

**STATE OF SOUTH DAKOTA**  
**SECRETARY OF THE**  
**DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES**

<b>IN THE MATTER OF THE TOWN</b>	)	<b>NOTICE OF VIOLATION</b>
<b>OF HERMOSA'S NONCOMPLIANCE</b>	)	<b>AND</b>
<b>WITH ITS SURFACE WATER</b>	)	<b>ORDER</b>
<b>DISCHARGE PERMIT</b>	)	

TO: The Honorable Dan Holsworth  
President, Town of Hermosa  
PO Box 298  
Hermosa, SD 57744-0298

The Secretary of the Department of Agriculture and Natural Resources ("Secretary"), pursuant to South Dakota Codified Laws ("SDCL") § 34A-2-53, hereby gives NOTICE that the Town of Hermosa, PO Box 298, Hermosa, SD 57744-0298, has violated its Surface Water Discharge Permit (SD0022349), the South Dakota Water Pollution Control Act (SDCL Chapter 34A-2), and the Administrative Rules of South Dakota ("ARSD") Article 74:52 as specified below:

The FACTS alleged to constitute this violation are as follows:

1. The Town of Hermosa ("Town") owns and operates a wastewater treatment facility, located in Section 32, Township 2 South, Range 8 East, in Custer County, South Dakota. The wastewater treatment facility is designed for total retention of wastewater. The treated wastewater is land applied to nearby agriculture property.
2. The town is a "person" within the meaning of SDCL § 34A-2-2(3) and 33 United States Code ("U.S.C.") §1362(5).

3. The effluent discharged or released by the wastewater treatment facility constitutes “pollutants” as defined by SDCL § 34A-2-2(5) and 33 U.S.C. 1362(6).
4. An emergency discharge of pollutants from the Town’s wastewater treatment facility or runoff from the land application process could enter Battle Creek. Battle Creek constitutes “waters of the state” pursuant to SDCL § 34A-2-2(12).
5. The discharge of pollutants by any person into waters of the state except as authorized by a National Pollutant Discharge System (NPDES) permit or by a state permit issued by an authorized state program, is unlawful under 33 U.S.C. 1311 (a).
6. The US Environmental Protection Agency (“EPA”) approved the South Dakota Surface Water Discharge Program on December 30, 1993, at which time the state assumed administrative authority over the discharges of pollutants into waters of the state and navigable waters.
7. The discharge of pollutants by any person into waters of the state, except authorized by a state Surface Water Discharge Permit, is unlawful under SDCL § 34A-2-36.
8. The Secretary issued Surface Water Discharge Permit Number SD0022349 (“Permit”) to the Town on June 19, 2020, and the Permit became effective on July 1, 2020. The Permit prohibits a discharge to waters of the state except in accordance with the emergency release provision of Section 3.1 of the Permit.
9. Section 3.4 of the Permit authorizes the Town to land apply wastewater to the Town’s land application site. The Permit states the act of land applying treated wastewater is not considered a discharge.

10. Section 5.1 of the Permit states:

***Duty to Comply** The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the South Dakota Water Pollution Control Act and the federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application (a violation of a condition of this permit is subject to SDCL Section 34A-2-75)*

11. The Town’s land application of wastewater to its land application site is authorized only if the Town complies with the conditions specified in the Permit.
12. Section 3.4 of the Permit contains the land application monitoring requirements and states:

*All land application of wastewater shall be monitored for the following parameters at the frequency and with the type of measurement indicated. Monitoring is only required during months when land application is occurring. The permittee shall report the land application monitoring results in accordance with Section 4.1-Reporting of Monitoring Results. See Appendix B – Land Application Monitoring Summary Form.*

<i><b>Effluent Limits and Self-Monitoring Requirements – Outfall 002R</b></i>			
<i><b>Effluent Parameter</b></i>	<i><b>Frequency</b></i>	<i><b>Reporting Values <sup>1</sup></b></i>	<i><b>Sample Type <sup>1</sup></b></i>
Rate of Land Application, MGD	Weekly	Actual Value <sup>2</sup>	Instantaneous
Duration of Land Application, days	Monthly	Monthly Total	Calculate
Total Flow Land Applied, million gallons	Monthly	Monthly Total <sup>3</sup>	Calculate
pH, standard units	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Instantaneous <sup>4,5</sup>
Water Temperature, °C	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Instantaneous <sup>4,6</sup>
<i>E. coli</i> , no./100 mL <sup>7</sup>	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab



