

COMPLIANCE EVALUATION INSPECTION REPORT
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5

Purpose: NPDES Compliance Evaluation Inspection

Facility:

LCO Reserve Lagoon
Lac Courte Oreilles Band of Lake Superior Chippewa Indians
Public Works Department
13743 W Gitigaan Rd
Hayward, WI 54843

NPDES Permit Number: WI-0073041-2

Date of Inspection: October 28, 2020

EPA Inspectors:

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Dean Maraldo, Physical Scientist, (312) 353-2098

Lac Courte Oreilles Band of Lake Superior Chippewa Indians Representative:

Willard Gouge, Public Works Director, (715) 699-6024

Indian Health Service Representative:

Shane Hoffman, Wisconsin Tribal Utility Consultant, (715) 365-5129

Report Prepared By:

Val Dooling, Environmental Engineer, (312) 886-7167

VALERIE
DOOLING

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EPA Inspector Signature and Date: _____

Approver Name and Title:

Ryan J. Bahr, Chief, Section 2, Water Enforcement and Compliance Assurance Branch

Bahr, Ryan

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Ryan
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Approver Signature and Date _____

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I. INTRODUCTION

The purpose of this report is to describe, evaluate and document Lac Courte Oreilles Band of Lake Superior Indian's compliance with the Clean Water Act (CWA) at their LCO Reserve Lagoon in Hayward, Wisconsin on October 28, 2020. The facility holds a current National Pollutant Discharge Elimination System (NPDES) permit WI-0073041-2, issued September 16, 2016 with an expiration date of September 8, 2021.

II. BACKGROUND

The LCO Reserve Lagoon facility consists of a two-cell lagoon operated in series. It serves the Reserve Community and has one lift station and approximately 39 connections, all domestic and no industry. Influent flow measurement is taken from the lift station. The facility has been operational since the 1960 or 1970s, and 3 or 4 years ago the lift station and gravity mains were rehabbed, and the manholes were resealed, according to Mr. Gouge, the Public Works Director. The primary lagoon may receive a few emergency truckloads of hauled waste during the springtime when the roads are closed. The truck will backup and dump directly into the primary lagoon. According to Mr. Gouge, there are 3 or 4 full time operators on staff and he is the only certified wastewater operator.

According to Mr. Gouge, there is a controlled discharge twice a year, in spring and fall, to an unnamed wetland. The secondary lagoon is discharged through gravity and the discharge continues each day until the lagoon lowers to the height at which it will not discharge. During this discharge period, the lagoon is allowed to discharge each day until the height of the water has been lowered by 6 inches. This height is determined by Mr. Gouge, who measures out the 6-inch difference on a constructed T-stick, then manually closes the discharge valve. The volume of effluent is estimated by calculation by Mr. Hoffman, Indian Health Services Tribal Utility Consultant. After the discharge period, the valve connecting the primary and secondary lagoons is opened and primary wastewater can flow to the secondary lagoon through gravity until equilibrium has been achieved.

III. PRE-INSPECTION CALL

I had a pre-inspection conference call on October 14, 2020 with Mr. Gouge, Lac Courte Oreilles Public Works Director and Mr. Hoffman, Utility Consultant with the Indian Health Service and Dean Maraldo, Physical Scientist at U.S. EPA. During the call, I discussed COVID-19 protocols, as well as other logistical details. I requested information on the status of various reporting requirements from page I-2 of the permit, specifically whether the Phosphorus Minimization Plan, Operation & Maintenance Plan Status Report and Completion Date, Treatment System Map Status and Phosphorus Operational Yearly Report had been submitted. Mr. Gouge replied that none of those reports had been submitted. I then asked if the facility had submitted 2018 and Spring 2017 discharge monitoring reports, and Mr. Gouge replied that those reports are missing, and he is still attempting to locate them, as there was employee turnover at that time.

IV. OPENING CONFERENCE

At 8:52am on October 28, 2020, Dean Maraldo and I arrived at the LCO Public Works Building. Mr Maraldo presented inspector credentials to Willard Gouge and I explained my status as an inspector-in-training. Mr. Hoffman, the representative from Indian Health Services was not present for the inspection. During the opening conference, U.S. EPA explained the purpose of inspection, and requested whether any information was Confidential Business Information (CBI). Mr. Gouge replied that nothing discussed during the inspection was CBI.

