UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region8

JUL 20 2018

Ref: 8ENF-W-NP

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Sheri Bement, General Manager
Northern Cheyenne Utilities Commission
P.O. Box 747
Lame Deer, Montana 59043

Re: Inspection Reports for Wastewater Treatment Facilities Operated by the Northern Cheyenne Utilities Commission

Dear Ms. Bement:

On June 13 and 14, 2018, representatives of the U.S. Environmental Protection Agency inspected the following wastewater treatment facilities, located on the Northern Cheyenne Indian Reservation and operated by the Northern Cheyenne Utilities Commission, to evaluate compliance with the facilities' National Pollutant Discharge Elimination System permits. The inspections were conducted under the authority of Section 308 of the Clean Water Act. Enclosed are reports of the inspections.

Facility Name	NPDES Permit ID
Lame Deer Wastewater Lagoon	MT0029360
Ashland Wastewater Lagoon	MTG589601
Birney Wastewater Lagoon	MTG589604
Muddy Cluster Wastewater Lagoon	MTG589603
Busby Wastewater Lagoon	MTG589602

Inspection findings are summarized within the enclosed inspection reports in a table titled "Findings, Corrective Actions, and Recommendations." Within **thirty (30) days** of receipt of these reports, please provide the EPA with a summary of corrective actions taken to address each of the findings identified in the reports and any information which may change the findings or content of the reports. This summary should be sent to:

Akash Johnson (8ENF-W-NP)
NPDES Enforcement Unit
U.S. EPA Region 8
1595 Wynkoop Street
Denver, Colorado 80202
Email: johnson.akash@epa.gov

Charlene Alden
Director
Northern Cheyenne Tribe DEPNR
P.O. Box 128
Lame Deer, Montana 59043
Email: charlene.alden@cheyennenation.com

Please contact me at 303-312-6067 or johnson.akash@epa.gov if you have any questions regarding this letter or the enclosed reports.

Sincerely,

Akash Johnson
NPDES Enforcement Unit
Office of Enforcement, Compliance
and Environmental Justice

Enclosures:

1) NPDES Inspection Report – POTW; Photo Log: Lame Deer
2) NPDES Inspection Report – POTW; Photo Log: Ashland
3) NPDES Inspection Report – POTW; Photo Log: Birney
4) NPDES Inspection Report – POTW; Photo Log: Muddy Cluster
5) NPDES Inspection Report – POTW; Photo Log: Busby

cc (hard copy):

The Honorable Lawrence Jace Killsback, President, Northern Cheyenne Tribe

cc (electronic):

Charlene Alden, Director, Northern Cheyenne Tribe DEPNR
Joe Walksalong, Water Quality Coordinator, Northern Cheyenne Tribe DEPNR
Joe Limberhand, Water Quality Technician, Northern Cheyenne Tribe DEPNR
Wayne Roundstone, Compliance Administrator, Northern Cheyenne Tribe DEPNR
Joshua Osborne-Klein, Attorney, Northern Cheyenne Tribe
Wyatt Golding, Attorney, Northern Cheyenne Tribe
Dion Killsback, Attorney, Northern Cheyenne Utilities Commission
James Courtney, Environmental Engineer, Indian Health Service
Josh Jabalera, Midwest Assistance Program
Stacy Coleman, U.S. Department of Justice
Amy Swanson, Supervisory Attorney, U.S. Environmental Protection Agency
Monia Ben-Khaled, Tribal Assistance Program, U.S. Environmental Protection Agency

NPDES Inspection Report – POTW

National Database Information	
Inspection Date: **June 13-14, 2018**	Inspection Type: **CEI – Minor POTW**
Entry / Exit Time: **09:30 / 12:20, 09:30 / 10:00**	NPDES ID Number: **MT0029360**
NAICS Code: **221320 (Sewage Treatment Facilities)**	Inspection ID: **201806_MT0029360**
Lead inspector and affiliation: **Akash Johnson / U.S. EPA Region 8**	
Inspector and affiliation: **Emilio Llamozas / U.S. EPA Region 8**	

Facility Location Information	
Site/Facility Name & Location: **Lame Deer Wastewater Treatment Facility** **45.628889, -106.673611** **Lame Deer, Montana**	Mail Report to: **Sheri Bement, General Manager** **Northern Cheyenne Utilities Commission** **P.O. Box 747** **Lame Deer, Montana 59043**

Contact Information	
	Name(s)/Title
Facility Contacts:	**Nathan Pierce / Owner and General Contractor / Adamas Construction & Development Services PPLC (NCUC Contractor) (present, lead)**
	Sheri Bement / General Manager / Northern Cheyenne Utilities Commission (present, partial)
Indian Health Service Contacts	**James Courtney / Environmental Engineer / Indian Health Service (present)**
Tribal Environmental Contacts	**Joe Walksalong / Water Quality Coordinator / Northern Cheyenne Tribe Department of Environmental Protection and Natural Resources (present)**
	Joe Limberhand / Water Quality Technician / Northern Cheyenne Tribe Department of Environmental Protection and Natural Resources (present)
	Wayne Roundstone / Compliance Administrator / Northern Cheyenne Tribe Department of Environmental Protection and Natural Resources (present)
Person/Company meeting definition of "Owner"	**Northern Cheyenne Tribe**
Person/Company meeting definition of "Operator"	**Northern Cheyenne Utilities Commission**
Responsible Official(s)	**Sheri Bement / General Manager / Northern Cheyenne Utilities Commission**