<i>Effluent Limits and Self-Monitoring Requirements – Outfall 002R</i>			
<i>Effluent Parameter</i>	<i>Frequency</i>	<i>Reporting Values</i> <sup>1</sup>	<i>Sample Type</i> <sup>1</sup>
Sodium Absorption Ratio (SAR), ratio <sup>8</sup>	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab
Conductivity, $\mu$ mhos/cm	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab
Total Kjeldahl Nitrogen, mg/L	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab
Ammonia-Nitrogen (as N), mg/L	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab
Total Nitrates (as N), mg/L	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab
Total Nitrites (as N), mg/L	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab
Total Sulfates, mg/L	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab
Total Chlorides, mg/L	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab
Total Phosphorus (as P), mg/L	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab
Total Dissolved Solids (TDS), mg/L	Monthly <sup>3</sup>	Actual Value <sup>2</sup>	Grab

<sup>1</sup> See Section 1.0 - Definitions.

<sup>2</sup> A minimum of one sample per month shall be taken for the duration of land application activities. Samples shall be taken from the irrigation wetwell and shall be representative of the land applied water. The permittee always has the option of collecting additional samples if appropriate.

<sup>3</sup> The date and time of the start and termination of each land application event shall also be reported in the comments section of the Land Application Monitoring Summary Form.

<sup>4</sup> The pH and temperature of the effluent shall be determined when ammonia samples are collected.

<sup>5</sup> The pH shall be taken within 15 minutes of sample collection with a pH meter. The pH meter must be capable of simultaneous calibration to two points on the pH scale

that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment. Readings shall be reported to the nearest 0.1 standard units.

<sup>6</sup> The water temperature of the effluent shall be taken as a field measurement. Measurement shall be made with a mercury-filled, or dial type thermometer, or a thermistor. Readings shall be reported to the nearest whole degree Celsius.

<sup>7</sup> An E. coli limit of 126 per 100 milliliters applies to the water used for irrigation. During irrigation, if an E. coli sample result is greater than 126 per 100 milliliters, irrigation must be stopped immediately and SDDENR shall be notified within 24 hours. To begin irrigating again, a sample taken from the irrigation pond must yield E. coli results of 126 per 100 milliliters or less.

<sup>8</sup> The sodium absorption ratio is calculated using the Gapon equation: 
$$SAR = \frac{Na}{\sqrt{\frac{Ca+Mg}{2}}}$$

13. Section 4.1 of the Town's Permit requires the Town to report monitoring results to the South Dakota Department of Agriculture and Natural Resources ("Department").

Subsection 4.1.2 states:

*Land application monitoring results obtained from **Outfall 002R** shall be summarized for each month, and reported on separate **Land Application Monitoring Summary Forms** (Appendix B).*

14. Subsection 4.1.3 states:

*All reports must be submitted no later than the 28<sup>th</sup> day of the month following the completed reporting period.*

15. Since January 2019, the Town has land applied wastewater in the following months, at a minimum:

- a. April 2019;
- b. November 2019;
- c. June 2020;
- d. November 2020;
- e. August 2021;

- f. September 2021;
  - g. November 2021; and
  - h. January 2022.
16. The Town submitted a Land Application Monitoring Summary Form for the November 2019 land application of wastewater. The Town did not submit the Land Application Monitoring Summary Forms for the April 2019, June 2020, November 2020, August 2021, September 2021, November 2021, and January 2022 land application as required by Section 4.1 of the Permit.
  17. On February 3, 2022, the Department conducted an inspection of the Town's wastewater treatment facility.
  18. On March 11, 2022, the Department sent the Town a report detailing the findings of the Surface Water Discharge Compliance Inspection conducted on February 3, 2022. The inspection report included a warning letter noting the Town's failure to submit the required reports and stated the Town could be subject to an enforcement action, including fines of up to \$10,000 per day per violation.
  19. The Town's failures to submit its Land Application Monitoring Summary Forms are violations of Sections 4.1 and 5.1 of the Permit.
  20. Section 3.4 of the Permit requires the Town to sample the wastewater at least once during any month the Town is land applying wastewater.

