

NONMETALLIC MINE RECLAMATION PERMIT – Chippewa Sand – 2018-2019

NMM Operator Reporting Requirements

General

1. Extent of current mine development. (Permit Condition 1.d.)

142.3 acres.

2. Type and annual volume or weight of flocculants, coagulants, or other chemicals used in mining operations. (Permit Condition 8.b.)

Section 6.0, 6,927 gallons of liquid cationic flocculent, 9925 lbs of dry anionic flocculent.

3. Dates and results of reclamation and storm water facility inspections completed. (Permit Condition 1.d)

Section 11.0, weekly inspection of SW ponds and following 1/2 in + rain events.

4. Mine development planned for 2018 year.

Section 21.0, Phase 2 and Phase 3 (northeast of current mine active boundary, then northwest of wet plant).

5. Annual report due date. (Permit Condition 1.d.)

Report received January 30, 2019.

Surface Water

6. Dates and results of storm water discharge monitoring. (Permit Condition 1.d)

Section 11.0, No controlled discharges of stormwater or wastewater (internally drained).

Uncontrolled discharge of stormwater occurred on 7/26/2018 and 10/10/2018. 10/10/2018 discharge resulted in a citation from Chippewa County.

Groundwater

7. Monitoring well information, well constructors report, top of casing elevation, Groundwater elevation measurements. (Permit Condition 7.c.)

Section 2.0, tested quarterly.

8. Revisions to site specific groundwater elevation map if needed. (Permit Condition 7.a).

Section 3.0. GW flows west-southwest WSW.

9. Activities implemented to provide groundwater protection, if any. (Permit Condition 1.d.)

Section 4.0, Process water stored in EDPM lined ponds. Plate press installed (2014) to better recycle water.

10. Groundwater pumping rates and volumes for high capacity wells. (Permit Condition 7.f.)

Section 5.0, 1.2 million gallons were pumped from the high capacity well (2.02MG in 2017).

11. Water quality testing results.

Section 7.0. GW testing conducted at all wells (new for 2018).

Waste Materials

12. Record of the type and volume of material brought to the mine for use in reclamation. (Permit Condition 1.d)

Section 8.0, material testing was conducted on waste from the filter press and reject material returned to the mine.

Section 17.0, 105,713 tons of reject material and fines were returned to the mine.

Financial Assurance

13. Financial Assurance update (Permit Condition 2.b.)

Will be updated in 2019.

Reclamation

14. Reclamation and storm water management activities planned during the next calendar year including site specific design of stormwater facilities. (Permit Condition 1.d)

Operator now has a new reclamation plan. New plan states that operator will install a new infiltration pond system to become externally drained.

Work will continue on approximately 9 acres (southeast corner of active mine)

15. Soil stockpile map showing the location and estimated volume of topsoil, subsoil, overburden, and reject material stockpiles that need to be moved to achieve final reclamation. (Permit Condition 6.b.)

Section 19.0, includes map showing A and B horizon soils (no quantity estimates).

NONMETALLIC MINE RECLAMATION PERMIT – EOG DS

End of Year Meeting Agenda

NMM Operator Reporting Requirements

1. Extent of current mine development.

Attachment 1, map showing extent of mining. 205 acres disturbed.

2. Monitoring well information; (Permit Condition 8.a.iii.)

- Groundwater elevation measurements for all wells. (Permit Condition 8.c.)

Attachment 2, monitoring well elevations included in annual report.

3. Update to site specific groundwater elevation map to include data from DSMW-4. (Permit Condition 8.b.i.)

Attachment 2, elevation map included in annual report.

4. Type and annual volume or weight of flocculants, coagulants, or other chemicals used in mining operations. (Polyacrylamide, PolyDADMAC Sodium Polyacrylate). (Permit Condition 6.g.)

Attachment 4. Biostar Flocculant Socks, Biostar Flocculant Totes, Biostar Bridger Totes.

5. Annual Monitoring Well water quality testing results. (Permit Condition 9.c.)

pH, specific conductance, total coliform bacteria, nitrates, chloride, acrylamide, naphthalene, aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, selenium, silver, sodium, strontium, thallium, titanium, vanadium, and zinc.

Attachment 2. All test results included.

6. Dates and results of storm water facility inspections completed. (Permit Condition 6.d.)

Attachment 3.

7. Dates and results of storm water discharge monitoring. (Permit Condition 5)

Attachment 4. 10.4 MG discharged in 2018.

8. Waste material testing results. (Permit Condition 10.a.i.)

pH, nitrate-nitrogen, phosphorus, potassium, chloride, fluoride, sulfate, total coliform, aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, selenium, silver, sodium, strontium, thallium, titanium, vanadium, zinc, and any residual materials associated with the type of chemicals used in processing, such as acrylamide. NDMA

Attachment 4. All test results included.

9. Soil stockpile map showing the location and estimated volume of topsoil, subsoil, overburden, and reject material stockpiles that need to be moved to achieve final reclamation. (Permit Condition 7.b. & 11.b.)

Attachment 1 – map includes location and volumes.

10. Stormwater quality testing results (Permit Condition 6.g.iii.)

pH, nitrate-nitrogen, phosphorus, potassium, chloride, fluoride, sulfate, total coliform, aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, selenium, silver, sodium, strontium, thallium, titanium, vanadium, zinc, & acrylamide.

Attachment 3. Test results included.

11. Financial assurance update. (Permit Condition 2.)

Operator has submitted contours for current reclamation (assuming mine closure).
LCFM is currently assessing submitted contours to develop update to financial assurance.

NONMETALLIC MINE RECLAMATION PERMIT – PREFERRED SANDS

End of Year Meeting Agenda

NMM Operator Reporting Requirements

1. Extent of current mine development (permit condition 1.d).

Appendix A, map showing extent of mining. 86.7 acres disturbed.

2. Existing groundwater elevations from monitoring wells (permit condition 1.d).

Section 2, monitoring well elevations included in annual report (one measurement).

3. Dates and results of storm water facility site inspections completed. (permit condition 1.d.).

Not inspection reports included. Mine was internally drained.

4. Activities implemented to provide groundwater protection (permit condition 1.d).

Operator has installed production settlement trenches. Operator maintains a groundwater monitoring system to detect and measure the concentration of acrylamide.

5. Dates and results of stormwater discharge monitoring (permit condition 1.d).

No stormwater discharges.

6. Reclamation and stormwater management activities planned during the next calendar year (permit condition 1.d).

Storage of reclamation materials will continue on the northern and western edges of the mine.

7. Daily record of the type, volume, and use of material brought to the mine for reclamation (permit condition 1.d)

No material returned to the mine.

8. Results of groundwater quality testing obtained from groundwater monitoring wells (permit condition 1.d).

Testing for acrylamide

Appendix B includes acrylamide test results. Non-detect

9. High capacity well pumping rates and volumes (permit condition 7.e).

No groundwater use was reported.

10. Type and annual volume or weight of flocculants, coagulants, or other chemicals used in mining operations (permit condition 8.b).

No use reported.

11. Testing results for acrylamide from sediments in settling ponds (permit condition 8.c)

Testing requirement was paused during non-operation of settling ponds.