

NPDES Inspection Report – Wastewater

National Database Information	
Inspection Date: July 12, 2022	Inspection Type: CEI - Wastewater Treatment Facility
Entry/Exit Time: 9:00 am / 1:41 pm	NPDES ID Number: NDG589305
NAICS Code: 221320	Inspection ID: 202207 NDG589305
Lead inspector and affiliation: Stephanie Meyers / EPA Region 8	
Inspector and affiliation: Emilio Llamozas / EPA Region 8	

Facility Location Information (Name/Location/ Mailing Address)	
Site/Facility Name & Location: Porcupine Community Lagoon S29 T132N R83W Fort Yates, North Dakota 58538	Mail Report to: Randez Bailey rbailey@standingrock.org Leon Spotted Bull leon.spottedbull@standingrock.org

Contact Information	
	Name(s)/Title
Facility Contacts: <i>(indicate primary lead and present during inspection)</i>	Randez Bailey / Rural Water System Director / Standing Rock Municipal, Rural, and Industrial (MR&I) Program / present during opening and closing conferences
	Leon Spotted Bull / Wastewater Supervisor / Standing Rock MR&I Program / primary lead during the inspection
	Wyatt Red Tomahawk / Wastewater Operator / Standing Rock MR&I Program / present during the inspection
	Jake Luger / Acting Environmental Director / Standing Rock Sioux Tribe Environmental Program / present during opening conference
	Tyler Timmons / Tribal Utility Consultant / Indian Health Services (IHS) / present during the inspection
Person/Company meeting definition of "Operator"	Standing Rock Sioux Tribe
Authorized Official(s) (Per NOI)	Randez Bailey / Rural Water System Director / Standing Rock MR&I Program

Permit Information		
Is the permit on site and available? Yes	Lagoon Category: No Discharge	Monitoring Frequency: N/A
Effective Date: February 8, 2016	Expiration Date: December 31, 2020 (Administratively Continued)	Is the Facility under a compliance schedule? No
Is correct contact information indicated on ICIS? Yes		Indicate correct contact information: N/A
Receiving Water(s): Unnamed tributary to the Cannonball River		
Discharge point location (longitude, latitude): There is one emergency outfall at the northwest corner of cell 2. Lat. 46.223399°N, Long. -101.098157°W		
Regulatory Inspector's source of information: Notice of Intent for the permit, permit, facility representatives and facility observations.		

Areas Evaluated During Inspection		
<u>Permit</u>	<u>Self-Monitoring Program</u>	Pretreatment
<u>Records</u>	Compliance Schedule	Pollution Prevention
<u>Facility Site Review</u>	Laboratory	Stormwater
<u>Effluent/Receiving Waters</u>	<u>Operations and Maintenance</u>	Combined Sewer Overflow
Flow Measurement	Sludge Handling/Disposal	<u>Sanitary Sewer Overflow</u>

Report Review and Signature		
Drafter Name	Address/Phone Number	Date
Stephanie Meyers	U.S. EPA Region 8 1595 Wynkoop Street 8ENF-W-NW Denver, Colorado 80202	08/03/2022
	303-312-6938	
Reviewer Name	Address/Phone Number	Date
Emilio Llamozas	U.S. EPA Region 8 1595 Wynkoop Street 8ENF-W-NW Denver, Colorado 80202	08/04/2022
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Supervisor Signature/Name	Address/Phone Number	Date
Boeglin, Michael Digitally signed by Boeglin, Michael Date: 2022.08.09 11:35:36 -06'00'	U.S. EPA Region 8 1595 Wynkoop Street 8ENF-W-NW Denver, Colorado 80202	08/09/2022
	303-312-6250	

Inspection Narrative and Site Description

The inspection was conducted at the Porcupine Community Lagoon System (facility) located on the Standing Rock Sioux Reservation, in Porcupine, North Dakota to evaluate compliance with its National Pollutant Discharge Elimination System (NPDES) permit. The EPA is responsible for implementing the NPDES program in Indian Country within the State of North Dakota. The inspection was announced approximately one month prior to the inspection, to coordinate logistics for the inspection. On July 12, 2022, U.S. Environmental Protection Agency (EPA) inspectors Emilio Llamozas and Stephanie Meyers met with Randy Bailey, Leon Spotted Bull, and Wyatt Red Tomahawk with the Standing Rock Sioux Tribe Municipal, Rural, and Industrial (MR&I) Water Department for an opening conference. The EPA inspectors presented their credentials during the opening conference and explained the purpose of the inspection. The inspectors met with Leon Spotted Bull and Wyatt Red Tomahawk at the facility later that day. The inspectors proceeded to inspect the facility and asked questions to the facility representatives to help the inspectors evaluate compliance with the facility's permit. Throughout the inspection, the inspectors noted their observations in a checklist. Photographs taken during the inspection are included in the attached photo log.