21. The Town submitted the wastewater sample results from the April 2019, June 2020, November 2020, and August 2021 land application of wastewater on March 11, 2022, via email, in response to the Department's March 4, 2022 warning letter.
22. According to the sample data submitted on March 11, 2022, the Town also land applied wastewater in August 2021, September 2021, November 2021, and January 2022.
23. The sample results can be found in Attachment A. These sample results were not submitted on the Land Application Monitoring Summary Form; so the amount of wastewater land applied is not known.
24. In the March 11, 2022, email submission of sample results to the Department, Gail Boddicker, the Town Finance Officer, stated:

*It looks like there may not have been samples taken for November 2021 and January 2022.*

25. The Town's failure to properly sample the land applied wastewater is a violation of Sections 3.4 and 5.1 of the Permit.
26. Subsection 3.4.4 of the Permit states:

***Escherichia coli (E. coli) shall not exceed a concentration of 126 per 100 milliliters in any one sample. This is based on the immersion recreation 30-day geometric mean limit for E. coli and the permit writer's judgment. It is included here due to the potential for human contact with irrigation water. If any E. coli sample is greater than 126 per 100 milliliters, the land application shall be terminated immediately until a safe sample is collected.***

27. The lab results submitted to the Department show the land application of wastewater since at least April 2019 have exceeded the *E. coli* limit of 126 per 100 mL in Subsection 3.4.4. Sample results are as follows:

- a. The March 28, 2019 *E. coli* sample result was 197,000 per 100 mL.
  - b. The November 8, 2019 *E. coli* sample result was 13,800 per 100 mL.
  - c. The June 18, 2020 *E. coli* sample result was 452 per 100 mL.
  - d. The November 8, 2020 *E. coli* sample result was 1,990 per 100 mL.
  - e. The July 30, 2021 *E. coli* sample result was greater than 2,420 per 100 mL.
  - f. The September 7, 2021, *E. coli* sample result was 517 per 100 mL.
28. The March 11, 2022, warning letter that accompanied the February 3, 2022, Surface Water Discharge Compliance Inspection also noted the *E. coli* violations and stated the Town was required to comply with the *E. coli* limit of 126 per mL.
  29. The Town's failure to comply with the *E. coli* limit during land application is a violation of Subsection 3.4.4 and Section 5.1 of the Permit.
  30. Section 4.2 of the Permit requires the Town to notify the Secretary within 24 hours from the time the Town becomes aware of effluent violations.
  31. The town failed to report its *E. coli* violations to the Department verbally or in writing as required by Section 4.2 of the Permit.
  32. The Town's failures to properly report its violations constitute violations of Sections 4.2 and 5.1 of the Permit.
  33. Section 3.4 of the Permit contains the Town's additional conditions the Town must meet during any land application of wastewater. Subsection 3.4.2 of the Permit states:

*To prevent ground saturation and runoff, no application is permitted during periods of heavy or prolonged rainfall, snow cover or when the ground is*



*frozen. No land application shall take place between November 1 and March 31, unless prior written approval is granted by SDDENR.*

34. On October 28, 2019, Chuck Ferguson, the Hermosa Public Works Director, called the Department to request permission to land apply wastewater in November, past the November 1<sup>st</sup> deadline in the Permit. Mr. Ferguson stated the land application was necessary because the property owner had not yet harvested the crop on the land application field. The Department provided written approval of this request on October 29, 2019, extending the Town's deadline for land application to November 15, 2019.
35. The Town began land applying wastewater on November 8, 2019. The wastewater ran all night and was stopped the following day. The Town resumed land application on November 18, 2019, until 7:30 AM on November 19, 2019.
36. The Town's land application of wastewater on November 18, 2019, and November 19, 2019, was conducted in violation of the Department's written approval and Sections 3.4 and 5.1 of the Permit.
37. On October 21, 2020, Chuck Ferguson contacted the Department regarding land application. Mr. Ferguson stated he had not yet been able to land apply wastewater due to the precipitation received in the area. Kyle Doerr with the Department asked Mr. Ferguson to call back next week if he needed permission to land apply wastewater past the November 1<sup>st</sup> deadline. The Town did not request or receive permission from the Department to land apply wastewater past the November 1, 2020, deadline.
38. As noted above, on November 8, 2020, the Town collected a sample of the wastewater the Town was land applying. The Town's land application of wastewater after November 1<sup>st</sup>

without written approval from the Department is a violation of Sections 3.4 and 5.1 of the Permit.

