead.

Date of Sampling	Parameter	Sample Results		WDNR ES (µg/L)	WDNR PAL (µg/L)
		Sample #1 (µg/L)	Sample #2 (µg/L)		
09/14/2023	Lead	**1.7**	**1.7**	15	1.5
Notes: One microgram per liter (µg/L) is equal to one part per billion.					

Iron

The Wisconsin public welfare drinking water ES for iron was exceeded in both of your well water samples. Welfare standards are set for aesthetic reasons, such as taste and odor. There is no WDNR or EPA health-based drinking water standard for iron.

Date of Sampling	Parameter	Sample Results		WDNR ES (µg/L)	WDNR PAL (µg/L)
		Sample #1 (µg/L)	Sample #2 (µg/L)		
09/14/2023	Iron	**12,100**	**11,600**	300	150
Notes: One microgram per liter (µg/L) is equal to one part per billion. The ES for iron is a public welfare standard. There is no WDNR drinking water standard for iron.					

Manganese

The Wisconsin public welfare drinking water PAL for manganese was exceeded in both of your well water samples. However, both of your water samples were below the Wisconsin ES for manganese. Welfare standards are set for aesthetic reasons, such as taste and odor. There is no WDNR or EPA health-based drinking water standard for manganese.

Date of Sampling	Parameter	Sample Results		WDNR ES (µg/L)	WDNR PAL (µg/L)
		Sample #1 (µg/L)	Sample #2 (µg/L)		
09/14/2023	Manganese	**77**	**74.9**	300	60
Notes: One microgram per liter (µg/L) is equal to one part per billion. The ES for iron is a public welfare standard. There is no WDNR drinking water standard for iron.					

1,4-Dioxane

1,4-Dioxane is a stabilizer that was historically used in certain chlorinated solvents, paint strippers, greases, and waxes. 1,4-dioxane was detected in both of your well water samples. The detected concentrations exceeded the Wisconsin public health drinking water PAL but were below the Wisconsin public health drinking water ES.

Date of Sampling	Parameter	Sample Results		WDNR ES (µg/L)	WDNR PAL (µg/L)
		Sample #1 (µg/L)	Sample #2 (µg/L)		
09/14/2023	1,4-dioxane	**0.978**	**1.07**	3	0.3
Notes: One microgram per liter (µg/L) is equal to one part per billion.					

Per- and Polyfluoroalkyl Substances (PFAS)

In addition to the parameters discussed above, your water samples were analyzed for per- and polyfluoroalkyl substances (PFAS). PFAS, a group of manufactured chemicals, have been used in industry and consumer products since the 1940s. These chemicals are what we call "emerging contaminants" in that EPA and the WDNR are currently evaluating potential impacts from long-term ingestion and are in the process developing health-based standards to assess risks associated from exposure.

Low levels of PFAS were found in the two samples taken from your well and the detected results are included in the table. The results were compared to EPA's 2023 Tapwater Regional Screening Levels (RSLs). The results were below EPA's Tapwater RSLs. Note that the results for PFAS are reported in "nanograms per liter" which is notated as "ng/L". This is equivalent to a measurement of one part per trillion.

Date of Sampling	Parameter	Sample Results From Your Well (2 samples collected)		EPA Tapwater RSL (ng/L) - based on a hazard quotient of 0.1
		Sample #1 (ng/L)	Sample #2 (ng/L)	
09/14/2023	PFBS	2.6	2.6	600
09/14/2023	PFHxS	2	1.9	39
09/14/2023	PFHxA	2.3	2.2	990
Notes: One nanogram per liter (ng/L) is equal to one part per trillion.				

Please don't hesitate to reach out to me if you have any questions about work at the landfill or your water well results. I can be reached at (312) 353-6713 or by email at green.nilia@epa.gov

Sincerely,

Digitally signed by Green, Nilia
Date: 2024.02.23 10:32:00 -06'00'

Nilia Moberly Green
Remedial Project Manager

Attachment: September 2023 Well Sampling Results for 200841 Eckes Road

cc: Erin Endsley, WDNR (via email only – erin.endsley@wisconsin.gov)
Alison Levinson, WSP USA (via email only – alison.levinson@wsp.com)
Greg Gehrig, USEPA (via email only – gehrig.greg@epa.gov)