Permit Information	
Is the permit on site and available? **No**	Individual or General Permit: **Individual**
Effective Date: **March 1, 2018**	Expiration Date: **December 31, 2022**
Latitude: **45.628889**	Longitude: **-106.673611**
Receiving Water(s): **Lame Deer Creek**	
Weather Conditions: **Warm, sunny, dry**	
Inspector's source of information: **EPA records, IHS Technical Assistance Records, aerial imagery, facility personnel, Indian Health Service personnel, and site review**	

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

Report Review and Signature		
Drafter Signature/Name	Address/Phone Number	Date
	U.S. EPA Region 8 **1595 Wynkoop Street** **8ENF-W-NP** **Denver, Colorado 80202**	7/13/18
Akash Johnson	**303-312-6067**	
Reviewer Signature/Name	Address/Phone Number	Date
	U.S. EPA Region 8 **1595 Wynkoop Street** **8ENF-W-NP** **Denver, Colorado 80202**	7/20/18
Emilio Llamozas	**303-312-6407**	
Supervisor Signature/Name	Address/Phone Number	Date
	U.S. EPA Region 8 **1595 Wynkoop Street** **8ENF-W-NP** **Denver, Colorado 80202**	7/17/18
Stephanie DeJong	**303-312-6362**	

Inspection Narrative and Site Description

1.0 Introduction and Background

On Wednesday, June 13, 2018, and Thursday, June 14, 2018, we, U.S. Environmental Protection Agency (EPA) inspectors Akash Johnson and Emilio Llamozas, conducted an announced compliance evaluation inspection of the Lame Deer Wastewater Treatment Facility (WWTF) (the lagoon; the facility; the site), located in Lame Deer, Montana, on the Northern Cheyenne Indian Reservation, to evaluate compliance with the facility's National Pollutant Discharge Elimination System (NPDES) Permit No. MT0029360 (the Permit). The lagoon was owned by the Northern Cheyenne Tribe (the Tribe) and operated by the Northern Cheyenne Utilities Commission (NCUC).

Throughout the inspection, we noted our observations in bound notebooks and checklists which reflected conditions of the permit. Photographs taken during the inspection are included in the attached photo log.

2.0 Opening Conference and Discussion

The inspection commenced at approximately 09:30, when we arrived at the NCUC office and met with Indian Health Service (IHS) representative Mr. James Courtney, Environmental Engineer, and Northern Cheyenne Tribe Department of Environmental Protection and Natural Resources (DEPNR) representatives Mr. Joe Walksalong, Water Quality Coordinator, Mr. Joe Limberhand, Water Quality Technician, and Mr. Wayne Roundstone, Compliance Administrator. NCUC staff informed us our primary inspection contact, NCUC representative Ms. Sheri Bement, General Manager, would not be able to join us until later in the day. However, Adamas Construction & Development Services PPLC (Adamas Construction) representative Mr. Nathan Pierce, NCUC contractor, was present and indicated he would be able to address many of our inspection questions.

We presented our credentials and discussed the intended format and scope of the inspection. Mr. Pierce and Mr. Courtney presented an overview of NCUC's wastewater operations, monitoring procedures, recent SSOs from collection systems operated by NCUC, and active and planned projects within the Lame Deer collection system and at the lagoon. It is noted our discussion primarily pertained to the Lame Deer lagoon, but also encompassed NCUC's operations of four other lagoons on the Northern Cheyenne Indian Reservation. These lagoons are discussed in greater detail in separate reports.

The Lame Deer collection system did not include any lift stations, except for the lift station at the lagoon, discussed in Section 3.0. Based on discussions with Mr. Pierce and Mr. Courtney, the northern portion of the Lame Deer collection system had recently been renovated and the southern portion of the collection system was undergoing a complete cleaning and scoping to identify and prioritize vulnerable areas for repair. Repair work was expected to be completed between 2019 and 2022. Based on discussion with Mr. Pierce, all manholes within the Lame Deer collection system were inspected for infiltration annually and collection system vacuuming and jetting was performed on as as-needed basis, primarily to address blockages.

Inspection Narrative and Site Description

At the time of the inspection, NCUC was preparing the lagoon for a major renovation comprising the removal of sludge from Cell 2 and subsequent installation of a "Bio-Dome" system in Cell 2. Bio-Dome treatment technology was developed and patented by Wastewater Compliance Systems, Inc. (WCS). A Bio-Dome system comprises multiple submerged aerated attached-growth reactors, or "domes", installed along the bottom of a wastewater lagoon to facilitate increased biological activity, intended to enhance reduction of ammonia, nitrogen, biochemical oxygen demand, and suspended solids. The Bio-Dome system to be installed at the Lame Deer lagoon was designed by IHS and funded in part by EPA. Additional information on the Bio-Dome system can be found on the WCS website, http://wastewater-compliance-systems.com. The sludge removal and Bio-Dome installation projects were expected to be completed by the end of the summer. It is noted we also discussed applicable biosolids regulations (40 CFR Part 503) and practices for land application and disposal of the sludge to be removed from Cell 2.

We concluded the discussion portion of the inspection at approximately 10:50, electing to proceed with the site review portion of the inspection and return to the NCUC office to discuss records with Ms. Bement later in the day.

3.0 Facility Overview and Site Review

The Lame Deer lagoon comprised a grinder, lift station, two fermentation pits, and three cells. The fermentation pits and cells were to be operated in sequence. Under proper operating circumstances, influent would flow through the grinder, which would reduce the size of solids, then enter the lift station, which would pump sewage up to the fermentation pits for removal of settleable solids ahead of Cell 1. The flow would then proceed sequentially through the three cells before discharge into Lame Deer Creek. However, this is not what we observed during the inspection.