39. On October 28, 2021, Chuck Ferguson contacted the Department. The Town had not been able to land apply wastewater yet as the crop was still on the land application field. Mr. Ferguson requested permission to extend the deadline for the land application of wastewater into November. The Department provided written approval of this request on October 28, 2021, extending the Town's deadline for land application to November 6, 2021.
40. On January 11, 2022, Chuck Ferguson called to notify the Department the Town's wastewater lagoons were full and he would need to again begin land applying the wastewater. The Department provided written approval of this request on January 12, 2022.
41. Section 3.8 of the Town's Permit authorizes the Secretary to require the Town to develop a capacity, management, operation, and maintenance ("CMOM") program to address, reduce, or eliminate the frequency of sanitary sewer overflows or emergency discharges.
42. The February 3, 2022, Surface Water Discharge Compliance Inspection noted that the Town's wastewater treatment facility was designed for a population of 400 people and the current population served is 438 people. The inspection noted that the population served is exceeding the design population.
43. The Department issued a warning letter on February 11, 2022, requiring the Town to develop a CMOM program due to the frequent number of land application events between November 1<sup>st</sup> and March 31<sup>st</sup>.

44. The February 11, 2022, warning letter also stated that the Department will not approve any further land application events until a CMOM program is approved.
45. On February 28, 2022, the Town submitted a CMOM program to the Department for review.
46. The Town requested permission from the Department to land apply wastewater on March 2, 2022. Chuck Ferguson stated the lagoons were full again and they needed to land apply wastewater.
47. The Department's March 4, 2022, warning letter denied the Town's request to land apply wastewater.
48. The March 4, 2022, warning letter also denied approval of the submitted CMOM program. The submitted CMOM did not meet the requirements of Section 3.8 of the Town's permit.
49. The Town's failures to comply with the Permit's specified limits and conditions constitute violations of 34A-2-36 and of ARSD Article 74:52.

## ORDER

WHEREFORE, as a result of these FACTS and VIOLATIONS, and pursuant to SDCL § 34A-2-53, the Secretary of the South Dakota Department of Agriculture and Natural Resources hereby ORDERS that the following corrective actions be taken by the town of Hermosa:

1. The Town of Hermosa must comply with its Surface Water Discharge Permit.
2. Land application of treated domestic wastewater shall occur only between April 1 – October 31. The Department will not approve land application between November 1 – March 31.
3. The Town must request permission to land apply prior to any land application of wastewater. The Town must submit the sample results of a representative sample of the lagoon water with the request to land apply. The Town shall not land apply wastewater until permission is granted from the Department.
4. The Town shall submit an updated Land Application Best Management Plan by **October 1, 2022**. Once approved, the Town must comply with the approved plan. Failure to comply with the plan will be a violation of this order.
5. The Town must continue its efforts to upgrade the wastewater collection and treatment systems. Starting **October 1, 2022**, the Town shall submit a quarterly progress report on any upgrades to the wastewater collection and treatment system.
6. The Town shall not add any chemical treatment to the wastewater system without written approval by the Department.

NOTICE IS HEREBY GIVEN that this Order is effective thirty days from its issuance, unless the town of Hermosa submits a written request for a hearing regarding the allegations and Order. The written request must be filed before the expiration of thirty days, by delivery to: Secretary Roberts,




Department of Agriculture and Natural Resources, 523 East Capitol Ave., Pierre, SD 57501-3182.

NOTICE IS ALSO GIVEN THAT, should the town of Hermosa fail to request a hearing within that time, the allegations stated herein shall be deemed fact and the Order shall be immediately effective.

