

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
PUBLIC NOTICE NO. 20231120 – IN0064157 – D
DATE OF NOTICE: November 21, 2023
DATE RESPONSE DUE: December 20, 2023

The Office of Water Quality proposes the following **DRAFT PERMIT**:

MINOR – Renewal

Gibson County Coal, LLC_ Gibson South Mine, Permit No. IN0064157, GIBSON COUNTY, 3455 S County Road 700 W, Owensville, IN. This facility operates an underground coal mining operation along with associated surface facilities. The surface facilities include a slope and shafts for mine access, offices, a maintenance shop, a supply warehouse, conveyors, coal stockpiles, truck loading facilities, and a preparation plant. Variable amounts of sanitary and process wastewater into Emerson Ditch via multiple Outfalls with the following locations:

Outfall 003D/003A/003B/003C	Latitude: 38° 18' 23"
	Longitude: -87° 42' 14"
Outfall 005	Latitude: 38° 18' 24.4"
	Longitude: -87° 42' 16.3"
Outfall 006	Latitude: 38° 19' 33"
	Longitude: -87° 42' 53"
Outfall 103	Latitude: 38° 18' 19.5"
	Longitude: -87° 42' 10.7"
Outfall 106	Latitude: 38° 18' 18.6"
	Longitude: -87° 42' 21.7"

Permit Manager: Hedi Etter 317/233-4903, hetter@idem.in.gov. Posted online at <https://www.in.gov/idem/public-notices/>.

PROCEDURES TO FILE A RESPONSE

You are hereby notified of the availability of a 30-day public comment period regarding the referenced draft permit, in accordance with 327 IAC 5-21-11. The application and draft permit documents are available for inspection at IDEM, Office of Water Quality, Indiana Government Center North - Room 1255, 100 N. Senate Ave, Indianapolis, IN 46204 from 9:00 a.m. until 4:00 p.m., Monday thru Friday, (copies 10¢ per page). The Draft Permit is posted online on the above-referenced IDEM public notice web page. A courtesy copy has also been sent via email to the local County Health Department. Please tell others whom you think would be interested in this matter. For more information about public participation including your rights & responsibilities, please see <https://www.in.gov/idem/public-notices/>. You may want to consult our online Citizens' Guide to IDEM: <https://www.in.gov/idem/resources/citizens-guide-to-idem/>.

Comments: The proposed decision to issue a permit is tentative. Interested persons are invited to submit written comments on the draft permit. All comments must be delivered to IDEM or postmarked no later than the Response Due Date noted to be considered in the decision to issue a final permit. Deliver or mail all requests or comments to the attention of the Permit Manager at the above address.

To Request a Public Hearing: Any person may request a public hearing. A written request must be submitted to the above address on or before the Response Due Date. The written request shall include: the name and address of the person making the request, the interest of the person making the request, persons represented by the person making the request, the reason for the request and the issues proposed for consideration at the hearing. The Department will determine whether to hold a public hearing based upon the comments and the rationale for the request. Public Notice of such a hearing will be circulated in at least one newspaper in the geographical area of the discharge and to those persons submitting comments and/or on the mailing list at least 30 days prior to the hearing.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

November 21, 2023

VIA ELECTRONIC MAIL

Todd Beavan, Manager of Permitting and Compliance
Gibson County Coal, LLC – Gibson South Mine
3455 South County Road 700 West
Owensville, IN 47665

Dear Todd Beavan:

Re: NPDES Permit No. IN0064157
Draft Permit
Gibson County Coal, LLC – Gibson South Mine
Owensville, IN – Gibson County

Your application and supporting documents have been reviewed and processed in accordance with rules adopted under 327 IAC 5. Enclosed is a copy of the draft NPDES Permit.

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at <https://www.in.gov/idem/public-notices/>. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at <https://www.in.gov/idem/resources/citizens-guide-to-idem/>. A 30-day comment period is available to solicit input from interested parties, including the public.

Please review this draft permit and associated documents carefully to become familiar with the proposed terms and conditions. Comments concerning the draft permit should be submitted in accordance with the procedure outlined in the enclosed public notice form. We suggest that you meet with us to discuss major concerns or objections you may have with the draft permit.

Questions concerning this draft permit may be addressed to Heidi Etter of my staff, at 317/233-4903 or hetter@idem.in.gov.

Sincerely,

Richard Hamblin, Chief
Industrial NPDES Permits Section
Office of Water Quality

Enclosures

cc: Gibson County Health Department
Peter Wissel, Alliance Coal, LLC
Jason Heck, Alliance Coal, LLC
John Piening, Alliance Coal, LLC
Holly Zurcher, IDEM
Jayne Peltier, IDNR Reclamation Office
Clay Dayson, IDNR Reclamation Office



STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Clean Water Act" or "CWA"), and IDEM's authority under IC 13-15,

GIBSON COUNTY COAL, LLC – GIBSON SOUTH MINE

is authorized to discharge from a coal mining facility that is located at 3455 South County Road 700 West, Owensville, Indiana, Gibson County, to receiving waters identified as Emerson Ditch in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I and II hereof. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

Effective Date: _____

Expiration Date: _____

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Issued on _____ for the Indiana Department of Environmental Management.

Jerry Dittmer, Chief
Permits Branch
Office of Water Quality

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 003D, located at Latitude 38° 18' 23", Longitude -87° 42' 14". The discharge is limited to make-up pond water overflow which contains flow augmented underground coal mine water, decant water from the preparation plant's fine refuse slurry pond, and stormwater. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Emerson Ditch during dry weather conditions. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3][4]
Outfall 003D

Table 1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency [5]	Sample Type
Flow	Report	Report	MGD	----	----	----	1 X Daily	24 Hr. Total
Total Iron [6]	----	----	----	2.4	4.1	mg/l	2 X Monthly	Grab
TSS	----	----	----	35.0	70.0	mg/l	2 X Monthly	Grab

Table 2

Parameter	Quality or Concentration				Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency [5]	Sample Type
pH [7]	6.0	----	9.0	s.u.	1 X Weekly	Grab

- Within twelve (12) months of the issuance date of this permit, the facility must complete and submit Item V, Part C (Metals), (Cyanide) and (Total Phenols) of NPDES application Form 2C (State Form 55637) for at least one discharge event.
- See Part I.B. of the permit for the minimum narrative limitations.
- In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM

prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: <https://www.in.gov/idem/forms/idem-agency-forms/>.

- [4] The Stormwater Monitoring and Non-Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.
- [5] Monitoring and sampling are required when discharging during dry weather conditions. For months during which there is no discharge from Outfall 003D, the MMR/DMR should state "No discharge."
- [6] The permittee shall measure and report the identified metal as total recoverable metal.
- [7] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

2. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 003A, located at Latitude 38° 18' 23", Longitude -87° 42' 14". The discharge is limited to make-up pond water overflow which contains flow augmented underground coal mine water, decant water from the preparation plant's fine refuse slurry pond, and stormwater. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Emerson Ditch during precipitation events less than or equal to the 10-year, 24-hour precipitation event [1]. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [2][3][4]
Outfall 003A

Table 1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency [5][6]	Sample Type
Flow	Report	Report	MGD	----	----	----	1 X Daily	24 Hr. Total
Total Iron [7]	----	----	----	2.4	4.1	mg/l	1 X Monthly	Grab
TSS	----	----	----	Report	Report	mg/l	1 X Monthly	Grab
Precipitation Volume [8]	----	Report	Inches	----	----	----	1 X Daily	[9]

Table 2

Parameter	Quality or Concentration				Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency [5][6]	Sample Type
pH [10]	6.0	----	9.0	s.u.	1 X Weekly	Grab
Settleable Solids [11]	----	----	0.5	ml/l	1 X Monthly	Grab

- [1] The 10-year, 24-hour precipitation event volume is 4.7 inches.
- [2] See Part I.B. of the permit for the minimum narrative limitations.
- [3] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM

prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: <https://www.in.gov/idem/forms/idem-agency-forms/>.

- [4] The Stormwater Monitoring and Non-Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.
- [5] Monitoring and sampling are required when there is a discharge or increase in the volume of a discharge that was caused by a precipitation event within any 24 hour period less than or equal to the 10-year, 24-hour precipitation event. For months for which there is no discharge from Outfall 003A, the MMR/DMR should state ‘No discharge’.
- [6] A grab sample shall be taken during the first thirty (30) minutes of the discharge (or as soon thereafter as practicable).
- [7] The permittee shall measure and report the identified metal as total recoverable metal.
- [8] Include the precipitation volume on the Monthly Monitoring Report (MMR) for each discharge event during the month. The maximum of these precipitation volumes shall be reported on the Discharge Monitoring Report (DMR). Daily precipitation data for the month obtained from the National Weather Service or the facility’s rain gauge must be included as an attachment to the DMR.
- [9] The volume of the precipitation event must be obtained from the National Weather Service or through the facility’s rain gauge.
- [10] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.
- [11] If the permittee collects more than one grab sample on a given day for settleable solids, the values shall not be averaged for reporting daily maximums. The permittee must report the individual maximum settleable solids value of any sample during the month on the Monthly Monitoring Report form.

3. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 003B, located at Latitude 38° 18' 23", Longitude -87° 42' 14". The discharge is limited to make-up pond water overflow which contains flow augmented underground coal mine water, decant water from the preparation plant's fine refuse slurry pond, and stormwater. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Emerson Ditch during precipitation events greater than the 10-year, 24-hour precipitation event [1]. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [2][3][4]
Outfall 003B

Table 1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency [5][6]	Sample Type
Flow	Report	Report	MGD	----	----	----	1 X Daily	24 Hr. Total
Total Iron [7]	----	----	----	2.4	4.1	mg/l	1 X Monthly	Grab
TSS	----	----	----	Report	Report	mg/l	1 X Monthly	Grab
Precipitation Volume [8]	----	Report	Inches	----	----	----	1 X Daily	[9]

Table 2

Parameter	Quality or Concentration				Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency [5][6]	Sample Type
pH [10]	6.0	----	9.0	s.u.	1 X Weekly	Grab

- [1] The 10-year, 24-hour precipitation event volume is 4.7 inches.
- [2] See Part I.B. of the permit for the minimum narrative limitations.
- [3] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment

additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: <https://www.in.gov/idem/forms/idem-agency-forms/>.

- [4] The Stormwater Monitoring and Non-Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.
- [5] Monitoring and sampling are required when there is a discharge or increase in the volume of a discharge that was caused by a precipitation event within any 24-hour period that is greater than the 10-year, 24-hour precipitation event. The operator shall have the burden of proof that the applicable precipitation event caused the discharge or increase in discharge. For months for which there is no discharge from Outfall 003B, the MMR/DMR should state "No discharge".
- [6] A grab sample shall be taken during the first thirty (30) minutes of the discharge (or as soon thereafter as practicable).
- [7] The permittee shall measure and report the identified metal as total recoverable metal.
- [8] Include the precipitation volume on the monthly monitoring report (MMR) for each discharge event during the month. The maximum of these precipitation volumes shall be reported on the discharge monitoring report (DMR). Daily precipitation data for the month obtained from the National Weather Service or the facility's rain gauge must be reported as an attachment to the DMR.
- [9] The volume of the precipitation event must be obtained from the National Weather Service or through the facility's rain gauge.
- [10] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

4. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 003C, located at Latitude 38° 18' 23", Longitude -87° 42' 14". The discharge is limited to make-up pond water overflow which contains flow augmented underground coal mine water, decant water from the preparation plant's fine refuse slurry pond, and stormwater. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Emerson Ditch. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]
 Outfall 003C

Table 1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency [4]	Sample Type
Flow	Report	Report	MGD	----	----	----	1 X Daily	24 Hr. Total
Chloride	----	----	----	380	670	mg/l	1 X Weekly	Grab
Sulfate	----	----	----	Report	Report	mg/l	1 X Weekly	Grab
Hardness	----	----	----	Report	Report	mg/l	1 X Weekly	Grab

- [1] See Part I.B. of the permit for the minimum narrative limitations.
- [2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: <https://www.in.gov/idem/forms/idem-agency-forms/>.
- [3] The Stormwater Monitoring and Non-Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.
- [4] At least two of the weekly sampling events must be during dry weather if such discharge occurs. Otherwise, the measurement frequency may be satisfied by discharges caused by precipitation events. For months for which there is no discharge from Outfall 003C, the MMR/DMR should state 'No discharge'.

5. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 005, located at Latitude 38° 18' 24.4", Longitude -87° 42' 16.3". The discharge is limited to treated sanitary wastewater. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Emerson Ditch. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2]

Outfall 005

Table 1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Weekly Average	Units	Monthly Average	Weekly Average	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	----	----	----	1 X Weekly	24 Hr. Total
CBOD ₅	----	----	----	10.0	15.0	mg/l	1 X Weekly	Grab
TSS	----	----	----	12.0	18.0	mg/l	1 X Weekly	Grab
Phosphorus	----	----	----	1.0	----	mg/l	1 X Weekly	Grab
Ammonia, as N [3]								
Summer	----	----	----	1.1	1.6	mg/l	1 X Weekly	Grab
Winter	----	----	----	1.6	2.4	mg/l	1 X Weekly	Grab

Table 2

Parameter	Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
<i>E. coli</i> [4]	125 [5]	235 [6]	cfu/100 ml	1 X Weekly	Grab

Table 3

Parameter	Quality or Concentration				Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
pH [7]	6.0	----	9.0	s.u.	1 X Weekly	Grab
Dissolved Oxygen [3]						
Summer	6.0	----	----	mg/l	1 X Weekly	2 Grabs/24-Hrs. [8]
Winter	5.0	----	----	mg/l	1 X Weekly	2 Grabs/24-Hrs. [8]

[1] See Part I.B. of the permit for the minimum narrative limitations.

[2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: <https://www.in.gov/idem/forms/idem-agency-forms/>.

[3] Summer limitations apply from May 1 through November 30. Winter limitations apply from December 1 through April 30.

[4] The effluent shall be disinfected on a continuous basis such that violations of the applicable bacteriological limitations (fecal coliform or *E. coli*) do not occur from April 1 through October 31 annually.

IDEM has specified the following methods as allowable for the detection and enumeration of *Escherichia coli* (*E. coli*):

1. Coliscan MF[®] Method
2. EPA Method 1603 Modified m-TEC agar
3. mColi Blue-24[®].
4. Colilert[®] MPN Method or Colilert-18[®] MPN Method

[5] The monthly average *E. coli* value shall be calculated as a geometric mean. Per 327 IAC 5-10-6, the concentration of *E. coli* shall not exceed one hundred twenty-five (125) cfu or mpn per 100 milliliters as a geometric mean of the effluent samples taken in a calendar month. No samples may be excluded when calculating the monthly geometric mean.

[6] If less than ten samples are taken and analyzed for *E. coli* in a calendar month, no samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. However, when ten (10) or more samples are taken and analyzed for *E. coli* in a calendar month, not more than ten percent (10%) of those samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. When calculating ten percent, the result must not be rounded up. In reporting for compliance purposes on the Discharge Monitoring Report (DMR) form, the permittee shall record the highest non-excluded value for the daily maximum.

[7] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

- [8] The daily minimum concentration of dissolved oxygen in the effluent shall be reported as the arithmetic mean determined by summation of the two (2) daily grab sample results divided by the number of daily grab samples. These samples are to be collected over equal time intervals or over an equal span of time during operator attendance.

6. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 006, located at Latitude 38° 19' 33", Longitude -87° 42' 53". The discharge is limited to flow augmented underground coal mine water. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Emerson Ditch. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]
Outfall 006

Table 1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency [4]	Sample Type
Flow	Report	Report	MGD	----	----	----	1 X Daily	24 Hr. Total
Augment Water Flow	Report	Report	MGD	----	----	----	1 X Daily	24 Hr. Total
Total Iron [5]	----	----	----	2.4	4.1	mg/l	2 X Monthly	Grab
Chloride	----	----	----	360	730	mg/l	1 X Weekly	Grab
Sulfate	----	----	----	Report	Report	mg/l	1 X Weekly	Grab
Hardness	----	----	----	Report	Report	mg/l	2 X Monthly	Grab
TSS	----	----	----	Report	Report	mg/l	2 X Monthly	Grab

Table 2

Parameter	Quality or Concentration				Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency [4]	Sample Type
pH [6]	6.0	----	9.0	s.u.	1 X Weekly	Grab

- [1] See Part I.B. of the permit for the minimum narrative limitations.
- [2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: <https://www.in.gov/idem/forms/idem-agency-forms/>.
- [3] Monitoring and sampling is required at Internal Outfall 106 whenever discharge from Internal Outfall 106 is directed to Outfall 006.

- [4] Monitoring and sampling are required when discharging. For months during which there is no discharge from Outfall 006, the MMR/DMR should state "No discharge".
- [5] The permittee shall measure and report the identified metal as total recoverable metal.
- [6] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

7. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Internal Outfall 106, located at Latitude 38° 18' 18.6", Longitude -87° 42' 21.7". The discharge is limited to underground coal mine water before flow augmentation with water from a freshwater well. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to flow augmentation. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS

Internal Outfall 106

Table 1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency [1]	Sample Type
Flow	Report	Report	MGD	----	----	----	1 X Daily	24 Hr. Total
Total Iron [2]	----	----	----	3.0	6.0	mg/l	2 X Monthly	Grab
TSS	----	----	----	35.0	70.0	mg/l	2 X Monthly	Grab

Table 2

Parameter	Quality or Concentration				Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency [1]	Sample Type
pH [3]	6.0	----	9.0	s.u.	1 X Weekly	Grab

- [1] Monitoring and sampling at Internal Outfall 106 is required when discharging via Outfall 006. For months during which there is no discharge from Outfall 006, the MMR/DMR should state "No discharge" for both Internal Outfall 106 and Outfall 006.
- [2] The permittee shall measure and report the identified metal as total recoverable metal.
- [3] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

8. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Internal Outfall 103, located at Latitude 38° 18' 19.5", Longitude -87° 42' 10.7". The discharge is limited to flow augmented underground coal mine water. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the make-up water pond. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS

Internal Outfall 103

Table 1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency [1]	Sample Type
Flow	Report	Report	MGD	----	----	----	1 X Daily	24 Hr. Total
Augment Water Flow	Report	Report	MGD	----	----	----	1 X Daily	24 Hr. Total
Chloride	----	----	----	Report	Report	mg/l	1 X Weekly	Grab
Sulfate	----	----	----	Report	Report	mg/l	1 X Weekly	Grab

[1] Monitoring and sampling are required when discharging. For months during which there is no discharge from Internal Outfall 103, the MMR/DMR should state "No discharge".

B. MINIMUM NARRATIVE LIMITATIONS

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

1. including waters within the mixing zone, to contain substances, materials, floating debris, oil, scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges that do any of the following:
 - a. will settle to form putrescent or otherwise objectionable deposits;
 - b. are in amounts sufficient to be unsightly or deleterious;
 - c. produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;
 - d. are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;
 - e. are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.
2. outside the mixing zone, to contain substances in concentrations that on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge flow and shall be taken at times which reflect the full range and concentration of effluent parameters normally expected to be present. Samples shall not be taken at times to avoid showing elevated levels of any parameters.

2. Monthly Reporting

The permittee shall submit monitoring reports to the Indiana Department of Environmental Management (IDEM) containing results obtained during the previous month and shall be submitted no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the month in which the permit becomes effective. These reports shall include, but not necessarily be

limited to, the Discharge Monitoring Report (DMR) and the Monthly Monitoring Report (MMR). All reports shall be submitted electronically by using the NetDMR application, upon registration, receipt of the NetDMR Subscriber Agreement, and IDEM approval of the proposed NetDMR Signatory. Access the NetDMR website (for initial registration and DMR/MMR submittal) via CDX at: <https://cdx.epa.gov/>. The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit. See Part II.C.10 of this permit for Future Electronic Reporting Requirements.

- a. Calculations that require averaging of measurements of daily values (both concentrations and mass) shall use an arithmetic mean, except the monthly average for *E. coli* shall be calculated as a geometric mean.
- b. Daily effluent values (both mass and concentration) that are less than the LOQ that are used to determine the monthly average effluent level shall be accommodated in calculation of the average using statistical methods that have been approved by the Commissioner.
- c. Effluent concentrations less than the LOD shall be reported on the Discharge Monitoring Report (DMR) forms as < (less than) the value of the LOD. For example, if a substance is not detected at a concentration of 0.1 µg/l, report the value as <0.1 µg/l.
- d. Effluent concentrations greater than or equal to the LOD and less than the LOQ that are reported on a DMR shall be reported as the actual value and annotated on the DMR to indicate that the value is not quantifiable.
- e. Mass discharge values which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge value.
- f. Mass discharge values that are calculated from effluent concentrations greater than the limit of detection shall be reported as the calculated value.

3. Definitions

- a. "Monthly Average" means the total mass or flow-weighted concentration of all daily discharges during a calendar month on which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar month.

The monthly average discharge limitation is the highest allowable average monthly discharge for any calendar month.

- b. “Daily Discharge” means the total mass of a pollutant discharged during the calendar day or, in the case of a pollutant limited in terms other than mass pursuant to 327 IAC 5-2-11(e), the average concentration or other measurement of the pollutant specified over the calendar day or any twenty-four-hour period that reasonably represents the calendar day for the purposes of sampling.
- c. “Daily Maximum” means the maximum allowable daily discharge for any calendar day.
- d. A “24-hour composite sample” means a sample consisting of at least 3 individual flow-proportioned samples of wastewater, taken by the grab sample method or by an automatic sampler, which are taken at approximately equally spaced time intervals for the duration of the discharge within a 24-hour period and which are combined prior to analysis. A flow-proportioned composite sample may be obtained by:
 - (1) recording the discharge flow rate at the time each individual sample is taken,
 - (2) adding together the discharge flow rates recorded from each individuals sampling time to formulate the “total flow” value,
 - (3) the discharge flow rate of each individual sampling time is divided by the total flow value to determine its percentage of the total flow value,
 - (4) then multiply the volume of the total composite sample by each individual sample’s percentage to determine the volume of that individual sample which will be included in the total composite sample.
- e. “Concentration” means the weight of any given material present in a unit volume of liquid. Unless otherwise indicated in this permit, concentration values shall be expressed in milligrams per liter (mg/l).
- f. The “Regional Administrator” is defined as the Region 5 Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.
- g. The “Commissioner” is defined as the Commissioner of the Indiana Department of Environmental Management, which is located at the

following address: 100 North Senate Avenue, Indianapolis, Indiana 46204.

- h. "Limit of Detection" or "LOD" means the minimum concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix.
- i. "Limit of Quantitation" or "LOQ" means a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration above the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant. This term is also sometimes called limit of quantification or quantification level.
- j. "Method Detection Level" or "MDL" means the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by procedure set forth in 40 CFR 136, Appendix B. The method detection level or MDL is equivalent to the LOD.
- k. "Precipitation event" means a rainfall, snow melt, or ice melt which causes a discharge or an increase in the volume of a discharge.
- l. "Precipitation volume" means the 24-hour accumulation (in inches) of the precipitation event that caused the discharge or increase in volume of the discharge.
- m. "Grab Sample" means a sample which is taken from a wastestream on a one-time basis without consideration of the flow rate of the wastestream and without considerations of time.