During the inspection, the grinder and lift station were not functional (Photograph 167), meaning influent could not be pumped to the fermentation pits and flowed through Cell 1. Mr. Pierce indicated the grinder had not been sufficiently reducing the size of solids to prevent interference with the lift station pumps. As the lift station could not be operated without a properly functioning grinder, both units had been shut-off to prevent continued lift station failure. The lift station was located adjacent southeast of the berm between Cell 1 and Cell 2 and sewage was discharging via the lift station emergency overflows directly into Cell 2 (Photographs 169 and 170), bypassing the fermentation pits and Cell 1. As the grinder was not in operation, all solids in the influent, including rags, wipes, gloves, and other trash and debris, were entering Cell 2 without being reduced in size. Mr. Pierce indicated the grinder and lift station had been out of service for at least several months.

Mr. Courtney indicated IHS was evaluating the design and feasibility of a project to address this issue, comprising the installation of a bar screen ahead of the lift station to facilitate the removal of larger solids from the influent, reducing the solids load on the grinder and lift station. However, the timeframe for this project had not been determined. It is noted the deposition of solids directly into Cell 2 could potentially interfere with Bio-Dome installation, operation, treatment efficacy, and maintenance. It is also noted that, as the lift station was out of service, there was no mechanism employed to determine flow rates of influent into the lagoon.

Inspection Narrative and Site Description

During the inspection, Adamas Construction was preparing Cell 2 for sludge removal. Floating aerators had been removed from the cell (Photograph 173) and floating bunches of cattails were being pulled towards the shorelines (Photograph 170). To inspect berm integrity, we walked the southeastern berm along Cell 1 to the fermentation pits (Photographs 168 and 172). The berms around Cell 1 and the fermentation pits had recently been mowed. In the southern corner of Cell 1, historical septic dumping had eroded a portion of the berm (Photograph 168), potentially impacting berm integrity. Facility representatives indicated the practice of emptying septic trucks directly onto the berm had been discontinued.

We then proceeded along the berm between Cell 1 and Cell 2 (Photograph 173). We continued along the northwestern berm of Cell 3 (Photograph 174) to the effluent sampling point (Photograph 175) and discharge point, Outfall 001 (Photograph 176). Effluent leaving Cell 3 appeared light green in color (Photograph 175). Tall vegetation was present on the berms around Cell 2 and Cell 3 and the path to the outfall into Lame Deer Creek from Cell 3 was obscured (Photograph 176). It is noted there was no mechanism employed to determine flow rates of effluent discharging from the lagoon. Additionally, Mr. Pierce stated all gate valves at transfer stations between cells were broken, meaning there was no way to control or retain flow within the lagoon system.

We walked the entire perimeter of Cell 3 and identified a manhole associated with unknown subsurface infrastructure along the northeastern berm of Cell 3, downgradient of the influent lift station (45.627961, -106.673186) (Photograph 177). We were not able to remove the manhole cover during the inspection. It was unknown if any water flowed through the manhole and, if it did, where it flowed from or to.

Adjacent northeast of Cell 3 and southeast of Cell 2, surface water was ponding against the outside toe of the berms (Photographs 178 and 179), potentially impacting berm integrity. Facility representatives indicated this issue had occurred frequently over the years, and it was not discernable whether the water comprised surface water, groundwater, or was hydrologically connected to the lagoon. Following the site review, we broke for lunch.

4.0 Records Review

After lunch, we returned to the NCUC office and met with Ms. Bement to discuss recordkeeping procedures. Ms. Bement indicated the primary NCUC wastewater operator would be able to procure the records we requested, but would not be available during the inspection. As such, we agreed to request records via email after the inspection. A records request was emailed to Ms. Bement on June 21, 2018. As of this report, no records have been received in response to this request.

5.0 Next Day Follow-Up, Closing Conference, and Conclusion

On Thursday, June 14, 2018, we reviewed the location which NCUC representatives understood to be the ambient monitoring location Outfall 001R (Photograph 191). However, after the inspection, plotting the latitude and longitude where Photograph 191 was taken revealed the location reviewed during the inspection was not Outfall 001R. The location reviewed during the inspection was the first bridge over Lame Deer Creek encountered along Highway 39 north of the lagoon, but the location

Inspection Narrative and Site Description
identified as Outfall 001R in the Permit is the second bridge over Lame Deer Creek encountered along Highway 39 (45.667589, -106.699797), approximately 2.5 miles north of the first bridge. It is noted the latitude and longitude coordinates provided in the Permit are not as accurate the coordinates provided in this report. We also reviewed the location of collection system repair work which had been implemented to address a recent SSO which had flowed into Lame Deer Creek (Photograph 192). Staff from EPA's On-Scene Coordinator group were deployed to respond to this SSO. Following our site review of locations related to the Lame Deer lagoon, we reviewed several other WWTFs operated by NCUC before conducting a closing conference with Ms. Bement. During the closing conference, we recapped the inspection and presented preliminary findings. An email outlining preliminary findings and requesting records for review was also transmitted to Ms. Bement on June 21, 2018. As of this report, no records have been received in response to this request. Findings identified pursuant to the inspection are discussed in the Findings, Corrective Actions, and Recommendations section, below.

Findings, Corrective Actions, and Recommendations

Finding 1:
The grinder and lift station at the lagoon were not functional.

