May 1, 2024

GROUNDWATER QUALITY TESTING REPORT

For

GEORGIA – PACIFIC GYPSUM

Fort Dodge, Iowa

NORTH RECYCLE PILE

PPERMIT #94-SDP-18-09

MER ENGINEERING, INC.
CONSULTING ENGINEERS

•Civil Engineers
•Environmental Engineers
•Land Surveyors
•Agricultural Engineers
•Geotechnical Engineers
•Architectural Engineers

MER #9510

May 1, 2024 GROUNDWATER TESTING REPORT

For

GEORGIA – PACIFIC GYPSUM NORTH RECYCLE PILE

Fort Dodge, Iowa

PERMIT #94-SDP-18-09

MER #9510

Georgia-Pacific Gypsum North Recycle Pile

May 1, 2024 Groundwater Testing
Permit #94-SDP-18-09

Per MER Engineering correspondence dated October 12, 2022, Georgia-Pacific Gypsum proposed to make changes to the current groundwater testing at this site. This proposal would eliminate the testing for the indicator parameters listed in Table 3-2 from the HMSP and Closure / Post Closure Authorization. The proposed change in groundwater testing would include testing for the Table 3-1 parameters; total arsenic, total barium, total cadmium, total chromium, total lead, total mercury, and total zinc, as well as field tested parameters temperature, pH, and specific conductance. These metal parameters have US EPA and Iowa Statewide Groundwater Standards to adhere to. The Department approved the proposed changes per DNR correspondence dated October 18, 2022. Georgia-Pacific Gypsum completed a first round of sampling for this new list of parameters in November 2022. Four of five monitoring locations were successfully sampled and tested during the November 2022 event. Monitoring well MW4 could not be sampled as there was insufficient groundwater available at that time. A second round of this testing was proposed to be completed in March 2023. That groundwater testing was dismissed as MW4 did not contain adequate groundwater to complete the sampling. Groundwater was successfully sampled/tested at all monitoring locations in April 2023 and July 2023. The Department then suspended groundwater testing for the remainder of 2023. In December 2023, the Department reinstated groundwater testing for calendar year 2024.

In mid-April 2024, groundwater levels were checked to see if groundwater had recovered to a point where sampling / testing could be completed. Georgia-Pacific Gypsum completed groundwater sampling / testing on May 1, 2024 at all monitoring locations at the North Recycle Pile. All monitoring locations had barium detected at low levels. One monitoring location, MW2 had low levels of zinc detected. There were no other detects for any of the remaining parameters during this May 2024 testing event. The table below displays the parameter detects for the 1st (November 2022), 2nd (April 2023), 3rd (July 2023), and 4th (May 2024) rounds of testing for the new list of parameters. As can be seen, all detects are low level with none exceeding any known US EPA or Iowa Statewide Groundwater Standards.

GEORGIA-PACIFIC NORTH RECYCLE PILE - PERMIT #94-SDP-18-09C						
Arsenic - SS (10 µg/L)						
DATE		**MW1**	**MW2**	**MW3**	**MW4**	**MW5**
11/21/2022	(µg/L)	**2.22**	**2.1**	<2.00		<2.00
4/27/2023	(µg/L)	<2.00	<2.00	<2.00	<2.00	<2.00
7/20/2023	(µg/L)	<2.00	**2.5**	<2.00	<2.00	<2.00
5/1/2024	(µg/L)	<2.00	<2.00	<2.00	<2.00	<2.00
BARIUM - SS (2000 µg/L)						
11/21/2022	(µg/L)	**11.0**	**13.1**	**16.3**		**11.6**
4/27/2023	(µg/L)	**9.1**	**11.4**	**12.9**	**9.6**	**9.22**
7/20/2023	(µg/L)	**9.52**	**11.5**	**15.6**	**9.2**	**10.3**
5/1/2024	(µg/L)	**10.1**	**11.0**	**13.7**	**9.18**	**8.17**
CADMIUM - SS (5.0 µg/L)						
11/21/2022	(µg/L)	<0.100	<0.100	**0.255**		<0.100
4/27/2023	(µg/L)	<0.200	<0.200	<0.200	<0.200	<0.200
7/20/2023	(µg/L)	<0.200	<0.200	<0.200	<0.200	<0.200
5/1/2024	(µg/L)	<0.200	<0.200	<0.200	<0.200	<0.200
ZINC - SS (2000 µg/L)						
11/21/2022	(µg/L)	**23.3**	**69.8**	<20.00		<20.00
4/27/2023	(µg/L)	<20.00	**64.2**	<20.00	<20.00	<20.00
7/20/2023	(µg/L)	<20.00	**59.8**	<20.00	<20.00	<20.00
5/1/2024	(µg/L)	<20.00	**85.9**	<20.00	<20.00	<20.00

SS is the Iowa Statewide Standard (GWPS) for that parameter

Bold font (2.22) with gray back shading indicates a detect.

Monitoring well MW2 has some history with arsenic detects (3) that did exceed GWPS when utilizing dissolved analysis. These arsenic detects were reported to the Department during the first three quarters of calendar year 2013 groundwater testing at this site. The fourth quarter 2013 arsenic result returned from dissolved analysis as no detect.

Lower Confidence (LCL) and Upper Confidence (UCL) Limits were examined for groundwater parameters arsenic, barium, and zinc that have been detected in monitoring well MW2. The LCL and UCL calculations are displayed in the tables below.

Georgia-Pacific North Recycle Pile

MW2	Arsenic (ug/L)	
Nov-22	2.1	
Apr-23	2.0	
Jul-23	2.5	
May-24	2.0	
Jul-24	2.15	Guesses for future levels of
Nov-24	2.15	arsenic using the average of
Mar-25	2.15	the previous three
Jun-25	2.15	
Mean	2.15	
Standard Deviation	0.16	
Confidence Level	0.01	
number of samples	8	
Table 16-1 Unified Guidance	2.998	for 7 degrees of freedom
Lower Confidence Limit	1.98	Which is less than the GWPS of 10 µg/L for Arsenic
Upper Confidence Limit	2.32	Which is less than the GWPS of 10 µg/L for Arsenic