4. Test Procedures

The analytical and sampling methods used shall conform to the version of 40 CFR 136 incorporated by reference in 327 IAC 5. Different but equivalent methods are allowable if they receive the prior written approval of the Commissioner and the U.S. Environmental Protection Agency. When more than one test procedure is approved for the purposes of the NPDES program under 40 CFR 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 122.21(e)(3) and 122.44(i)(1)(iv).

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall maintain records of all monitoring information and monitoring activities, including:

- a. The date, exact place and time of sampling or measurement;
- b. The person(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The person(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such measurements and analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of this monitoring shall be included in the calculation and reporting of the values required in the monthly Discharge Monitoring Report (DMR) and Monthly Monitoring Report (MMR). Such increased frequency shall also be indicated. Other monitoring data not specifically required in this permit (such as internal process or internal waste stream data) which is collected by or for the permittee need not be submitted unless requested by the Commissioner.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three years shall be extended:

- a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or
- b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

D. STORMWATER MONITORING AND NON-NUMERIC EFFLUENT LIMITS

The permittee shall implement the non-numeric permit conditions in this Section of the permit for the entire site as it relates to stormwater associated with industrial activity regardless which outfall the stormwater is discharged from.

1. Control Measures and Effluent Limits

In the technology-based limits included in Part D.2-4., the term “minimize” means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.

2. Control Measures

Select, design, install, and implement control measures (including best management practices) to address the selection and design considerations in Part D.3 to meet the non-numeric effluent limits in Part D.4. The selection, design, installation, and implementation of these control measures must be in accordance with good engineering practices and manufacturer’s specifications. Any deviation from the manufacturer’s specifications shall be documented. If the control measures are not achieving their intended effect in minimizing pollutant discharges, the control measures must be modified as expeditiously as practicable. Regulated stormwater discharges from the facility include stormwater run-on that commingles with stormwater discharges associated with industrial activity at the facility.

3. Control Measure Selection and Design Considerations

When selecting and designing control measures consider the following:

- a. preventing stormwater from coming into contact with polluting materials is generally more effective, and cost-effective, than trying to remove pollutants from stormwater;
- b. use of control measures in combination is more effective than use of control measures in isolation for minimizing pollutants in stormwater discharge;
- c. assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;
- d. minimizing impervious areas at your facility and infiltrating runoff

onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches), can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care must be taken to avoid groundwater contamination;

- e. flow can be attenuated by use of open vegetated swales and natural depressions;
- f. conservation and/or restoration of riparian buffers will help protect streams from stormwater runoff and improve water quality; and
- g. use of treatment interceptors (e.g. swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

4. Technology-Based Effluent Limits (BPT/BAT/BCT): Non-Numeric Effluent Limits:

a. Minimize Exposure

Minimize the exposure of raw, final, or waste materials to rain, snow, snowmelt, and runoff. To the extent technologically available and economically practicable and achievable, either locate industrial materials and activities inside or protect them with storm resistant coverings in order to minimize exposure to rain, snow, snowmelt, and runoff (although significant enlargement of impervious surface area is not recommended). In minimizing exposure, pay particular attention to the following areas:

Loading and unloading areas: locate in roofed or covered areas where feasible; use grading, berming, or curbing around the loading area to divert run-on; locate the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems.

Material storage areas: locate indoors, or in roofed or covered areas where feasible; install berms/dikes around these areas; use dry cleanup methods.

Note: Industrial materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged to receiving waters.

b. Good Housekeeping

Keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and stowing materials in appropriate containers.

As part of the developed good housekeeping program, include a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, especially areas where material loading and unloading, storage, handling, and processing occur; and where practicable, the paving of areas where vehicle traffic or material storage occur but where vegetative or other stabilization methods are not practicable (institute a sweeping program in these areas too). For unstabilized areas where sweeping is not practicable, consider using stormwater management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, or other equivalent measures that effectively trap or remove sediment.

c. Maintenance

Maintain all control measures which are used to achieve the effluent limits required by this permit in effective operating condition. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If control measures need to be replaced or repaired, make the necessary repairs or modifications as expeditiously as practicable.

d. Spill Prevention and Response Procedures

You must minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, you must implement:

- (1) Procedures for plainly labeling containers (e.g., "Used Oil", "Spent Solvents", "Fertilizers and Pesticides", etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
- (2) Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;

- (3) Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of your stormwater pollution prevention team;
- (4) Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies. State or local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies. Contact information must be in locations that are readily accessible and available;
- (5) Procedures for documenting where potential spills and leaks could occur that could contribute pollutants to stormwater discharges, and the corresponding outfalls that would be affected by such spills and leaks; and
- (6) A procedure for documenting all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance.

e. Erosion and Sediment Controls

Through the use of structural and/or non-structural control measures stabilize, and contain runoff from, exposed areas to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants. Among other actions to meet this limit, place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to check out information from both the State and EPA websites. The following two websites are given as information sources:

<https://www.in.gov/idem/stormwater/resources/indiana-storm-water-quality-manual/>

and

<https://www.epa.gov/npdes/stormwater-discharges-industrial-activities>

f. Management of Runoff

Divert, infiltrate, reuse, contain or otherwise reduce stormwater runoff, to minimize pollutants in the discharge.

g. Salt Storage Piles or Piles Containing Salt

Enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces. You must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered if stormwater runoff from the piles is not discharged.

h. Waste, Garbage, and Floatable Debris

Ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged.

i. Employee Training

Train all employees who work in areas where industrial material or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your Pollution Prevention Team. Training must cover the specific control measures used to achieve the effluent limits in this part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit.

j. Non-Stormwater Discharges

You must determine if any non-stormwater discharges not authorized by an NPDES permit exist. Any non-stormwater discharges discovered must either be eliminated or modified into this permit. The following non-storm water discharges are authorized and must be documented in the Stormwater Pollution Prevention Plan:

- Discharges from fire-fighting activities;
- Fire Hydrant flushings;
- Potable water, including water line flushings;
- Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;

Pavement wash water where no detergents are used and no spills or leaks of toxic or hazardous material have occurred (unless all spilled material has been removed);
Routine external building washdown that does not use detergents;
Uncontaminated groundwater or spring water;
Foundation or footing drains where flows are not contaminated with process materials;
Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from cooling towers (e.g., "piped cooling tower blowdown or drains);
Vehicle wash- waters where uncontaminated water without detergents or solvents is utilized; and
Runoff from the use of dust suppressants approved for use by IDEM.

k. Dust Generation and Vehicle Tracking of Industrial Materials

You must minimize generation of dust and off-site tracking of raw, final, or waste materials.

l. Fugitive Dust Emission.

Minimize fugitive dust emissions from coal handling areas. To minimize the tracking of coal dust offsite, consider procedures such as installing specially designed tires or washing vehicles in a designated area before they leave the site and controlling the wash water.

m. Delivery Vehicles

Minimize contamination of stormwater runoff from delivery vehicles arriving at the plant site. Consider procedures to inspect delivery vehicles arriving at the plant site and ensure overall integrity of the body or container and procedures to deal with leakage or spillage from vehicles or containers.

n. Miscellaneous Loading and Unloading Areas

Minimize contamination of precipitation or surface runoff from loading and unloading areas. Consider covering the loading area; grading, berming, or curbing around the loading area to divert run-on; locating the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems; or equivalent procedures.

o. Liquid Storage Tanks

Minimize contamination of surface runoff from aboveground liquid storage tanks. Consider protective guards around tanks, containment curbs, spill and overflow protection, dry cleanup methods, or equivalent measures.

p. Spill Reduction Measures

Minimize the potential for an oil or chemical spill, or reference the appropriate part of your SPCC plan. Visually inspect as part of your routine facility inspection the structural integrity of all aboveground tanks, pipelines, pumps, and related equipment that may be exposed to stormwater, and make any necessary repairs immediately.

q. Oil-Bearing Equipment in Switchyards

Minimize contamination of surface runoff from oil-bearing equipment in switchyard areas. Consider using level grades and gravel surfaces to retard flows and limit the spread of spills, or collecting runoff in perimeter ditches.

5. Annual Review

At least once every twelve (12) months, you must review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limitations in this permit. You must document the results of your review in a report that shall be retained within the SWPPP. You must also submit the report to the Industrial NPDES Permit Section, as well as the Compliance Branch, on an annual basis. The report may be submitted by email to the Industrial NPDES Permit Section at OWQWWPER@idem.in.gov and to the Compliance Branch at wwReports@idem.in.gov. The email subject line should include the NPDES Permit # and the type of report being submitted (Annual Stormwater Report). The permittee's first annual review report will be due twelve (12) months from the effective date of the permit. All subsequent annual review reports will be due no later than the anniversary of the effective date of the permit.

6. Corrective Actions – Conditions Requiring Review

- a. If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to ensure that the condition is eliminated and will not be repeated:

- (1) an unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this NPDES permit) occurs at this facility;
 - (2) it is determined that your control measures are not stringent enough for the discharge to meet applicable water quality standards;
 - (3) it is determined in your routine facility inspection, an inspection by EPA or IDEM, comprehensive site evaluation, or the Annual Review required in Part D.5 that modifications to the control measures are necessary to meet the effluent limits in this permit or that your control measures are not being properly operated and maintained; or
 - (4) Upon written notice by the Commissioner that the control measures prove to be ineffective in controlling pollutants in stormwater discharges exposed to industrial activity.
- b. If construction or a change in design, operation, or maintenance at your facility significantly changes the nature of pollutants discharged in stormwater from your facility, or significantly increases the quantity of pollutants discharged, you must review and revise the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limits in this permit.

7. Corrective Action Deadlines

You must document your discovery of any of the conditions listed in Part I.D.6 within thirty (30) days of making such discovery. Subsequently, within one-hundred and twenty (120) days of such discovery, you must document any corrective action(s) to be taken to eliminate or further investigate the deficiency or if no corrective action is needed, the basis for that determination. Specific documentation required within 30 and 120 days is detailed below. If you determine that changes to your control measures are necessary following your review, any modifications to your control measures must be made before the next storm event if possible, or as soon as practicable following that storm event. These time intervals are not grace periods, but schedules considered reasonable for the documenting of your findings and for making repairs and improvements. They are included in this permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely.

8. Corrective Action Report

- a. Within 30 days of a discovery of any condition listed in Part I.D.6, you must document the following information:
- (1) Brief description of the condition triggering corrective action;
 - (2) Date condition identified; and
 - (3) How deficiency identified.
- b. Within 120 days of discovery of any condition listed in Part I.D.6, you must document the following information:
- (1) Summary of corrective action taken or to be taken (or, for triggering events identified in Part I.D.6.b.(1), where you determine that corrective action is not necessary, the basis for this determination)
 - (2) Notice of whether SWPPP modifications are required as a result of this discovery or corrective action;
 - (3) Date corrective action initiated; and
 - (4) Date corrective action completed or expected to be completed.

9. Inspections

The inspections in this part must be conducted at this facility when the facility is operating. Any corrective action required as a result of an inspection or evaluation conducted under Part I.D.9. must be performed consistent with Part I.D.6 of this permit.

a. Quarterly Inspections

At a minimum, quarterly inspections of the stormwater management measures and stormwater run-off conveyances. The routine inspections must be performed by qualified personnel with at least one member of your stormwater pollution prevention team. Inspections must be documented and either contained in, or have the on-site record keeping location referenced in, the SWPPP.

As part of the routine inspections, address all potential sources of pollutants, including (if applicable) air pollution control equipment (e.g., baghouses, electrostatic precipitator, scrubbers, and cyclones), for any signs of degradation (e.g., leaks, corrosion, or improper operation)

that could limit their efficiency and lead to excessive emissions.

As part of your inspection, inspect the following areas monthly: coal handling areas, loading or unloading areas, switchyards, fueling areas, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks, and long term and short term material storage areas.

Consider monitoring air flow at inlets and outlets (or use equivalent measures) to check for leaks (e.g., particulate deposition) or blockage in ducts. Also inspect all process and material handling equipment (e.g., conveyors, cranes, and vehicles) for leaks, drips, or the potential loss of material; and material storage areas (e.g., piles, bins, or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks and drums) for signs of material loss due to wind or stormwater runoff.

Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part I.E.2.b of this permit and pollution prevention measures and controls identified in the plan in accordance with Part I.D.4. of this permit shall be revised as appropriate within the timeframes contained in Part I.D.7 of this permit.

b. Annual Routine Facility Inspections

At least once during the calendar year, a routine facility inspection must be conducted while a discharge is occurring. You must document the findings of each routine facility inspection performed and maintain this documentation with your SWPPP or have the on-site record keeping location referenced in the SWPPP. At a minimum, your documentation must include:

- (1) The inspection date and time;
- (2) The name(s) and signature(s) of the inspectors;
- (3) Weather information and a description of any discharges occurring at the time of the inspection;
- (4) Any previously unidentified discharges of pollutants from the site;
- (5) Any control measures needing maintenance or repairs;
- (6) Any failed control measures that need replacement;

- (7) Any incidents of noncompliance observed; and
- (8) Any additional control measures needed to comply with the permit requirements.

c. Annual Comprehensive Site Compliance Evaluation

Qualified personnel and at least one member of your Pollution Prevention Team shall conduct a comprehensive site compliance evaluation, at least once per year, to confirm the accuracy of the description of potential pollution sources contained in the plan, determine the effectiveness of the plan, and assess compliance with the permit. Such evaluations shall provide:

- (1) Areas contributing to a stormwater discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural stormwater management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.
- (2) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the stormwater pollution prevention plan, and actions taken in accordance with the above paragraph must be documented and either contained in, or have on-site record keeping location referenced in, the SWPPP at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the stormwater pollution prevention plan and this permit. The report shall be signed in accordance with the signatory requirements of Part II.C.6 of this permit.
- (3) Where compliance evaluation schedules overlap the inspections required under this part, the compliance evaluation may be conducted in place of one such inspection.

E. STORMWATER POLLUTION PREVENTION PLAN

1. Development of Plan

Within 12 months from the effective date of this permit, the permittee is required to revise and update the current Stormwater Pollution Prevention Plan (SWPPP) for the permitted facility. The plan shall at a minimum include the following:

- a. Identify potential sources of pollution, which may reasonably be expected to affect the quality of stormwater discharges associated with industrial activity from the facility. Stormwater associated with industrial activity (defined in 40 CFR 122.26(b)(14)) includes, but is not limited to, the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or materials storage areas at an industrial plant;
- b. Describe practices and measure to be used in reducing the potential for pollutants to be exposed to stormwater; and
- c. Assure compliance with the terms and conditions of this permit.

2. Contents

The plan shall include, at a minimum, the following items:

- a. Pollution Prevention Team -The plan shall list, by position title, the member or members of the facility organization as members of a Stormwater Pollution Prevention Team who are responsible for developing the stormwater pollution prevention plan (SWPPP) and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each stormwater pollution prevention team member. Each member of the stormwater pollution prevention team must have ready access to either an electronic or paper copy of applicable portions of this permit and your SWPPP.
- b. Description of Potential Pollutant Sources – The plan shall provide a description of areas at the site exposed to industrial activity and have a reasonable potential for stormwater to be exposed to pollutants. The plan shall identify all activities and significant materials (defined in 40 CFR 122.26(b)), which may potentially be significant pollutant sources. As a minimum, the plan shall contain the following:

- (1) A soils map indicating the types of soils found on the facility property and showing the boundaries of the facility property.
- (2) A graphical representation, such as an aerial photograph or site layout maps, drawn to an appropriate scale, which contains a legend and compass coordinates, indicating, at a minimum, the following:
 - (A) All on-site stormwater drainage and discharge conveyances, which may include pipes, ditches, swales, and erosion channels, related to a stormwater discharge.
 - (B) Known adjacent property drainage and discharge conveyances, if directly associated with run-off from the facility.
 - (C) All on-site and known adjacent property water bodies, including wetlands and springs.
 - (D) An outline of the drainage area for each outfall.
 - (E) An outline of the facility property, indicating directional flows, via arrows, of surface drainage patterns.
 - (F) An outline of impervious surfaces, which includes pavement and buildings, and an estimate of the impervious and pervious surface square footage for each drainage area placed in a map legend.
 - (G) On-site injection wells, as applicable.
 - (H) On-site wells used as potable water sources, as applicable.
 - (I) All existing major structural control measures to reduce pollutants in stormwater run-off.
 - (J) All existing and historical underground or aboveground storage tank locations, as applicable.
 - (K) All permanently designated plowed or dumped snow storage locations.
 - (L) All loading and unloading areas for solid and liquid bulk materials.

- (M) All existing and historical outdoor storage areas for raw materials, intermediary products, final products, and waste materials. Include materials handled at the site that potentially may be exposed to precipitation or runoff, areas where deposition of particulate matter from process air emissions or losses during material-handling activities.
 - (N) All existing or historical outdoor storage areas for fuels, processing equipment, and other containerized materials, for example, in drums and totes.
 - (O) Outdoor processing areas.
 - (P) Dust or particulate generating process areas.
 - (Q) Outdoor assigned waste storage or disposal areas.
 - (R) Pesticide or herbicide application areas.
 - (S) Vehicular access roads.
 - (T) Identify any storage or disposal of wastes such as spent solvents and baths, sand, slag and dross; liquid storage tanks and drums; processing areas including pollution control equipment (e.g., baghouses); and storage areas of raw material such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. In addition, indicate where an accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions, losses from coal and coke handling operation, etc., and could result in a discharge of pollutants.
 - (U) The mapping of historical locations is only required if the historical locations have a reasonable potential for stormwater exposure to historical pollutants.
- (3) An area site map that indicates:
- (A) The topographic relief or similar elevations to determine surface drainage patterns;
 - (B) The facility boundaries;
 - (C) All receiving waters;

(D) All known drinking water wells; and

Includes at a minimum, the features in clauses (A), (C), and (D) within a one-fourth (1/4) mile radius beyond the property boundaries of the facility. This map must be to scale and include a legend and compass coordinates.

(4) A narrative description of areas that generate stormwater discharges exposed to industrial activity including descriptions for any existing or historical areas listed in subdivision 2.b.(2)(J) through (T) of this Part, and any other areas thought to generate stormwater discharges exposed to industrial activity. The narrative descriptions for each identified area must include the following:

(A) Type and typical quantity of materials present in the area.

(B) Methods of storage, including presence of any secondary containment measures.

(C) Any remedial actions undertaken in the area to eliminate pollutant sources or exposure of stormwater to those sources. If a corrective action plan was developed, the type of remedial action and plan date shall be referenced.

(D) Any significant release or spill history dating back a period of three (3) years from the effective date of this permit, in the identified area, for materials spilled outside of secondary containment structures and impervious surfaces in excess of their reportable quantity, including the following:

i. The date and type of material released or spilled.

ii. The estimated volume released or spilled.

iii. A description of the remedial actions undertaken, including disposal or treatment.

Depending on the adequacy or completeness of the remedial actions, the spill history shall be used to determine additional pollutant sources that may be exposed to stormwater. In subsequent permit terms, the

history shall date back for a period of five (5) years from the date of the permit renewal application.

- (E) Where the chemicals or materials have the potential to be exposed to stormwater discharges, the descriptions for each identified area must include a risk identification analysis of chemicals or materials stored or used within the area. The analysis must include the following:
- i. Toxicity data of chemicals or materials used within the area, referencing appropriate material safety data sheet information locations.
 - ii. The frequency and typical quantity of listed chemicals or materials to be stored within the area.
 - iii. Potential ways in which stormwater discharges may be exposed to listed chemicals and materials.
 - iv. The likelihood of the listed chemicals and materials to come into contact with water.

- (5) A narrative description of existing and planned management practices and measures to improve the quality of stormwater run-off entering a water of the state. Descriptions must be created for existing or historical areas listed in subdivision 2.b.(2)(J) through (T) and any other areas thought to generate stormwater discharges exposed to industrial activity. The description must include the following:

- (A) Any existing or planned structural and nonstructural control practices and measures.
- (B) Any treatment the stormwater receives prior to leaving the facility property or entering a water of the state.
- (C) The ultimate disposal of any solid or fluid wastes collected in structural control measures other than by discharge.
- (D) Describe areas that due to topography, activities, or other factors have a high potential for significant soil erosion.

- (E) Document the location of any storage piles containing salt used for deicing.
 - (F) Information or other documentation required under Part I.E.2(d) of this permit.
- (6) The results of stormwater monitoring. The monitoring data must include completed field data sheets, chain-of-custody forms, and laboratory results. If the monitoring data are not placed into the facility's SWPPP, the on-site location for storage of the information must be reference in the SWPPP.
- (7) Drainage Area Site Map. Document in your SWPPP the locations of any of the following activities or sources that may be exposed to precipitation or surface runoff: storage tanks, scrap yards, and general refuse areas; short- and long-term storage of general materials (including but not limited to supplies, construction materials, paint equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizer, and pesticides); landfills and construction sites; and stock pile areas (e.g., coal or limestone piles).
- (8) Documentation of Good Housekeeping Measures. You must document in your SWPPP the good housekeeping measures implemented to meet the effluent limits in Part I.D.4 of this NPDES permit.
- c. Non-Stormwater Discharges – You must document that you have evaluated for the presence of non-stormwater discharges not authorized by an NPDES permit. Any non-stormwater discharges have either been eliminated or incorporated into this permit. Documentation of non-stormwater discharges shall include:
- (1) A written non-stormwater assessment, including the following:
 - (A) A certification letter stating that stormwater discharges entering a water of the state have been evaluated for the presence of illicit discharges and non-stormwater contributions.
 - (B) Detergent or solvent-based washing of equipment or vehicles that would allow washwater additives to enter any stormwater only drainage system shall not be allowed at this facility unless appropriately permitted under this NPDES permit.

- (C) All interior maintenance area floor drains with the potential for maintenance fluids or other materials to enter stormwater only storm sewers must be either sealed, connected to a sanitary sewer with prior authorization, or appropriately permitted under this NPDES permit. The sealing, sanitary sewer connecting, or permitting of drains under this item must be documented in the written non-stormwater assessment program.
 - (D) The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during the test.
- d. General Requirements – The SWPPP must meet the following general requirements:
- (1) The plan shall be certified by a qualified professional. The term qualified professional means an individual who is trained and experienced in water treatment techniques and related fields as may be demonstrated by state registration, professional certification, or completion of course work that enable the individual to make sound, professional judgments regarding stormwater control/treatment and monitoring, pollutant fate and transport, and drainage planning.
 - (2) The plan shall be retained at the facility and be available for review by a representative of the Commissioner upon request. IDEM may provide access to portions of your SWPPP to the public.
 - (3) The plan must be revised and updated as required. Revised and updated versions of the plan must be implemented on or before three hundred sixty-five (365) days from the effective date of this permit. The Commissioner may grant an extension of this time frame based on a request by the person showing reasonable cause.
 - (4) If the permittee has other written plans, required under applicable federal or state law, such as operation and maintenance, spill prevention control and countermeasures (SPCC), or risk contingency plans, which fulfill certain requirements of an SWPPP, these plans may be referenced, at the permittee's discretion, in the appropriate sections of the SWPPP to meet those section requirements.