V. DOCUMENT AND MONITORING REVIEW

According to Mr. Gouge, the NPDES permit (“permit”) is kept on site and records are retained for 3 years. He performs weekly facility inspections, and submits one copy and keeps another copy, but he does not perform routine maintenance or keep a logbook of maintenance onsite. He does not have original lagoon construction design drawings but does have a copy of the rehab and manhole sealing performed 3 or 4 years ago. Mr. Gouge said sludge has not been wasted from the lagoon and there are no records of when or if that had ever occurred. He said there is an emergency response plan and that the lift station has backup power and an alarm system that dials to his cell phone. There is no operations and maintenance plan. He added that he would like to have more staff become certified operators soon.

According to Mr. Gouge, in November 2019 there was an unauthorized discharge already occurring when he went to the facility to collect a pre-discharge sample. The secondary lagoon was discharging effluent at the outfall prior to manually opening the valve. He is not aware of what volume was released. According to Mr. Gouge, the pre-discharge samples were within the acceptable range, so he continued with a usual discharge and did not report the incident.

Mr. Gouge said the pH, DO and temperature measurements are taken in the field and are calibrated weekly. I noted that the DMR reports for Fall 2019 and Spring 2020 discharges have pH values that exceed the permit maximums. Mr. Gouge said he is not sure what is causing the exceedances and hopes that it is a false positive caused by the equipment. He had been using a pocket pH meter during that period and has since started using a bench pH meter. He said he expects future reading to be within the permit limits. A list of the pH exceedances since 2019 are listed here:

Date	Maximum Permit Limitation	Reported Value on DMR	Type of Sample
November 5, 2019	9.0	10.51	Effluent Discharge
November 7, 2019	9.0	10.40	Effluent Discharge
November 12, 2019	9.0	10.15	Effluent Discharge
November 14, 2019	9.0	10.81	Effluent Discharge
November 19, 2019	9.0	10.45	Effluent Discharge
May 4, 2020	9.0	10.40	Effluent Discharge
May 6, 2020	9.0	10.29	Effluent Discharge
May 8, 2020	9.0	10.70	Effluent Discharge
May 12, 2020	9.0	10.60	Effluent Discharge
May 14, 2020	9.0	10.13	Effluent Discharge

The LCO Reserve Lagoon sends its samples to Commercial Testing Laboratory, Inc in Colfax, Wisconsin. It also has sent samples to Northern Lake Service Laboratory. The laboratory sends empty sampling bottles with preservatives already included, and after filling, the bottles are kept on ice. Mr. Gouge said he fills out and keeps a record of the chain of custody from the laboratory; however, he was not able to produce any upon request. I suggested he keep a record of chain of custody for each set of samples in the future.

Mr. Gouge collects four-hour composite samples of the influent wastestream four times per year as required in the permit. The influent samples are taken from a manhole; however, in the past, they have been collected from the lift station. While collecting this sample, he said he fills $\frac{1}{4}$ of a bottle each hour for four hours. However, he does not immediately cool the sample to 4°C until after the bottle is completely filled. He said the pre-discharge samples are collected from four sides of the pond, as required by the permit.

VI. FACILITY WALKTHROUGH

The physical inspection of the facility began at 9:56 am. The weather was overcast with no precipitation. Mr. Gouge led the tour which involved walking around the primary 1.6-acre lagoon and the secondary 2.34-acre lagoon, and observing the influent sampling manhole, the unnamed wetlands effluent discharge point, and the lift station. An aerial map of the facility is included as Appendix C and photos of the facility are included as Appendix A.

I observed there were no staff gauges at either lagoon and Mr. Gouge said he does not know the water depth and therefore leaves the weekly inspection sheet blank for that item (Appendix C). At the north east corner of the secondary pond, Mr. Gouge pointed out the location where he creates a device to measure 6-inches below the surface of the water to determine the daily effluent discharge volume (Photo 5).