Georgia-Pacific North Recycle Pile

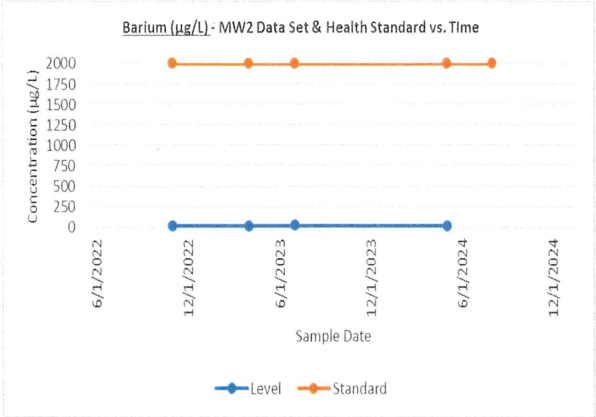
MW2	Barium (ug/L)	
Nov-22	13.1	
Apr-23	11.4	
Jul-23	11.5	
May-24	11.0	
Jul-24	11.75	Guesses for future levels of
Nov-24	11.75	barium using the average of
Mar-25	11.75	the previous three
Jun-25	11.75	
Mean	11.75	
Standard Deviation	0.61	
Confidence Level	0.01	
number of samples	8	
Table 16-1 Unified Guidance	2.998	for 7 degrees of freedom
Lower Confidence Limit	11.11	Which is less than the GWPS of 2000 µg/L for Bariun
Upper Confidence Limit	12.39	Which is less than the GWPS of 2000 µg/L for Bariun

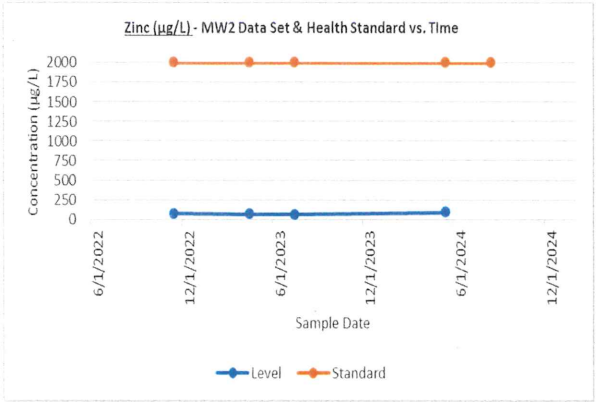
Georgia-Pacific North Recycle Pile

MW2	Zinc (ug/L)	
Nov-22	69.8	
Apr-23	64.2	
Jul-23	59.8	
May-24	85.9	
Jul-24	69.93	Guesses for future levels of
Nov-24	69.93	zinc using the average of the
Mar-25	69.93	previous three
Jun-25	69.93	
Mean	69.93	
Standard Deviation	7.47	
Confidence Level	0.01	
number of samples	8	
Table 16-1 Unified Guidance	2.998	for 7 degrees of freedom
Lower Confidence Limit	62.01	Which is less than the GWPS of 2000 µg/L for Zinc
Upper Confidence Limit	77.84	Which is less than the GWPS of 2000 µg/L for Zinc

As can be seen all LCL and UCL calculations are well below the GWPS for arsenic, barium, and zinc in MW2. Monitoring well MW2 had some arsenic levels detected by dissolved analysis which did exceed GWPS in calendar year 2013. Since that 2013 testing there have been 2-arsenic detects utilizing total analysis, both well below the GWPS of 10.0µg/L. There have been no other parameter detects that have exceeded a GWPS at any of the other monitoring locations at this closed unit.

Please note on the next page, Health Standards have been plotted using the test data from the last four (4) groundwater testing events utilizing Total Analysis for MW2. The Health Standards include the detect levels for arsenic, barium, and zinc compared to their respective Groundwater Protection Standards.





The Health Standards graphs above show that none of the groundwater detects for arsenic, barium, or zinc exceed the GWPS at monitoring location MW2. All detects are low level with none exceeding any known US EPA or Iowa Statewide Groundwater Standards..

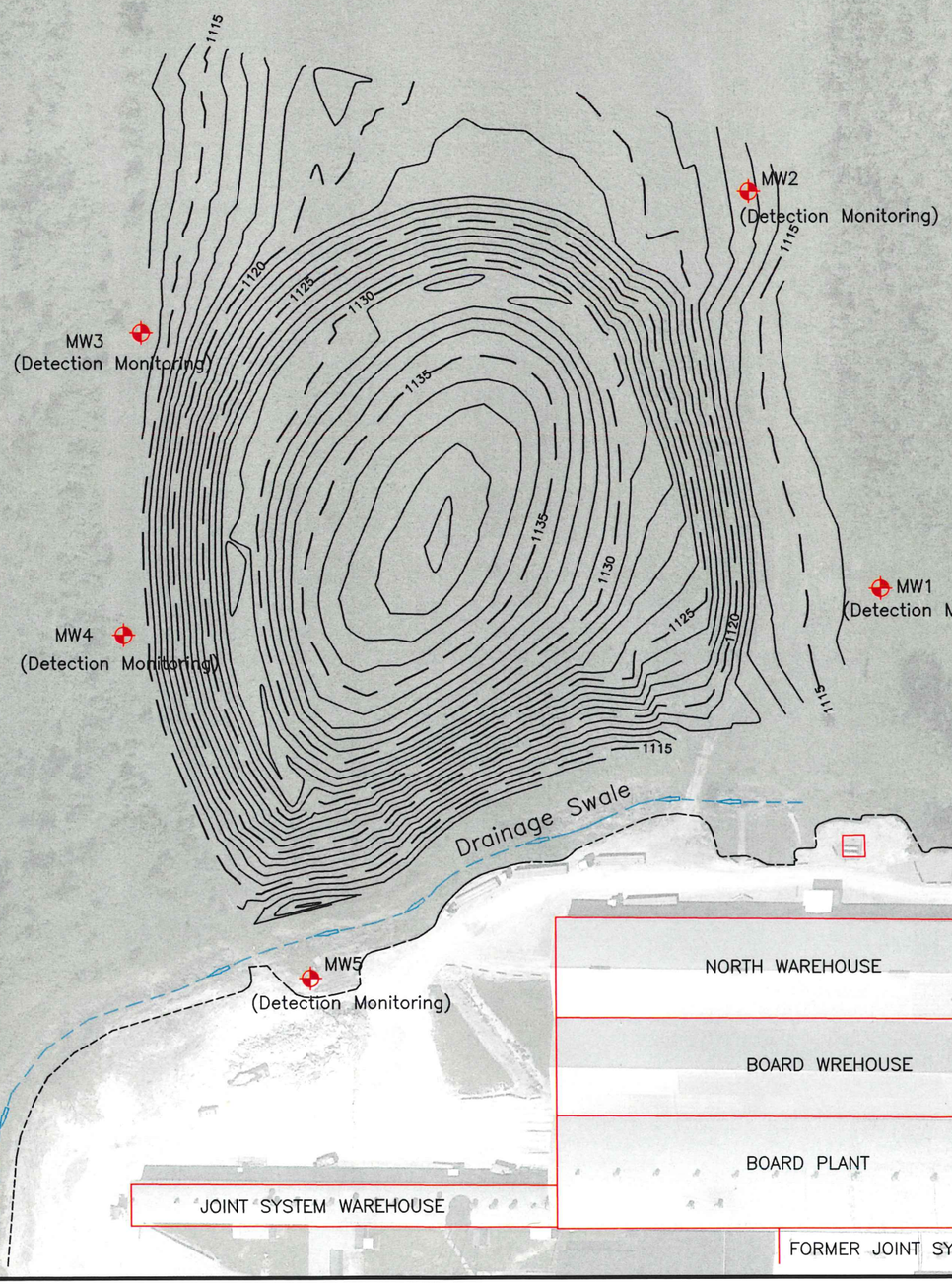
Georgia-Pacific Gypsum and MER Engineering discussed these latest groundwater testing results and when the next sampling / testing event should be completed at the North Recycle Pile. Per this conversation, Georgia-Pacific Gypsum proposes to complete a 5th round of this groundwater testing in August 2024. The Department may advise Georgia-Pacific Gypsum if an alternate schedule is preferred for groundwater testing for this site.