NOTICE IS ALSO HEREBY GIVEN that these violations, as well as a failure to comply with the provisions of this Order, may subject the Town of Hermosa to injunctive legal action pursuant to SDCL § 34A-2-73, and to legal action for civil penalties and for damages to the natural resources pursuant to SDCL § 34A-2-75.

This Notice and Order does not constitute a waiver or election by the state to forego civil or criminal action to seek penalties or other relief as the State may deem appropriate under the provisions of SDCL ch. 34A-2. This Notice and Order further does not constitute a modification or amendment of the terms and conditions of the Permit, which remains in full force and effect.

Dated and signed this 28<sup>th</sup> day of July, 2022  


Hunter Roberts, Secretary  
Department of Agriculture and Natural Resource

# **ATTACHMENT A**

**LABORATORY SAMPLE RESULTS**

**FOR**

**THE TOWN OF HERMOSA'S**

**SURFACE WATER DISCHARGE PERMIT**



**MIDCONTINENT**  
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709  
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: Lagoon  
Sampled: 03/28/19 at 11:30 AM  
by Chuck Ferguson  
Sample Matrix: Water

Lab ID#: 20190328011  
Received: 03/28/19 at 12:25 PM  
by Steve Ristau  
Account: 8471  
Town of Hermosa

CHUCK FERGUSON  
TOWN OF HERMOSA  
PO BOX 298  
HERMOSA, SD 57744

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
<b>Physical Properties</b>							
Electrical Conductivity	1950	µmhos/cm	1	0.237	5.00	SM 2510B	JAM 03/29/19
Total Dissolved Solids	1100	mg/L	100ml	21.0	50.0	SM 2540 C	TMN 03/29/19
<b>Non-Metallics</b>							
Chloride (Cl-)	169	mg/L	5	1.02	2.50	SM 4500-Cl E	BLL 03/28/19
Nitrogen, Ammonia (NH3)	50.3	mg/L	100	0.255	5.00	SM 4500-NH3 D	TMS 04/02/19
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.017	0.050	SM 4500-NO3 F	BLL 03/29/19
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL 03/29/19
Phosphorus (P) Total	5.45	mg/L	100	0.299	1.00	SM 4500-P E	KDS 04/01/19
Sodium Adsorption Ratio	1.19	Ratio	1			Calculation	SCR 04/01/19
Sulfate (SO4)	294	mg/L	5	1.48	5.00	SM 4500-SO4 E	BLL 03/29/19
Nitrogen, Kjeldahl (TKN)	52.1	mg/L	20	1.17	10.0	EPA351.2	GRT 04/05/19
<b>Metals - Dissolved</b>							
Calcium (Ca)	166	mg/L	5	0.200	5.00	SM 3111 B	TMS 03/29/19
Magnesium (Mg)	69.1	mg/L	2	0.052	1.00	SM 3111 B	TMS 03/29/19
Sodium (Na)	72.5	mg/L	3	0.133	1.50	SM 3111 B	TMS 03/29/19
<b>Bacteria</b>							
E. coli	197000	MPN/100 mL	1	1.00	1.00	SM 9223 Quanti-Tray®	SCR 03/28/19
<b>Field Test</b>							
Field pH	7.80	S.U.	1			Field pH	JMH 03/29/19
Field Temperature	39.0	°F	1			Field Temp.	JMH 03/29/19

Approved By: Steve Ristau

Approved On: 4/8/2019 3:32:46 PM



**MIDCONTINENT**  
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709  
(605) 348-0111 – www.thechemistrylab.com

Sample Site: Lagoon  
Sampled: 11/08/19 at 03:00 PM  
by Chuck Ferguson  
Sample Matrix: Water

Lab ID#: 20191108815  
Received: 11/08/19 at 03:41 PM  
by Sarah Ahlers  
Account: 8471  
Town of Hermosa