The Porcupine Community Lagoon System serves the Porcupine Community located on the Standing Rock Sioux Reservation. The facility serves approximately 45 units and 225 people. The facility is permitted as a no discharge facility, under the Lagoon General Permit for the Standing Rock Reservation. Any discharge from the facility is expected to be under emergency circumstances. The system was originally constructed in 1985 and contained one cell at the time. In 1997, a second cell was constructed and added to the system. The average design flow to the facility is 0.013 million gallons per day (MGD) and the peak design flow is 0.16 MGD. The average design organic treatment capacity is 36 lbs BOD₅ per day and the peak design organic treatment capacity is 43.2 lbs BOD₅ per day. The facility does not accept hauled septic waste or waste from industrial sources. During the inspection, facility representatives indicated that a new lagoon system will soon be constructed, and the current system will be decommissioned. Construction of the new system may begin as early as August 2022, which will also include a new lift station.

The facility is a two-cell lagoon system, and the table below has the operating volume for the two cells. Wastewater from the Porcupine Community (south of the lagoon) flows into cell 1 or cell 2 via gravity flow. During the inspection, wastewater was being sent to cell 2 (See the enclosed facility schematic and flow diagram).

Cell ID	Area (acres)	Operating Volume (MG)
Cell 1	1.2	1.2
Cell 2	3.2	5.2
Total	4.4	6.4

During the inspection of the cells, wastewater was flowing into cell 2 for treatment (photo 69). Facility representatives indicated that wastewater can be routed to either cell 1 or cell 2 via the inlet along the southern berm of the cells (photo 68), but that there was a blockage in the inlet to cell 1 and wastewater could not flow to cell 1 (photo 67). Cell 1 was not in service nor receiving wastewater at the time of the inspection. Facility representatives indicated the inlet to cell 1 became blocked in the Winter of 2021

due to a substantial amount of sludge in cell 1. There was an attempt to clear the blockage, but they were not able to do so and instead installed a pipe to reroute the wastewater to cell 2.

The inspectors and facility representatives walked around the cells to evaluate berm integrity and the facility's discharge status. Vegetation had reached a height greater than six inches along the berms and inside of both cells 1 and 2 (photos 67 and 69). There were also trees growing inside of cell 2 (photo 69). The southern end of both cells 1 and 2 was also missing a large portion of fencing. The lagoon system was not discharging at time of the inspection. There is an outfall at the northwest corner of cell 2 (photo 70) that can be utilized in the event of an emergency discharge. The Notice of Intent (NOI) indicated that the receiving water for any discharge was an unnamed tributary to the Cannonball River.

At the end of the day on July 13, 2022, the inspectors returned to the MR&I office and held a closing conference with Ms. Bailey, Mr. Spotted Bull, and Mr. Red Tomahawk where preliminary findings were discussed. On July 22, 2022, the EPA sent an email to Ms. Bailey, Mr. Spotted Bull, and Mr. Red Tomahawk with the preliminary findings from the inspection.

Findings, Corrective Actions and Recommendations

Finding #1: Weekly lagoon inspections were not being conducted.

Weekly lagoon inspections were not being conducted. The inspectors provided the facility representatives with a lagoon inspection report template form that the facility representatives could use to document the weekly lagoon inspections.

Permit requirement:

Part 4.3.1 of the General Permit (Permit) states, “On at least a weekly basis, unless otherwise modified by written approval from the EPA, the permittee shall inspect its wastewater treatment facility. The permittee shall maintain a notebook recording all information obtained during the inspection. At a minimum, the notebook shall include the following:

- 4.3.1.1. Name of facility and permit number;
- 4.3.1.2. Date and time of the inspection;
- 4.3.1.3. Name of the inspector(s);
- 4.3.1.4. The facility's discharge status;
- 4.3.1.5. The flow rate of the discharge if occurring;
- 4.3.1.6. If a discharge is occurring, has occurred since the previous inspection, and/or if a discharge is likely to occur before the next inspection. (Note: If a discharge has occurred or is likely to occur before the next inspection, perform the appropriate monitoring and reporting requirements in Parts 3.2 and 5.4 of this permit if not already done.);
- 4.3.1.7. Is there is any leakage through the dikes;
- 4.3.1.8. Are there are any animal burrows in the dike;
- 4.3.1.9. Is there any erosion of the dikes (e.g., rills, cracks or other structural indications of erosion);
- 4.3.1.10. Are there are any rooted plants, including weeds growing in the water;
- 4.3.1.11. Does the vegetation growth on the dikes needs mowing (e.g. greater than 6” tall);
- 4.3.1.12. List the date scheduled for operation and maintenance procedures to be undertaken at the wastewater treatment facility.
- 4.3.1.13. Identification of operational problems and/or maintenance problems;
- 4.3.1.14. Recommendations, as appropriate, to remedy identified problems;
- 4.3.1.15. A brief description of any actions taken with regard to problems identified; and,
- 4.3.1.16. Other information, as appropriate.

The permittee shall maintain the notebook in accordance with required record-keeping items listed above and shall make the log available for inspection, upon request, by authorized representatives of the U.S. Environmental Protection Agency or the applicable Tribe (see Part 5.10 of this permit).”