SPICKLER LANDFILL SITE
WELL SAMPLING RESULTS – SEPTEMBER 2022
200841 ECKES ROAD, SPENCER, WISCONSIN

Parameter	WDNR ES (µg/L)	Well Result (µg/L)	Well Result (µg/L)
Arsenic	10	ND[1] (<0.28[2])	ND (<0.28)
Barium	2,000	15.4	15.0
Iron	300[3]	**12,100**	**11,600**
Lead	15	1.7	1.7
Manganese	300	77	74.9
1,4-dioxane[4]	3	**0.978**	**1.07**
Benzene	5	ND (<0.30)	ND (<0.30)
Chloroethane	400	ND (<1.4)	ND (<1.4)
1,4-dichlorobenzene	75	ND (<0.89)	ND (<0.89)
1,1-dichloroethane	850	ND (<0.30)	ND (<0.30)
1,2-dichloroethane	5	ND (<0.29)	ND (<0.29)
cis-1,2-dichloroethene	70	ND (<0.47)	ND (<0.47)
Methylene chloride	5	ND (<0.32)	ND (<0.32)
Tetrachloroethene (PCE)	5	ND (<0.41)	ND (<0.41)
Trichloroethene (TCE)	5	ND (<0.32)	ND (<0.32)
Vinyl chloride (low level)	0.2	ND (<0.019)	ND (<0.019)

[1] ND means the parameter was not detected based on the detection limit. The detection limit is the number in parentheses.
[2] "<" means that the parameter was not detected above the value shown. For example, the arsenic test result is less than 0.28 µg/L.
[3] The Enforcement Standard for iron is set for aesthetic reasons and is not a Public Health Standard.
[4] The results of 0.978 and 1.11 ug/L for 1,4-dioxane are above the Wisconsin Preventative Action Limit (PAL), which is 0.3 ug/L, but below the Wisconsin Enforcement Standard (ES), which is 3 ug/L.

Per- and Polyfluoroalkyl Substances	EPA Tapwater Regional Screening Level (based on a hazard quotient of 0.1)	Well Result (ng/L)	Well Result (ng/L)
Hexafluoropropylene oxide-dimer Acid (HFPO-DA)	1.5	Not Detected (ND[5]) (<0.82 ng/L[6])	ND (<0.82 ng/L)
N-ethyl perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	No Guidance (NG)[7]	ND (<0.66 ng/L)	ND (<0.66 ng/L)
N-methyl perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NG	ND (<0.64 ng/L)	ND (<0.65 ng/L)
Perfluorobutanesulfonic Acid (PFBS)	600	2.6	2.6
Perfluorodecanoic Acid (PFDA)	NG	ND (<0.79 ng/L)	ND (<0.80 ng/L)
Perfluorododecanoic Acid (PFDoA)	NG	ND (<0.89 ng/L)	ND (<0.90 ng/L)
Perfluoroheptanoic Acid (PFHpA)	NG	ND (<0.96 ng/L)	ND (<0.97 ng/L)
Perfluorohexanesulfonic Acid (PFHxS)	39	2	1.9
Perfluorohexanoic Acid (PFHxA)	990	2.3	2.2
Perfluorononanoic Acid (PFNA)	5.9	ND (<0.95 ng/L)	ND (<0.96 ng/L)
Perfluorooctanesulfonic Acid (PFOS)	4	ND (<0.57 ng/L)	ND (<0.57 ng/L)
Perfluorooctanoic Acid (PFOA)	6	ND (<0.70 ng/L)	ND (<0.71 ng/L)
Perfluorotetradecanoic Acid (PFTeDA)	NG	ND (<0.83 ng/L)	ND (<0.83 ng/L)
Perfluorotridecanoic Acid (PFTrDA)	NG	ND (<0.76 ng/L)	ND (<0.77 ng/L)
Perfluoroundecanoic Acid (PFUnA)	NG	ND (<0.79 ng/L)	ND (<0.80 ng/L)
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	NG	ND (<0.63 ng/L)	ND (<0.64 ng/L)
9-chlorohexadecafluoro-3-oxanone-1-sulfonic Acid (9Cl-PF3ONS)	NG	ND (<0.53 ng/L)	ND (<0.54 ng/L)
4,8-dioxa-3H-perfluorononanoic Acid (ADONA)	NG	ND (<0.66 ng/L)	ND (<0.66 ng/L)

[5] ND means the parameter was not detected based on the detection limit. The detection limit is the number in parentheses.
[6] "<" means that the parameter was not detected above the value shown. For example, the HFPO-DA test result is less than 0.82 ng/L.
[7] NG means no guidance is currently available for the specific chemical and no health-based standards have been established.

REGION 5
CHICAGO, IL 60604

February 23, 2024

Mark and Lorraine Shaw
200516 Eckes Road (formerly S2551 Eckes Road)
Marshfield, WI 54449

Subject: Water Sample Results – Fall 2023
Marathon County, DNR Point ID 802, License #4077
Spickler Landfill Site

Dear Mr. and Ms. Shaw:

As part of the groundwater monitoring plan for the Spickler Landfill, a water sample was collected from your well on September 13, 2023. The results looked very good, and no parameters were observed that exceeded a Wisconsin standard. A full summary of your results for September 2023 is attached.

The U.S. Environmental Protection Agency (EPA) and the Wisconsin Department of Natural Resources (WDNR) recommend that monitoring of your well continue to ensure that the landfill does not negatively impact your drinking water.