- (5) The permittee may combine the requirements of the SWPPP with another written plan if:
 - (A) The plan is retained at the facility and available for review;
 - (B) All the requirements of the SWPPP are contained within the plan; and
 - (C) A separate, labeled section is utilized in the plan for the SWPPP requirements.

F. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for Chloride at Outfall 003C in accordance with the following schedule:
 - a. The permittee shall submit a written progress report to the Compliance Data Section of the Office of Water Quality (OWQ) nine (9) months from the effective date of this permit. The progress report shall include a description of the method(s) selected for meeting the newly imposed limitation for Chloride, in addition to any other relevant information. The progress report shall also include a specific time line specifying when each of the steps will be taken. The new effluent limits for Chloride are deferred for the term of this compliance schedule, unless the new effluent limits can be met at an earlier date. The permittee shall notify the Compliance Data Section of OWQ as soon as the newly imposed effluent limits for Chloride can be met. Upon receipt of such notification by OWQ, the final limits for Chloride will become effective, but no later than thirty-six (36) months from the effective date of this permit. Monitoring and reporting of the effluent for these parameters is required during the interim period.
 - b. The permittee shall submit a subsequent progress report to the Compliance Data Section of OWQ no later than eighteen (18) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.
 - c. The permittee shall submit a subsequent progress report to the Compliance Data Section of OWQ no later than twenty-seven (27) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve

compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.

- d. Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.
 - e. The permittee shall comply with the final effluent limitations for Chloride no later than thirty-six (36) months from the effective date of this permit.
2. If the permittee fails to comply with any deadline contained in the foregoing schedule, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Data Section of the OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance with final effluent limitations.

G. REOPENING CLAUSES

This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing:

1. to comply with any applicable effluent limitation or standard issued or approved under 301(b)(2)(C),(D) and (E), 304 (b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:
 - a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - b. controls any pollutant not limited in the permit.
2. for any of the causes listed under 327 IAC 5-2-16.
3. after receipt of NPDES application Form 2C Item V, Part C (Metals), (Cyanide) and (Total Phenols) scan to update effluent limitations based on the results of the scan.

PART II

STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all terms and conditions of this permit in accordance with 327 IAC 5-2-8(1) and all other requirements of 327 IAC 5-2-8. Any permit noncompliance constitutes a violation of the Clean Water Act and IC 13 and is grounds for enforcement action or permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

2. Duty to Mitigate

In accordance with 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this permit. During periods of noncompliance, the permittee shall conduct such accelerated or additional monitoring for the affected parameters, as appropriate or as requested by IDEM, to determine the nature and impact of the noncompliance.

3. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must obtain and submit an application for renewal of this permit in accordance with 327 IAC 5-2-8(2). It is the permittee's responsibility to obtain and submit the application. In accordance with 327 IAC 5-2-3(c), the owner of the facility or operation from which a discharge of pollutants occurs is responsible for applying for and obtaining the NPDES permit, except where the facility or operation is operated by a person other than an employee of the owner in which case it is the operator's responsibility to apply for and obtain the permit. Pursuant to 327 IAC 5-3-2(a)(2), the application must be submitted at least 180 days before the expiration date of this permit. This deadline may be extended if all of the following occur:

- a. permission is requested in writing before such deadline;
- b. IDEM grants permission to submit the application after the deadline; and
- c. the application is received no later than the permit expiration date.

4. Permit Transfers

In accordance with 327 IAC 5-2-8(4)(D), this permit is nontransferable to any person except in accordance with 327 IAC 5-2-6(c). This permit may be transferred to another person by the permittee, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

- a. the current permittee notified the Commissioner at least thirty (30) days in advance of the proposed transfer date;
- b. a written agreement containing a specific date of transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgment that the existing permittee is liable for violations up to that date, and the transferee is liable for violations from that date on) is submitted to the Commissioner;
- c. the transferee certifies in writing to the Commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the Commissioner may allow a temporary transfer of the permit without permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility; and
- d. the Commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act or state law.

5. Permit Actions

- a. In accordance with 327 IAC 5-2-16(b) and 327 IAC 5-2-8(4), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:
 - (1) Violation of any terms or conditions of this permit;
 - (2) Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts in the application, or during the permit issuance process; or

- (3) A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit, e.g., plant closure, termination of discharge by connection to a POTW, a change in state law that requires the reduction or elimination of the discharge, or information indicating that the permitted discharge poses a substantial threat to human health or welfare.
- b. Filing of either of the following items does not stay or suspend any permit condition: (1) a request by the permittee for a permit modification, revocation and reissuance, or termination, or (2) submittal of information specified in Part II.A.3 of the permit including planned changes or anticipated noncompliance.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility that:

- (1) could significantly change the nature of, or increase the quantity of pollutants discharged; or
 - (2) the commissioner may request to evaluate whether such cause exists.
- c. In accordance with 327 IAC 5-1-3(a)(5), the permittee must also provide any information reasonably requested by the Commissioner.

6. Property Rights

Pursuant to 327 IAC 5-2-8(6) and 327 IAC 5-2-5(b), the issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to persons or private property or invasion of other private rights, any infringement of federal, state, or local laws or regulations. The issuance of the permit also does not preempt any duty to obtain any other state, or local assent required by law for the discharge or for the construction or operation of the facility from which a discharge is made.

7. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstance is held invalid, the invalidity shall not affect any other provisions or applications of the permit which can be given effect without the invalid provision or application.

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

9. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act or state law.

10. Penalties for Violation of Permit Conditions

Pursuant to IC 13-30-4, a person who violates any provision of this permit, the water pollution control laws; environmental management laws; or a rule or standard adopted by the Environmental Rules Board is liable for a civil penalty not to exceed twenty-five thousand dollars (\$25,000) per day of any violation.

Pursuant to IC 13-30-5, a person who obstructs, delays, resists, prevents, or interferes with (1) the department; or (2) the department's personnel or designated agent in the performance of an inspection or investigation performed under IC 13-14-2-2 commits a class C infraction.

Pursuant to IC 13-30-10-1.5(e), a person who willfully or negligently violates any NPDES permit condition or filing requirement, or any applicable standards or limitations of IC 13-18-3-2.4, IC 13-18-4-5, IC 13-18-12, IC 13-18-14, IC 13-18-15, or IC 13-18-16, commits a Class A misdemeanor.

Pursuant to IC 13-30-10-1.5(i), an offense under IC 13-30-10-1.5(e) is a Level 4 felony if the person knowingly commits the offense and knows that the commission of the offense places another person in imminent danger of death or serious bodily injury. The offense becomes a Level 3 felony if it results in serious bodily injury to any person, and a Level 2 felony if it results in death to any person.

Pursuant to IC 13-30-10-1.5(g), a person who willfully or recklessly violates any applicable standards or limitations of IC 13-18-8 commits a Class B misdemeanor.

Pursuant to IC 13-30-10-1.5(h), a person who willfully or recklessly violates any applicable standards or limitations of IC 13-18-9, IC 13-18-10, or IC 13-18-10.5 commits a Class C misdemeanor.

Pursuant to IC 13-30-10-1, a person who knowingly or intentionally makes any false material statement, representation, or certification in any NPDES form, notice, or report commits a Class B misdemeanor.

11. Penalties for Tampering or Falsification

In accordance with 327 IAC 5-2-8(10), the permittee shall comply with monitoring, recording, and reporting requirements of this permit. The Clean Water Act, as well as IC 13-30-10-1, provides that any person who knowingly or intentionally (a) destroys, alters, conceals, or falsely certifies a record, (b) tampers with, falsifies, or renders inaccurate or inoperative a recording or monitoring device or method, including the data gathered from the device or method, or (c) makes a false material statement or representation in any label, manifest, record, report, or other document; all required to be maintained under the terms of a permit issued by the department commits a Class B misdemeanor.

12. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health, and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

13. Wastewater treatment plant and certified operators

The permittee shall have the wastewater treatment facilities under the responsible charge of an operator certified by the Commissioner in a classification corresponding to the classification of the wastewater treatment plant as required by IC 13-18-11-11 and 327 IAC 5-22. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7.

327 IAC 5-22-10.5(a) provides that a certified operator may be designated as being in responsible charge of more than one (1) wastewater treatment plant, if it can be shown that he will give adequate supervision to all units involved. Adequate supervision means that sufficient time is spent at the plant on a regular basis to assure that the certified operator is knowledgeable of the actual operations and that test reports and results are representative of the actual operations conditions. In accordance with 327 IAC 5-22-3(11), "responsible charge operator" means the person responsible for the overall daily operation, supervision, or management of a wastewater facility.

Pursuant to 327 IAC 5-22-10(4), the permittee shall notify IDEM when there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility. The notification shall be made no later than thirty (30) days after a change in the operator.

14. Construction Permit

In accordance with IC 13-14-8-11.6, a discharger is not required to obtain a state permit for the modification or construction of a water pollution treatment or control facility if the discharger has an effective NPDES permit.

If the discharger modifies their existing water pollution treatment or control facility or constructs a new water pollution treatment or control facility for the treatment or control of any new influent pollutant or increased levels of any existing pollutant, then, within thirty (30) days after commencement of operation, the discharger shall file with the Department of Environment Management a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

The notice and design summary shall be sent to the Office of Water Quality, Industrial NPDES Permits Section, 100 North Senate Avenue, Indianapolis, IN 46204-2251.

15. Inspection and Entry

In accordance with 327 IAC 5-2-8(8), the permittee shall allow the Commissioner, or an authorized representative, (including an authorized contractor acting as a representative of the Commissioner) upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept pursuant to the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment or methods (including monitoring and control equipment), practices, or operations regulated or required pursuant to this permit; and
- d. Sample or monitor at reasonable times, any discharge of pollutants or internal wastestreams for the purposes of evaluating compliance with the permit or as otherwise authorized.

16. New or Increased Discharge of Pollutants

This permit prohibits the permittee from undertaking any action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a regulated pollutant that is not a BCC unless one of the following is completed prior to the commencement of the action:

- a. Information is submitted to the Commissioner demonstrating that the proposed new or increased discharges will not cause a significant lowering of water quality as defined under 327 IAC 2-1.3-2(50). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.
- b. An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 2-1.3-5 and 327 IAC 2-1.3-6.

B. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for the collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8(9).

Neither 327 IAC 5-2-8(9), nor this provision, shall be construed to require the operation of installed treatment facilities that are unnecessary for achieving compliance with the terms and conditions of the permit.

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(12), the following are requirements for bypass:

- a. The following definitions:
 - (1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility.
 - (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

- b. The permittee may allow a bypass to occur that does not cause a violation of the effluent limitations contained in this permit, but only if it is also for essential maintenance to assure efficient operation. These bypasses are not subject to Part II.B.2.c. and d.
- c. The permittee must provide the Commissioner with the following notice:
 - (1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.
 - (2) As required by 327 IAC 5-2-8(11)(C), the permittee shall orally report an unanticipated bypass that exceeds any effluent limitations in the permit within twenty-four (24) hours from the time the permittee becomes aware of such noncompliance. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and if the cause of noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. If a complete report is submitted by e-mail within 24 hours of the noncompliance, then that e-mail report will satisfy both the oral and written reporting requirement. E-mails should be sent to wwreports@idem.in.gov.
- d. The following provisions are applicable to bypasses:
 - (1) Except as provided by Part II.B.2.b., bypass is prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless the following occur:
 - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.
 - (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance.

- (C) The permittee submitted notices as required under Part II.B.2.c.
- (2) The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.d.(1). The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.
- e. Bypasses that result in death or acute injury or illness to animals or humans must be reported in accordance with the “Spill Response and Reporting Requirements” in 327 IAC 2-6.1, including calling 888/233-7745 as soon as possible, but within two (2) hours of discovery. However, under 327 IAC 2-6.1-3(1), when the constituents of the bypass are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

3. Upset Conditions

Pursuant to 327 IAC 5-2-8(13):

- a. “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this section, are met.
- c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:
 - (1) An upset occurred and the permittee has identified the specific cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee complied with any remedial measures required under Part II.A.2; and

(4) The permittee submitted notice of the upset as required in the "Twenty-Four Hour Reporting Requirements," Part II.C.3, or 327 IAC 2-6.1, whichever is applicable. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

d. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof pursuant to 40 CFR 122.41(n)(4).

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal. The discharge of pollutants in treated wastewater is allowed in compliance with the applicable effluent limitations in Part I. of this permit.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(11)(F), the permittee shall give notice to the Commissioner as soon as possible of any planned physical alterations or additions to the permitted facility. In this context, permitted facility refers to a point source discharge, not a wastewater treatment facility. Notice is required only when either of the following applies:

- a. The alteration or addition may meet one of the criteria for determining whether the facility is a new source as defined in 327 IAC 5-1.5.
- b. The alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in Part I.A. nor to notification requirements in Part II.C.9. of this permit.

Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(10) and 327 IAC 5-2-13 through 15, monitoring results shall be reported at the intervals and in the form specified in “Monthly Reporting”, Part I.C.2.

3. Twenty-Four Hour Reporting Requirements

Pursuant to 327 IAC 5-2-8(11)(C), the permittee shall orally report to the Commissioner information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance. If the noncompliance meets the requirements of item b (Part II.C.3.b) or 327 IAC 2-6.1, then the report shall be made within those prescribed time frames. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge that is in noncompliance are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

- a. Any unanticipated bypass which exceeds any effluent limitation in the permit;
- b. Any noncompliance which may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the noncomplying circumstances; or
- c. Any upset (as defined in Part II.B.3 above) that causes an exceedance of any effluent limitation in the permit.

The permittee can make the oral reports by calling (317)232-8670 during regular business hours and asking for the Compliance Data Section or by calling (317) 233-7745 ((888)233-7745 toll free in Indiana) during non-business hours. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Alternatively the permittee may submit a “Bypass/Overflow Report” (State Form 48373) or a “Noncompliance 24-Hour Notification Report” (State Form 52415), whichever is appropriate, to IDEM at (317) 232-8637 or wwreports@idem.in.gov. If a complete e-mail submittal is sent within 24 hours of the time that the permittee became aware of the

occurrence, then the email report will satisfy both the oral and written reporting requirements.

4. Other Compliance/Noncompliance Reporting

Pursuant to 327 IAC 5-2-8(11)(D), the permittee shall report any instance of noncompliance not reported under the "Twenty-Four Hour Reporting Requirements" in Part II.C.3, or any compliance schedules at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in Part II.C.3;

The permittee shall also give advance notice to the Commissioner of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements; and

All reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

5. Other Information

Pursuant to 327 IAC 5-2-8(11)(E), where the permittee becomes aware of a failure to submit any relevant facts or submitted incorrect information in a permit application or in any report, the permittee shall promptly submit such facts or corrected information to the Commissioner.

6. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(15):

- a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:
 - (1) For a corporation: by a responsible corporate officer. A "responsible corporate officer" means either of the following:
 - (A) A president, secretary, treasurer, any vice president of the corporation in charge of a principal business function, or any other person who performs similar policymaking or decision making functions for the corporation; or
 - (B) The manager of one (1) or more manufacturing, production, or operating facilities provided the manager is authorized to make management decisions that

govern the operation of the regulated facility including having the explicit or implicit duty to make major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

- (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - (3) For a Federal, State, or local governmental body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.
- b. A person is a duly authorized representative only if:
- (1) The authorization is made in writing by a person described above.
 - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - (3) The authorization is submitted to the Commissioner.
- c. **Electronic Signatures.** If documents described in this section are submitted electronically by or on behalf of the NPDES-regulated facility, any person providing the electronic signature for such documents shall meet all relevant requirements of this section, and shall ensure that all of the relevant requirements of 40 CFR part 3 (including, in all cases, subpart D to part 3) (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission.
- d. **Certification.** Any person signing a document identified under Part II.C.6., shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

8. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(15) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance, shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

9. Changes in Discharge of Toxic Substances

Pursuant to 327 IAC 5-2-9, the permittee shall notify the Commissioner as soon as it knows or has reason to know:

- a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant that is not limited in the permit if that discharge will exceed the highest of the following notification levels.
 - (1) One hundred micrograms per liter (100 µg/l);
 - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

- (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
- (4) A notification level established by the Commissioner on a case-by-case basis, either at the Commissioner's own initiative or upon a petition by the permittee. This notification level may exceed the level specified in subdivisions (1), (2), or (3) but may not exceed the level which can be achieved by the technology-based treatment requirements applicable to the permittee under the CWA (see 327 IAC 5-5-2).

b. That it has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant that was not reported in the permit application under 40 CFR 122.21(g)(9). However, this subsection b. does not apply to the permittee's use or manufacture of a toxic pollutant solely under research or laboratory conditions.

10. Future Electronic Reporting Requirements

IDEM is currently developing the technology and infrastructure necessary to allow compliance with the EPA Phase 2 e-reporting requirements per 40 CFR 127.16 and to allow electronic reporting of applications, notices, plans, reports, and other information not covered by the federal e-reporting regulations. IDEM will notify the permittee when IDEM's e-reporting system is ready for use for one or more applications, notices, plans, reports, or other information. This IDEM notice will identify the specific applications, notices, plans, reports, or other information that are to be submitted electronically and the permittee will be required to use the IDEM electronic reporting system to submit the identified application(s), notice(s), plan(s), report(s), or other information. See Part I.C.2. of this permit for the current electronic reporting requirements for the submittal of monthly monitoring reports such as the Discharge Monitoring Report (DMR) and the Monthly Monitoring Report (MMR).



National Pollutant Discharge Elimination System
Briefing Memo for
Gibson County Coal, LLC – Gibson South Mine
Draft: November 2023
Final: TBD

Indiana Department of Environmental Management

100 North Senate Avenue
 Indianapolis, Indiana 46204
 (317) 232-8603
 Toll Free (800) 451-6027
www.idem.IN.gov

Permittee:	Gibson County Coal, LLC 3455 S County Road 700 W Owensville, Indiana 47665
Existing Permit Information:	Permit Number: IN0064157 Expiration Date: September 30, 2023
Facility Contact:	Peter Wissel, Project Engineer (812) 706-6619, peter.wissel@arlp.com
Facility Location:	3455 S County Road 700 W Owensville, Indiana Gibson County
Receiving Stream(s):	Emerson Ditch
GLI/Non-GLI:	Non-GLI
Proposed Permit Action:	Renew
Date Application Received:	April 3, 2023
Source Category:	NPDES Minor – Industrial
Permit Writer:	Heidi Etter (317) 233-4903, hetter@idem.in.gov

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1.0 INTRODUCTION

The Indiana Department of Environmental Management (IDEM) received a National Pollutant Discharge Elimination System (NPDES) Permit application from Gibson County Coal, LLC on April 17, 2023.

In accordance with 327 IAC 5-2-6(a), the current five-year permit was issued with an effective date of October 1, 2018. A five-year permit is proposed in accordance with 327 IAC 5-2-6(a).

The Federal Water Pollution Control Act (more commonly known as the Clean Water Act), as amended, (Title 33 of the United States Code (U.S.C.) Section 1251 *et seq.*), requires an NPDES permit for the discharge of pollutants into surface waters. Furthermore, Indiana law requires a permit to control or limit the discharge of any contaminants into state waters or into a publicly owned treatment works. This proposed permit action by IDEM complies with and implements these federal and state requirements.

In accordance with Title 40 of the Code of Federal Regulations (CFR) Section 124.7, as well as Title 327 of the Indiana Administrative Code (IAC) 327 Article 5-3-7, a Statement of Basis, or Briefing Memo, is required for certain NPDES permits. This document fulfills the requirements established in these regulations. This Briefing Memo was prepared in order to document the factors considered in the development of NPDES Permit effluent limitations. The technical basis for the Briefing Memo may consist of evaluations of promulgated effluent guidelines, existing effluent quality, receiving water conditions, Indiana water quality standards-based wasteload allocations, and other information available to IDEM. Decisions to award variances to Water Quality Standards or promulgated effluent guidelines are justified in the Briefing Memo where necessary.

2.0 FACILITY DESCRIPTION

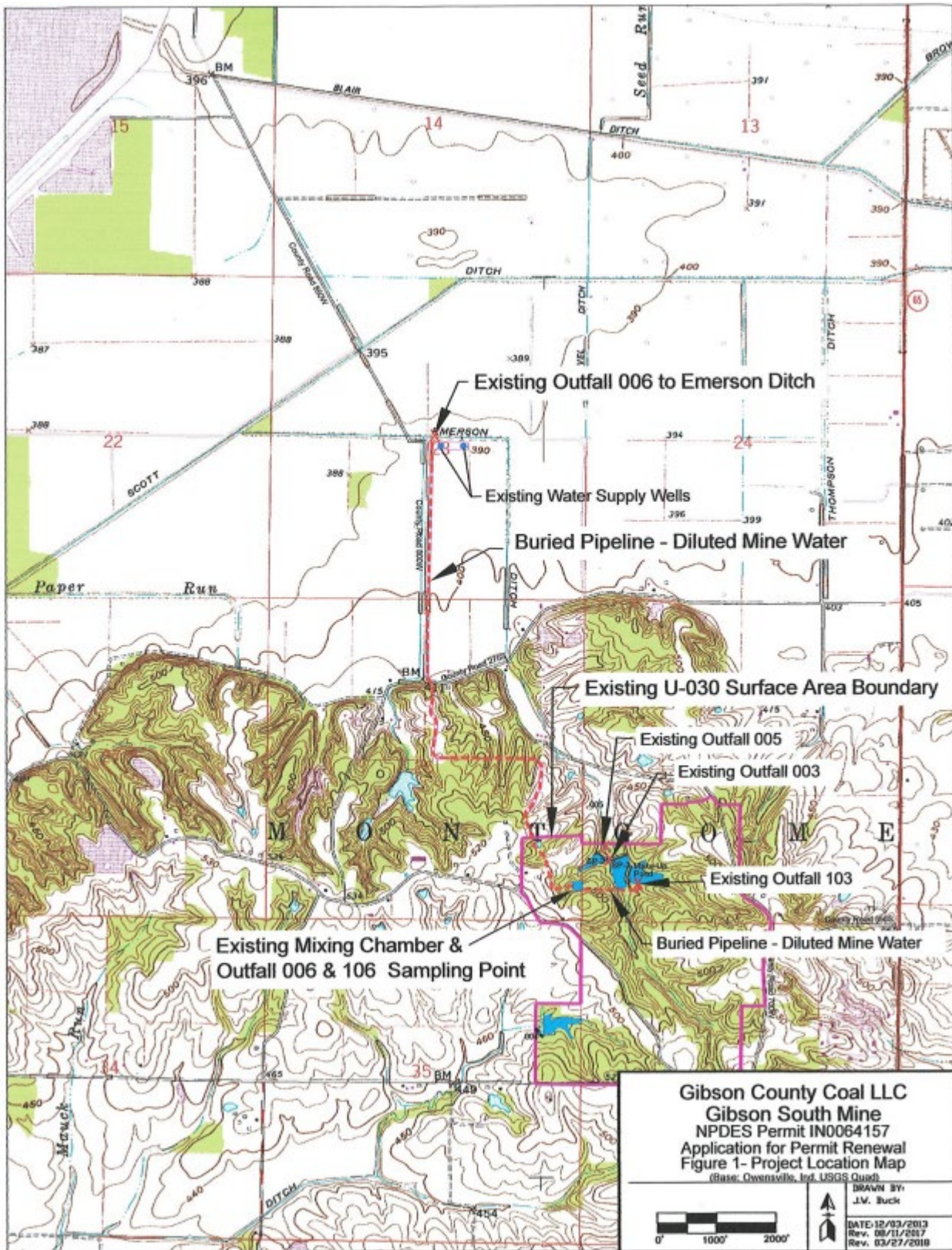
2.1 General

Gibson County Coal, LLC is classified under Standard Industrial Classification (SIC) Code 1222-Coal Mining (Bituminous Underground).