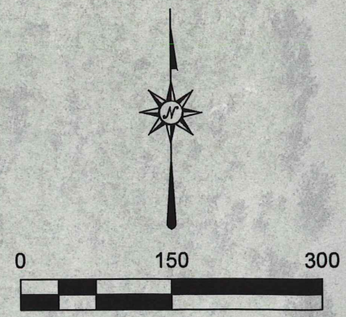
Enclosed are copies of the site plat, data tables summarizing the parameters tested to date for each of the five monitoring locations, analytical results, and field data measurement data forms (542-1322).

Site Plat

(May 2024)

GEORGIA-PACIFIC GYPSUM NORTH RECYCLE PILE
IDNR PERMIT #94-SDP-18-09





LEGEND

MONITORING WELL LOCATION MW3

INDEX CONTOUR 1125

INTERMEDIATE CONTOUR

MW1
NORTHING = 8578915.95
EASTING = 14686466.90
TOP PVC Z = 1115.68
GROUND Z = 1113.11

MW2
NORTHING = 8579313.46
EASTING = 14686336.13
TOP PVC Z = 1120.60
GROUND Z = 1117.44

MW3
NORTHING = 8579173.75
EASTING = 14685723.08
TOP PVC Z = 1115.51
GROUND Z = 1113.04

MW4
NORTHING = 8578870.72
EASTING = 14685704.14
TOP PVC Z = 1116.36
GROUND Z = 1113.72

MW5
NORTHING = 8578526.69
EASTING = 14685890.63
TOP PVC Z = 1117.37
GROUND Z = 1113.79

N 00° 04' 45" W 2642.84'

CENTER SECTION
SEC. 34-83-82
IRON PIN
N = 8581167.22
E = 14687427.22
Z = 1115.37

S1/4 CORNER
SEC 34-89-28
5/8" REROD
N = 8578524.38
E = 14687431.23
Z = 1112.81

NORTH RECYCLE PILE TOPOGRAPHIC SURVEY
FINAL CONTOURS SURVEYED FEBRUARY 25, 2022
IOWA REGIONAL COORDINATE SYSTEM: ZONE 4
NORTH AMERICAN DATUM 1983 (NAD 83) (2011) EPOCH 2010.00
CONTOUR INTERVAL = 1 FOOT

GEORGIA-PACIFIC GYPSUM NORTH RECYCLE PILE - SITE PLAT

DATE 03/01/2022
MER NO. 9510

MER ENGINEERING, INC.
ENGINEERING, ARCHITECTURE AND SURVEYING
109 REGENCY WEST COURT
FORT DODGE, IOWA
(515) 955-3635

Groundwater Data Tables with Detects Noted in Bold Font

(May 2024)

GEORGIA-PACIFIC NORTH RECYCLE PILE - PERMIT #94-SDP-18-09C ARSENIC - SS (10 µg/L)						
DATE		MW1	MW2	MW3	MW4	MW5
2/6/2013	(µg/L)	<1.0	**23.6**	<1.0	<1.0	<1.0
5/21/2013	(µg/L)	<2.0	**22.8**	<2.0	<2.0	<2.0
8/14/2013	(µg/L)	<1.0	**19.2**	<1.0	<1.0	<1.0
11/7/2013	(µg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
11/21/2022 (*)	(µg/L)	**2.22**	**2.10**	<2.00		<2.00
4/27/2023	(µg/L)	<2.00	<2.00	<2.00	<2.00	<2.00
7/20/2023	(µg/L)	<2.00	**2.50**	<2.00	<2.00	<2.00
5/1/2024	(µg/L)	<2.00	<2.00	<2.00	<2.00	<2.00

Value in Bold Font indicates a detect.
MCL = USEPA Maximum Contaminant Level
SDWS = Secondary Drinking Water Standard
SS = Iowa State Standard
11/21/2022 (*) Indicates first time in which Total Metals Analysis was completed.

GEORGIA-PACIFIC NORTH RECYCLE PILE - PERMIT #94-SDP-18-09C BARIUM - SS (2000 µg/L)						
DATE		MW1	MW2	MW3	MW4	MW5
2/6/2013	(µg/L)	112	64.5	150	108	106
5/21/2013	(µg/L)	35.8	24.8	17.3	22.7	22.3
8/14/2013	(µg/L)	28.9	31.5	28.5	32.7	36.7
11/7/2013	(µg/L)	18.8	15.1	27.6	19.5	19.3
11/21/2022 (*)	(µg/L)	**11.0**	**13.1**	**16.3**		**11.6**
4/27/2023	(µg/L)	**9.1**	**11.4**	**12.9**	**9.6**	**9.22**
7/20/2023	(µg/L)	**9.52**	**11.5**	**15.6**	**9.2**	**20.9**
5/1/2024	(µg/L)	**10.1**	**11.0**	**13.7**	**9.18**	**8.17**

Value in Bold Font indicates a detect.
MCL = USEPA Maximum Contaminant Level
SDWS = Secondary Drinking Water Standard
SS = Iowa State Standard
11/21/2022 (*) Indicates first time in which Total Metals Analysis was completed.