Part 5.7 of the Permit states, “The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, inspection records, notifications to the EPA per this permit, and DMRs, for a period of at least five years from the date of the sample, measurement, report, application or submittal. Records of monitoring required by this permit related to sludge use and disposal activities must be kept at least five years (or longer as required by 40 C.F.R. Part 503). This period may be extended by request of the Director at any time. Data collected on site, data used to prepare the DMR, copies of DMRs, a copy of this NPDES permit, and the notice of intent for permit coverage, must be maintained on site.”

Corrective Action:

Ensure that inspections are conducted on a weekly basis and documented in accordance with the permit. Ensure that inspection reports are kept in accordance with the recordkeeping requirements of the permit. Provide the EPA, the Standing Rock Sioux Tribe Environmental Program (Tribe) and Indian Health Service (IHS) with a description of the corrective actions taken to address this finding.

Finding #2: There was vegetation growing in and around the berms of both cells, and trees growing inside of cell 2.

There was heavy vegetation over six inches in height growing in and around the berms of cells 1 and 2, and trees growing inside of cell 2 that needed to be cut (photos 67-69). There was also a tree growing in the southwest corner of cell 1 (photo 68).

Permit requirement:

Part 6.5 of the Permit states, "The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. However, the permittee shall operate, at a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

In addition to the operation and maintenance items in the manual for the lagoon system, the permittee shall do the following maintenance:

- 6.5.1. Take necessary action to promptly correct the problem of leakage through the dikes;
- 6.5.2. Take necessary action to promptly remove burrowing animals from the dikes;
- 6.5.3. Promptly repair damage to dikes caused by burrowing animals and/or erosion;
- 6.5.4. Remove rooted plants, including weeds, from the water on a regular basis or as needed; and
- 6.5.5. Keep the dikes mowed on a regular basis during the growing season or as needed (e.g., keep growth below 6" in height)."

Corrective Action:

Remove the overgrown vegetation and trees inside and around cells 1 and 2. Submit to the EPA, the Tribe, and IHS photos of the cells after the vegetation and trees have been removed.

Finding 3: A portion of the fence was missing along the south end of the cells.

The southern end along cells 1 and 2 was missing a large portion of fencing (photo 71).

Permit Requirement:

Part 6.5 of the Permit states, "The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a

permittee only when the operation is necessary to achieve compliance with the conditions of the permit. However, the permittee shall operate, at a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.”

Corrective Action:

Install the missing gate along the south end of the cells. Properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) including fences, which are installed or used by the permittee to achieve compliance with the conditions of the permit. Provide the EPA, the Tribe, and IHS with photos and a description of the corrective actions taken to address this finding.

Finding #4: The inlet to cell 1 had a blockage at the time of the inspection.

A facility representative indicated that cell 1 was not in service due to a blockage of solids in the inlet to cell 1. Wastewater was being diverted to cell 2 at the time of the inspection (photo 68).

Permit Requirement:

Part 6.5 of the Permit states, “Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. However, the permittee shall operate, at a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.”

EPA Guidance:

EPA has developed guidance manuals on the proper operation and maintenance of sanitary collection systems. One of the guidance materials is called “Collection Systems O&M Fact Sheet Sewer Cleaning and Inspection” (September 1999, EPA 832-F-99-031). <https://www3.epa.gov/npdes/pubs/sewcl.pdf>

This guidance manual indicates on page 2 that:

“To maintain its proper function, a sewer system needs a cleaning schedule. There are several traditional cleaning techniques used to clear blockages and to act as preventative maintenance tools.”

Additionally, EPA has developed guidance manuals on the proper operation and maintenance of lagoons. One of the guidance materials is called “Principles of Design and Operations of Wastewater Treatment Pond Systems for Plant Operators, Engineers, and Managers” (August 2011, EPA/600/R-11/088).

<https://www.epa.gov/sites/production/files/2014-09/documents/lagoon-pond-treatment-2011.pdf>

This guidance manual indicates on page 9-12 that:

“9.4.2.3 Maintenance General maintenance guidelines:

- Inlet and outlet structures should be cleaned regularly to remove any floating debris, caked scum, or other trash that might produce odors or be unsightly.”

Corrective Action:

Remove the blockage in the inlet to cell 1 that is preventing wastewater from flowing into cell 1. Properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), which are installed or used by the permittee to achieve compliance with the conditions of this permit. Provide the EPA, the Tribe, and IHS with photos and a description of the corrective actions taken to address this finding.

Recommendation:

During the inspection, facility representatives indicated the two cells currently part of the Porcupine Community Lagoon System will be decommissioned once construction of the new cells is completed. Sludge was observed in cells 1 and 2 of the current lagoon system. EPA recommends following the requirements of 40 CFR 503 when disposing of sludge.

40 CFR 503.1(b) states, “(1) This part applies to any person who prepares sewage sludge, applies sewage sludge to the land, or fires sewage sludge in a sewage sludge incinerator and to the owner/operator of a surface disposal site.

(2) This part applies to sewage sludge applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator.

(3) This part applies to the exit gas from a sewage sludge incinerator stack.

(4) This part applies to land where sewage sludge is applied, to a surface disposal site, and to a sewage sludge incinerator.”