CHUCK FERGUSON  
TOWN OF HERMOSA  
PO BOX 298  
HERMOSA, SD 57744

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
<b>Physical Properties</b>							
Electrical Conductivity	2720	µmhos/cm	1	0.237	5.00	SM 2510B	JAM 11/12/19
Total Dissolved Solids	2290	mg/L	100ml	21.0	50.0	SM 2540 C	TMN 11/11/19
<b>Non-Metals</b>							
Chloride (Cl-)	114	mg/L	4	0.817	2.00	SM 4500-Cl E	BLL 11/11/19
Nitrogen, Ammonia (NH3)	21.6	mg/L	50	0.208	2.50	SM 4500-NH3 D	JAM 11/12/19
Nitrogen, Nitrate (NO3)	0.053	mg/L	1	0.009	0.050	SM 4500-NO3 F	BLL 11/11/19
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.004	0.050	SM 4500-NO2 B	BLL 11/11/19
Phosphorus (P) Total	2.15	mg/L	10	0.067	0.100	SM 4500-P E	KDS 11/12/19
Sodium Adsorption Ratio	0.925	Ratio	1			Calculation	SCR 11/12/19
Sulfate (SO4)	1240	mg/L	20	5.94	20.0	SM 4500-SO4 E	BLL 11/11/19
Nitrogen, Kjeldahl (TKN)	29.4	mg/L	10	0.586	5.00	EPA 351.2	GRT 11/14/19
<b>Metals - Dissolved</b>							
Calcium (Ca)	298	mg/L	12	0.480	12.0	SM 3111 B	TMS 11/11/19
Magnesium (Mg)	184	mg/L	7	0.182	3.50	SM 3111 B	TMS 11/11/19
Sodium (Na)	82.5	mg/L	4	0.466	2.00	SM 3111 B	TMS 11/11/19
<b>Bacteria</b>							
E. coli	13800	MPN/100 mL	100	100	100	SM 9223 Quanti-Tray®	JMH 11/08/19
<b>Field Test</b>							
Field pH	8.15	S.U.	1			Field pH	JMH 11/11/19
Field Temperature	14.0	°C	1			Field Temp.	JMH 11/11/19

Approved By: Steve Austin

Approved On: 11/15/2019 9:16:24 AM





**MIDCONTINENT**  
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709  
(605) 348-0111 – www.thechemistrylab.com

Sample Site: Lagoon  
Sampled: 06/18/20 at 01:00 PM  
by Chuck Ferguson  
Sample Matrix: Water

Lab ID#: 20200618920  
Received: 06/18/20 at 01:30 PM  
by Jennifer Hill  
Account: 8471  
Town of Hermosa

CHUCK FERGUSON  
TOWN OF HERMOSA  
PO BOX 298  
HERMOSA, SD 57744

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
<b>Physical Properties</b>							
Electrical Conductivity	2820	µmhos/cm	1	0.237	5.00	SM 2510B	JAM 06/22/20
pH	7.73	S.U.	1			SM 4500-H+ B	JAM 06/22/20
Total Dissolved Solids	2390	mg/L	100ml	14.7	50.0	SM 2540 C	JNG 06/18/20
<b>Non-Metallics</b>							
Chloride (Cl-)	115	mg/L	5	1.38	2.50	SM 4500-Cl E	BLL 06/22/20
Nitrogen, Ammonia (NH3)	15.9	mg/L	100	0.262	5.00	SM 4500-NH3 D	TMS 06/24/20
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO3 F	BLL 06/22/20
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.005	0.050	SM 4500-NO2 B	BLL 06/18/20
Phosphorus (P) Total	2.36	mg/L	10	0.031	0.100	SM 4500-P E	SAA 06/23/20
Sodium Adsorption Ratio	0.910	Ratio	1			Calculation	SCR 06/25/20
Sulfate (SO4)	1250	mg/L	20	10.2	200	SM 4500-SO4 E	BLL 06/22/20
Nitrogen, Kjeldahl (TKN)	26.4	mg/L	1	0.062	0.500	EPA 351.2	GRT 06/26/20
<b>Metals - Dissolved</b>							
Calcium (Ca)	323	mg/L	11	1.08	11.0	SM 3111 B	TMS 06/19/20
Magnesium (Mg)	214	mg/L	7	0.698	3.50	SM 3111 B	TMS 06/19/20
Sodium (Na)	65.9	mg/L	3	0.410	1.50	SM 3111 B	TMS 06/19/20
<b>Bacteria</b>							
E. coli	452	MPN/100 mL	20	20.0	20.0	SM 9223 Quanti-Tray®	JMH 06/18/20
<b>Field Test</b>							
Field Temperature	23.3	°C	1			Field Temp.	JMH 06/19/20