During the inspection, the grinder and lift station were not functional (Photograph 167), meaning influent could not be pumped to the fermentation pits and flowed through Cell 1. Mr. Pierce indicated the grinder had not been sufficiently reducing the size of solids to prevent interference with the lift station pumps. As the lift station could not be operated without a properly functioning grinder, both units had been shut-off to prevent continued lift station failure. The lift station was located adjacent southeast of the berm between Cell 1 and Cell 2 and sewage was discharging via the lift station emergency overflows directly into Cell 2 (Photographs 169 and 170), bypassing the fermentation pits and Cell 1. As the grinder was not in operation, all solids in the influent, including rags, wipes, gloves, and other trash and debris, were entering Cell 2 without being reduced in size. Mr. Pierce indicated the grinder and lift station had been out of service for at least several months.

Mr. Courtney indicated IHS was evaluating the design and feasibility of a project to address this issue, comprising the installation of a bar screen ahead of the lift station to facilitate the removal of larger solids from the influent, reducing the solids load on the grinder and lift station. However, the timeframe for this project had not been determined. It is noted the deposition of solids directly into Cell 2 could potentially interfere with Bio-Dome installation, operation, treatment efficacy, and maintenance. It is also noted that, as the lift station was out of service, there was no mechanism employed to determine flow rates of influent into the lagoon.

Permit Requirements:
Part 5.5 of the Permit (Proper operation and maintenance) 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…"

Corrective Action 1:
Ensure the grinder and lift station at the lagoon are properly functioning, ensure solids which could interfere with treatment processes are not entering the lagoon, and ensure that flow can be directed through the fermentation pits and Cell 1, if desired. In a response to EPA, provide a written narrative describing the steps taken to implement this corrective action and indicate the date this corrective action was completed.

Finding 2:
All gate valves at transfer stations between the lagoon cells were not functional.

Mr. Pierce stated all gate valves at transfer stations between cells were broken, meaning there was no way to control or retain flow within the lagoon system.

Findings, Corrective Actions, and Recommendations

Permit Requirements:
Part 5.5 of the Permit (Proper operation and maintenance) 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…"

Corrective Action 2:
Ensure all gate valves at transfer stations between the lagoon cells are properly functioning. In a response to EPA, provide a written narrative indicating this corrective action has been completed and indicate the date this corrective action was completed.

Finding 3:
The southern corner of Cell 1 was eroded, potentially impacting berm integrity.

In the southern corner of Cell 1, historical septic dumping had eroded a portion of the berm (Photograph 168), potentially impacting berm integrity. Facility representatives indicated the practice of emptying septic trucks directly onto the berm had been discontinued.

Permit Requirements:
Part 1.3.5 of the Permit (Inspection Requirements) states:

"1.3.5.1. On at least a weekly basis, unless otherwise approved by the Permit issuing authority, the Permittee shall inspect its wastewater treatment facility, at a minimum, for the following…

1.3.5.1.3. Check to see if there has been any excessive erosion of the dikes…"

Part 5.5 of the Permit (Proper Operation and Maintenance) 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…"

Corrective Action 3:
Repair the berm erosion in the southern corner of Cell 1. In a response to EPA, provide a photograph and written narrative indicating this corrective action has been completed and indicate the date this corrective action was completed.

Finding 4:
Tall vegetation was present on the berms around Cell 2 and Cell 3 and the path to the outfall from Cell 3 was obscured (Photograph 176).

Permit Requirements:
Part 1.3.5 of the Permit (Inspection Requirements) states:

"1.3.5.1. On at least a weekly basis, unless otherwise approved by the Permit issuing authority, the Permittee shall inspect its wastewater treatment facility, at a minimum, for the following:

Findings, Corrective Actions, and Recommendations
1.3.5.1.1. Check to see if there is any leakage through the dikes; 1.3.4.1.2. Check to see if there are any animal burrows in the dike[s]; 1.3.5.1.3. Check to see if there has been any excessive erosion of the dikes… 1.3.5.1.5. Check to see if vegetation growth on the dikes needs mowing…" Part 5.5 of the Permit (Proper Operation and Maintenance) 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…" **Corrective Action 4:** Ensure vegetation on the lagoon berms is reduced and maintained at a level such that the berms and outfall can be inspected for leakage, animal burrows, and erosion. In a response to EPA, provide a photograph and written narrative indicating this corrective action has been completed and indicate the date this corrective action was completed.
Finding 5: A manhole associated with unknown subsurface infrastructure along the northeastern berm of Cell 3, downgradient of the influent lift station was identified during the inspection (45.627961, -106.673186) (Photograph 177). It was unknown if any water flowed through the manhole and, if it did, where it flowed from or to. We were not able to remove the manhole cover during the inspection. It is possible the manhole could be directing sewage or stormwater directly into Cell 3, bypassing a portion of the treatment system. **Permit Requirements:** Part 3.1 of the Permit (Proper Operation and Maintenance) states: "In addition to the operation and maintenance requirements outlined at 5.5, 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." Part 5.5 of the Permit (Proper Operation and Maintenance) 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…" **Corrective Action 5:** Ensure the manhole identified along the northeastern berm of Cell 3 is not conveying water directly into Cell 3. In a response to EPA, provide a photograph and written narrative indicating this corrective action has been completed and indicate the date this corrective action was completed.

Findings, Corrective Actions, and Recommendations

Finding 6:
Adjacent northeast of Cell 3 and southeast of Cell 2, surface water was ponding against the outside toe of the berms (Photographs 178 and 179), potentially impacting berm integrity.