During site inspection, I noted that the vegetation on the dikes of the lagoon was not maintained and Mr. Gouge remarked that there was no way they could handle the growth. I also observed cattails on the dikes, ice on the surface of the lagoons and estimated between 5-10% algae growth on the surface of each lagoon. In the past, when floating mats have reached over 70% of the lagoon, Mr. Gouge said he attempted to corral and remove the mats but did not succeed. I did not see any evidence of erosion or animal activity and Mr. Gouge said there was no erosion or animal activity on the dikes, except for turtles in the lagoon. I viewed the outfall and did not notice any evidence of current discharge from the lagoon (Photo 8). The surface receiving waters were not visible (Photo 9).

During the walkthrough at the lift station, I noted there was grease on the surface (Photo 15) and Mr. Gouge said there is a grease problem and he had sent out a notice for residents to not put grease down the drain.

VII. CLOSING CONFERENCE

I began the closing conference with Mr. Gouge by going over the preliminary areas of concern that are highlighted in the next section and next steps noting that additional areas may be identified as EPA developed its inspection report. I requested any documentation of the 2019 overflow incident and electronic copies of most recent DMRs. I concluded the inspection at 11:07 am, and Mr. Maraldo and I left the facility.

VIII. AREAS OF CONCERN:

A. Reporting and Record Keeping

1. Treatment system map status has not been submitted

Permit Page I-13 Part 5.c Treatment System Map

"On or before January 31, 2017, and annually thereafter until the collection system map is completed, the permittee shall submit a report for the previous calendar year to EPA at the address below, that provides a status of map completion, a summary of the work done in the previous year to complete the map and an estimated date of completion."

2. Phosphorus Minimization Plan has not been submitted

Permit Page I-14 Part 6 Phosphorus Minimization Plan and Operation Evaluation Report

"The permittee shall develop and implement a phosphorus minimization plan (PMP)... The PMP shall be submitted to EPA at the address ... within 180 days from the effective date of the permit."

3. Phosphorus Operational Evaluation Report has not been submitted

Permit Page I-14 Part 6 Phosphorus Minimization Plan and Operation Evaluation Report

"By January 31, 2017 and annually thereafter the permittee shall prepare and submit to EOA ..an operational evaluation report."

4. Chain of custody forms are not kept onsite

Permit Page II-6 Part C.4 Retention of Records

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, for a period of at least 3 years from the date of the sample, measurement, report or application."

5. Unmonitored Discharge occurred in November 2019

Permit Page I-4 Part I.B- Final Effluent Limitations and Monitoring Requirements

"the permittee is authorized to discharge from Outfall 001. Such discharge shall be limited and monitored by the permittee as specified below. (A maximum drawdown rate of six (6) inches per day from the 2.34-acre secondary pond."

Permit Page II-4 Section B.1 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”

B. Self-Monitoring

1. No staff gauge on the lagoon, and no depth measurement recorded (See Appendix B: Sample Weekly Inspection Log)

Permit Page I-3 Part I.A Stabilization Pond Monitoring Requirements

“the permittee shall monitor the treatment ponds as follows and shall report the information on the Monthly Operations Report (MOR) form.

Weekly

Pond Water Depth

Notes

(a)

(a) Pond water depth may be reported in either feet and inches or feet and fractions of a foot.”

2. Hourly composite samples are not kept at ≤4°C in between hourly collection

Permit Part I.C Influent Monitoring Requirements

“the permittee shall monitor the treatment works’ influent wastewater and report to the EPA:

Influent Characteristics	Discharge Limitations	Monitoring Requirements	
Parameter	Monthly Average	Measuring Frequency	Sampling Type
Total Suspended Solids (TSS) (mg/L)	Report	1x Quarterly	4-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) (mg/L)	Report	1x Quarterly	4-Hr Composite
Phosphorus, Total (mg/L)	Report	1x Quarterly	4-Hr Composite

40 CFR 136.3

Table 1B – List of Approved Inorganic Test Procedures

3. Measurement for effluent flow is not consistent with permit

Permit Page II-5 Section C.2. Flow Measurements

“Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device.