GEORGIA-PACIFIC NORTH RECYCLE PILE - PERMIT #94-SDP-18-09C CADMIUM - SS (5.0 µg/L)						
DATE		MW1	MW2	MW3	MW4	MW5
2/6/2013	(µg/L)	<0.5	<0.5	<0.5	<0.5	<0.5
5/21/2013	(µg/L)	<0.5	<0.5	<0.5	<0.5	<0.5
8/14/2013	(µg/L)	<0.5	<0.5	<0.5	<0.5	<0.5
11/7/2013	(µg/L)	<0.5	<0.5	<0.5	<0.5	<0.5
11/21/2022 (*)	(µg/L)	<0.100	<0.100	**0.255**		<0.100
4/27/2023	(µg/L)	<0.200	<0.200	<0.200	<0.200	<0.200
7/20/2023	(µg/L)	<0.200	<0.200	<0.200	<0.200	<0.200
5/1/2024	(µg/L)	<0.200	<0.200	<0.200	<0.200	<0.200

Value in Bold Font indicates a detect.
MCL = USEPA Maximum Contaminant Level
SDWS = Secondary Drinking Water Standard
SS = Iowa State Standard
11/21/2022 (*) Indicates first time in which Total Metals Analysis was completed.

GEORGIA-PACIFIC NORTH RECYCLE PILE - PERMIT #94-SDP-18-09C CHROMIUM - SS (100 µg/L)						
DATE		**MW1**	**MW2**	**MW3**	**MW4**	**MW5**
2/6/2013	(µg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
5/21/2013	(µg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
8/14/2013	(µg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
11/7/2013	(µg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
11/21/2022 (*)	(µg/L)	<5.0	<5.0	<5.0		<5.0
4/27/2023	(µg/L)	<5.0	<5.0	<5.0	<5.0	<5.0
7/20/2023	(µg/L)	<5.0	<5.0	<5.0	<5.0	<5.0
5/1/2024	(µg/L)	<5.0	<5.0	<5.0	<5.0	<5.0

Value in Bold Font indicates a detect.
MCL = USEPA Maximum Contaminant Level
SDWS = Secondary Drinking Water Standard
SS = Iowa State Standard
11/21/2022 (*) Indicates first time in which Total Metals Analysis was completed.

GEORGIA-PACIFIC NORTH RECYCLE PILE - PERMIT #94-SDP-18-09C LEAD - SS (15 µg/L)						
DATE		**MW1**	**MW2**	**MW3**	**MW4**	**MW5**
2/6/2013	(µg/L)	<4.0	<4.0	<4.0	<4.0	<4.0
5/21/2013	(µg/L)	<4.0	<4.0	<4.0	<4.0	<4.0
8/14/2013	(µg/L)	<4.0	<4.0	<4.0	<4.0	<4.0
11/7/2013	(µg/L)	<4.0	<4.0	<4.0	<4.0	<4.0
11/21/2022 (*)	(µg/L)	<0.500	<0.500	<0.500		<0.500
4/27/2023	(µg/L)	<0.500	<0.500	<0.500	<0.500	<0.500
7/20/2023	(µg/L)	<0.500	<0.500	<0.500	<0.500	<0.500
5/1/2024	(µg/L)	<0.500	<0.500	<0.500	<0.500	<0.500

Value in Bold Font indicates a detect.
MCL = USEPA Maximum Contaminant Level
SDWS = Secondary Drinking Water Standard
SS = Iowa State Standard
11/21/2022 (*) Indicates first time in which Total Metals Analysis was completed.

GEORGIA-PACIFIC NORTH RECYCLE PILE - PERMIT #94-SDP-18-09C MERCURY - SS (2.0 µg/L)						
DATE		**MW1**	**MW2**	**MW3**	**MW4**	**MW5**
2/6/2013	(µg/L)	<0.20	<0.20	<0.20	<0.20	<0.20
5/21/2013	(µg/L)	<0.20	<0.20	<0.20	<0.20	<0.20
8/14/2013	(µg/L)	<0.20	<0.20	<0.20	<0.20	<0.20
11/7/2013	(µg/L)	<0.20	<0.20	<0.20	<0.20	<0.20
11/21/2022 (*)	(µg/L)	<0.200	<0.200	<0.200		<0.200
4/27/2023	(µg/L)	<0.200	<0.200	<0.200	<0.200	<0.200
7/20/2023	(µg/L)	<0.200	<0.200	<0.200	<0.200	<0.200
5/1/2024	(µg/L)	<0.200	<0.200	<0.200	<0.200	<0.200

Value in Bold Font indicates a detect.
MCL = USEPA Maximum Contaminant Level
SDWS = Secondary Drinking Water Standard
SS = Iowa State Standard
11/21/2022 (*) Indicates first time in which Total Metals Analysis was completed.

GEORGIA-PACIFIC NORTH RECYCLE PILE - PERMIT #94-SDP-18-09C ZINC - SS (2000 µg/L)						
DATE		**MW1**	**MW2**	**MW3**	**MW4**	**MW5**
2/6/2013	(µg/L)	**163**	**254**	**194**	**174**	**152**
5/21/2013	(µg/L)	**54.5**	**164**	**56.5**	**63.7**	**55.1**
8/14/2013	(µg/L)	**110**	**172**	**91.9**	**116**	**109**
11/7/2013	(µg/L)	**155**	**231**	**122**	**166**	**175**
11/21/2022 (*)	(µg/L)	**23.3**	**69.8**	<20.00		<20.00
4/27/2023	(µg/L)	<20.00	**64.2**	<20.00	<20.00	<20.00
7/20/2023	(µg/L)	<20.00	**59.8**	<20.00	<20.00	<20.00
5/1/2024	(µg/L)	<20.00	**85.9**	<20.00	<20.00	<20.00

Value in Bold Font indicates a detect.
MCL = USEPA Maximum Contaminant Level
SDWS = Secondary Drinking Water Standard
SS = Iowa State Standard
11/21/2022 (*) Indicates first time in which Total Metals Analysis was completed.

Eurofins Test America Laboratory Reports for Groundwater Testing

(May 1, 2024)

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ANALYTICAL REPORT

PREPARED FOR

Attn: Dave Minikis
MER Engineering Inc
109 Regency West Court
Fort Dodge, Iowa 50501

Generated 5/13/2024 4:23:46 PM

JOB DESCRIPTION

Georgia Pacific MW Sampling

JOB NUMBER

310-280253-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Eurofins Cedar Falls

Job Notes

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Authorized for release by
Hannah Dietz, Project Management Assistant I
Hannah.Dietz@et.eurofinsus.com
(319)277-2401

Table of Contents

Job Narrative
310-280253-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 5/2/2024 8:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.9°C.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-280253-1	MW5	Water	05/01/24 09:20	05/02/24 08:30
310-280253-2	MW3	Water	05/01/24 09:43	05/02/24 08:30
310-280253-3	MW4	Water	05/01/24 10:05	05/02/24 08:30
310-280253-4	MW1	Water	05/01/24 10:22	05/02/24 08:30
310-280253-5	MW2	Water	05/01/24 10:43	05/02/24 08:30