Facility representatives indicated this issue had occurred frequently over the years, and it was not discernable whether the water comprised surface water, groundwater, or leakage from the lagoon.

Permit Requirements:
Part 1.3.5 of the Permit (Inspection Requirements) states:

"1.3.5.1. On at least a weekly basis, unless otherwise approved by the Permit issuing authority, the Permittee shall inspect its wastewater treatment facility, at a minimum, for the following:

1.3.5.1.1. Check to see if there is any leakage through the dikes…"

Part 5.5 of the Permit (Proper Operation and Maintenance) 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…"

Corrective Action 6:
Ensure surface water ponding does not occur adjacent northeast of Cell 3 and southeast of Cell 2. In a response to EPA, provide photographs and a written narrative describing the steps taken to implement this corrective action and indicate the date this corrective action was completed.

Finding 7:
Ambient monitoring location, Outfall 001R, was not correctly identified by NCUC personnel.

On Thursday, June 14, 2018, we reviewed the location which NCUC representatives understood to be the ambient monitoring location Outfall 001R (Photograph 191). However, after the inspection, plotting the latitude and longitude where Photograph 191 was taken revealed the location reviewed during the inspection was not Outfall 001R. The location reviewed during the inspection was the first bridge over Lame Deer Creek encountered along Highway 39 north of the lagoon, but the location identified as Outfall 001R in the Permit is the second bridge over Lame Deer Creek encountered along Highway 39 (45.667589, -106.699797), approximately 2.5 miles north of the first bridge. It is noted the latitude and longitude coordinates provided in the Permit are not as accurate the coordinates provided in this report.

Permit Requirements:
Part 1.2 of the Permit (Description of Discharge Points) identifies Outfall 001R as:

"The Montana Highway 39 bridge over Lame Deer Creek about three and one-half miles north of Lame Deer, approximate latitude 45.667570° N, longitude 106.699640° W."

Findings, Corrective Actions, and Recommendations
Corrective Action 7: Ensure samples from Outfall 001R are collected at the correct location. In a response to EPA, provide a photograph and a written narrative indicating NCUC has identified and collected samples from Outfall 001R, as specified in the permit.
Finding 8: Required monitoring had not been conducted. NCUC representatives indicated some required monitoring of effluent at Outfall 001 and all required ambient stream monitoring at Outfall 001R had not been conducted since the permit became effective on March 1, 2018. Additionally, there was no mechanism employed to determine flow rates of effluent discharging from the lagoon. During the inspection, Ms. Bement indicated the primary NCUC wastewater operator would be able to procure the records we requested, but would not be available during the inspection. As such, we agreed to request records via email after the inspection. A records request was emailed to Ms. Bement on June 21, 2018. As of this report, no monitoring information has been submitted to EPA, so specific parameters and frequencies of monitoring which were missed are not known. **Permit Requirements:** Part 1.3.2 of the Permit (Self-Monitoring Requirements) states: "Outfall 001: At a minimum, upon the effective date of this Permit, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. All effluent monitoring samples shall be taken at the discharge point near the west corner of cell three, at the earliest possible point in the discharge line after the Parshall flume located prior to the discharge into Lame Deer Creek. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report (DMR) that no discharge or overflow occurred.

Findings, Corrective Actions, and Recommendations

Effluent Characteristic a/	Frequency	Sample Type b/
Flow, MGD c/	Daily	Instantaneous
BOD_5, mg/L	Monthly	Grab
Total Suspended Solids, mg/L	Monthly	Grab
pH, standard units	Weekly d/	Instantaneous
Dissolved Oxygen, mg/L	Monthly	Grab
Fecal Coliform, no./100 ml. e/	5 per month f/	Grab
E. coli, no./100 ml.	5 per month f/	Grab
Oil and Grease (visible sheen) g/	Weekly	Visual Observation
Oil and Grease, mg/L g/	Upon observation of visible sheen	Grab
Temperature, °C	Weekly d/	Instantaneous
Total Residual Chlorine, mg/L h/	Weekly	Grab
Ammonia, as N, mg/L	Monthly d/	Grab
Total Phosphorous, µg/L	Quarterly	Grab
Total Nitrogen, µg/L	Quarterly	Grab
Total Dissolved Solids, mg/L	Quarterly	Grab

a/ All monitored data shall be recorded in a daily log (paper or electronic). If no discharge occurs on any one day, zero (0) shall be recorded in the daily log for that day for flow and for all other parameters required to be monitored. If the required data are not entered in the daily log on a day that a discharge occurs, it will be assumed that the required monitoring was not performed. If no discharge occurs during the reporting period, the appropriate "No Discharge" code shall be reported on the DMR.

b/ See Definitions, Section 1.1, for definition of terms.

c/ Flow monitoring shall be daily. Flow measurements of effluent volume shall be made in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained. The average flow rate (in million gallons per day) during the reporting period and the maximum flow rate observed (in mgd) shall be reported.

d/ Monitoring for pH and temperature must be conducted at the same time the sample to be analyzed for ammonia is taken.

e/ Monitoring for fecal coliform is required from March 1 to October 31 only.

f/ Samples shall be equally spaced over a calendar month.

Findings, Corrective Actions, and Recommendations

g/ If a visible sheen is detected, a grab sample shall be taken immediately and analyzed in accordance with the requirements of 40 CFR Part 136. The concentration of oil and grease shall not exceed 10 mg/L in any sample.

h/ Monitoring for Total Residual Chlorine is required only if chlorine is used as part of the disinfection process."