The facility operates an approximately 16,500-acre underground coal mining operation along with associated surface facilities. The surface facilities include a slope and shafts for mine access, offices, a maintenance shop, a supply warehouse, conveyors, coal stockpiles, truck loading facilities, and a preparation plant.

A map showing the location of the facility has been included as Figure 1.

Figure 1: Facility Location



3455 S County Road 700 W
Owensville, IN – Gibson County

2.2 Outfall Locations

Outfall 003D/003A/003B/003C	Latitude: 38° 18' 23" Longitude: -87° 42' 14"
Outfall 005	Latitude: 38° 18' 24.4" Longitude: -87° 42' 16.3"
Outfall 006	Latitude: 38° 19' 33" Longitude: -87° 42' 53"
Outfall 103	Latitude: 38° 18' 19.5" Longitude: -87° 42' 10.7"
Outfall 106	Latitude: 38° 18' 18.6" Longitude: -87° 42' 21.7"

2.3 Wastewater Treatment

The sanitary wastewater from the facility's office and bathhouse is treated through an on-site extended aeration package sewage plant. The plant includes an equalization tank with grinder pumps, a sludge storage tank, an extended aeration tank, a clarifier (with return activated sludge and waste activated sludge), a sand filter, and UV disinfection of the outflow prior to discharge to the receiving stream. Phosphorous is removed using a PAC chemical feed system. Sludge disposal takes place periodically. This is done by pumping and hauling to a licensed disposal facility. Post aeration is achieved through diffused aeration/cascade aeration. The treated sanitary wastewater is discharged into a man-made swale west of Emerson Ditch on the south side of an on-site access road. The sampling point is where the discharge pipe daylight into the man-made swale. The swale enters Emerson Ditch on the south side of the on-site access road.

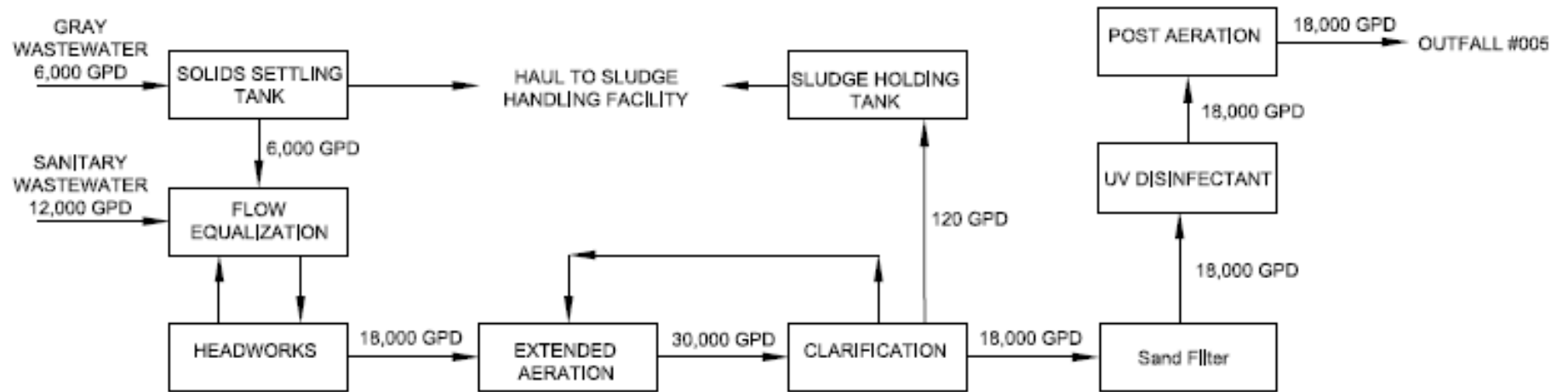
The facility's underground coal mine water (brine water) is treated through flow augmentation. The use of flow augmentation is authorized in accordance with 327 IAC 5-5-2(d). The Gibson County Coal LLC – Gibson South Mine facility uses freshwater from its wells to dilute the brine water. The flow augmentation occurs in a mixing chamber and is done in order to meet water quality standards. Contrastingly, technology-based effluent limitations must be met before this flow augmentation occurs. The facility has the capability to discharge the flow augmented underground coal mine water through Outfall 006 to Emerson Ditch, however this outfall has not been utilized for several years. Currently, the flow augmented underground coal mine water is directed to the facility's make-up water pond where most of it will be used in the preparation plant when the plant is running. The water used in the preparation plant will either be injected underground via an underground injection control (UIC) well or injected into the existing impoundment (slurry pond) as fine refuse slurry. In the slurry pond, refuse materials settle out, the clarified water is decanted to the make-up water pond, and the water eventually re-circulates back into the preparation plant. When the preparation plant is not running, the augmented mine water will flow through the emergency overflow of the make-up pond.

The make-up water pond's emergency overflow discharges to the facility's Sedimentation Basin SP-3. The Sedimentation Basin SP-3 therefore contains flow augmented underground coal mine water, decant water from the preparation plant's fine refuse slurry pond, and stormwater, all contributed by the make-up pond emergency overflow. The Sedimentation Basin SP-3 discharges via Outfall 003D/003A/003B/003C to Emerson Ditch.

A Sanitary Wastewater Treatment Flow Diagram has been included as Figure 2.

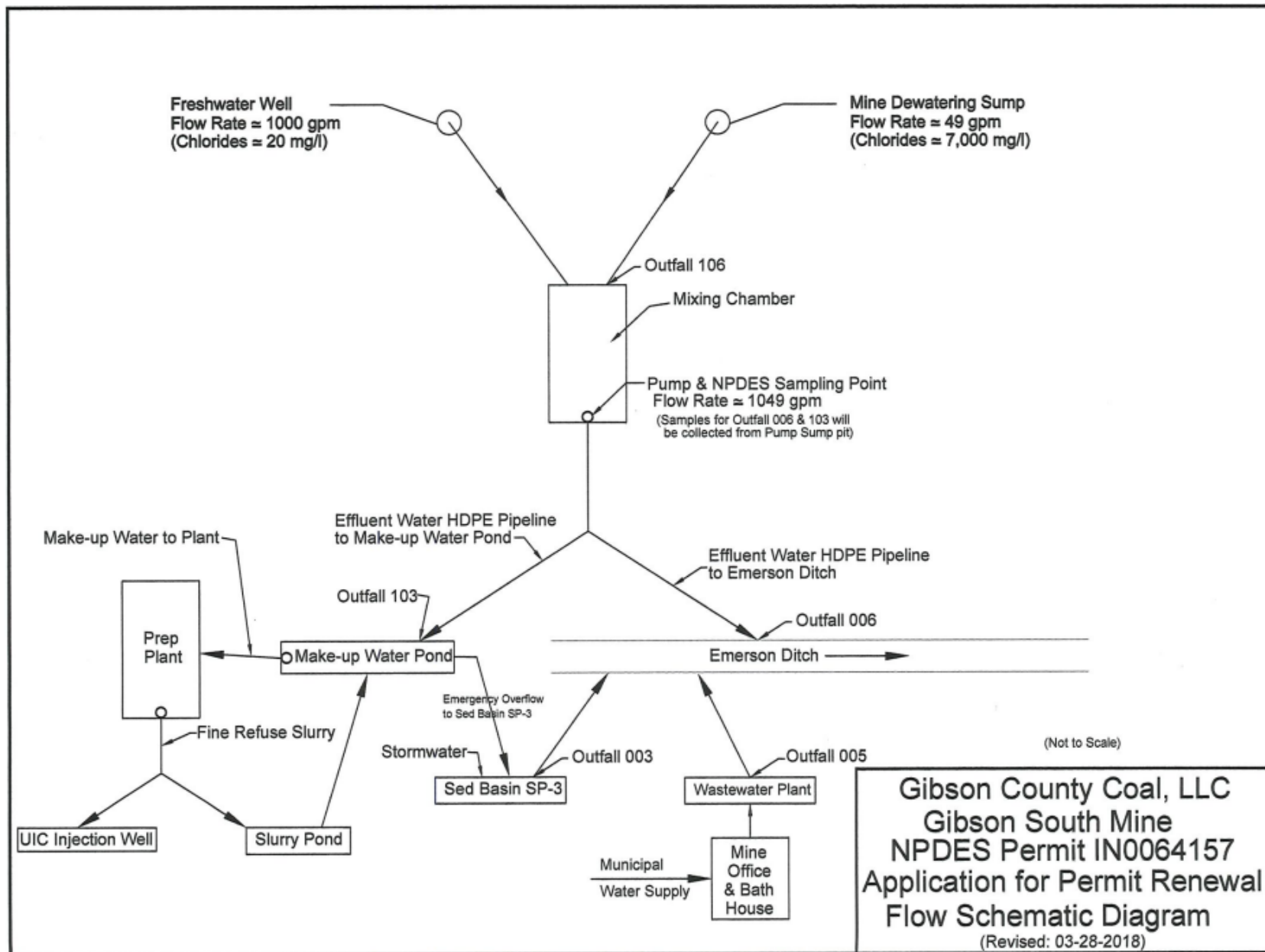
An Underground Coal Mine Water Treatment Flow Diagram has been included as Figure 3.

Figure 2: Sanitary Wastewater Treatment Flow Diagram



IN0064157-005 WASTEWATER FLOW DIAGRAM
GIBSON SOUTH MINE - OWENSVILLE, IN

Figure 3: Underground Coal Mine Water Treatment Flow Diagram



- Outfall 003D: The average daily discharge from Outfall 003D into Emerson Ditch is 2.95 MGD. The design flow (highest monthly average) based on the most recent 2 years of data is 2.84 MGD.
- Outfall 003A: The average daily discharge from Outfall 003A into Emerson Ditch is 2.95 MGD. The design flow (highest monthly average) based on the most recent 2 years of data is 1.89 MGD.
- Outfall 003B: When discharging, the average daily discharge from Outfall 003B into Emerson Ditch is 2.95 MGD. Discharge has not occurred at Outfall 003B in the last 2 years.
- Outfall 003C: The combined Outfall 003D, 003A and 003B is designated as Outfall 003C. Outfall 003C contains parameters and effluent limitations applicable at all times from Outfall 003. For the purpose of determining the Water Quality-based Effluent Limitations (WQBELs), an estimated flow of 2.95 MGD was used which was based on information provided in Form 2C submitted by the permittee.
- Outfall 005: The average daily discharge from Outfall 005 to Emerson Ditch is 0.064 MGD. The design flow (highest monthly average) based on the most recent 2 years of data is 0.042 MGD.
- Outfall 006: When discharging, the average daily discharge from Outfall 006 to Emerson Ditch is 1.51 MGD. Discharge has not occurred at Outfall 006 in the last 2 years.
- Internal Outfall 103: The average daily discharge from Internal Outfall 103 to Outfall 003D/003A/003B/003C is 1.51 MGD. The design flow (highest monthly average) based on the most recent 2 years of data is 2.37 MGD.
- Internal Outfall 106: When discharging, the average daily discharge from Internal Outfall 106 to the Outfall 006 is 0.07 MGD. Discharge from Internal Outfall 106 to Outfall 006 has not occurred in the last 2 years.

The permittee shall have the wastewater treatment facilities under the responsible charge of an operator certified by the Commissioner in a classification corresponding to the classification of the wastewater treatment plant as required by IC 13-18-11-11 and 327 IAC 5-22-5. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7.

IDEM has given the permittee a Class A industrial wastewater treatment plant classification based upon the information provided.

2.4 Changes in Operation

In the permit application, no changes in operation were identified as occurring since the previous permit renewal.

2.5 Facility Stormwater

The surface runoff from the mine surface facilities is collected in sedimentation basins for treatment prior to discharge. All sedimentation basins, except for Sedimentation Basin SP-3, are covered under General Permit ING040253.

Stormwater is discharged from Sedimentation Basin SP-3 via Outfalls 003D/003A/003B/003C which are covered under the facility's individual NPDES permit, IN0064157. Since stormwater is discharged via Outfalls 003D/003A/003B/003C, stormwater monitoring and non-numeric effluent limits along with stormwater pollution prevention plan requirements have been included as Part I.D. and Part I.E. of the permit.

3.0 PERMIT HISTORY

3.1 Compliance History

A review of this facility's discharge monitoring data was conducted for compliance verification. This review indicates the following permit limitation violations between January 2021 and June 2023; 4 Ammonia-N violations at Outfall 005, 1 settleable solids violation at Outfall 003A, and 2 total iron violations at Outfall 003A. There are no pending or current enforcement actions regarding this NPDES permit.

4.0 LOCATION OF DISCHARGE/RECEIVING WATER USE DESIGNATION

The receiving stream for Outfall 003D/003A/003B/003C, Outfall 005, and Outfall 006 is Emerson Ditch. The $Q_{7,10}$ low flow value of Emerson Ditch is 0.0 cfs and shall be capable of supporting a well-balanced, warm water aquatic community and full body contact recreation in accordance with 327 IAC 2-1-3. Emerson Ditch is a tributary to Scott Ditch. Scott Ditch is a tributary to the Wabash River.

The permittee discharges to a waterbody that has been identified as a water of the state that is not within the Great Lakes system. Therefore, it is subject to NPDES requirements specific to dischargers not discharging to waters within the Great Lakes system under 327 IAC 2-1 and 327 IAC 5-2-11.1. These rules contain applicable water quality standards and the procedures to calculate and incorporate water quality-based effluent limitations.

A Site Map has been included as Figure 4.

Figure 4: Site Map



4.1 Total Maximum Daily Loads (TMDLs)

Section 303(d) of the Clean Water Act requires states to identify waters, through their Section 305(b) water quality assessments, that do not or are not expected to meet applicable water quality standards with federal technology-based standards alone. States are also required to develop a priority ranking for these waters taking into account the severity of the pollution and the designated uses of the waters. Once this listing and ranking of impaired waters is completed, the states are required to develop TMDLs for these waters in order to achieve compliance with the water quality standards. Indiana's 2022 303(d) List of Impaired Waters was developed in accordance with Indiana's Water Quality Assessment and 303(d) Listing Methodology for Waterbody Impairments and Total Maximum Daily Load Development for the 2022 Cycle.

Emerson Ditch (Assessment-Unit INB1335_T1010, HUC 51201130305), and Scott Ditch (Assessment-Unit INB1335_T1011, HUC 51201130305) are not on the 2022 303(d) list for impairments, nor is there a TMDL currently planned for these streams.

The Wabash River, Assessment-Unit INB1361_01, HUC 51201130601, is on the 2022 303(d) list for Polychlorinated biphenyls (PCBs) in fish tissue. U.S. EPA under Section 303(d) of the Clean Water Act approved the Wabash River Watershed TMDL report on September 22, 2006 for 162 impairments. TMDLs for the Wabash River Watershed are established for *Escherichia coli* (*E. coli*) and nutrients and will address these impairments. Pollution sources in the watershed include nonpoint sources from agriculture and pastures, land application of manure and urban and rural run-off, as well as point sources from straight pipe discharges, home sewage treatment system disposal and combined sewer overflow outlets. TMDL reports identify and evaluate water quality problems in impaired water bodies and propose solutions to bring those waters into attainment with water quality standards.

5.0 PERMIT LIMITATIONS

5.1 Technology-Based Effluent Limits (TBELs)

EPA develops effluent limitations guidelines (ELGs) for industrial and commercial activities as required by the Clean Water Act (CWA). ELGs are technology-based effluent limits (TBELs). TBELs established pursuant to sections 301(b), 304, and 306 of the CWA represent the minimum level of treatment for industrial point sources that must be included in an NPDES permit (327 IAC 5-5-2(a)). The federal effluent guidelines and standards are located at 40 CFR 403 through 471, inclusive, and are incorporated into Indiana law at 327 IAC 5-2-1.5. In Indiana, NPDES permits are required to ensure compliance with these federal ELGs under 327 IAC 5-2-10(a)(1), 327 IAC 5-2-10(a)(2), and 327 IAC 5-5-2.

In the absence of ELGs for a particular process or parameter, TBELs can also be established on a case-by-case basis for a particular process or parameter using best professional judgment (BPJ) in accordance with 327 IAC 5-5-2 and 5-2-10 (see also 40 CFR 122.44 and 125.3, and Section 402(a)(1) of the CWA).

The applicable technology-based standards for the facility are contained in 40 CFR 434 – Coal Mining Point Source Category.

Applicable ELG Subparts

Outfall	Subpart	Description
003D	Subpart B – Coal Preparation Plants and Coal Preparation Plant Associated Areas; 40 CFR 434.25(b) Subpart D – Alkaline Mine Drainage; 40 CFR 434.45 Subpart F – Miscellaneous Provisions; 40 CFR 434.61	Dry weather discharge containing flow augmented underground coal mine water, decant water from the preparation plant’s fine refuse slurry pond, and stormwater
003A	Subpart F – Miscellaneous Provisions; 40 CFR 434.61 and 40 CFR 434.63(a)(2)	Wet weather discharge caused by a precipitation event that is less than or equal to the 10-year, 24-hour precipitation event
003B	Subpart F – Miscellaneous Provisions; 40 CFR 434.61 and 40 CFR 434.63(d)(2)	Wet weather discharge caused by a precipitation event that is greater than the 10-year, 24-hour precipitation event
106	Subpart D – Alkaline Mine Drainage; 40 CFR 434.45	Discharge containing underground alkaline coal mine water that has a pH greater than 6.0 standard units (s.u.)

Outfall 003

This outfall has three unique discharge scenarios covered under ELGs: dry weather, wet weather discharge caused by a precipitation event that is less than or equal to the 10-year, 24-hour precipitation event, and wet weather discharge caused by a precipitation event that is greater than the 10-year, 24-hour precipitation event. Those scenarios are identified below as Outfall 003D, Outfall 003A, and Outfall 003B, respectively.

The terms “precipitation event” and “precipitation volume” are included as definitions in the permit. A precipitation event includes a rainfall, snow melt, or ice melt which causes a discharge or an increase in the volume of a discharge. The precipitation volume is the 24-hour accumulation (in inches) of the precipitation event. The applicable alternate precipitation effluent limitations (APELs) under the Coal Mining ELG are specified based on the 10-year, 24-hour precipitation event. The precipitation volume for this event was obtained from the following resource: “NOAA Atlas 14 Point Precipitation Frequency Estimates: IN”, sourced from the Hydrometeorological Design Studies Center, Precipitation Frequency Data Server (PFDS): <https://hdsc.nws.noaa.gov/hdsc/pfds/>. For the mine site in Owensville, Gibson County, the 10-year, 24-hour volume is 4.7 inches.

The combined Outfall 003D, 003A and 003B is designated as Outfall 003C. Outfall 003C contains parameters and effluent limitations applicable at all times from Outfall 003.

Outfall 003D

The applicable technology-based standards for the Gibson County Coal LLC – Gibson South Mine facility are contained in 40 CFR 434 Coal Mining Point Source Category. This new source mine is subject to New Source Performance Standards (NSPS). The facility's Sedimentation Basin SP-3 produces a combined wastestream that contains flow augmented underground coal mine water, decant water from the preparation plant's fine refuse slurry pond, and stormwater. The flow augmented underground coal mine water, slurry pond decant and stormwater initially discharge into the facility's make-up water pond. The make-up water pond's emergency overflow discharges into the Sedimentation Basin SP-3. Sedimentation Basin SP-3 discharges via Outfall 003D into Emerson Ditch. Therefore, the wastestream discharging via Outfall 003D is subject to ELGs set forth in 40 CFR § 434.25(b), Subpart B – Coal Preparation Plants and Coal Preparation Plant Associated Areas Subcategory and 40 CFR 434.45, Subpart D – Alkaline Mine Drainage. For both of these wastestreams, EPA established ELGs for Total Iron, Total Suspended Solids (TSS), and pH. The ELGs for TSS are a daily maximum of 70.0 mg/l and a monthly average of 35.0 mg/l. The ELGs for Total Iron are a daily maximum of 6.0 mg/l and a monthly average of 3.0 mg/l. The limit for pH is between the range of 6.0 – 9.0 standard units. Since the concentration limits under the ELGs are the same for both wastestreams, the commingling provision under 40 CFR 434.61 is satisfied. The Total Iron technology-based effluent limitations are less stringent than the water quality-based effluent limitations. Consequently, the water quality-based effluent limitations for Total Iron will be applied to Outfall 003D instead.

Outfall 003A

Gibson County Coal LLC – Gibson South Mine facility qualifies for alternate effluent limitations during precipitation events. The applicable technology-based alternate precipitation effluent limitations are contained in 40 CFR 434 Coal Mining Point Source Category. The facility's Sedimentation Basin SP-3 produces a combined wastestream that contains flow augmented underground coal mine water, decant water from the preparation plant's fine refuse slurry pond, and stormwater. The flow augmented underground coal mine water, slurry pond decant and stormwater initially discharge into the facility's make-up water pond. The make-up water pond's emergency overflow discharges into the Sedimentation Basin SP-3. Sedimentation Basin SP-3 discharges via Outfall 003A into Emerson Ditch. Therefore, if a discharge or an increase in volume of a discharge occurs via Outfall 003A which was caused by a precipitation event that is less than or equal to the 10-year, 24-hour precipitation event then the wastestream discharging via Outfall 003A is subject to alternate precipitation effluent limitations set forth in 40 CFR § 434.63(a)(2), Subpart F – Miscellaneous Provisions.