Detection Summary

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Client Sample ID: MW5 — Lab Sample ID: 310-280253-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.00817		0.00200		mg/L	1		6020B	Total/NA
Total Suspended Solids	17.6		1.9		mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW3 — Lab Sample ID: 310-280253-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0137		0.00200		mg/L	1		6020B	Total/NA
Total Suspended Solids	15.6		1.9		mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW4 — Lab Sample ID: 310-280253-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.00918		0.00200		mg/L	1		6020B	Total/NA
Total Suspended Solids	8.3		1.9		mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW1 — Lab Sample ID: 310-280253-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0101		0.00200		mg/L	1		6020B	Total/NA
Total Suspended Solids	31.3		3.8		mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW2 — Lab Sample ID: 310-280253-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0110		0.00200		mg/L	1		6020B	Total/NA
Zinc	0.0859		0.0200		mg/L	1		6020B	Total/NA
Total Suspended Solids	11.1		1.9		mg/L	1		I-3765-85	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Client Sample ID: MW5

Date Collected: 05/01/24 09:20
Date Received: 05/02/24 08:30

Lab Sample ID: 310-280253-1
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		05/06/24 10:00	05/07/24 19:55	1
Barium	**0.00817**		0.00200		mg/L		05/06/24 10:00	05/07/24 19:55	1
Cadmium	<0.000200		0.000200		mg/L		05/06/24 10:00	05/07/24 19:55	1
Chromium	<0.00500		0.00500		mg/L		05/06/24 10:00	05/07/24 19:55	1
Lead	<0.000500		0.000500		mg/L		05/06/24 10:00	05/07/24 19:55	1
Zinc	<0.0200		0.0200		mg/L		05/06/24 10:00	05/08/24 15:44	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		05/07/24 11:53	05/08/24 12:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**17.6**		1.9		mg/L			05/04/24 12:30	1

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Client Sample ID: MW3
Date Collected: 05/01/24 09:43
Date Received: 05/02/24 08:30

Lab Sample ID: 310-280253-2
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		05/06/24 10:00	05/07/24 19:57	1
Barium	**0.0137**		0.00200		mg/L		05/06/24 10:00	05/07/24 19:57	1
Cadmium	<0.000200		0.000200		mg/L		05/06/24 10:00	05/07/24 19:57	1
Chromium	<0.00500		0.00500		mg/L		05/06/24 10:00	05/07/24 19:57	1
Lead	<0.000500		0.000500		mg/L		05/06/24 10:00	05/07/24 19:57	1
Zinc	<0.0200		0.0200		mg/L		05/06/24 10:00	05/08/24 16:02	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		05/07/24 11:53	05/08/24 12:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**15.6**		1.9		mg/L			05/04/24 12:30	1

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Client Sample ID: MW4

Date Collected: 05/01/24 10:05
Date Received: 05/02/24 08:30

Lab Sample ID: 310-280253-3
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		05/06/24 10:00	05/07/24 19:59	1
Barium	**0.00918**		0.00200		mg/L		05/06/24 10:00	05/07/24 19:59	1
Cadmium	<0.000200		0.000200		mg/L		05/06/24 10:00	05/07/24 19:59	1
Chromium	<0.00500		0.00500		mg/L		05/06/24 10:00	05/07/24 19:59	1
Lead	<0.000500		0.000500		mg/L		05/06/24 10:00	05/07/24 19:59	1
Zinc	<0.0200		0.0200		mg/L		05/06/24 10:00	05/08/24 16:05	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		05/07/24 11:53	05/08/24 12:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**8.3**		1.9		mg/L			05/04/24 12:30	1

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Client Sample ID: MW1
Date Collected: 05/01/24 10:22
Date Received: 05/02/24 08:30

Lab Sample ID: 310-280253-4
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		05/06/24 10:00	05/07/24 20:01	1
Barium	**0.0101**		0.00200		mg/L		05/06/24 10:00	05/07/24 20:01	1
Cadmium	<0.000200		0.000200		mg/L		05/06/24 10:00	05/07/24 20:01	1
Chromium	<0.00500		0.00500		mg/L		05/06/24 10:00	05/07/24 20:01	1
Lead	<0.000500		0.000500		mg/L		05/06/24 10:00	05/07/24 20:01	1
Zinc	<0.0200		0.0200		mg/L		05/06/24 10:00	05/08/24 16:08	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		05/07/24 17:21	05/10/24 11:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**31.3**		3.8		mg/L			05/06/24 14:01	1

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Client Sample ID: MW2

Date Collected: 05/01/24 10:43
Date Received: 05/02/24 08:30

Lab Sample ID: 310-280253-5
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		05/06/24 10:00	05/07/24 20:03	1
Barium	**0.0110**		0.00200		mg/L		05/06/24 10:00	05/07/24 20:03	1
Cadmium	<0.000200		0.000200		mg/L		05/06/24 10:00	05/07/24 20:03	1
Chromium	<0.00500		0.00500		mg/L		05/06/24 10:00	05/07/24 20:03	1
Lead	<0.000500		0.000500		mg/L		05/06/24 10:00	05/07/24 20:03	1
Zinc	**0.0859**		0.0200		mg/L		05/06/24 10:00	05/08/24 16:12	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		05/07/24 17:21	05/10/24 11:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**11.1**		1.9		mg/L			05/04/24 10:37	1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-420670/1-A
Matrix: Water
Analysis Batch: 420954

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420670

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200		mg/L		05/06/24 10:00	05/07/24 18:49	1
Barium	<0.00200		0.00200		mg/L		05/06/24 10:00	05/07/24 18:49	1
Cadmium	<0.000200		0.000200		mg/L		05/06/24 10:00	05/07/24 18:49	1
Chromium	<0.00500		0.00500		mg/L		05/06/24 10:00	05/07/24 18:49	1
Lead	<0.000500		0.000500		mg/L		05/06/24 10:00	05/07/24 18:49	1
Zinc	<0.0200		0.0200		mg/L		05/06/24 10:00	05/07/24 18:49	1

Lab Sample ID: LCS 310-420670/2-A
Matrix: Water
Analysis Batch: 420954

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420670

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.200	0.2084		mg/L		104	80 - 120
Barium	0.100	0.1092		mg/L		109	80 - 120
Cadmium	0.100	0.09812		mg/L		98	80 - 120
Chromium	0.100	0.09376		mg/L		94	80 - 120
Lead	0.200	0.2167		mg/L		108	80 - 120
Zinc	0.200	0.1914		mg/L		96	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-420886/1-A
Matrix: Water
Analysis Batch: 421070

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		05/07/24 11:53	05/08/24 12:21	1

Lab Sample ID: LCS 310-420886/2-A
Matrix: Water
Analysis Batch: 421070

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420886

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00333	0.003493		mg/L		105	80 - 120