Part 1.3.3 of the Permit (Ambient Monitoring Requirements – Outfall 001R) states:

Effluent Characteristic a/	Frequency	Sample Type b/
pH, standard units	Monthly	Instantaneous
Temperature, °C	Monthly	Instantaneous
Time sample collected	Monthly	Instantaneous
Date sample collected	Monthly	Instantaneous

a/ All monitored data shall be recorded in a daily log (paper or electronic). If no discharge occurs on any one day, zero (0) shall be recorded in the daily log for that day for flow and for all other parameters required to be monitored. If the required data are not entered in the daily log on a day that a discharge occurs, it will be assumed that the required monitoring was not performed. If no discharge occurs during the reporting period, the appropriate "No Discharge" code shall be reported on the DMR.

Corrective Action 8:
Ensure all required monitoring is conducted in accordance with the Permit. In a response to EPA, for each outfall, provide a list of all dates and respective parameters for which required monitoring was not conducted. Additionally, include a written narrative explaining why each instance of missed required monitoring occurred and an explanation of steps taken to ensure all required monitoring is conducted in the future.

Finding 9:
Reporting of monitoring results had not been conducted.

During the inspection, Ms. Bement indicated she had recently received access to NetDMR, but had not yet uploaded results of the required monitoring which had been conducted. As of this report, no monitoring results following the Permit effective date are available on NetDMR.

Permit Requirements:
Part 1.3.4 of the Permit (Reporting Period) states:

"For the duration of this Permit, the discharger shall submit Discharge Monitoring Reports (DMRs) monthly as described in section 2.3."

Findings, Corrective Actions, and Recommendations

Part 2.3 of the Permit (Reporting of Monitoring Results) states:

"Upon the effective date of this Permit, the Permittee must electronically report DMRs using NetDMR. Electronic submissions by permittees must be sent to the EPA Region 8 no later than the 28th of the month following the completed reporting period. The Permittee must sign and certify all electronic submissions in accordance with the requirements of Part 4.2 of this Permit ("Signatory Requirements"). NetDMR is accessed from the internet at https://netdmr.zendesk.com/home.

In addition, the Permittee must submit a copy of the DMR to the Northern Cheyenne tribe. Currently, the Permittee may submit a copy to the Tribe by one of three ways: 1. a paper copy may be mailed. 2. The email address may be added to the electronic submittal through NetDMR, or, 3. The Permittee may provide viewing rights through NetDMR."

Corrective Action 9:
Ensure all reportable monitoring results are reported via NetDMR. In a response to EPA, provide a written narrative indicating this corrective action has been completed and indicate the date this corrective action was completed.

Finding 10:
No inspection reports were maintained and it was unknown if inspections were being conducted at the required frequency.

During the inspection, Ms. Bement indicated the primary NCUC wastewater operator would be able to procure the records we requested, but would not be available during the inspection. As such, we agreed to request records via email after the inspection. A records request was emailed to Ms. Bement on June 21, 2018, including a request for a weekly inspection report for the lagoon from May 2018. As of this report, no records have been received in response to this request.

Permit Requirements:
Part 1.3.5 of the Permit (Inspection Requirements) states:

"1.3.5.1. On at least a weekly basis, unless otherwise approved by the Permit issuing authority, the Permittee shall inspect its wastewater treatment facility, at a minimum, for the following:

1.3.5.1.1. Check to see if there is any leakage through the dikes;

1.3.4.1.2. Check to see if there are any animal burrows in the dike[s];

1.3.5.1.3. Check to see if there has been any excessive erosion of the dikes;

1.3.5.1.4. Check to see if there are any rooted plants, including weeds growing in the water;

1.3.5.1.5. Check to see if vegetation growth on the dikes needs mowing; and,

1.3.5.1.6. Determine if proper operation and maintenance procedures are being undertaken at the wastewater treatment facility.

Findings, Corrective Actions, and Recommendations

1.3.5.2. The Permittee shall maintain a daily log in either paper or electronic format recording information obtained during the inspection. At a minimum, the log shall include the following:

1.3.5.2.1. Date and time of the inspection;

1.3.4.2.2. Name of the inspector(s);

1.3.5.2.3. The facility's discharge status;

1.3.5.2.4. The flow rate of the discharge if occurring;

1.3.5.2.5. Identification of operational problems and/or maintenance problems;

1.3.5.2.6. Recommendations, as appropriate, to remedy identified problems;

1.3.4.2.7. A brief description of any actions taken with regard to problems identified; and,

1.3.5.2.8. Other information, as appropriate.

The Permittee shall maintain the daily log in accordance with proper record-keeping procedures and shall make the log available for inspection, upon request, by authorized representatives of the U.S. Environmental Protection Agency or the Northern Cheyenne Tribe.

1.3.5.3 Problems identified during the inspection shall be addressed through proper operation and maintenance. (See Part 3.1 of this Permit.)"

Part 5.9 of the Permit (Inspection and entry) states:

"The Permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to…

5.9.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit…"

Corrective Action 10:
Ensure inspections of the lagoon are conducted on at least a weekly basis. In a response to EPA, provide a copy of the first weekly inspection report for the Lame Deer WWTF prepared after receipt of this report.

Finding 11:
No monitoring records were maintained.

During the inspection, Ms. Bement indicated the primary NCUC wastewater operator would be able to procure the records we requested, but would not be available during the inspection. As such, we agreed to request records via email after the inspection. A records request was emailed to Ms. Bement on

Findings, Corrective Actions, and Recommendations

June 21, 2018, including a request for all analytical records for May 2018 effluent sampling of the lagoon. As of this report, no records have been received in response to this request.