The operator shall have the burden of proof that the applicable precipitation event caused the discharge or increase in discharge. For both applicable wastestreams, EPA established ELGs for Settleable Solids and pH. The ELG for Settleable Solids is a maximum not to be exceeded concentration of 0.5 ml/l. The limit for pH is between the range of 6.0 – 9.0 standard units at all times. Since the concentration limits under the ELGs are the same for both wastestreams, the commingling provision under 40 CFR 434.61 is satisfied.

Outfall 003B

Gibson County Coal LLC – Gibson South Mine facility qualifies for alternate effluent limitations during precipitation events. The applicable technology-based alternate precipitation effluent limitations are contained in 40 CFR 434 Coal Mining Point Source Category. The facility's Sedimentation Basin SP-3 produces a combined wastestream that contains flow augmented underground coal mine water, decant water from the preparation plant's fine refuse slurry pond, and stormwater. The flow augmented underground coal mine water, slurry pond decant and stormwater initially discharge into the facility's make-up water pond. The make-up water pond's emergency overflow discharges into the Sedimentation Basin SP-3. Sedimentation Basin SP-3 discharges via Outfall 003B into Emerson Ditch. Therefore, if a discharge or an increase in volume of a discharge occurs via Outfall 003B which was caused by a precipitation event that is greater than the 10-year, 24-hour precipitation event then the wastestream discharging via Outfall 003B is subject to alternate precipitation effluent limitations set forth in 40 CFR § 434.63(d)(2), Subpart F – Miscellaneous Provisions.

The operator shall have the burden of proof that the applicable precipitation event caused the discharge or increase in discharge. For both applicable wastestreams, EPA established ELGs for pH. The limit for pH is between the range of 6.0 – 9.0 standard units at all times. Since the concentration limits under the ELGs are the same for both wastestreams, the commingling provision under 40 CFR 434.61 is satisfied.

Outfalls 003A/003B

For reporting purposes, since the permittee chose to utilize the alternate precipitation effluent limitations, the permittee shall report the precipitation volume of each discharge event on the Monthly Monitoring Report (MMR) and the maximum precipitation volume for the month on the monthly Discharge Monitoring Report (DMR). The permittee must also include daily precipitation data for the month as an attachment to the DMR. Failure to submit the necessary information with the DMR and MMR will disqualify the discharge from the alternate effluent limitations and may lead to a violation.

Outfall 005

The monthly average effluent limitation for Phosphorus is a technology-based effluent limit that has been established by 327 IAC 5-10-2 for the protection and maintenance of the existing uses in the lakes and streams downstream from NPDES permitted discharges.

Internal Outfall 106

The applicable technology-based standards for the Gibson County Coal LLC – Gibson South Mine facility are contained in 40 CFR 434 Coal Mining Point Source Category. The facility produces a wastestream that contains flow augmented underground coal mine water. However, technology-based effluent limitations must be met before flow augmentation occurs. Internal Outfall 106 is included in the permit so that technology limitations can be applied before flow augmentation. The Gibson South Mine is an alkaline mine and their underground coal mine water has a pH that is greater than 6.0 standard units (s.u.). Therefore, the wastestream discharging via Internal Outfall 106 is subject to ELGs set forth in 40 CFR § 434.45, Subpart D –

Alkaline Mine Drainage Subcategory. EPA established ELGs for Total Iron, Total Suspended Solids (TSS), and pH. The ELGs for TSS are a daily maximum of 70.0 mg/l and a monthly average of 35.0 mg/l. The ELGs for Total Iron are a daily maximum of 6.0 mg/l and a monthly average of 3.0 mg/l. The limit for pH is between the range of 6.0 – 9.0 s.u.

Outfall 006

TSS is a regulated conventional pollutant and monitoring requirements have been included in the NPDES permit to ensure adequate wastewater treatment is provided and the narrative water quality criteria will be protected. TSS is a parameter used to protect the existing and designated uses by preventing the discharge from having putrescent, or otherwise objectionable deposits, unsightly or deleterious deposits, color or other conditions in such a degree as to create a nuisance. The proposed TSS monitoring requirements have been added to the NPDES permit in order to determine if TBELs are necessary to meet the requirements of Best Conventional Pollutant Control Technology and Best Available Technology Economically Achievable (BCT/BAT). If it is shown that effluent limitations are necessary, the limitations will be established using Best Professional Judgement (BPJ).

5.2 Water Quality-Based Effluent Limits (WQBELs)

WQBELs are designed to be protective of the beneficial uses of the receiving water and are independent of the available treatment technology. The WQBELs for this facility are based on water quality criteria in 327 IAC 2-1-6 or developed under the procedures described in 327 IAC 2-1-8.2 through 8.7 and 327 IAC 2-1-8.9, and implementation procedures in 327 IAC 5. Limitations are required for any parameter which has the reasonable potential to exceed a water quality criterion as determined using the procedures under 327 IAC 5-2-11.1(h).

5.3 Effluent Limitations and Monitoring Requirements by Outfall

Under 327 IAC 5-2-10(a) (see also 40 CFR 122.44), NPDES permit requirements are technology-based effluent limitations and standards (including TBELs based on federal effluent limitations guidelines or developed on a case-by-case basis using BPJ, where applicable), water quality standards-based, or based on other more stringent requirements. The decision to limit or monitor the parameters contained in this permit is based on information contained in the permittee's NPDES application and other available information relating to the facility and the receiving waterbody as well as the applicable federal effluent limitations guidelines. In addition, when renewing a permit, the existing permit limits, the antibacksliding requirements under 327 IAC 5-2-10(a)(11), and the antidegradation requirements under 327 IAC 2-1.3 must be considered.

5.3.1 All External Outfalls (003D/003A/003B/003C, 005, 006)

Narrative Water Quality Based Limits

The narrative water quality criteria contained under 327 IAC 2-1-6(a)(1) and (2) have been included in this permit to ensure that these minimum water quality conditions are met.

Flow

The effluent flow is to be monitored in accordance with 327 IAC 5-2-13(a)(2).

pH

Discharges to waters of the state are limited to the range of 6.0-9.0 s.u., in accordance with 327 IAC 2-1-6(b)(2).

5.3.2 Outfalls 003D/003A/003B/003C

Total Suspended Solids (TSS)

Limitations for TSS are included at Outfall 003D and are based on 40 CFR 434.25(b) and 434.45. Monitoring requirements for TSS have been retained at Outfalls 003A and 003B.

Settleable Solids

Limitations for settleable solids are included at Outfall 003A and are based on 40 CFR 434.63(a)(2).

Chloride

Monitoring for Chloride was included in the prior permit for Outfalls 003D/003A/003B to determine if the pollutant is discharged in quantities that exhibit a reasonable potential to exceed Indiana Water Quality Standards. As part of this permit renewal, a Wasteload Allocation (WLA) report (WLA002728) was completed by this Office on August 21, 2023, and Chloride was evaluated for reasonable potential to exceed (RPE) a water quality criterion. The RPE analysis was conducted using a combined dataset of Outfalls 003D/003A. Outfall 003B did not discharge during the term of the current permit. The results of the RPE analysis show that Chloride has a reasonable potential to exceed a water quality criterion. The WQBELs for chloride established in the WLA report are 670 mg/l daily maximum and 380 mg/l monthly average and will be applied at Outfall 003C. The WLA report has been included as Appendix A.

Sulfate

Monitoring for Sulfate was included in the prior permit for Outfalls 003D/003A/003B to determine if the pollutant is discharged in quantities that exhibit a reasonable potential to exceed Indiana Water Quality Standards. As part of this permit renewal, a Wasteload

Allocation (WLA) report (WLA002728) was completed by this Office on August 21, 2023, and Sulfate was evaluated for reasonable potential to exceed (RPE) a water quality criterion. The RPE analysis was conducted using a combined dataset of Outfalls 003D/003A. Outfall 003B did not discharge during the term of the current permit. The results of the RPE analysis show that Sulfate does not have a reasonable potential to exceed a water quality criterion. The WQBELs for chloride are based on the hardness and sulfate dependent water quality criteria for chloride under 327 IAC 2-1-6(a)(6). Therefore, monitoring for sulfate must be done in conjunction with hardness and will be applied at Outfall 003C. In addition, sulfate will be reevaluated during the next permit renewal to determine if the pollutant is discharged in quantities that exhibit a reasonable potential to exceed a water quality criterion.

Hardness

Monitoring for hardness has been retained in the permit renewal and will be applied at Outfall 003C. The monitoring requirements for sulfate are based on the hardness and chloride dependent water quality criteria for sulfate under 327 IAC 2-1-6(a)(8). The WQBELs for chloride are based on the hardness and sulfate dependent water quality criteria for chloride under 327 IAC 2-1-6(a)(6). Therefore, hardness must be monitored in conjunction with chloride and sulfate.

Total Iron

Total Iron is subject to the technology-based standards contained in 40 CFR 434.25(b) and 434.45. The technology-based effluent limitations for Total Iron are a daily maximum of 6.0 mg/l and a monthly average of 3.0 mg/l.

As part of this permit renewal, a Wasteload Allocation (WLA) report (WLA002728) was completed by this Office on August 21, 2023, and Total Iron was evaluated for reasonable potential to exceed (RPE) a water quality criterion. The RPE analysis was conducted separately for Outfalls 003D and 003A. Outfall 00B did not discharge during the term of the current permit. Since Outfall 003B has not discharged, the data for Outfall 003A were considered representative for Outfall 003B and a combined reasonable potential analysis was conducted. The results of the RPE analysis show that Total Iron does not have a reasonable potential to exceed a water quality criterion at 003D, but it does have a reasonable potential to exceed a water quality criterion at Outfalls 003A/003B. The WQBELs for Total Iron established in the WLA report are 4.1 mg/l daily maximum and 2.4 mg/l monthly average and will be applied at Outfalls 003A/003B. In addition, the WLA report provided WQBELs for Total Iron for comparison to applicable technology-based effluent limitations (TBELs) to determine if the WQBELs are required in the permit for Outfall 003D. The WQBELs of 4.1 mg/l daily maximum and 2.4 mg/l monthly average are more stringent than the TBELs, therefore, the WQBELs are required and have been included in the permit. The WLA report has been included as Appendix A.

Precipitation Volume

The permittee chose to utilize the alternate precipitation effluent limitations allowed under 40 CFR 434.63. Therefore, the permittee is required to report the precipitation volume for

each discharge event and include daily precipitation data for the month as an attachment to the monthly Discharge Monitoring Report (DMR).

5.3.3 Outfall (005)

CBOD₅, Total Suspended Solids (TSS), and Ammonia (as N)

CBOD₅ is limited to 10.0 mg/l as a monthly average and 15.0 mg/l as a weekly average. TSS is limited to 12.0 mg/l as a monthly average and 18.0 mg/l as a weekly average. Ammonia (as N) is limited to 1.1 mg/l as a summer monthly average, 1.6 mg/l as a winter monthly average, 1.6 mg/l as a summer weekly average, and 2.4 mg/l as a winter weekly average.

These limitations were established in the 2013 permit based on the Antidegradation Standards and Implementation Procedures Rule (327 IAC 2-1.3) minimal degradation requirements. These limitations have been retained from the previous permit.

Phosphorus

The monthly average effluent limitation of 1.0 mg/l for Phosphorus is a technology-based effluent limit that has been established by 327 IAC 5-10-2 for the protection and maintenance of the existing uses in the lakes and streams downstream from NPDES permitted discharges.

Escherichia coli (E. coli)

The permitted discharge via Outfall 005 includes a sanitary wastewater component, therefore, effluent limitations and monitoring requirements for *E. coli* have been retained from the previous permit. The effluent limitations for *E. coli* are based on the bacteriological water quality standards found in 327 IAC 2-1-6(d) and apply during the recreational season of April 1st through October 31st, annually. *E. coli* is limited to 125 count/100 mL as a monthly average, and 235 count/100 mL as a daily maximum. The monthly average *E. coli* value shall be calculated as a geometric mean.

Furthermore, the permitted discharge must comply with 327 IAC 5-10-6(e) which states the following:

“(e) Sanitary wastewater dischargers shall ensure the following:

- (1) The concentration of *E. coli* in the undiluted discharge does not exceed one hundred twenty-five (125) cfu or MPN per one hundred (100) milliliters as a geometric mean of the effluent samples taken in a calendar month.
- (2) Not more than ten percent (10%) of all samples when not less than ten (10) samples are taken and analyzed for *E. coli* in a calendar month exceed two hundred thirty-five (235) cfu or MPN per one hundred (100) milliliters as a daily maximum. Under this subdivision, the calculation of ten percent (10%) of the samples taken shall be limited to the lowest whole number result.”

Dissolved Oxygen (DO)

DO effluent limitations have been included in the proposed permit. DO is limited to 6.0 mg/l as a daily minimum in the summer and 5.0 mg/l as a daily minimum in the winter. These DO effluent limitations are based on the typical effluent limitations for sanitary wastewater discharges to a receiving stream with a $Q_{7,10}$ low flow value of 0.0 cfs. The permittee agreed to these DO effluent limitations in their 2013 Antidegradation submittal.

5.3.4 Outfall (006)

Augment Water Flow

The augment water flow is to be monitored in accordance with 327 IAC 5-2-13(a)3.

Total Iron

As part of the 2014 permit modification, a Wasteload Analysis (WLA) report (WLA002038) was completed and Total Iron was evaluated for reasonable potential to exceed (RPE) a water quality criterion. The results of the RPE analysis show that Total Iron has reasonable potential to exceed, therefore, WQBELs are required for Outfall 006. The WLA report has been included as Appendix B.

Chloride

As part of the 2014 permit modification, a Wasteload Analysis (WLA) report (WLA002038) was completed and Chloride was evaluated for reasonable potential to exceed (RPE) a water quality criterion. The results of the RPE analysis show that Chloride has reasonable potential to exceed, therefore, WQBELs are required for Outfall 006. The WLA report has been include as Appendix B.

Sulfate

Sulfate is a pollutant of concern in underground coal mine water. Therefore, monitoring for Sulfate has been included in the proposed permit to determine if the pollutant is discharged in quantities that exhibit a reasonable potential to exceed Indiana Water Quality Standards.

Hardness

Monitoring for hardness has been included in the proposed permit. The monitoring requirements for sulfate are based on the hardness and chloride dependent water quality criteria for sulfate under 327 IAC 2-1-6(a)(8). The monitoring requirements for chloride are based on the hardness and sulfate dependent water quality criteria for chloride under 327 IAC 2-1-6(a)(6). Therefore, hardness must be monitored in conjunction with chloride and sulfate.

Total Suspended Solids (TSS)

TSS is a regulated conventional pollutant and monitoring requirements have been included in the NPDES permit to ensure adequate wastewater treatment is provided and the narrative water quality criteria will be protected. TSS is a parameter used to protect the existing and designated uses by preventing the discharge from having putrescent, or otherwise objectionable deposits, unsightly or deleterious deposits, color or other conditions in such a degree as to create a nuisance. The proposed TSS monitoring requirements have been added to the NPDES permit in order to determine if TBELs are necessary to meet the requirements of Best Conventional Pollutant Control Technology and Best Available Technology Economically Achievable (BCT/BAT). If it is shown that effluent limitations are necessary, the limitations will be established using Best Professional Judgement (BPJ).

5.3.5 Internal Outfall (106)

Flow

The effluent flow is to be monitored in accordance with 327 IAC 5-2-13(a)2.

TSS, Total Iron, pH

Limitations for these pollutants are based on 40 CFR 434.45.

5.3.6 Internal Outfall (103)

Flow

The effluent flow is to be monitored in accordance with 327 IAC 5-2-13(a)2.

Augment Water Flow

The augment water flow is to be monitored in accordance with 327 IAC 5-2-13(a)3.

Chloride

Chloride is a pollutant of concern in underground coal mine water. Therefore, monitoring for Chloride has been included in this permit to determine the amount of Chloride the flow augmented underground coal mine water is contributing to Outfall 003C.

Sulfate

Sulfate is a pollutant of concern in underground coal mine water. Therefore, monitoring for Sulfate has been included in this permit to determine the amount of Sulfate the flow augmented underground coal mine water is contributing to Outfall 003C.

5.4 Whole Effluent Toxicity (WET) Testing

The permit does not contain a requirement to conduct whole effluent toxicity (WET) tests.

5.5 Antibacksliding

Pursuant to 327 IAC 5-2-10(a)(11), unless an exception applies, a permit may not be renewed, reissued or modified to contain effluent limitations that are less stringent than the comparable effluent limitations in the previous permit. None of the limits included in this permit are less stringent than the comparable effluent limitations in the previous permit, therefore, backsliding is not an issue in accordance with 327 IAC 5-2-10(a)(11).

5.6 Antidegradation

Indiana's Antidegradation Standards and Implementation procedures are outlined in 327 IAC 2-1.3. The antidegradation standards established by 327 IAC 2-1.3-3 apply to all surface waters of the state. The permittee is prohibited from undertaking any deliberate action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a regulated pollutant that is not a BCC unless information is submitted to the commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality, or an antidegradation demonstration submitted and approved in accordance 327 IAC 2-1.3-5 and 2-1.3-6.

This permit includes new permit limitations for Chloride. In accordance with 327 IAC 2-1.3-1(b), the new permit limitations are not subject to the Antidegradation Implementation Procedures in 327 IAC 2-1.3-5 and 2-1.3-6 as the new limitations are not the result of a deliberate activity taken by the permittee. The new limits for Chloride are the result of the RPE analysis. Therefore, antidegradation is satisfied.

5.7 Stormwater

Under 327 IAC 5-4-6(d), if an individual permit is required under 327 IAC 5-4-6(a) for discharges consisting entirely of stormwater, or if an individual permit is required under 327 IAC 5-2-2 that includes discharge of commingled stormwater associated with industrial activity, IDEM may consider the following in determining the requirements to be contained in the permit:

- (1) The nature of the discharges and activities occurring at the site or facility.
- (2) Information relevant to the potential impact on water quality.
- (3) The requirements found in the following: (A) 327 IAC 5-2, (B) 327 IAC 5-5, (C) 327 IAC 5-9, and (D) 327 IAC 15-6.
- (4) "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits", EPA 833-D-96-001, September 1, 1996, available from U.S. EPA, National Service Center for Environmental Publications at <https://www.epa.gov/nscep> or from IDEM.

In accordance with 327 IAC 15-2-2(a), the commissioner may regulate stormwater discharges associated with industrial activity, as defined in 40 CFR 122.26(b)(14), consistent with the EPA 2008 NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, as modified, effective May 27, 2009, under an NPDES general permit. Therefore, using Best Professional Judgment to develop case-by-case technology-based limits as authorized by 327 IAC 5-2-10, 327 IAC 5-5, and 327 IAC 5-9 (see also 40 CFR 122.44, 125.3, and Section 402(a)(1) of the Clean Water Act (CWA)), IDEM has developed stormwater requirements for individual permits that are consistent with the EPA 2008 NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity. The 2008 Multi-Sector General Permit and Fact Sheet is available from: <https://www.epa.gov/npdes/previous-versions-epas-msgp-documents>.

According to 40 CFR 122.26(b)(14) and 327 IAC 15-6-2 facilities classified under Standard Industrial Classification (SIC) Code 1222, are considered to be engaging in “industrial activity” for purposes of 40 CFR 122.26(b). Therefore, the permittee is required to have all stormwater discharges associated with industrial activity permitted. Treatment for stormwater discharges associated with industrial activities is required to meet, at a minimum, best available technology economically achievable/best conventional pollutant control technology (BAT/BCT) requirements. EPA has determined that non-numeric technology-based effluent limits have been determined to be equal to the best practicable technology (BPT) or BAT/BCT for stormwater associated with industrial activity.

Stormwater associated with industrial activity must also be assessed to ensure compliance with all water quality standards. Effective implementation of the non-numeric technology-based requirements should, in most cases, control discharges as necessary to meet applicable water quality standards. Violation of any of these effluent limitations constitutes a violation of the permit.

Additionally, IDEM has determined that with the appropriate implementation of the required control measures and Best Management Practices (BMPs) found in Part I.D. of the permit, the discharge of stormwater associated with industrial activity from this facility will meet applicable water quality standards and will not cause a significant lowering of water quality. Therefore, the stormwater discharge is in compliance with the antidegradation standards found in 327 IAC 2-1.3-3, and pursuant to 327 IAC 2-1.3-4(a)(5), an antidegradation demonstration is not required.

The technology-based effluent limits (TBELs) require the permittee to minimize exposure of raw, final, or waste materials to rain, snow, snowmelt, and runoff. In doing so, the permittee is required, to the extent technologically available and economically achievable, to either locate industrial materials and activities inside or to protect them with storm resistant coverings. In addition, the permittee is required to: (1) use good housekeeping practices to keep exposed areas clean, (2) regularly inspect, test, maintain and repair all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater discharges, (3) minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur, (4) stabilize exposed area and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants, (5) divert, infiltrate, reuse, contain or otherwise reduce stormwater runoff, to minimize pollutants in the permitted facility discharges, (6) enclose or cover storage piles of salt or piles

containing salt used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces, (7) train all employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your Pollution Prevention Team, (8) ensure that waste, garbage and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged, and (9) minimize generation of dust and off-site tracking of raw, final or waste materials.

To meet the non-numeric effluent limitations in Part I.D.4, the permit requires the facility to select control measures (including BMPs) to address the selection and design considerations in Part I.D.3.

The permittee must control its discharge as necessary to meet applicable water quality standards. It is expected that compliance with the non-numeric technology-based requirements should ensure compliance with applicable water quality standards. However, if at any time the permittee, or IDEM, determines that the discharge causes or contributes to an exceedance of applicable water quality standards, the permittee must take corrective actions, and conduct follow-up monitoring and IDEM may impose additional water quality-based limitations.

“Terms and Conditions” to Provide Information in a Stormwater Pollution Prevention Plan (SWPPP)

Distinct from the effluent limitation provisions in the permit, the permit requires the discharger to prepare a SWPPP for the permitted facility. The SWPPP is intended to document the selection, design, installation, and implementation (including inspection, maintenance, monitoring, and corrective action) of control measures being used to comply with the effluent limits set forth in Part I.D. of the permit. In general, the SWPPP must be kept up-to-date, and modified when necessary, to reflect any changes in control measures that were found to be necessary to meet the effluent limitations in the permit.

The requirement to prepare a SWPPP is not an effluent limitation. Rather, it documents what practices the discharger is implementing to meet the effluent limitations in Part I.D. of the permit. The SWPPP is not an effluent limitation because it does not restrict quantities, rates, and concentrations of constituents which are discharged. Instead, the requirement to develop a SWPPP is a permit “term or condition” authorized under sections 402(a)(2) and 308 of the Act. Section 402(a)(2) states, “[t]he Administrator shall prescribe conditions for [NPDES] permits to assure compliance with the requirements of paragraph (1) of this subsection, including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.” The SWPPP requirements set forth in this permit are terms or conditions under the CWA because the discharger is documenting information on how it intends to comply with the effluent limitations (and inspection and evaluation requirements) contained elsewhere in the permit. Thus, the requirement to develop a SWPPP and keep it up-to-date is no different than other information collection conditions, as authorized by 327 IAC 5-1-3 (see also CWA section 402(a)(2)).