Lab Sample ID: MB 310-420929/1-A
Matrix: Water
Analysis Batch: 421358

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420929

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200		0.000200		mg/L		05/07/24 17:21	05/10/24 11:01	1

Lab Sample ID: LCS 310-420929/2-A
Matrix: Water
Analysis Batch: 421358

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420929

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00167	0.001711		mg/L		103	80 - 120

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-420690/1
Matrix: Water
Analysis Batch: 420690

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0		mg/L			05/04/24 10:37	1

Lab Sample ID: LCS 310-420690/2
Matrix: Water
Analysis Batch: 420690

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	93.00		mg/L		93	75 - 116

Lab Sample ID: MB 310-420693/1
Matrix: Water
Analysis Batch: 420693

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0		mg/L			05/04/24 12:30	1

Lab Sample ID: LCS 310-420693/2
Matrix: Water
Analysis Batch: 420693

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	93.00		mg/L		93	75 - 116

Lab Sample ID: MB 310-420785/1
Matrix: Water
Analysis Batch: 420785

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0		mg/L			05/06/24 14:01	1

Lab Sample ID: LCS 310-420785/2
Matrix: Water
Analysis Batch: 420785

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	99.00		mg/L		99	75 - 116

Metals

Prep Batch: 420670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280253-1	MW5	Total/NA	Water	3005A	
310-280253-2	MW3	Total/NA	Water	3005A	
310-280253-3	MW4	Total/NA	Water	3005A	
310-280253-4	MW1	Total/NA	Water	3005A	
310-280253-5	MW2	Total/NA	Water	3005A	
MB 310-420670/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-420670/2-A	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 420886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280253-1	MW5	Total/NA	Water	7470A	
310-280253-2	MW3	Total/NA	Water	7470A	
310-280253-3	MW4	Total/NA	Water	7470A	
MB 310-420886/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-420886/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 420929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280253-4	MW1	Total/NA	Water	7470A	
310-280253-5	MW2	Total/NA	Water	7470A	
MB 310-420929/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-420929/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 420954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280253-1	MW5	Total/NA	Water	6020B	420670
310-280253-2	MW3	Total/NA	Water	6020B	420670
310-280253-3	MW4	Total/NA	Water	6020B	420670
310-280253-4	MW1	Total/NA	Water	6020B	420670
310-280253-5	MW2	Total/NA	Water	6020B	420670
MB 310-420670/1-A	Method Blank	Total/NA	Water	6020B	420670
LCS 310-420670/2-A	Lab Control Sample	Total/NA	Water	6020B	420670

Analysis Batch: 421070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280253-1	MW5	Total/NA	Water	7470A	420886
310-280253-2	MW3	Total/NA	Water	7470A	420886
310-280253-3	MW4	Total/NA	Water	7470A	420886
MB 310-420886/1-A	Method Blank	Total/NA	Water	7470A	420886
LCS 310-420886/2-A	Lab Control Sample	Total/NA	Water	7470A	420886

Analysis Batch: 421121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280253-1	MW5	Total/NA	Water	6020B	420670
310-280253-2	MW3	Total/NA	Water	6020B	420670
310-280253-3	MW4	Total/NA	Water	6020B	420670
310-280253-4	MW1	Total/NA	Water	6020B	420670
310-280253-5	MW2	Total/NA	Water	6020B	420670

QC Association Summary

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Metals

Analysis Batch: 421358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280253-4	MW1	Total/NA	Water	7470A	420929
310-280253-5	MW2	Total/NA	Water	7470A	420929
MB 310-420929/1-A	Method Blank	Total/NA	Water	7470A	420929
LCS 310-420929/2-A	Lab Control Sample	Total/NA	Water	7470A	420929

General Chemistry

Analysis Batch: 420690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280253-5	MW2	Total/NA	Water	I-3765-85	
MB 310-420690/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-420690/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 420693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280253-1	MW5	Total/NA	Water	I-3765-85	
310-280253-2	MW3	Total/NA	Water	I-3765-85	
310-280253-3	MW4	Total/NA	Water	I-3765-85	
MB 310-420693/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-420693/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 420785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-280253-4	MW1	Total/NA	Water	I-3765-85	
MB 310-420785/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-420785/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Client Sample ID: MW5

Lab Sample ID: 310-280253-1

Date Collected: 05/01/24 09:20

Matrix: Water

Date Received: 05/02/24 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			420670	KM3E	EET CF	05/06/24 10:00
Total/NA	Analysis	6020B		1	421121	NFT2	EET CF	05/08/24 15:44
Total/NA	Prep	3005A			420670	KM3E	EET CF	05/06/24 10:00
Total/NA	Analysis	6020B		1	420954	NFT2	EET CF	05/07/24 19:55
Total/NA	Prep	7470A			420886	A6US	EET CF	05/07/24 11:53
Total/NA	Analysis	7470A		1	421070	A6US	EET CF	05/08/24 12:53
Total/NA	Analysis	I-3765-85		1	420693	ENB7	EET CF	05/04/24 12:30

Client Sample ID: MW3

Lab Sample ID: 310-280253-2

Date Collected: 05/01/24 09:43

Matrix: Water

Date Received: 05/02/24 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			420670	KM3E	EET CF	05/06/24 10:00
Total/NA	Analysis	6020B		1	421121	NFT2	EET CF	05/08/24 16:02
Total/NA	Prep	3005A			420670	KM3E	EET CF	05/06/24 10:00
Total/NA	Analysis	6020B		1	420954	NFT2	EET CF	05/07/24 19:57
Total/NA	Prep	7470A			420886	A6US	EET CF	05/07/24 11:53
Total/NA	Analysis	7470A		1	421070	A6US	EET CF	05/08/24 12:55
Total/NA	Analysis	I-3765-85		1	420693	ENB7	EET CF	05/04/24 12:30

Client Sample ID: MW4

Lab Sample ID: 310-280253-3

Date Collected: 05/01/24 10:05

Matrix: Water

Date Received: 05/02/24 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			420670	KM3E	EET CF	05/06/24 10:00
Total/NA	Analysis	6020B		1	421121	NFT2	EET CF	05/08/24 16:05
Total/NA	Prep	3005A			420670	KM3E	EET CF	05/06/24 10:00
Total/NA	Analysis	6020B		1	420954	NFT2	EET CF	05/07/24 19:59
Total/NA	Prep	7470A			420886	A6US	EET CF	05/07/24 11:53
Total/NA	Analysis	7470A		1	421070	A6US	EET CF	05/08/24 12:57
Total/NA	Analysis	I-3765-85		1	420693	ENB7	EET CF	05/04/24 12:30