Permit Requirements:

Part 2.4 of the Permit (Records Contents) states:

"In addition to those requirements specified in paragraph 5.10.3, records of monitoring information shall include:

2.4.1. References and written procedures, when available, for the analytical techniques or methods used (5.10.3.5); and,

2.4.2. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results (5.10.3.6)."

Part 5.9 of the Permit (Inspection and entry) states:

"The Permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to…

5.9.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit…"

Part 5.10 of the Permit (Monitoring and Records) states:

"…5.10.2. Except for records of monitoring information required by this Permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), 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, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

5.10.3. Records of monitoring information shall include:

5.10.3.1. The date, exact place, and time of sampling or measurements;

5.10.3.2. The individual(s) who performed the sampling or measurements;

5.10.3.3. The date(s) analyses were performed;

5.10.3.4. The individual(s) who performed the analyses;

Findings, Corrective Actions, and Recommendations
5.10.3.5. The analytical techniques or methods used; and 5.10.3.6. The results of such analyses." **Corrective Action 11:** Ensure monitoring records are maintained in accordance with the Permit. In a response to EPA, provide a copy of all monitoring records supporting monitoring results reported on the first monthly DMR submitted after receipt of this report.
Finding 12: pH and temperature analysis was not conducted according to test procedures approved under 40 CFR Part 136. 40 CFR Part 136 specifies pH analysis should be conducted within 15 minutes of sample collection and temperature analysis should be conducted instantaneously upon sample collection. Mr. Pierce indicated samples collected for pH and temperature analysis had been sent to a laboratory in Billings, Montana for analysis, an approximately 1.5 hour drive from the lagoon. As such, the samples would arrive outside of the respective hold times identified in test procedures approved under 40 CFR Part 136 for these parameters. **Permit Requirements:** Part 5.10 of the Permit (Monitoring and Records) states: "...5.10.4. Monitoring must be conducted according to test procedures approved under 40 C.F.R. Part 136, unless other test procedures have been specified in this Permit..." **Corrective Action 12:** Ensure all required reported monitoring is conducted according to test procedures approved under 40 CFR Part 136. In a response to EPA, provide a written narrative describing the steps taken to implement this corrective action and indicate the date this corrective action was completed.
Finding 13: A copy of the Permit was not maintained onsite. **Recommendation:** EPA recommends maintaining a copy of the Permit onsite. A copy of the Permit and Statement of Basis is available at the link below: https://www.epa.gov/npdes-permits/npdes-permit-lame-deer-lagoon-wastewater-treatment-facility-montana

Photographs for Lame Deer WWTF (Inspection ID: 201806_MT0029360)

Inspection Type: POTW

Photo number 167 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is Northeast.

Description:

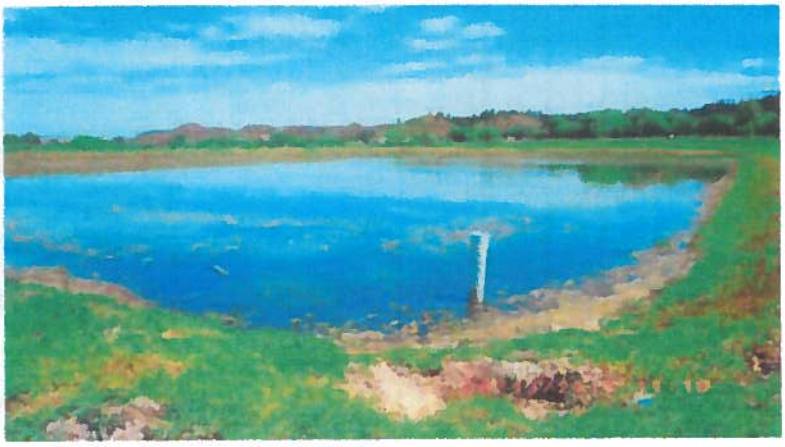
Overview of the grinder and lift station. Both units were not functional.

Photo number 168 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is Northeast.

Description:

Overview of Cell 1. Note erosion from septic pumping in the southern corner. Note wastewater was not flowing into the cell because the lift station was not operating at the time of the inspection. Note the wastewater depth in cell 1 was approximately 3 feet.



Photographs for Lame Deer WWTF (Inspection ID: 201806_MT0029360)

Inspection Type: POTW

Photo number 169 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is West.

Description:

Influent flowing from the lift station emergency overflow flowing directly into Cell 2. Note the deposition of large solids into the cell.

Photo number 170 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is West.

Description:

Overview of influent from both lift station emergency overflows flowing directly into Cell 2. Wastewater was primarily flowing through the overflow on the left side of the photo. The overflow on the right side of the photo was obstructed by a crust of floating solids which had formed inside the lift station.

Photographs for Lame Deer WWTF (Inspection ID: 201806_MT0029360)

Inspection Type: POTW

Photo number 171 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is Northwest.

Description:

Overview of excavation pit northwest of the fermentation ponds (see 2014 aerial imagery).

Photo number 172 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is North.

Description:

Overview of a manhole along the line from the lift station to the fermentation pits, with the fermentation pits (right) and Cell 1 (left) in the background.

Photographs for Lame Deer WWTF (Inspection ID: 201806_MT0029360)

Inspection Type: POTW

Photo number 173 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is Southwest.

Description:

Overview of Cell 2. Note the color was a brown green opaque color. Floating aerators (foreground) had been removed from the cell in preparation for the upcoming sludge removal and Bio-Dome installation.