Devices selected shall be capable of measuring flows with a maximum deviation of less than ±10 percent from the true discharge rates throughout the range of expected discharge volumes”

C. Operations and Maintenance

1. Vegetation on lagoon dikes has not been maintained

Permit Page I-11 Part 3. Additional Maintenance

“the permittee shall ensure that vegetation on the dikes is cut and the dikes are maintained”

D. Effluent Limit Exceedances

1. Measurements for pH exceeded permit limits

Permit Page I-4 Part I.B Final Effluent Limitations and Monitoring Requirements

Outfall 001 Final

<i>Effluent Characteristics</i>	<i>Discharge Limitations</i>		<i>Monitoring Requirements</i>	
<i>Parameter</i>	<i>Daily Minimum</i>	<i>Daily Maximum</i>	<i>Measuring Frequency</i>	<i>Sampling Type</i>
<i>pH (SU)</i>	<i>6.0</i>	<i>9.0</i>	<i>2x Weekly</i>	<i>Grab</i>

IV. REFERENCES AND DOCUMENTS RECEIVED

No documents received during the inspection.

Reference Resources:

LCO Reserve Lagoon NPDES Permit # IW-0073041; issued by U.S. EPA; expiration date September 8, 2020

APPENDIX A: FACILITY PHOTO LOG

LCO Reserve Lagoon

EPA Inspection October 28, 2020

All photos taken by Dean Maraldo, Physical Scientist, U.S. EPA

Camera: Ricoh WG-4



1: LCOT0001

Description: Manhole used for influent sampling.

GPS Latitude: 45° 53' 0.74"

GPS Longitude: 91° 22' 40"

Camera Direction: Down

Date/Time: October 28, 2020 10:23AM

LCO RESERVE LAGOON
INSPECTION REPORT



2: LCOT0002

Description: Primary pond, from north end of lagoon. Note ice on surface and vegetation and cattails on dikes.

GPS Latitude: 45° 53' 0.74"

GPS Longitude: 91° 22' 40"

Camera Direction: South

Date/Time: October 28, 2020 10:24AM

LCO RESERVE LAGOON
INSPECTION REPORT



3: LCOT0003

Description: Location on primary lagoon where trucks dump hauled waste into the lagoon. Note ruts on ground due to truck.

GPS Latitude: 45° 53' 4.8"

GPS Longitude: 91° 22' 36"

Camera Direction: South

Date/Time: October 28, 2020 10:28AM

LCO RESERVE LAGOON
INSPECTION REPORT



4: LCOT0004

Description: South end of primary lagoon. Note algae on surface and cattails and vegetation along dikes.

GPS Latitude: 45° 53' 4.8"

GPS Longitude: 91° 22' 36"

Camera Direction: West

Date/Time: October 28, 2020 10:30AM

LCO RESERVE LAGOON
INSPECTION REPORT



5: LCOT0005

Description: Northeast corner of secondary lagoon. Location where Mr. Gouge determines 6-inch pond height for discharge volume.

GPS Latitude: 45° 53' 0.49"

GPS Longitude: 91° 22' 38"

Camera Direction: South

Date/Time: October 28, 2020 10:32AM

LCO RESERVE LAGOON
INSPECTION REPORT



6: LCOT0006

Description: Southeast end of secondary lagoon. Note algae and ice on lagoon.

GPS Latitude: 45° 53' 0.49"

GPS Longitude: 91° 22' 38"

Camera Direction: North

Date/Time: October 28, 2020 10:34AM

LCO RESERVE LAGOON
INSPECTION REPORT



7: LCOT0007

Description: Discharge and overflow valve for secondary lagoon.

GPS Latitude: 45° 52' 56"

GPS Longitude: 91° 22' 43"

Camera Direction: East

Date/Time: October 28, 2020 10:36AM

LCO RESERVE LAGOON
INSPECTION REPORT



8: LCOT0008

Description: Outfall. Note no discharge occurring when photo was taken.

GPS Latitude: 45° 52' 56"

GPS Longitude: 91° 22' 43"

Camera Direction: East

Date/Time: October 28, 2020 10:39AM

LCO RESERVE LAGOON
INSPECTION REPORT



9: LCOT0009

Description: View from outfall towards receiving water.