Approved By: Steve Disten

Approved On: 6/26/2020 4:47:37 PM



**MIDCONTINENT**  
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709  
(605) 348-0111 - www.themidcontinentlab.com

Sample Site: Lagoon  
Sampled: 11/08/20 at 12:00 AM  
by Chuck Ferguson  
Sample Matrix: Water

Lab ID#: 20201108907  
Received: 11/09/20 at 03:20 PM  
by Dean Aurand  
Account: 8471  
Town of Hermosa

CHUCK FERGUSON  
TOWN OF HERMOSA  
PO BOX 298  
HERMOSA, SD 57744

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
<b>Physical Properties</b>							
Electrical Conductivity	2440	µmhos/cm	1	0.153	5.00	SM 2510B	JAM 11/10/20
pH	7.64	S.U.	1			SM 4500-H+ B	JAM 11/10/20
Total Dissolved Solids	1750	mg/L	100ml	14.7	50.0	SM 2540 C	JNG 11/10/20
<b>Non-Metals</b>							
Chloride (Cl)	128	mg/L	5	1.38	2.50	SM 4500-Cl E	BLL 11/11/20
Nitrogen, Ammonia (NH3)	22.9	mg/L	10	0.404	2.00	EPA M380.1	JNG 11/12/20
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.009	0.050	SM 4500-NO3 F	BLL 11/10/20
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.005	0.050	SM 4500-NO2 B	BLL 11/10/20
Phosphorus (P) Total	3.60	mg/L	10	0.031	0.100	SM 4500-P E	SAA 11/24/20
Sodium Adsorption Ratio	1.20	Ratio	1			Calculation	SCR 11/11/20
Sulfate (SO4)	997	mg/L	20	10.2	200	SM 4500-SO4 E	BLL 11/11/20
Nitrogen, Kjeldahl (TKN)	34.7	mg/L	10	0.622	5.00	EPA 351.2	GRT 11/24/20
<b>Metals - Dissolved</b>							
Calcium (Ca)	201	mg/L	9	0.887	9.00	SM 3111 B	TMS 11/10/20
Magnesium (Mg)	147	mg/L	6	0.598	3.00	SM 3111 B	TMS 11/10/20
Sodium (Na)	92.1	mg/L	3	0.410	1.50	SM 3111 B	TMS 11/10/20
<b>Bacteria</b>							
E. coli	1990	MPN/100 mL	10	10.0	10.0	SM 9223 Quanti-Tray®	JMH 11/11/20
<b>Field Test</b>							
Field Temperature	13.6	°C	1			Field Temp.	DVA 11/09/20

Approved By: Steve Distain

Approved On: 11/25/2020 3:40:20 PM



**MIDCONTINENT**  
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709  
(605) 348-0111 – www.thechemistlab.com

Sample Site: Lagoon  
Sampled: 07/30/21 at 09:00 AM  
by Chuck Ferguson  
Sample Matrix: Water

Lab ID#: 20210730918  
Received: 07/30/21 at 09:31 AM  
by Jennifer Hill  
Account: 8471  
Town of Hermosa