Client Sample ID: MW1

Lab Sample ID: 310-280253-4

Date Collected: 05/01/24 10:22

Matrix: Water

Date Received: 05/02/24 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			420670	KM3E	EET CF	05/06/24 10:00
Total/NA	Analysis	6020B		1	421121	NFT2	EET CF	05/08/24 16:08
Total/NA	Prep	3005A			420670	KM3E	EET CF	05/06/24 10:00
Total/NA	Analysis	6020B		1	420954	NFT2	EET CF	05/07/24 20:01
Total/NA	Prep	7470A			420929	A6US	EET CF	05/07/24 17:21
Total/NA	Analysis	7470A		1	421358	A6US	EET CF	05/10/24 11:18

Lab Chronicle

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Client Sample ID: MW1

Date Collected: 05/01/24 10:22
Date Received: 05/02/24 08:30

Lab Sample ID: 310-280253-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	I-3765-85		1	420785	DGU1	EET CF	05/06/24 14:01

Client Sample ID: MW2

Date Collected: 05/01/24 10:43
Date Received: 05/02/24 08:30

Lab Sample ID: 310-280253-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			420670	KM3E	EET CF	05/06/24 10:00
Total/NA	Analysis	6020B		1	421121	NFT2	EET CF	05/08/24 16:12
Total/NA	Prep	3005A			420670	KM3E	EET CF	05/06/24 10:00
Total/NA	Analysis	6020B		1	420954	NFT2	EET CF	05/07/24 20:03
Total/NA	Prep	7470A			420929	A6US	EET CF	05/07/24 17:21
Total/NA	Analysis	7470A		1	421358	A6US	EET CF	05/10/24 11:20
Total/NA	Analysis	I-3765-85		1	420690	ENB7	EET CF	05/04/24 10:37

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Laboratory: Eurofins Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

Method Summary

Client: MER Engineering Inc
Project/Site: Georgia Pacific MW Sampling

Job ID: 310-280253-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

eurofins | Environment Testing America

310-280253 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: MER

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 5 2 24 | TIME OK, ~ | Received By: CC

Delivery Type: ☒ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # ____ of ____
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 4 | Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.9 | Corrected Temp (°C): 0.9

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE If yes, contact PM before proceeding If no, proceed with login

Additional Comments

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone. 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins

FAC 115

Client Information	Sampler: Dave Minikis	Lab PM: Dietz, Hannah E	Carrier Tracking No(s):	COC No: 310-86741-22678 1
Client Contact: Dave Minikis	Phone: 515-955-3635	E-Mail: Hannah Dietz@et.eurofinsus com	State of Origin.	Page: Page 1 of 1
Company: MER Engineering Inc	PWSID:			Job #:
Address: 109 Regency West Court	Due Date Requested: n/a			
City: Fort Dodge	TAT Requested (days): STANDARD			
State, Zip: IA, 50501	Compliance Project: Δ Yes Δ No			
Phone: 515-955-3635	PO #: Purchase Order not required			
Email: minikis@mereng com	WO #:			
Project Name: Georgia Pacific MW Sampling	Project #: 31015312			
Site: GEORGIA-PACIFIC GYPSUM NORTH RECYCLE PILE	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020B, 7470A	1_3765_85 - Residue, Non-filterable (TSS)	Arsenic (Total)	Barium (Total)	Cadmium (Total)	Chromium (Total)	Lead (Total)	Mercury (Total)	Zinc (Total)	TSS	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N										
MW5	5-1-24	9:20	G	Water	N	N	X	X	X	X	X	X	X	X	X	X		PLEASE SEND
MW3		9:43	G	Water	N	N	X	X	X	X	X	X	X	X	X	X		EED TO
MW4		10:05	G	Water	N	N	X	X	X	X	X	X	X	X	X	X		MARK McDADE
MW1		10:22	G	Water	N	N	X	X	X	X	X	X	X	X	X	X		WITH SYNTERRA CORP.
MW2		10:43	G	Water	N	N	X	X	X	X	X	X	X	X	X	X		
																		mmcdade@synterracorp.com

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV, Other (specify)

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Dave Minikis	5-1-24 / 17:08	MER	MW	5-2-24 830	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No: 2272200	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: MER Engineering Inc

Job Number: 310-280253-1

Login Number: 280253
List Number: 1
Creator: Costello, Mackenzie K

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

DNR Field Form 542-1322

(May 1, 2024 Groundwater Testing)

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Georgia Pacific North Recycle Pile Permit No. 94-SDP-18-09
Monitoring Well/Piezometer No. MW5 Upgradient X
SEQUENCE NUMBER (1) Downgradient
Name of person sampling MER Engineering, Inc. – Dave Minikis

A. MONITORING WELL/PIEZOMETER CONDITIONS
Well/Piezometer Properly Capped? Yes Standing Water or Litter No
If no, explain If yes, explain

B. GROUNDWATER ELEVATION MEASUREMENT (±0.01 foot, MSL)
Elevation: Top of inner well casing 1117.37 Ground Elevation 1113.79
** Depth of Well 26.20 Inside Casing Diameter (in inches) 2.0
Equipment Used Electronic water depth indicator

Groundwater Level (±0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
* Before Purging			
* After Purging			
* Before Sampling	05-01-24/ 9:20	10.26	1106.78

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) gal.
No. of Well Volumes (based on current water level) (0.5 gal./ft. of liquid)
Was well pumped/bailed dry? n/a

Equipment used:
Bailer type PVC-Disposable Dedicated Bailer? X
Pump type Dedicated Pump?
If not dedicated, method of cleaning

*D. FIELD MEASUREMENT

Weather Conditions Cloudy / ± 54° F
Field Measurements (after stabilization):
Temperature 8.6 Units C°
Equipment Used Oakton Multi-Parameter Tester 35
pH 6.87
Equipment Used Oakton Multi-Parameter Tester 35
Specific Cond. 2.97 Units µS/cm
Equipment Used Oakton Multi-Parameter Tester 35

Comments Total Depth Measured - 26.00'

NOTE: Attach Laboratory Report and 8-1/2" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

* Omit if only measuring groundwater elevations.
** Secure this data before beginning field work.

(June - 1989) 542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Georgia Pacific North Recycle Pile Permit No. 94-SDP-18-09
Monitoring Well/Piezometer No. MW3 Upgradient X
SEQUENCE NUMBER (2) Downgradient
Name of person sampling MER Engineering, Inc.