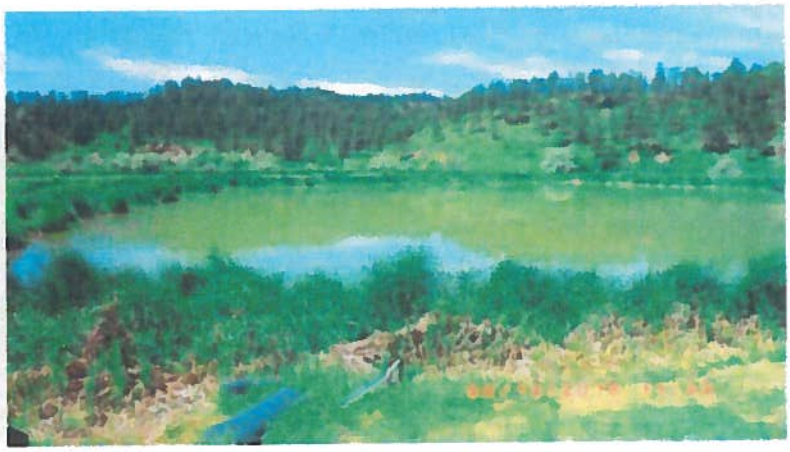
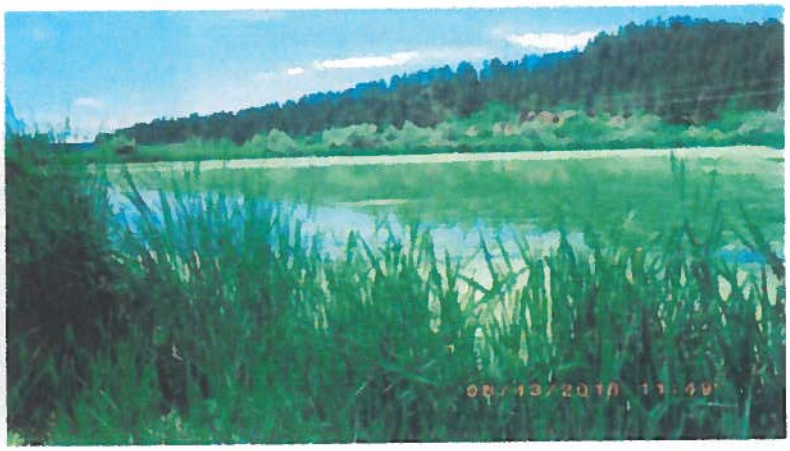


Photo number 174 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is South .

Description:

Overview of Cell 3, as seen from the northern corner of the cell.



Photographs for Lame Deer WWTF (Inspection ID: 201806_MT0029360)

Inspection Type: POTW

Photo number 175 taken by Emilio Llamozas on 6/13/2018.

Description:

Interior of the manhole sampling location at the southwestern corner of Cell 3, immediately ahead of Outfall 001. Note the effluent was light green in color.

Photo number 176 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is North.

Description:

Overview of Lame Deer Creek at the outfall location from Cell 3. Note dense vegetation obscured the outfall location.

Photographs for Lame Deer WWTF (Inspection ID: 201806_MT0029360)

Inspection Type: POTW

Photo number 177 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is Northwest.

Description:

A manhole associated with unknown subsurface infrastructure along the northeastern berm of Cell 3, downgradient of the influent lift station (45.627961, -106.673186). We were not able to remove the manhole cover during the inspection. It was unknown if any water flowed through the manhole and, if it did, where it flowed from or to.

Photo number 178 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is Northeast.

Description:

Ponding adjacent southeast of Cell 2 and Cell 3.

Photo number 179 taken by Emilio Llamozas on 6/13/2018.

The direction of the photo is Southwest.

Description:

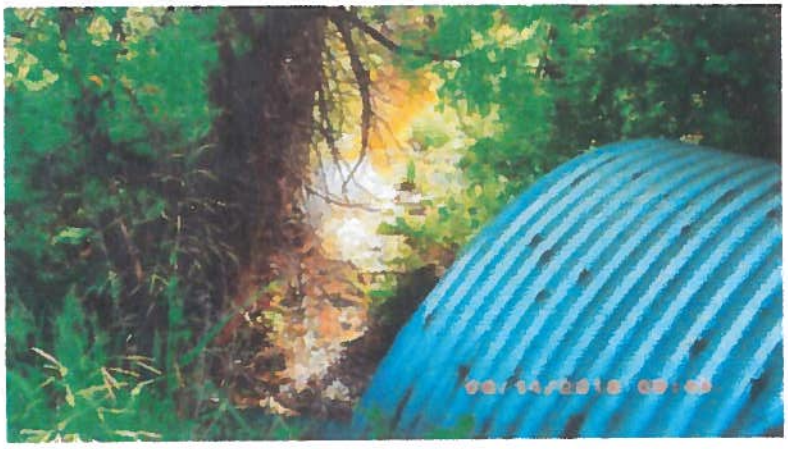
Ponding adjacent southeast of Cell 2 and Cell 3.

Photo number 191 taken by Emilio Llamozas on 6/14/2018.

The direction of the photo is East.

Description:

Erroneous ambient stream monitoring location which was not Outfall 001R.



Photographs for Lame Deer WWTF (Inspection ID: 201806_MT0029360)

Inspection Type: POTW

Photo number 192 taken by Emilio Llamozas on 6/14/2018.

The direction of the photo is Southeast.

Description:

Overview of recent sewer repair work which had been completed to address SSOs from this portion of the collection system flowing into Lame Deer Creek.