It should be noted that EPA has developed a guidance document, “Developing your Stormwater Pollution Prevention Plan – A guide for Industrial Operators (EPA 833-B09-002), February 2009,

to assist facilities in developing a SWPPP. The guidance contains worksheets, checklists, and model forms that should assist a facility in developing a SWPPP.

Public availability of documents

Part I.E.2.d(2) of the permit requires that the permittee retain a copy of the current SWPPP at the facility and make it immediately available, at the time of an onsite inspection or upon request, to IDEM. When submitting the SWPPP to IDEM, if any information in the SWPPP is considered to be confidential, that information shall be submitted in accordance with 327 IAC 12.1. Interested persons can request a copy of the SWPPP through IDEM. Any information that is confidential pursuant to Indiana law will not be released to the public.

5.8 Water Treatment Additives

In the event that changes are to be made in the use of water treatment additives that could significantly change the nature of, or increase the discharge concentration of any of the additives contributing to an outfall governed under the permit, the permittee must apply for and obtain approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) available at: <https://www.in.gov/idem/forms/idem-agency-forms/> and submitting any needed supplemental information. In the review and approval process, IDEM determines, based on the information submitted with the application, whether the use of any new or changed water treatment additives/chemicals or dosage rates could potentially cause the discharge from any permitted outfall to cause chronic or acute toxicity in the receiving water.

The authority for this requirement can be found under one or more of the following: 327 IAC 5-2-8(11)(B), which generally requires advance notice of any planned changes in the permitted facility, any activity, or other circumstances that the permittee has reason to believe may result in noncompliance with permit requirements; 327 IAC 5-2-8(11)(F)(ii), which generally requires notice as soon as possible of any planned physical alterations or additions to the permitted facility if the alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharged; and 327 IAC 5-2-9(2) which generally requires notice as soon as the discharger knows or has reason to know that the discharger has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant that was not reported in the permit application.

The following is a list of water treatment additives currently approved for use at the facility:

<u>Supplier</u>	<u>WTA</u>	<u>Outfall</u>	<u>Purpose</u>
Brenntag Mid-South Inc.	Brennfloc BC2381	005	Phosphorus removal
Brenntag Mid-South Inc.	Arkea Prebland	005	Ammonia breakdown
InTerraChem, LLC	WT-1523	005	Phosphorus removal
InTerraChem, LLC	25% Sodium hydroxide	005	pH correction

6.0 PERMIT DRAFT DISCUSSION

6.1 Discharge Limitations, Monitoring Conditions and Rationale

The proposed final effluent limitations are based on the more stringent of the Indiana water quality-based effluent limitations (WQBELs), technology-based effluent limitations (TBELs), or approved total maximum daily loads (TMDLs) and NPDES regulations as appropriate for each regulated outfall. Section 5.3 of this document explains the rationale for the effluent limitations at each Outfall.

Analytical and sampling methods used shall conform to the version of 40 CFR 136 as referenced in 327 IAC 5-2-13(d)(1) and 327 IAC 5-2-1.5.

Outfall 003C was added to determine compliance with the WQBELs for Chloride which apply independent of precipitation events. The monitoring conditions proposed for Outfall 003C are comparable to the sample type and monitoring frequency in permits regulating similar types of discharges. For outfalls in which there was not a reasonable potential to exceed a water quality criterion for Total Iron, the monitoring frequency for Total Iron and TSS were changed to 2 X Monthly.

Outfall 003D:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Daily	24 Hr. Total
Total Iron	2.4	4.1	mg/l	2 X Monthly	Grab
TSS	35.0	70.0	mg/l	2 X Monthly	Grab

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

Outfall 003A:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Daily	24 Hr. Total
Total Iron	2.4	4.1	mg/l	1 X Monthly	Grab
TSS	Report	Report	mg/l	1 X Monthly	Grab
Precipitation Volume	---	Report	Inches	Daily	[*]

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab
Settleable Solids	---	0.5	ml/l	1 X Monthly	Grab

[*] The volume of the precipitation event can be obtained from the National Weather Service or through the facility's rain gauge.

Outfall 003B:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Daily	24 Hr. Total
Total Iron	2.4	4.1	mg/l	1 X Monthly	Grab
TSS	Report	Report	mg/l	1 X Monthly	Grab
Precipitation Volume	---	Report	Inches	1 X Daily	[*]

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

[*] The volume of the precipitation event can be obtained from the National Weather Service or through the facility's rain gauge.

Outfall 003C:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Daily	24 Hr. Total
Chloride	380	670	mg/l	1 X Weekly	Grab
Sulfate	Report	Report	mg/l	1 X Weekly	Grab
Hardness	Report	Report	mg/l	1 X Weekly	Grab

Outfall 005:

Parameter	Monthly Average	Weekly Average	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Weekly	24 Hr. Total
CBOD ₅	10.0	15.0	mg/l	1 X Weekly	Grab
TSS	12.0	18.0	mg/l	1X Weekly	Grab
Phosphorus	1.0	---	mg/l	1 X Weekly	Grab
Ammonia, as N					
Summer	1.1	1.6	mg/l	1 X Weekly	Grab
Winter	1.6	2.4	mg/l	1 X Weekly	Grab

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
<i>E. coli</i>	125	235	cfu/100ml	1 X Weekly	Grab

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab
Dissolved Oxygen					
Summer	6.0	---	mg/l	1 X Weekly	2 Grabs/24-Hrs.
Winter	5.0	---	mg/l	1 X Weekly	2 Grabs/24-Hrs.

Outfall 006:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Daily	24 Hr. Total
Augment Water Flow	Report	Report	MGD	1 X Daily	24 Hr. Total
Total Iron	2.4	4.1	mg/l	2 X Monthly	Grab
Chloride	360	730	mg/l	1X Weekly	Grab
Sulfate	Report	Report	mg/l	1X Weekly	Grab
Hardness	Report	Report	mg/l	2 X Monthly	Grab
TSS	Report	Report	mg/l	2 X Monthly	Grab

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

Internal Outfall 106:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Daily	24 Hr. Total
Total Iron	3.0	6.0	mg/l	2 X Monthly	Grab
TSS	35.0	70.0	mg/l	2 X Monthly	Grab

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

Internal Outfall 103:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Daily	24 Hr. Total
Augment Water Flow	Report	Report	MGD	1 X Daily	24 Hr. Total
Chloride	Report	Report	mg/l	1X Weekly	Grab
Sulfate	Report	Report	mg/l	1X Weekly	Grab

6.2 Schedule of Compliance

The draft permit contains new effluent limits for Chloride. In accordance with 327 IAC 5-2-12 (see also 40 CFR 122.47(a)), a schedule of compliance is allowed in an NPDES permit when requested and justified by the permittee, but only when appropriate and when the schedule of compliance requires achievement of compliance “as soon as possible” and meets other specified conditions. Before a schedule of compliance can be included in a permit, the permittee must submit a request for the schedule to IDEM and demonstrate that they meet the requirements for such a schedule pursuant to 327 IAC 5-2-12.

The permittee submitted a request for a 36-month schedule of compliance. However, their request did not meet the requirements necessary for approval. For the request to be approvable, the permittee must explain the steps that will be taken and justify the amount of time needed to meet the new effluent limits for Chloride. The request should outline the steps that will be taken and the approximate amount of time each step will take. In addition, IDEM requests that the permittee provides a Gantt chart as a visual to depict the schedule for completing each step. If a request satisfying these requirements is not submitted before the permit is issued, the final permit will not contain a schedule of compliance.

6.3 Special Conditions and Other Permit Requirements

The NPDES permit renewal application requirements for existing mining dischargers under 40 CFR 122.21(g)(7) requires reporting of toxic metals, cyanide and total phenols from 40 CFR 122 Appendix D, Table III for primary industries. Coal mining is a primary industry listed in 40 CFR 122, Appendix A. The permittee has not conducted a complete scan of these pollutants for this permit renewal nor under the existing permit. The permit includes a requirement to conduct this scan for Outfall 003D using NPDES application Form 2C (State Form 55637), Item V, Part C (Metals), (Cyanide) and (Total Phenols) within the next 12 (months).

6.4 Spill Response and Reporting Requirement

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.(d), Part II.B.3.(c), and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedances that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedance to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

6.5 Permit Processing/Public Comment

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at <https://www.in.gov/idem/public-notice/>. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at <https://www.in.gov/idem/resources/citizens-guide-to-idem/>. A 30-day comment period is available to solicit input from interested parties, including the public.

Appendix A
Waste Load Allocation (WLA002728)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

INDIANAPOLIS

OFFICE MEMORANDUM

Date: August 21, 2023

To: Permit File

Thru: John Elliott *JE*
Permits Branch

From: Heidi Etter *HE*
Industrial NPDES Permits Section

Subject: Wasteload Allocation Report for Gibson County Coal – South Mine in Gibson County (IN0064157, WLA002728)

A reasonable potential to exceed analysis for chloride and iron was done and water quality-based effluent limitations (WQBELs) for iron were calculated for Gibson County Coal – South Mine Outfall 003. This outfall has three unique discharge scenarios: dry weather, wet weather discharge caused by a precipitation event that is less than or equal to the 10 year, 24-hour precipitation event, and wet weather discharge caused by a precipitation event that is greater than the 10 year, 24-hour precipitation event. Those scenarios are identified below as Outfall 003D, Outfall 003A, and Outfall 003B, respectively.

The facility's Sedimentation Basin SP-3 produces a wastestream that contains flow augmented underground coal mine water, decant water from the preparation plant's fine refuse slurry pond, and stormwater from preparation plant area runoff. The flow augmented underground coal mine water, slurry pond decant water and stormwater initially discharge into the facility's make-up water pond. The make-up water pond's emergency overflow discharges into Sedimentation Basin SP-3 which discharges via Outfall 003 into Emerson Ditch, a tributary to Scott Ditch and Wabash River. The effluent flow used in the analysis was 2.95 mgd. The receiving stream is located in the non-Great Lakes system.

Emerson Ditch is designated for full-body contact recreation and shall be capable of supporting a well-balanced, warm water aquatic community. The assessment unit for Emerson Ditch is INB1335_T1010. This assessment unit is not on the 2022 303(d) list. A TMDL study for Emerson Ditch in this assessment unit has not been completed and no TMDL is in progress. The Q7,10 of Emerson Ditch is zero cfs.

The reasonable potential analysis for chloride was conducted using a combined dataset for Outfall 003D and Outfall 003A after a review of the data showed similar effluent levels independent of precipitation events. No discharge has occurred via the Outfall 003B scenario since the current permit was issued. The results of the reasonable potential analysis using the reasonable potential statistical procedure are included in Tables 1 and 2. The results show that there is a reasonable potential to exceed a water quality criterion for chloride. Therefore, WQBELs are required for chloride. The WQBELs for chloride are included in Table 3 and apply to dry weather and wet weather discharges. Even though there has been no discharge from Outfall 003B to evaluate reasonable potential using effluent data, the WQBELs will apply to Outfall 003B since effluent levels were independent of precipitation events. The combined Outfall 003D, 003A and 003B is designated as Outfall 003C in this WLA report.

The reasonable potential analysis for iron was conducted using separate datasets for Outfall 003D and Outfall 003A. Since Outfall 003B has not discharged, the data for Outfall 003A were considered representative for Outfall 003B and a combined reasonable potential analysis was conducted. The results of the reasonable potential analysis using the reasonable potential statistical procedure are included in Tables 4 and 5 for Outfall 003D and Tables 6 and 7 for Outfall 003A/003B. The results show that there is not a reasonable potential to exceed a water quality criterion for iron at Outfall 003D, but there is a reasonable potential to exceed a water quality criterion for iron at Outfall 003A/003B. Therefore, WQBELs for iron are not required at Outfall 003D based on the reasonable potential statistical procedure, but they are required at Outfall 003A/003B. For Outfall 003D, WQBELs for iron are included in Table 8 for comparison to applicable technology-based effluent limitations. For Outfall 003A/003B, WQBELs for iron are included in Table 9.

The sulfate concentrations for Outfall 003D and Outfall 003A are not at levels that exhibit reasonable potential to exceed a water quality criterion for sulfate. However, due to the source and nature of the discharge, monitoring of the effluent for sulfate and hardness should continue to be a requirement for Outfall 003C. This will provide information for the permit renewal to refine the aquatic life chloride criteria which are a function of sulfate and hardness concentrations in surface water.

The documentation of the wasteload allocation analysis is included as an attachment.

TABLE 1
Calculation of Projected Effluent Quality
For Gibson County Coal - South Mine in Gibson County
Outfall 003C to Emerson Ditch
(IN0064157, WLA002728)

Parameter	Monthly Average PEQ					Daily Maximum PEQ				
	Maximum Monthly Average (mg/l)	Number of Monthly Averages	CV	Multiplying Factor	Monthly Average PEQ (mg/l)	Maximum Daily Sample (mg/l)	Number of Daily Samples	CV	Multiplying Factor	Daily Maximum PEQ (mg/l)
Chloride	948	51	0.2	1.0	950	1300	209	0.3	0.9	1200

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TABLE 2
Results of Reasonable Potential Statistical Procedure
For Gibson County Coal - South Mine in Gibson County
Outfall 003C to Emerson Ditch
(IN0064157, WLA002728)

Parameter	Monthly Average Comparison			Daily Maximum Comparison			Reasonable Potential to Exceed?
	Monthly Average PEQ (mg/l)	Monthly Average PEL* (mg/l)	PEQ > PEL?	Daily Maximum PEQ (mg/l)	Daily Maximum PEL* (mg/l)	PEQ > PEL?	
Chloride	950	380	Yes	1200	670	Yes	Yes

* Based on an effluent flow of 2.95 mgd.

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TABLE 3
Water Quality-based Effluent Limitations
For Gibson County Coal - South Mine in Gibson County
Outfall 003C to Emerson Ditch
(IN0064157, WLA002728)

Parameter	Quality or Concentration*			Quantity or Loading*			Monthly Sampling Frequency
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	
Chloride	380	670	mg/l	9,400	16,000	lbs/day	2

* Based on an effluent flow of 2.95 mgd.

August 21, 2023

TABLE 4
Calculation of Projected Effluent Quality
For Gibson County Coal - South Mine in Gibson County
Outfall 003D to Emerson Ditch
(IN0064157, WLA002728)

Parameter	Monthly Average PEQ					Daily Maximum PEQ				
	Maximum Monthly Average (mg/l)	Number of Monthly Averages	CV	Multiplying Factor	Monthly Average PEQ (mg/l)	Maximum Daily Sample (mg/l)	Number of Daily Samples	CV	Multiplying Factor	Daily Maximum PEQ (mg/l)
Iron	0.97	45	0.4	1.0	0.97	1.7	145	0.5	0.9	1.5

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TABLE 5
Results of Reasonable Potential Statistical Procedure
For Gibson County Coal - South Mine in Gibson County
Outfall 003D to Emerson Ditch
(IN0064157, WLA002728)

Parameter	Monthly Average Comparison			Daily Maximum Comparison			Reasonable Potential to Exceed?
	Monthly Average PEQ (mg/l)	Monthly Average PEL* (mg/l)	PEQ > PEL?	Daily Maximum PEQ (mg/l)	Daily Maximum PEL* (mg/l)	PEQ > PEL?	
Iron	0.97	2.4	No	1.5	4.1	No	No

* Based on an effluent flow of 2.95 mgd.

August 21, 2023

TABLE 6
Calculation of Projected Effluent Quality
For Gibson County Coal - South Mine in Gibson County
Outfall 003A/003B to Emerson Ditch
(IN0064157, WLA002728)

Parameter	Monthly Average PEQ					Daily Maximum PEQ				
	Maximum Monthly Average (mg/l)	Number of Monthly Averages	CV	Multiplying Factor	Monthly Average PEQ (mg/l)	Maximum Daily Sample (mg/l)	Number of Daily Samples	CV	Multiplying Factor	Daily Maximum PEQ (mg/l)
Iron	3.9	17	1.3	1.9	7.4	7.5	67	1.6	0.9	6.8

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TABLE 7
Results of Reasonable Potential Statistical Procedure
For Gibson County Coal - South Mine in Gibson County
Outfall 003A/003B to Emerson Ditch
(IN0064157, WLA002728)

Parameter	Monthly Average Comparison			Daily Maximum Comparison			Reasonable Potential to Exceed?
	Monthly Average PEQ (mg/l)	Monthly Average PEL* (mg/l)	PEQ > PEL?	Daily Maximum PEQ (mg/l)	Daily Maximum PEL* (mg/l)	PEQ > PEL?	
Iron	7.4	2.4	Yes	6.8	4.1	Yes	Yes

* Based on an effluent flow of 2.95 mgd.

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TABLE 8
Water Quality-based Effluent Limitations
For Gibson County Coal - South Mine in Gibson County
Outfall 003D to Emerson Ditch
(IN0064157, WLA002728)

Parameter	Quality or Concentration*			Quantity or Loading*			Monthly Sampling Frequency
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	
Iron	2.4	4.1	mg/l	59	100	lbs/day	2

* Based on an effluent flow of 2.95 mgd.

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TABLE 9
Water Quality-based Effluent Limitations
For Gibson County Coal - South Mine in Gibson County
Outfall 003A/003B to Emerson Ditch
(IN0064157, WLA002728)

Parameter	Quality or Concentration*			Quantity or Loading*			Monthly Sampling Frequency
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	
Iron	2.4	4.1	mg/l	59	100	lbs/day	2

* Based on an effluent flow of 2.95 mgd.

August 21, 2023

Documentation of Wasteload Allocation Analysis For Discharges in the Non-Great Lakes System

Analysis By: Heidi Etter

Date: August 21, 2023

Reviewed By: John Elliott

WLA Number: WLA002728

Facility Information

- **Name:** Gibson County Coal – South Mine
- **NPDES Permit Number:** IN0064157
- **Permit Expiration Date:** September 30, 2023
- **County:** Gibson
- **Purpose of Analysis:** Reasonable potential analysis for chloride and iron and WQBELs for iron for permit renewal.
- **Outfall Number:** 003 (see Attachment 1 which is the map provided with the permit application)
- **Facility Operations:** The source of wastewater is flow augmented underground coal mine water, decant water from the preparation plant's fine refuse slurry pond, and stormwater from preparation plant area runoff; the flow augmented underground coal mine water, slurry pond decant water and stormwater initially commingle in a make-up pond that has an emergency overflow to Sedimentation Basin SP-3.
- **Applicable Effluent Guidelines:** 40 CFR 434 Coal Mining Point Source Category, Subpart B Coal Preparation Plants and Coal Preparation Plant Associated Areas (40 CFR 434.25(b)) and Subpart D Alkaline Mine Drainage (40 CFR 434.45); these guidelines establish limits for TSS, pH, and total iron. In addition, 40 CFR 434.61, commingling of waste streams, must be considered for Outfall 003 and 40 CFR 434.63, effluent limitations for precipitation events, was applied in the current permit.
- **Type of Treatment:** Sedimentation
- **Current Permitted Flow:** Discharge flow is monitored and reported in the current permit for three separate outfalls (003D/003A/003B) based on dry weather discharges and discharges during one of two precipitation events. There are no limits in the current permit based on discharge flow.
- **Effluent Flow for WLA Analysis:** 2.95 mgd (average flow of combined sources to Outfall 003 included on Form 2C of the permit renewal application; 49 gpm of mine water diluted with 1,000 gpm of groundwater, 500 gpm preparation plant stormwater runoff, 500 gpm decant water from preparation plant slurry pond)
- **Current Effluent Limits for Outfall 003D (dry weather discharges):**

Parameter	Monthly Average		Daily Maximum		Measurement Frequency
	(mg/l)	(lbs/day)	(mg/l)	(lbs/day)	
Total Iron	2.4	-	4.1	-	1 X Weekly
Chloride	Report	-	Report	-	1 X Weekly
Sulfate	Report	-	Report	-	1 X Weekly
Hardness	Report	-	Report	-	2 X Monthly
TSS	35	-	70	-	2 X Monthly

Pollutants of Concern and Type of WLA Analysis

Pollutants of Concern and Type of WLA Analysis		
Parameter	Type of Analysis	Reason for Inclusion on Pollutants of Concern List
Chloride	RPE	Monitored in current permit at Outfalls 003D, 003A and 003B.
Iron	RPE	Limited in permit at Outfalls 003D, 003A and 003B.
Iron	WQBEL	Effluent limitation guidelines (ELGs) apply to Outfall 003D.

Receiving Stream Information

- **Receiving Stream:** Outfall 003 discharges to Emerson Ditch which enters Scott Ditch after about 2.2 miles. Scott Ditch is a tributary to the Wabash River.
- **Public Water System Intakes Downstream:** None
- **Designated Stream Use:** Emerson Ditch and Scott Ditch are designated for full-body contact recreation and shall be capable of supporting a well-balanced, warm water aquatic community.
- **12 Digit HUC:** 051201130305
- **Assessment Unit:** INB1335_T1010
- **303(d) List (2022):** Emerson Ditch is not on the 2022 303(d) list.
- **TMDL Status:** No TMDL has been completed or is in progress for Emerson Ditch.
- **Q7,10 (Outfall):** 0.0 cfs (Outfall 003 is at the headwaters of Emerson Ditch)
- **Nearby Dischargers:** The Gibson County Coal – South Mine has three additional outfalls that discharge to Emerson Ditch: Outfall 002 discharges new source alkaline mine drainage to the headwaters under general permit ING040253; Outfall 005 is the discharge from the facility’s sanitary WWTP covered under IN0064157 and is also located at the headwaters of Emerson Ditch; Outfall 006 is permitted under IN0064157 to discharge flow augmented underground mine water to Emerson Ditch about 1.6 miles downstream; Outfall 006 is currently inactive with flow being redirected to the makeup pond; none of these discharges will impact the analysis

Calculation of Preliminary Effluent Limitations

The sulfate criterion at 327 IAC 2-1-6(a)(8) is dependent on the stream chloride and hardness concentrations and the acute and chronic chloride criteria at 327 IAC 2-1-6(a)(6) are dependent on the stream sulfate and hardness concentrations. Downstream water quality data is typically used to determine the water quality characteristics for calculating water quality criteria. The use of the downstream water quality data is intended to determine values of the water quality characteristics that are representative of design conditions. The 50th percentile downstream values of hardness, chloride, and sulfate are used to calculate the criteria. The design condition for chloride and sulfate is based on the facility effluent flow and the Q7,10 low-flow of the receiving stream.