CHUCK FERGUSON  
TOWN OF HERMOSA  
PO BOX 298  
HERMOSA, SD 57744

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
<b>Physical Properties</b>							
Electrical Conductivity	2120	µmhos/cm	1	0.153	5.00	SM 2510B	JAM 08/02/21
Total Dissolved Solids	1560	mg/L	100ml	13.0	50.0	SM 2540 C	JNG 08/02/21
<b>Non-Metallics</b>							
Chloride (Cl-)	110	mg/L	5	0.928	2.50	SM 4500-Cl E	BLL 08/02/21
Nitrogen, Ammonia (NH3)	13.2	mg/L	5	0.202	1.00	EPA M350.1	JNG 08/06/21
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL 08/02/21
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.005	0.050	SM 4500-NO2 B	BLL 08/02/21
Phosphorus (P) Total	3.47	mg/L	10	0.038	0.100	SM 4500-P E	SAA 08/10/21
Sodium Adsorption Ratio	1.15	Ratio	1			Calculation	SCR 08/03/21
Sulfate (SO4)	690	mg/L	20	9.66	200	SM 4500-SO4 E	BLL 08/02/21
Nitrogen, Kjeldahl (TKN)	20.9	mg/L	10	0.448	5.00	EPA 351.2	GRT 08/10/21
Total Nitrogen	20.9	mg/L	1			SM 4500-N	SCR 08/12/21
<b>Metals - Dissolved</b>							
Calcium (Ca)	200	mg/L	4	0.280	4.00	SM 3111 B	GRT 08/02/21
Magnesium (Mg)	125	mg/L	3	0.108	1.50	SM 3111 B	GRT 08/02/21
Sodium (Na)	83.9	mg/L	3	0.059	1.50	SM 3111 B	GRT 08/02/21
<b>Bacteria</b>							
E. coli	> 2420	MPN/100 mL	1	1.00	1.00	SM 9223 Quanti-Tray®	JMH 07/31/21
<b>Field Test</b>							
Field pH	8.42	S.U.	1			Field pH	JMH 08/02/21
Field Temperature	19.6	°C	1			Field Temp.	JMH 08/02/21

Approved By: Steve Disten

Approved On: 8/12/2021 10:48:42 AM



**MIDCONTINENT**  
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709  
(605) 348-0111 - www.thechemistrylab.com

Sample Site: Lagoon  
Sampled: 09/07/21 at 12:00 AM  
Sample Matrix: Water

Lab ID#: 20210908901  
Received: 09/07/21 at 01:30 PM  
by Jennifer Hill  
Account: 8471  
Town of Hermosa

CHUCK FERGUSON  
TOWN OF HERMOSA  
PO BOX 298  
HERMOSA, SD 57744

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
<b>Physical Properties</b>							
Electrical Conductivity	2190	µmhos/cm	1	0.153	5.00	SM 2510B	JAM 09/09/21
Total Dissolved Solids	1660	mg/L	100ml	130	50.0	SM 2540 C	JNG 09/09/21
<b>Non-Metallics</b>							
Chloride (Cl)	120	mg/L	5	0.928	2.50	SM 4500-Cl E	BLL 09/09/21
Nitrogen, Ammonia (NH3)	10.7	mg/L	20	0.808	4.00	EPA M350.1	JNG 09/19/21
Nitrogen, Nitrate (NO3)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO3 F	BLL 09/09/21
Nitrogen, Nitrite (NO2)	0.068	mg/L	1	0.005	0.050	SM 4500-NO2 B	BLL 09/09/21
Phosphorus (P) Total	4.11	mg/L	10	0.038	0.100	SM 4500-P E	SAA 09/16/21
Sodium Adsorption Ratio	1.36	Ratio	1			Calculation	SCR 09/16/21
Sulfate (SO4)	804	mg/L	20	9.66	200	SM 4500-SO4 E	BLL 09/09/21
Nitrogen, Kjeldahl (TKN)	23.5	mg/L	10	0.448	5.00	EPA 351.2	GRT 09/21/21
Total Nitrogen	23.6	mg/L	1			SM 4500-N	SCR 09/27/21
<b>Metals - Dissolved</b>							
Calcium (Ca)	209	mg/L	8	0.560	8.00	SM 3111 B	GRT 09/10/21
Magnesium (Mg)	122	mg/L	3	0.108	1.50	SM 3111 B	GRT 09/10/21
Sodium (Na)	100	mg/L	3	0.059	1.50	SM 3111 B	GRT 09/10/21
<b>Bacteria</b>							
E. coli	517	MPN/100 mL	1	1.00	1.00	SM 9223 Quanti-Tray®	JMH 09/08/21
<b>Field Test</b>							
Field pH	9.00	S.U.	1			Field pH	DVA 09/07/21
Field Temperature	28.5	°C	1			Field Temp.	GAM 09/07/21

Approved By: Steve Pistau

Approved On: 9/22/2021 9:57:17 AM