Please don't hesitate to reach out to me if you have any questions about work at the landfill or your water well results. I can be reached at (312) 353-6713 or by email at green.nilia@epa.gov.

Sincerely,

Nilia Moberly Green
Digitally signed by Green, Nilia
Date: 2024.02.23 10:29:07 -06'00'

Nilia Moberly Green
Remedial Project Manager

Attachment: September 2023 Well Sampling Results for 200516 Eckes Road

cc: Erin Endsley, WDNR (via email only – erin.endsley@wisconsin.gov)
Alison Levinson, WSP USA, Inc. (via email only – alison.levinson@wsp.com)
Greg Gehrig, USEPA (via email only – gehrig.greg@epa.gov)

SPICKLER LANDFILL SITE
WELL SAMPLING RESULTS – SEPTEMBER 2023
200516 ECKES ROAD, SPENCER, WISCONSIN

Parameter	WDNR Enforcement Standard (µg/L)[1]	Well Result (µg/L)
Arsenic	10	Not Detected (ND)[2] (<[3] 0.28 µg/L)
Barium	2,000	9.1 µg/L
Iron	300[4]	ND (<58 µg/L)
Lead	15	0.63 J[5] µg/L
Manganese	300	3.9 J µg/L
1,4-dioxane	3	ND (<0.134 µg/L)
Benzene	5	ND (<0.30 µg/L)
Chloroethane	400	ND (<1.4 µg/L)
1,4-dichlorobenzene	75	ND (<0.89 µg/L)
1,1-dichloroethane	850	ND (<0.30 µg/L)
1,2-dichloroethane	5	ND (<0.29 µg/L)
cis-1,2-dichloroethene	70	ND (<0.47 µg/L)
Methylene chloride	5	ND (<0.32 µg/L)
Tetrachloroethene (PCE)	5	ND (<0.41 µg/L)
Trichloroethene (TCE)	5	ND (<0.32 µg/L)
Vinyl chloride (low level)	0.2	ND (<0.019 µg/L)

[1] Compounds are reported in "µg/L", which is Micrograms per Liter. This is equivalent to a measurement of one part per billion.
[2] "ND" means the parameter was not detected based on the detection limit. The detection limit is the number in parentheses.
[3] "<" means that the result is <u>less than</u> the value shown. For example, the benzene test result is less than 0.30 µg/L.
[4] The Enforcement Standard for iron is set for aesthetic reasons and is not a Public Health Standard.
[5] "J" indicates an estimated result.

Per- and Polyfluoroalkyl Substances	EPA Tapwater Regional Screening Level (based on a hazard quotient of 0.1)	Well Result (ng/L)[6]
Hexafluoropropylene oxide-dimer Acid (HFPO-DA)	1.5	Not Detected (ND[7]) (<0.84 ng/L[8])
N-ethyl perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	No Guidance (NG)[9]	ND (<0.68 ng/L)
N-methyl perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NG	ND (<0.66 ng/L)
Perfluorobutanesulfonic Acid (PFBS)	600	ND (<0.58 ng/L)
Perfluorodecanoic Acid (PFDA)	NG	ND (<0.82 ng/L)
Perfluorododecanoic Acid (PFDoA)	NG	ND (<0.92 ng/L)
Perfluoroheptanoic Acid (PFHpA)	NG	ND (<0.99 ng/L)
Perfluorohexanesulfonic Acid (PFHxS)	39	ND (<0.67 ng/L)
Perfluorohexanoic Acid (PFHxA)	990	ND (<0.77 ng/L)
Perfluorononanoic Acid (PFNA)	5.9	ND (<0.98 ng/L)
Perfluorooctanesulfonic Acid (PFOS)	4	ND (<0.59 ng/L)
Perfluorooctanoic Acid (PFOA)	6	ND (<0.72 ng/L)
Perfluorotetradecanoic Acid (PFTeDA)	NG	ND (<0.85 ng/L)
Perfluorotridecanoic Acid (PFTrDA)	NG	ND (<0.78 ng/L)
Perfluoroundecanoic Acid (PFUnA)	NG	ND (<0.820 ng/L)
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	NG	ND (<0.65 ng/L)
9-chlorohexadecafluoro-3-oxanone-1-sulfonic Acid (9Cl-PF3ONS)	NG	ND (<0.55 ng/L)
4,8-dioxa-3H-perfluorononanoic Acid (ADONA)	NG	ND (<0.68 ng/L)

[6] Results for PFAS are reported in "nanograms per liter" which is notated as "ng/L". This is equivalent to a measurement of one part per trillion.
[7] ND means the parameter was not detected based on the detection limit. The detection limit is the number in parentheses.
[8] "<" means that the parameter was not detected at or above the value shown. For example, the HFPO-DA test result is less than 0.84 ng/L.
[9] NG means no guidance is currently available for the specific chemical and no health-based standards have been established.