Since the Q7,10 of Emerson Ditch is zero and the discharge is at the headwaters of Emerson Ditch, the receiving stream downstream of the outfall during stream design flow conditions will be composed mostly of effluent. Therefore, estimated 50th percentile concentrations of sulfate and hardness in the discharge from Outfall 003 were used to calculate preliminary effluent limitations (PELs) for chloride. Effluent data for Outfall 003D and Outfall 003A for the period June 2018 through May 2023 were obtained from the facility and from monthly monitoring reports (MMRs). Outfall 003B did not discharge during this period. A review of the data showed that the datasets for Outfalls 003D and 003A were similar. Therefore, they were combined to form one dataset for Outfall 003 and one set of PELs was calculated instead of separate PELs based on dry weather and wet weather. The combined Outfall 003D, 003A and 003B is designated as Outfall 003C in this WLA report. The highest monthly average and daily maximum effluent concentrations for sulfate were less than PELs based on the lowest sulfate criterion of 500 mg/l, so a wasteload allocation was not developed for sulfate using effluent chloride and hardness data. The determination of the 50th percentile sulfate and hardness concentrations is included in Attachment 2.

Since the Q7,10 of Emerson Ditch at the outfall is zero, background concentrations of chloride and iron were not needed. The coefficient of variation used to calculate monthly average and daily maximum PELs was set equal to the default value of 0.6. The number of samples per month used to calculate monthly average PELs was set equal to 2 for chloride and iron based on the expected monitoring frequency. The spreadsheet used to calculate PELs for chloride for Outfall 003C (dry and wet weather) is included in Attachment 3. For iron, PELs were calculated separately for dry weather and wet weather. The spreadsheets used to calculate PELs for iron are included in Attachment 4 for Outfall 003D (dry weather) and Attachment 5 for Outfalls 003A and 003B (wet weather).

Reasonable Potential Analysis

Calculation of Projected Effluent Quality

Effluent data for Outfall 003D and 003A obtained from the facility and MMRs for the period June 2018 through May 2023 were used to calculate PEQs for chloride and iron. Outfall 003B did not discharge during this period. For chloride, a combined dataset of Outfall 003D and 003A was used. For iron, Outfalls 003D and 003A were considered separately. The effluent data include censored values reported as less than (<) values. These values were assigned the reported

less than value. Monthly averages were calculated for those months for which at least two data points are available. The data for chloride are included in Attachment 6 and the data for iron are included in Attachment 7 (Outfall 003D) and Attachment 8 (003A). Since data are not available for Outfall 003B, a combined reasonable potential analysis for Outfall 003A/003B was conducted.

Comparison of PEQs to PELs

The reasonable potential analysis for chloride is included in Attachment 9. The results of the analysis show that a PEQ exceeds a PEL for chloride. Therefore, there is a reasonable potential to exceed a water quality criterion for chloride at Outfall 003C. The reasonable potential analysis for iron is included in Attachment 10 for Outfall 003D and Attachment 11 for Outfall 003A/003B. For Outfall 003D, a PEQ does not exceed a PEL for iron. Therefore, there is not a reasonable potential to exceed a water quality criterion for iron using the reasonable potential statistical procedure at Outfall 003D. However, for Outfall 003A/003B, a PEQ exceeds a PEL for iron. Therefore, there is a reasonable potential to exceed a water quality criterion for iron at Outfall 003A/003B.

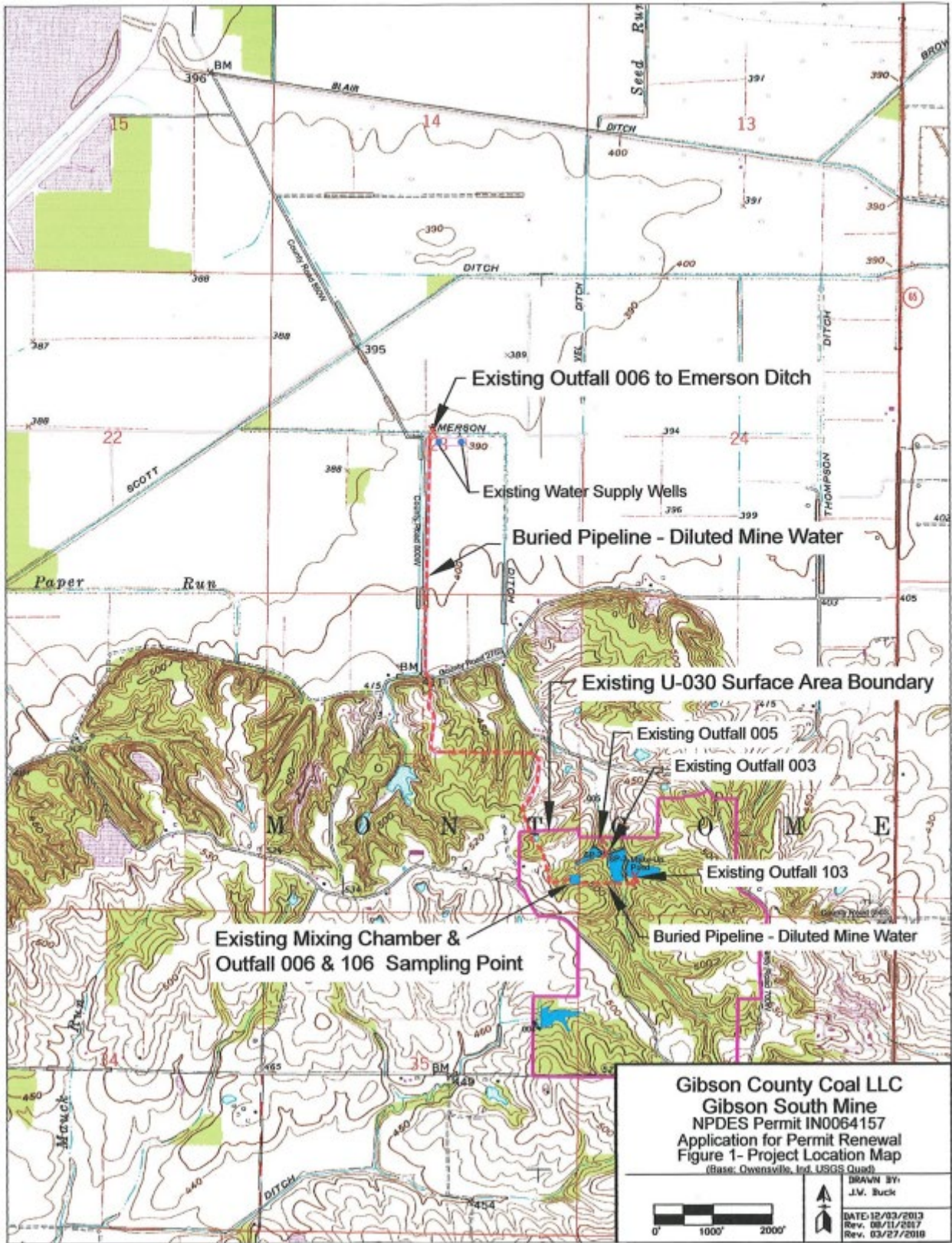
Calculation of Water Quality-based Effluent Limitations

The PELs for chloride in Attachment 3 for Outfall 003C are based on water quality criteria and may be included in an NPDES permit as WQBELs. The PELs for iron in Attachment 4 for Outfall 003D are based on water quality criteria and may be compared to applicable technology-based effluent limitations (TBELs) to determine if the WQBELs are required in the permit for Outfall 003D. The PELs for iron in Attachment 5 are based on water quality criteria and may be included in an NPDES permit as WQBELs.

List of Attachments

- Attachment 1: Map of Outfall Location
- Attachment 2: Calculation of Water Quality Characteristics for Sulfate and Hardness
- Attachment 3: Calculation of Preliminary Effluent Limitations for Chloride for Outfall 003C
- Attachment 4: Calculation of Preliminary Effluent Limitations for Iron for Outfall 003D
- Attachment 5: Calculation of Preliminary Effluent Limitations for Iron for Outfalls 003A/003B
- Attachment 6: Effluent Data for Chloride for Outfall 003D and Outfall 003A
- Attachment 7: Effluent Data for Iron for Outfall 003D
- Attachment 8: Effluent Data for Iron for Outfall 003A
- Attachment 9: Reasonable Potential Statistical Procedure for Chloride for Outfall 003C
- Attachment 10: Reasonable Potential Statistical Procedure for Iron for Outfall 003D
- Attachment 11: Reasonable Potential Statistical Procedure for Iron for Outfalls 003A/003B

ATTACHMENT 1



ATTACHMENT 2
Calculation of Water Quality Characteristics
Effluent Data for Gibson County Coal - South Mine Outfall 003D and Outfall 003A

Date	Sulfate (mg/l)	Hardness (mg/l)
	Daily	Daily
6/12/2018	210	270
6/26/2018	230	340
7/24/2018	360	300
8/7/2018	240	320
8/14/2018	300	290
9/4/2018	210	300
9/11/2018	240	280
9/25/2018	110	350
10/16/2018	250	280
10/30/2018	260	300
11/6/2018	290	230
11/13/2018	250	320
11/20/2018	210	280
11/27/2018	210	330
12/4/2018	260	320
12/11/2018	230	310
12/18/2018	270	320
12/25/2018	218	370
1/3/2019	312	300
2/12/2019	270	290
3/26/2019	190	260
4/2/2019	190	280
4/9/2019	180	280
4/16/2019	180	260
4/23/2019	180	280
4/30/2019	210	270
5/7/2019	160	270
5/14/2019	200	280
5/21/2019	200	310
5/28/2019	250	320
6/4/2019	200	310
6/11/2019	260	330
6/18/2019	230	240
6/25/2019	240	290
7/23/2019	230	240
8/13/2019	240	330
8/20/2019	150	330
8/27/2019	180	330
9/3/2019	220	350
9/10/2019	230	390
9/24/2019	180	380
10/1/2019	91	360
10/8/2019	77	340
10/15/2019	120	350
10/22/2019	190	380
10/29/2019	150	350
11/5/2019	100	390
11/12/2019	130	350
11/19/2019	100	390
11/26/2019	130	380
12/3/2019	170	320
12/10/2019	160	380
12/17/2019	310	370

Date	Sulfate (mg/l)	Hardness (mg/l)
	Daily	Daily
12/24/2019	380	470
4/7/2020	60	370
4/14/2020	55	390
4/21/2020	88	420
4/28/2020	150	360
5/5/2020	100	380
5/12/2020	130	420
5/19/2020	170	320
5/26/2020	71	410
6/2/2020	79	380
6/9/2020	110	430
6/16/2020	73	410
6/23/2020	74	380
6/30/2020	59	410
7/7/2020	140	390
7/14/2020	170	400
7/21/2020	190	410
7/28/2020	99	340
8/4/2020	190	390
8/11/2020	180	400
8/18/2020	130	370
8/25/2020	18	320
9/1/2020	190	429
9/8/2020	97	369
9/15/2020	68	368
9/22/2020	50	349
9/29/2020	73	385
10/6/2020	62	370
10/13/2020	70	360
10/20/2020	180	370
10/27/2020	230	380
11/3/2020	62	410
11/10/2020	170	370
11/17/2020	210	400
11/24/2020	230	400
12/1/2020	880	380
12/8/2020	85	390
12/15/2020	210	360
12/22/2020	220	370
12/29/2020	91	400
1/5/2021	200	410
1/12/2021	200	410
1/19/2021	190	380
1/26/2021	160	320
2/2/2021	170	380
2/9/2021	100	360
2/16/2021	76	380
2/23/2021	160	370
3/2/2021	150	330
3/9/2021	310	370
3/16/2021	120	380
3/23/2021	98	370
3/30/2021	110	360
4/6/2021	150	330
4/13/2021	82	350
4/20/2021	140	420
4/27/2021	129	350

Date	Sulfate (mg/l)	Hardness (mg/l)
	Daily	Daily
5/4/2021	112	370
5/11/2021	143	380
5/18/2021	170	380
5/25/2021	87	340
6/1/2021	91	380
6/8/2021	268	370
6/15/2021	183	380
6/22/2021	92	390
6/29/2021	90	390
7/6/2021	140	390
7/13/2021	350	430
7/20/2021	180	401
7/27/2021	190	421
8/3/2021	135	392
8/10/2021	328	414
8/17/2021	211	396
8/24/2021	137	366
8/31/2021	111	360
9/7/2021	158	417
9/14/2021	173	372
9/21/2021	204	445
9/28/2021	180	450
10/5/2021	430	451
10/12/2021	260	412
10/19/2021	320	410
10/26/2021	510	460
11/2/2021	490	450
11/9/2021	420	420
11/16/2021	210	370
11/23/2021	320	370
11/30/2021	230	360
12/7/2021	330	320
12/14/2021	120	350
12/21/2021	320	380
12/28/2021	100	370
1/4/2022	220	390
1/11/2022	180	340
1/18/2022	170	360
1/25/2022	83	340
2/1/2022	81	360
2/8/2022	210	350
2/15/2022	260	350
2/22/2022	140	330
3/1/2022	250	320
3/8/2022	190	240
3/15/2022	240	340
3/22/2022	180	340
3/29/2022	250	300
4/5/2022	240	310
4/13/2022	270	270
4/19/2022	220	320
4/26/2022	270	280
5/3/2022	230	290
5/17/2022	210	250
5/24/2022	190	320
6/7/2022	130	320
6/14/2022	210	280

Date	Sulfate (mg/l)	Hardness (mg/l)
	Daily	Daily
6/21/2022	120	270
6/28/2022	300	310
7/5/2022	110	330
7/12/2022	200	330
7/19/2022	240	350
7/26/2022	230	320
8/2/2022	410	330
8/9/2022	210	340
8/16/2022	210	350
8/30/2022	400	430
9/6/2022	130	357
10/4/2022	140	370
10/18/2022	250	400
10/25/2022	130	368
11/1/2022	290	460
11/8/2022	240	430
11/15/2022	130	400
11/22/2022	-	350
11/29/2022	120	340
12/6/2022	110	340
12/13/2022	150	400
12/20/2022	170	410
12/27/2022	86	360
1/6/2023	330	420
1/10/2023	140	400
1/17/2023	450	470
1/24/2023	170	390
1/31/2023	260	360
2/6/2023	120	380
2/13/2023	250	380
2/20/2023	460	410
2/27/2022	160	380
3/6/2023	110	310
3/13/2023	90	370
3/20/2023	90	370
3/28/2022	300	320
4/3/2023	300	290
4/10/2023	240	300
4/20/2023	220	300
4/24/2023	110	320
5/1/2023	170	310
5/8/2023	180	280
5/15/2023	92	270
5/22/2023	180	280
50th%	180	360

ATTACHMENT 3

Calculation of Preliminary Effluent Limitations for Discharges in the Non-Great Lakes System (Excluding Discharges to the Ohio River)

General Information	
Facility Name:	Gibson County Coal - South Mine
County:	Gibson
NPDES Number:	IN0064157
WLA Number:	002728
WLA Report Date:	August 21, 2023
Outfall:	003C
Receiving Water:	Emerson Ditch

Receiving Water Questions (Yes or No)	
Acute Mixing Zone Allowed?	No
Public Water System (PWS) Intake Downstream?	No
Industrial Water Supply (IWS) Intake Downstream?	No
Interstate Wabash River Discharge?	No
Put-and-Take Trout Fishing?	No
Fish Early Life Stages Present?	Yes

Effluent Flow	=	2.95 mgd
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Receiving Stream Design Flows	
Q1,10 (Outfall)	= cfs
Q7,10 (Outfall)	= 0 cfs
Q7,10 (Public Water System Intake)	= cfs
Q7,10 (Industrial Water Supply Intake)	= cfs
Q30,10 (Outfall)	= cfs
Q50 (Outfall)	= cfs
Q50 (Public Water System Intake)	= cfs

Ambient Downstream Water Quality Characteristics	
Hardness (50th percentile)	= 360 mg/l
Chloride (50th percentile)	= 406 mg/l
Sulfate (50th percentile)	= 180 mg/l
pH (50th percentile)	= s.u.
Acute Ammonia-N	
Summer pH (75th percentile)	= s.u.
Winter pH (75th percentile)	= s.u.
Chronic Ammonia-N	
Summer Temperature (75th percentile)	= C
Summer pH (75th percentile)	= s.u.
Winter Temperature (75th percentile)	= C
Winter pH (75th percentile)	= s.u.

Mixing Zone Dilution			
Dilution Factor (for acute mixing zone)	=		
		Dilution Fraction	Flow
			Location
Chronic Aquatic Life (Except Ammonia and Selenium)	=	50%	Q7,10 Outfall
Chronic Aquatic Life (Ammonia and Selenium)	=	50%	Q30,10 Outfall
Chronic WET	=	25%	Q7,10 Outfall
Human Noncancer Drinking Water	=	100%	Q7,10 PWS Intake
Human Noncancer Nondrinking Water	=	50%	Q7,10 Outfall
Human Cancer Drinking Water	=	100%	Q50 PWS Intake
Human Cancer Nondrinking Water	=	25%	Q50 Outfall
Public Water Supply	=	100%	Q7,10 PWS Intake
Industrial Water Supply	=	100%	Q7,10 IWS Intake

Metals Translators (dissolved to total recoverable)		
	Acute	Chronic
Arsenic	1.000	1.000
Cadmium	0.890	0.855
Chromium III	0.316	0.860
Copper	0.960	0.960
Lead	0.604	0.604
Nickel	0.998	0.997
Selenium	--	1.000
Silver	0.85	--
Zinc	0.978	0.986

Source of Criteria [1]	A	B	C	D	E	F	G	Indiana Water Quality Criteria for the Non-Great Lakes System (ug/l) [2]							Preliminary Effluent Limitations [3]														
								Bckgrnd (Outfall) (ug/l)	Bckgrnd (Intake) (ug/l)	Remove Mixing Zone? (Yes or Blank)	Samples/ Month	CV	Facility Specific CV? (Yes or No)	CAS Number	Parameters	Aquatic Life Criteria		Human Health Noncancer Criteria		Human Health Cancer Criteria		Add. PWS Criteria (PWS)	Concentration (ug/l)		Criteria Type [4]	Basis			
																Acute (AAC)	Chronic (CAC)	Drinking (HNC-D)	Nondrinking (HNC-N)	Drinking (HCC-D)	Nondrinking (HCC-N)		Average	Maximum			Average	Maximum	
1							1					2	0.6	No	1688706	Chloride[7][11]	656307	405620					250000	380000	670000	9400	16000	Tier I	CAC

[1] Source of Criteria

- 1) Indiana numeric water quality criterion in 327 IAC 2-1-6(a)(3), Table 6-1, 2-1-6(a)(4), Table 6-1a, 2-1-6(a)(6), 2-1-6(a)(7), Table 6-4 or in 2-1-6(e).
- 2) "Must not exceed" (MNE) criterion in 327 IAC 2-1-6(a)(8), or 2-1-6(a)(9). This criterion is treated as a 4-day average criterion and is implemented in the same manner as the chronic aquatic life criterion.
- 3) Industrial water supply (IWS) criterion in 327 IAC 2-1-6(f). This criterion is treated as a 4-day average criterion and is implemented in the same manner as the chronic aquatic life criterion.
- 4) Acute (1-hour average) and chronic (30-day average) criteria for total ammonia nitrogen in "1999 Update of Ambient Water Quality Criteria for Ammonia," EPA-822-R-99-014, December 1999.
- 5) Tier I criterion derived using the methodology in 327 IAC 2-1-8.2 or 327 IAC 2-1-8.3 when the required data set is available, or using the methodology in 327 IAC 2-1-8.4, 327 IAC 2-1-8.5 or 327 IAC 2-1-8.6.
- 6) Tier II criterion derived using the methodology in 327 IAC 2-1-8.2 or 327 IAC 2-1-8.3 when the required data set is not available.
- 7) Site-specific water quality criterion (SSC) in 327 IAC 2-1-8.9, Table 8.9-1 or developed under 327 IAC 2-1-8.9.
- 8) Screening value (SV).
- 9) Numeric interpretation of narrative criterion for toxicity using U.S. EPA recommended water quality criteria for whole effluent toxicity (WET).
- 10) U.S. EPA national recommended water quality criterion under Section 304(a) of the Clean Water Act (CWA).

[2] Except as noted, aquatic life criteria and screening values for all metals are in the form of total recoverable metal.

Human health criteria and screening values and public water supply screening values for all metals are in the form of total recoverable metal.

[3] The preliminary effluent limitations (PELs) for metals are in the form of total recoverable metal (with the exception of Chromium (VI) which is in the form of dissolved metal).

[4] See the table "Indiana Water Quality Criteria for the Non-Great Lakes System" for information on the type and source of criteria.

[5] Aquatic life criteria and screening values for the above-noted metals are in the form of dissolved metal.

[6] The above-noted substances are probable or known human carcinogens.

[7] The above-noted substances have a criterion that is a function of an ambient downstream water quality characteristic. See the table "Indiana Water Quality Criteria for the Non-Great Lakes System" for information on the criterion equation.

[8] The above-noted substances are bioaccumulative chemicals of concern (BCCs). Beginning January 1, 2004, the water quality criteria for a BCC shall be applied directly to the undiluted discharge for all discharges of a BCC.

To apply the water quality criteria for a BCC directly to the undiluted discharge, enter "Yes" in the "Remove Mixing Zone?" column.

[9] Limits based on screening values (as indicated by SV) ARE NOT to be used as water quality-based effluent limitations. These are solely to be used as preliminary effluent limitations.

[10] The monthly average PEL was set equal to the most stringent WLA because the calculated monthly average PEL exceeded the most stringent WLA and a facility-specific CV was not determined.

[11] The ambient downstream water quality characteristic must be entered for both chloride and sulfate and it cannot exceed the applicable chronic aquatic life or "must not exceed" criterion for the substance.

Preliminary effluent limitations (PELs) for chloride and sulfate shall not be used to establish water quality-based effluent limitations that do not ensure the water quality criteria for both substances are achieved in the receiving water.

ATTACHMENT 4

Calculation of Preliminary Effluent Limitations for Discharges in the Non-Great Lakes System (Excluding Discharges to the Ohio River)

General Information	
Facility Name:	Gibson County Coal - South Mine
County:	Gibson
NPDES Number:	IN0064157
WLA Number:	002728
WLA Report Date:	August 21, 2023
Outfall:	003D
Receiving Water:	Emerson Ditch

Receiving Water Questions (Yes or No)	
Acute Mixing Zone Allowed?	No
Public Water System (PWS) Intake Downstream?	No
Industrial Water Supply (IWS) Intake Downstream?	No
Interstate Wabash River Discharge?	No
Put-and-Take Trout Fishing?	No
Fish Early Life Stages Present?	Yes

Effluent Flow	=	2.95 mgd
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Receiving Stream Design Flows	
Q1,10 (Outfall)	= cfs
Q7,10 (Outfall)	= 0 cfs
Q7,10 (Public Water System Intake)	= cfs
Q7,10 (Industrial Water Supply Intake)	= cfs
Q30,10 (Outfall)	= cfs
Q50 (Outfall)	= cfs
Q50 (Public Water System Intake)	= cfs

Ambient Downstream Water Quality Characteristics	
Hardness (50th percentile)	= mg/l
Chloride (50th percentile)	= mg/l
Sulfate (50th percentile)	= mg/l
pH (50th percentile)	= s.u.
Acute Ammonia-N	
Summer pH (75th percentile)	= s.u.
Winter pH (75th percentile)	= s.u.
Chronic Ammonia-N	
Summer Temperature (75th percentile)	= C
Summer pH (75th percentile)	= s.u.
Winter Temperature (75th percentile)	= C
Winter pH (75th percentile)	= s.u.