A. MONITORING WELL/PIEZOMETER CONDITIONS
Well/Piezometer Properly Capped? Yes Standing Water or Litter No
If no, explain If yes, explain

B. GROUNDWATER ELEVATION MEASUREMENT (±0.01 foot, MSL)
Elevation: Top of inner well casing 1115.51 Ground Elevation 1113.04
** Depth of Well 20.02 Inside Casing Diameter (in inches) 2.0
Equipment Used Electronic water depth indicator

Groundwater Level (±0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
* Before Purging			
* After Purging			
* Before Sampling	05-01-24/ 9:43	12.07	1103.44

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) gal.
No. of Well Volumes (based on current water level) (0.5 gal./ft. of liquid)
Was well pumped/bailed dry? n/a

Equipment used:
Bailer type PVC-Disposable Dedicated Bailer? X
Pump type Dedicated Pump?
If not dedicated, method of cleaning

*D. FIELD MEASUREMENT

Weather Conditions Cloudy / ± 55° F
Field Measurements (after stabilization):
Temperature 8.7 Units C°
Equipment Used Oakton Multi-Parameter Tester 35
pH 6.82
Equipment Used Oakton Multi-Parameter Tester 35
Specific Cond. 2.89 Units µS/cm
Equipment Used Oakton Multi-Parameter Tester 35

Comments Total Depth Measured - 20.00'

NOTE: Attach Laboratory Report and 8-1/2" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

* Omit if only measuring groundwater elevations.
** Secure this data before beginning field work.

(June - 1989) 542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Georgia Pacific North Recycle Pile Permit No. 94-SDP-18-09
Monitoring Well/Piezometer No. MW4 Upgradient
SEQUENCE NUMBER (3) Downgradient X
Name of person sampling MER Engineering, Inc.

A. MONITORING WELL/PIEZOMETER CONDITIONS
Well/Piezometer Properly Capped? Yes Standing Water or Litter No
If no, explain If yes, explain

B. GROUNDWATER ELEVATION MEASUREMENT (±0.01 foot, MSL)
Elevation: Top of inner well casing 1116.36 Ground Elevation 1113.72
** Depth of Well 32.30 Inside Casing Diameter (in inches) 2.0
Equipment Used Electronic water depth indicator

Groundwater Level (±0.01 foot below top of inner casing, MSL):

		Date/Time	Depth to Groundwater	Groundwater Elevation
*	Before Purging			
*	After Purging			
*	Before Sampling	05-01-24/10:05	27.01	1089.35

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) gal.
No. of Well Volumes (based on current water level) (0.5 gal./ft. of liquid)
Was well pumped/bailed dry? n/a

Equipment used:
Bailer type PVC-Disposable Dedicated Bailer? X
Pump type Dedicated Pump?
If not dedicated, method of cleaning

*D. FIELD MEASUREMENT

Weather Conditions Cloudy / ± 56° F
Field Measurements (after stabilization):
Temperature 10.3 Units C°
Equipment Used Oakton Multi-Parameter Tester 35
pH 6.96
Equipment Used Oakton Multi-Parameter Tester 35
Specific Cond. 3.02 Units µS/cm
Equipment Used Oakton Multi-Parameter Tester 35

Comments Total Depth Measured – 32.35'

NOTE: Attach Laboratory Report and 8-1/2" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

* Omit if only measuring groundwater elevations.
** Secure this data before beginning field work.
(June - 1989) 542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Georgia Pacific North Recycle Pile Permit No. 94-SDP-18-09
Monitoring Well/Piezometer No. MW1 Ugradient
SEQUENCE NUMBER (4) Downgradient X
Name of person sampling MER Engineering, Inc.

A. MONITORING WELL/PIEZOMETER CONDITIONS
Well/Piezometer Properly Capped? Yes Standing Water or Litter No
If no, explain If yes, explain

B. GROUNDWATER ELEVATION MEASUREMENT (±0.01 foot, MSL)
Elevation: Top of inner well casing 1115.68 Ground Elevation 1113.11
** Depth of Well 65.95 Inside Casing Diameter (in inches) 2.0
Equipment Used Electronic water depth indicator

Groundwater Level (±0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
* Before Purging			
* After Purging			
* Before Sampling	05-01-24/10:22	57.27	1058.41

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) gal.
No. of Well Volumes (based on current water level) (0.5 gal./ft. of liquid)
Was well pumped/bailed dry? n/a

Equipment used:
Bailer type PVC-Disposable Dedicated Bailer? X
Pump type Dedicated Pump?
If not dedicated, method of cleaning

*D. FIELD MEASUREMENT

Weather Conditions Cloudy / ± 57° F
Field Measurements (after stabilization):
Temperature 12.2 Units C°
Equipment Used Oakton Multi-Parameter Tester 35
pH 7.10
Equipment Used Oakton Multi-Parameter Tester 35
Specific Cond. 2.68 Units µS/cm
Equipment Used Oakton Multi-Parameter Tester 35

Comments Groundwater in MW1 has a light brown discoloration. Total Depth Measured – 65.78'.

NOTE: Attach Laboratory Report and 8-1/2" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

* Omit if only measuring groundwater elevations.
** Secure this data before beginning field work.
(June - 1989) 542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Georgia Pacific North Recycle Pile Permit No. 94-SDP-18-09
Monitoring Well/Piezometer No. MW2 Ugradient
SEQUENCE NUMBER (5) Downgradient X
Name of person sampling MER Engineering, Inc.

A. MONITORING WELL/PIEZOMETER CONDITIONS
Well/Piezometer Properly Capped? Yes Standing Water or Litter No
If no, explain If yes, explain

B. GROUNDWATER ELEVATION MEASUREMENT (±0.01 foot, MSL)
Elevation: Top of inner well casing 1120.06 Ground Elevation 1116.90
** Depth of Well 73.83 Inside Casing Diameter (in inches) 2.0
Equipment Used Electronic water depth indicator

Groundwater Level (±0.01 foot below top of inner casing, MSL):

		Date/Time	Depth to Groundwater	Groundwater Elevation
*	Before Purging			
*	After Purging			
*	Before Sampling	05-01-24/10:43	62.47	1058.13

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) gal.
No. of Well Volumes (based on current water level) (0.5 gal./ft. of liquid)
Was well pumped/bailed dry? n/a

Equipment used:
Bailer type PVC-Disposable Dedicated Bailer? X
Pump type Dedicated Pump?
If not dedicated, method of cleaning

*D. FIELD MEASUREMENT

Weather Conditions Cloudy / ± 57° F
Field Measurements (after stabilization):
Temperature 11.2 Units C°
Equipment Used Oakton Multi-Parameter Tester 35
pH 6.62
Equipment Used Oakton Multi-Parameter Tester 35
Specific Cond. 3.13 Units µS/cm
Equipment Used Oakton Multi-Parameter Tester 35

Comments Total Depth Measured – 73.81'

NOTE: Attach Laboratory Report and 8-1/2" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

* Omit if only measuring groundwater elevations.
** Secure this data before beginning field work.

(June - 1989) 542-1322