GPS Latitude: 45° 52' 56"

GPS Longitude: 91° 22' 43"

Camera Direction: West

Date/Time: October 28, 2020 10:39AM

LCO RESERVE LAGOON
INSPECTION REPORT



10: LCOT0010

Description: Northwest bank of secondary lagoon.

GPS Latitude: 45° 52' 56"

GPS Longitude: 91° 22' 43"

Camera Direction: South

Date/Time: October 28, 2020 10:43AM

LCO RESERVE LAGOON
INSPECTION REPORT



11: LCOT0011

Description: Air vent between primary and secondary lagoons.

GPS Latitude: 45° 52' 56"

GPS Longitude: 91° 22' 43"

Camera Direction: South

Date/Time: October 28, 2020 10:45AM

LCO RESERVE LAGOON
INSPECTION REPORT



12: LCOT0012

Description: Valve between primary and secondary lagoons at orange marking stake.

GPS Latitude: 45° 53' 0.07"

GPS Longitude: 91° 22' 39"

Camera Direction: South

Date/Time: October 28, 2020 10:45AM

LCO RESERVE LAGOON
INSPECTION REPORT



13: LCOT0013

Description: Lift station control panel, used for influent flow readings.

GPS Latitude: 45° 53' 0.07"

GPS Longitude: 91° 22' 39"

Camera Direction: South

Date/Time: October 28, 2020 10:52AM

LCO RESERVE LAGOON
INSPECTION REPORT



14: LCOT0014

Description: Backup power at lift station in rear. Vault in foreground.

GPS Latitude: 45° 53' 0.07"

GPS Longitude: 91° 22' 39"

Camera Direction: North

Date/Time: October 28, 2020 10:53AM

LCO RESERVE LAGOON
INSPECTION REPORT



15: LCOT0015

Description: Vault at lift station. In the past, influent samples were taken from this point. Note grease on surface of wastewater.

GPS Latitude: 45° 53' 0.07"

GPS Longitude: 91° 22' 39"

Camera Direction: Down

Date/Time: October 28, 2020 10:53AM

APPENDIX B: SAMPLE WEEKLY INSPECTION LOG

SUPPLEMENTAL DATA & COMMENTS

MONTHLY OPERATION REPORT FORM

Comments--include information on violations, bypasses/overflows, maintenance conducted, etc. (attach additional pages if necessary)

MAY 2020

Weekly Observations for Stabilization, Aerated, Polishing or Absorption Ponds

TYPE OF POND (AERATED, ENHANCED, ETC.)	Priority Pond 16 ACRES					Secondary Pond 21 ACRES					POND ACRES				
	1ST	2ND	3RD	4TH	5TH	1ST	2ND	3RD	4TH	5TH	1ST	2ND	3RD	4TH	5TH
1. DATE OF OBSERVATION	5-8	5-15	5-22	5-29		5-8	5-15	5-22	5-29						
2. COLOR (YES OR NO)	N	N	N	N		N	N	N	N						
3. AQUATIC PLANTS (% OF COVERAGE, TYPE)	0%	0%	0%	0%		0%	0%	0%	0%						
4. FLOATING MATS (% OF COVERAGE, TYPE)	0%	0%	0%	0%		0%	0%	0%	0%						
5. WATER DEPTH (Feet)	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0						
6. SOLUBLE SOLIDS, ETC. (Y/N OR NO)	Y	Y	Y	Y		Y	Y	Y	Y						
7. DISS. CONDITION (GROSS, ETC.)	Good	Good	Good	Good		Good	Good	Good	Good						
8. ICE COVER (% OF COVERAGE)	0%	0%	0%	0%		0%	0%	0%	0%						

W. Hall Gange Jr.
715 634 6343
Signature and Phone Number of Available Operator

Send with prepared DATA to:
JSEPA, REGION 5
77 West Jackson Blvd.
Chicago, IL 60604
ATTN: RC-15J

Signature of Authorized Agent

APPENDIX C: AERIAL FACILITY PHOTO



Sources: Esri, DeLorme, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Source: USGS, EPA