Mixing Zone Dilution			
Dilution Factor (for acute mixing zone)	=		
		Dilution Fraction	Flow
			Location
Chronic Aquatic Life (Except Ammonia and Selenium)	=	50%	Q7,10 Outfall
Chronic Aquatic Life (Ammonia and Selenium)	=	50%	Q30,10 Outfall
Chronic WET	=	25%	Q7,10 Outfall
Human Noncancer Drinking Water	=	100%	Q7,10 PWS Intake
Human Noncancer Nondrinking Water	=	50%	Q7,10 Outfall
Human Cancer Drinking Water	=	100%	Q50 PWS Intake
Human Cancer Nondrinking Water	=	25%	Q50 Outfall
Public Water Supply	=	100%	Q7,10 PWS Intake
Industrial Water Supply	=	100%	Q7,10 IWS Intake

Metals Translators (dissolved to total recoverable)		
	Acute	Chronic
Arsenic	1.000	1.000
Cadmium	#NUM!	#NUM!
Chromium III	0.316	0.860
Copper	0.960	0.960
Lead	#NUM!	#NUM!
Nickel	0.998	0.997
Selenium	--	1.000
Silver	0.85	--
Zinc	0.978	0.986

								Indiana Water Quality Criteria for the Non-Great Lakes System (ug/l) [2]							Preliminary Effluent Limitations [3]												
								A	B	C	D	E	F	G													
								Aquatic Life Criteria		Human Health Noncancer Criteria		Human Health Cancer Criteria		Add. PWS Criteria													
								Acute (AAC)	Chronic (CAC)	Drinking (HNC-D)	Nondrinking (HNC-N)	Drinking (HCC-D)	Nondrinking (HCC-N)	(PWS)	Concentration (ug/l)		Mass (lbs/day)		Criteria	Basis							
Source of Criteria [1]	A	B	C	D	E	F	G	Bckgrnd (Outfall) (ug/l)	Bckgrnd (Intake) (ug/l)	Remove Mixing Zone? (Yes or Blank)	Samples/ Month	CV	Facility Specific CV? (Yes or No)	CAS Number	Parameters	Average	Maximum	Average	Maximum	Type [4]	Basis						
7	7										2	0.6	No	7439896	Iron	2744	2495					2400	4100	59	100	SSC	CAC

[1] Source of Criteria

- 1) Indiana numeric water quality criterion in 327 IAC 2-1-6(a)(3), Table 6-1, 2-1-6(a)(4), Table 6-1a, 2-1-6(a)(6), 2-1-6(a)(7), Table 6-4 or in 2-1-6(e).
- 2) "Must not exceed" (MNE) criterion in 327 IAC 2-1-6(a)(8), or 2-1-6(a)(9). This criterion is treated as a 4-day average criterion and is implemented in the same manner as the chronic aquatic life criterion.
- 3) Industrial water supply (IWS) criterion in 327 IAC 2-1-6(f). This criterion is treated as a 4-day average criterion and is implemented in the same manner as the chronic aquatic life criterion.
- 4) Acute (1-hour average) and chronic (30-day average) criteria for total ammonia nitrogen in "1999 Update of Ambient Water Quality Criteria for Ammonia," EPA-822-R-99-014, December 1999.
- 5) Tier I criterion derived using the methodology in 327 IAC 2-1-8.2 or 327 IAC 2-1-8.3 when the required data set is available, or using the methodology in 327 IAC 2-1-8.4, 327 IAC 2-1-8.5 or 327 IAC 2-1-8.6.
- 6) Tier II criterion derived using the methodology in 327 IAC 2-1-8.2 or 327 IAC 2-1-8.3 when the required data set is not available.
- 7) Site-specific water quality criterion (SSC) in 327 IAC 2-1-8.9, Table 8.9-1 or developed under 327 IAC 2-1-8.9.
- 8) Screening value (SV).
- 9) Numeric interpretation of narrative criterion for toxicity using U.S. EPA recommended water quality criteria for whole effluent toxicity (WET).
- 10) U.S. EPA national recommended water quality criterion under Section 304(a) of the Clean Water Act (CWA).

[2] Except as noted, aquatic life criteria and screening values for all metals are in the form of total recoverable metal.

Human health criteria and screening values and public water supply screening values for all metals are in the form of total recoverable metal.

[3] The preliminary effluent limitations (PELs) for metals are in the form of total recoverable metal (with the exception of Chromium (VI) which is in the form of dissolved metal).

[4] See the table "Indiana Water Quality Criteria for the Non-Great Lakes System" for information on the type and source of criteria.

[5] Aquatic life criteria and screening values for the above-noted metals are in the form of dissolved metal.

[6] The above-noted substances are probable or known human carcinogens.

[7] The above-noted substances have a criterion that is a function of an ambient downstream water quality characteristic. See the table "Indiana Water Quality Criteria for the Non-Great Lakes System" for information on the criterion equation.

[8] The above-noted substances are bioaccumulative chemicals of concern (BCCs). Beginning January 1, 2004, the water quality criteria for a BCC shall be applied directly to the undiluted discharge for all discharges of a BCC.

To apply the water quality criteria for a BCC directly to the undiluted discharge, enter "Yes" in the "Remove Mixing Zone?" column.

[9] Limits based on screening values (as indicated by SV) ARE NOT to be used as water quality-based effluent limitations. These are solely to be used as preliminary effluent limitations.

[10] The monthly average PEL was set equal to the most stringent WLA because the calculated monthly average PEL exceeded the most stringent WLA and a facility-specific CV was not determined.

[11] The ambient downstream water quality characteristic must be entered for both chloride and sulfate and it cannot exceed the applicable chronic aquatic life or "must not exceed" criterion for the substance.

Preliminary effluent limitations (PELs) for chloride and sulfate shall not be used to establish water quality-based effluent limitations that do not ensure the water quality criteria for both substances are achieved in the receiving water.

ATTACHMENT 5

Calculation of Preliminary Effluent Limitations for Discharges in the Non-Great Lakes System (Excluding Discharges to the Ohio River)

General Information	
Facility Name:	Gibson County Coal - South Mine
County:	Gibson
NPDES Number:	IN0064157
WLA Number:	002728
WLA Report Date:	August 21, 2023
Outfall:	003A/003B
Receiving Water:	Emerson Ditch

Receiving Water Questions (Yes or No)	
Acute Mixing Zone Allowed?	No
Public Water System (PWS) Intake Downstream?	No
Industrial Water Supply (IWS) Intake Downstream?	No
Interstate Wabash River Discharge?	No
Put-and-Take Trout Fishing?	No
Fish Early Life Stages Present?	Yes

Effluent Flow	=	2.95 mgd
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Receiving Stream Design Flows	
Q1,10 (Outfall)	= cfs
Q7,10 (Outfall)	= 0 cfs
Q7,10 (Public Water System Intake)	= cfs
Q7,10 (Industrial Water Supply Intake)	= cfs
Q30,10 (Outfall)	= cfs
Q50 (Outfall)	= cfs
Q50 (Public Water System Intake)	= cfs

Ambient Downstream Water Quality Characteristics	
Hardness (50th percentile)	= mg/l
Chloride (50th percentile)	= mg/l
Sulfate (50th percentile)	= mg/l
pH (50th percentile)	= s.u.
Acute Ammonia-N	
Summer pH (75th percentile)	= s.u.
Winter pH (75th percentile)	= s.u.
Chronic Ammonia-N	
Summer Temperature (75th percentile)	= C
Summer pH (75th percentile)	= s.u.
Winter Temperature (75th percentile)	= C
Winter pH (75th percentile)	= s.u.

Metals Translators (dissolved to total recoverable)		
	Acute	Chronic
Arsenic	1.000	1.000
Cadmium	#NUM!	#NUM!
Chromium III	0.316	0.860
Copper	0.960	0.960
Lead	#NUM!	#NUM!
Nickel	0.998	0.997
Selenium	--	1.000
Silver	0.85	--
Zinc	0.978	0.986

Mixing Zone Dilution			
Dilution Factor (for acute mixing zone)	=		
	Dilution Fraction	Flow	Location
Chronic Aquatic Life (Except Ammonia and Selenium)	= 50%	Q7,10	Outfall
Chronic Aquatic Life (Ammonia and Selenium)	= 50%	Q30,10	Outfall
Chronic WET	= 25%	Q7,10	Outfall
Human Noncancer Drinking Water	= 100%	Q7,10	PWS Intake
Human Noncancer Nondrinking Water	= 50%	Q7,10	Outfall
Human Cancer Drinking Water	= 100%	Q50	PWS Intake
Human Cancer Nondrinking Water	= 25%	Q50	Outfall
Public Water Supply	= 100%	Q7,10	PWS Intake
Industrial Water Supply	= 100%	Q7,10	IWS Intake

										Indiana Water Quality Criteria for the Non-Great Lakes System (ug/l) [2]							Preliminary Effluent Limitations [3]									
										A	B	C	D	E	F	G										
										Aquatic Life Criteria		Human Health Noncancer Criteria		Human Health Cancer Criteria		Add. PWS Criteria										
Source of Criteria [1]										Acute (AAC)	Chronic (CAC)	Drinking (HNC-D)	Nondrinking (HNC-N)	Drinking (HCC-D)	Nondrinking (HCC-N)	(PWS)	Concentration (ug/l)		Mass (lbs/day)		Criteria	Basis				
A	B	C	D	E	F	G	Bckgrnd (Outfall) (ug/l)	Bckgrnd (Intake) (ug/l)	Remove Mixing Zone? (Yes or Blank)	Samples/ Month	CV	Facility Specific CV? (Yes or No)	CAS Number	Parameters	Average	Maximum	Average	Maximum	Type [4]	Basis						
7										2	0.6	No	7439896	Iron	2744	2495					2400	4100	59	100	SSC	CAC

[1] Source of Criteria

- 1) Indiana numeric water quality criterion in 327 IAC 2-1-6(a)(3), Table 6-1, 2-1-6(a)(4), Table 6-1a, 2-1-6(a)(6), 2-1-6(a)(7), Table 6-4 or in 2-1-6(e).
- 2) "Must not exceed" (MNE) criterion in 327 IAC 2-1-6(a)(8), or 2-1-6(a)(9). This criterion is treated as a 4-day average criterion and is implemented in the same manner as the chronic aquatic life criterion.
- 3) Industrial water supply (IWS) criterion in 327 IAC 2-1-6(f). This criterion is treated as a 4-day average criterion and is implemented in the same manner as the chronic aquatic life criterion.
- 4) Acute (1-hour average) and chronic (30-day average) criteria for total ammonia nitrogen in "1999 Update of Ambient Water Quality Criteria for Ammonia," EPA-822-R-99-014, December 1999.
- 5) Tier I criterion derived using the methodology in 327 IAC 2-1-8.2 or 327 IAC 2-1-8.3 when the required data set is available, or using the methodology in 327 IAC 2-1-8.4, 327 IAC 2-1-8.5 or 327 IAC 2-1-8.6.
- 6) Tier II criterion derived using the methodology in 327 IAC 2-1-8.2 or 327 IAC 2-1-8.3 when the required data set is not available.
- 7) Site-specific water quality criterion (SSC) in 327 IAC 2-1-8.9, Table 8.9-1 or developed under 327 IAC 2-1-8.9.
- 8) Screening value (SV).
- 9) Numeric interpretation of narrative criterion for toxicity using U.S. EPA recommended water quality criteria for whole effluent toxicity (WET).
- 10) U.S. EPA national recommended water quality criterion under Section 304(a) of the Clean Water Act (CWA).

[2] Except as noted, aquatic life criteria and screening values for all metals are in the form of total recoverable metal.

Human health criteria and screening values and public water supply screening values for all metals are in the form of total recoverable metal.

[3] The preliminary effluent limitations (PELs) for metals are in the form of total recoverable metal (with the exception of Chromium (VI) which is in the form of dissolved metal).

[4] See the table "Indiana Water Quality Criteria for the Non-Great Lakes System" for information on the type and source of criteria.

[5] Aquatic life criteria and screening values for the above-noted metals are in the form of dissolved metal.

[6] The above-noted substances are probable or known human carcinogens.

[7] The above-noted substances have a criterion that is a function of an ambient downstream water quality characteristic. See the table "Indiana Water Quality Criteria for the Non-Great Lakes System" for information on the criterion equation.

[8] The above-noted substances are bioaccumulative chemicals of concern (BCCs). Beginning January 1, 2004, the water quality criteria for a BCC shall be applied directly to the undiluted discharge for all discharges of a BCC.

To apply the water quality criteria for a BCC directly to the undiluted discharge, enter "Yes" in the "Remove Mixing Zone?" column.

[9] Limits based on screening values (as indicated by SV) ARE NOT to be used as water quality-based effluent limitations. These are solely to be used as preliminary effluent limitations.

[10] The monthly average PEL was set equal to the most stringent WLA because the calculated monthly average PEL exceeded the most stringent WLA and a facility-specific CV was not determined.

[11] The ambient downstream water quality characteristic must be entered for both chloride and sulfate and it cannot exceed the applicable chronic aquatic life or "must not exceed" criterion for the substance.

Preliminary effluent limitations (PELs) for chloride and sulfate shall not be used to establish water quality-based effluent limitations that do not ensure the water quality criteria for both substances are achieved in the receiving water.

ATTACHMENT 6
Effluent Data for Gibson County Coal - South Mine Outfall 003D and Outfall 003A

Date	Chloride (mg/l)	
	Daily	Monthly Average
6/12/2018	150	190
6/26/2018	230	
7/24/2018	630	
8/7/2018	670	650
8/14/2018	630	
9/4/2018	580	420
9/11/2018	210	
9/25/2018	470	
10/16/2018	530	535
10/30/2018	540	
11/6/2018	450	477
11/13/2018	490	
11/27/2018	490	
12/4/2018	450	454
12/11/2018	480	
12/18/2018	350	
12/25/2018	537	
1/3/2019	537	
2/12/2019	250	
3/26/2019	390	
4/2/2019	460	514
4/9/2019	500	
4/16/2019	440	
4/23/2019	520	
4/30/2019	650	
5/7/2019	430	515
5/14/2019	620	
5/21/2019	540	
5/28/2019	470	
6/4/2019	480	353
6/11/2019	440	
6/18/2019	250	
6/25/2019	240	
7/23/2019	280	
8/13/2019	440	483
8/20/2019	560	
8/27/2019	450	
9/3/2019	650	823
9/10/2019	720	
9/24/2019	1100	
10/1/2019	1100	948
10/8/2019	1300	
10/15/2019	1000	
10/22/2019	780	
10/29/2019	560	
11/5/2019	770	850
11/12/2019	880	
11/19/2019	900	
11/26/2019	850	
12/3/2019	540	720
12/10/2019	810	
12/17/2019	680	

Date	Chloride (mg/l)	
	Daily	Monthly Average
12/24/2019	850	
4/7/2020	520	
4/14/2020	560	538
4/21/2020	470	
4/28/2020	600	
5/5/2020	700	590
5/12/2020	590	
5/19/2020	410	
5/26/2020	660	
6/2/2020	540	502
6/9/2020	590	
6/16/2020	480	
6/23/2020	580	
6/30/2020	320	
7/7/2020	590	513
7/14/2020	510	
7/21/2020	430	
7/28/2020	520	
8/4/2020	500	440
8/11/2020	420	
8/18/2020	510	
8/25/2020	330	
9/1/2020	600	636
9/8/2020	790	
9/15/2020	600	
9/22/2020	590	
9/29/2020	600	
10/6/2020	580	555
10/13/2020	550	
10/20/2020	480	
10/27/2020	610	
11/3/2020	150	453
11/10/2020	600	
11/17/2020	540	
11/24/2020	520	
12/1/2020	610	654
12/8/2020	540	
12/15/2020	800	
12/22/2020	680	
12/29/2020	640	
1/5/2021	570	555
1/12/2021	580	
1/19/2021	660	
1/26/2021	410	
2/2/2021	440	495
2/9/2021	440	
2/16/2021	560	
2/23/2021	540	
3/2/2021	360	492
3/9/2021	580	
3/16/2021	530	
3/23/2021	480	
3/30/2021	510	
4/6/2021	510	534
4/13/2021	524	
4/20/2021	569	

Date	Chloride (mg/l)	
	Daily	Monthly Average
4/27/2021	534	
5/4/2021	414	538
5/11/2021	553	
5/18/2021	612	
5/25/2021	573	
6/1/2021	450	519
6/8/2021	652	
6/15/2021	371	
6/22/2021	610	
6/29/2021	510	
7/6/2021	530	510
7/13/2021	450	
7/20/2021	480	
7/27/2021	580	
8/3/2021	593	609
8/10/2021	207	
8/17/2021	761	
8/24/2021	850	
8/31/2021	635	
9/7/2021	548	559
9/14/2021	626	
9/21/2021	541	
9/28/2021	521	
10/5/2021	790	713
10/12/2021	620	
10/19/2021	720	
10/26/2021	720	
11/2/2021	760	902
11/9/2021	760	
11/16/2021	1100	
11/23/2021	950	
11/30/2021	940	
12/7/2021	590	813
12/14/2021	950	
12/21/2021	880	
12/28/2021	830	
1/4/2022	650	695
1/11/2022	540	
1/18/2022	810	
1/25/2022	780	
2/1/2022	740	718
2/8/2022	810	
2/15/2022	850	
2/22/2022	470	
3/1/2022	630	598
3/8/2022	270	
3/15/2022	700	
3/22/2022	620	
3/29/2022	770	
4/5/2022	760	670
4/13/2022	620	
4/19/2022	580	
4/26/2022	720	
5/3/2022	680	607
5/17/2022	700	
5/24/2022	440	

Date	Chloride (mg/l)		
	Daily	Monthly Average	
6/7/2022	330	545	
6/14/2022	570		
6/21/2022	550		
6/28/2022	730		
7/5/2022	500	408	
7/12/2022	400		
7/19/2022	370		
7/26/2022	360		
8/2/2022	430	405	
8/9/2022	390		
8/16/2022	430		
8/30/2022	370		
9/6/2022	620		
10/4/2022	700	703	
10/18/2022	720		
10/25/2022	690		
11/1/2022	580	713	
11/8/2022	870		
11/15/2022	680		
11/29/2022	720		
12/6/2022	750	710	
12/13/2022	750		
12/20/2022	630		
12/27/2022	710		
1/6/2023	460	572	
1/10/2023	650		
1/17/2023	670		
1/24/2023	600		
1/31/2023	480		
2/6/2023	670	583	
2/13/2023	550		
2/20/2023	480		
2/27/2023	630		
3/6/2023	430	528	
3/13/2023	590		
3/20/2023	590		
3/28/2023	500		
4/3/2023	520	545	
4/10/2023	490		
4/20/2023	580		
4/24/2023	590		
5/1/2023	610	580	
5/8/2023	580		
5/15/2023	570		
5/22/2023	560		
Outlier Analysis	mean	583	
	std	173	
	mean + 3std	1103	
Reasonable Potential Analysis	n	209	51
	CV	0.3	0.2
	max	1300	948
50th %		573	

ATTACHMENT 7
Effluent Data for Gibson County Coal, LLC - Gibson South Mine Outfall 003D

Date	Iron (mg/l)		
	Daily	Adjusted Daily	Monthly Average
6/12/2018	1.20	1.20	0.77
6/26/2018	0.33	0.33	
8/7/2018	0.13	0.13	0.12
8/14/2018	0.11	0.11	
9/4/2018	0.15	0.15	0.17
9/11/2018	0.19	0.19	
10/30/2018	0.27	0.27	
11/6/2018	0.81	0.81	0.48
11/13/2018	0.30	0.30	
11/27/2018	0.32	0.32	
12/4/2018	0.40	0.40	0.30
12/11/2018	0.27	0.27	
12/18/2018	0.24	0.24	
1/3/2019	0.42	0.42	
3/26/2019	0.61	0.61	
4/2/2019	0.19	0.19	0.25
4/9/2019	0.14	0.14	
4/16/2019	0.39	0.39	
4/23/2019	0.24	0.24	
4/30/2019	0.27	0.27	
5/7/2019	0.31	0.31	0.26
5/14/2019	0.28	0.28	
5/28/2019	0.20	0.20	
6/4/2019	0.29	0.29	0.26
6/11/2019	0.22	0.22	
8/27/2019	0.10	0.10	
9/10/2019	0.23	0.23	0.25
9/24/2019	0.27	0.27	
10/1/2019	0.22	0.22	0.28
10/8/2019	0.24	0.24	
10/15/2019	0.28	0.28	
10/22/2019	0.36	0.36	
10/29/2019	0.30	0.30	
11/19/2019	0.31	0.31	
12/3/2019	0.45	0.45	0.38
12/10/2019	0.30	0.30	
4/7/2020	0.48	0.48	0.49
4/14/2020	0.48	0.48	
4/21/2020	0.46	0.46	
4/28/2020	0.53	0.53	
5/12/2020	0.63	0.63	0.59
5/26/2020	0.54	0.54	
6/2/2020	0.62	0.62	0.48
6/16/2020	0.43	0.43	
6/23/2020	0.40	0.40	
7/7/2020	0.40	0.40	0.36
7/14/2020	0.38	0.38	
7/28/2020	<0.30	0.30	
8/4/2020	0.31	0.31	0.42
8/11/2020	0.63	0.63	
8/25/2020	0.31	0.31	
9/8/2020	0.31	0.31	0.36

Date	Iron (mg/l)		Monthly Average
	Daily	Adjusted Daily	
9/15/2020	0.35	0.35	
9/22/2020	0.41	0.41	
9/29/2020	0.35	0.35	
10/6/2020	<0.30	0.30	0.39
10/20/2020	0.42	0.42	
10/27/2020	0.44	0.44	
11/3/2020	0.47	0.47	0.60
11/17/2020	0.73	0.73	
12/1/2020	0.56	0.56	0.51
12/8/2020	0.48	0.48	
12/15/2020	0.50	0.50	
12/22/2020	0.54	0.54	
12/29/2020	0.47	0.47	
1/5/2021	0.53	0.53	
2/2/2021	1.70	1.70	0.97
2/9/2021	0.50	0.50	
2/16/2021	1.10	1.10	
2/23/2021	0.59	0.59	
3/2/2021	0.65	0.65	0.43
3/9/2021	<0.30	0.30	
3/16/2021	0.44	0.44	
3/23/2021	0.33	0.33	
4/6/2021	0.33	0.33	0.36
4/13/2021	0.34	0.34	
4/27/2021	0.42	0.42	
5/11/2021	0.34	0.34	
6/15/2021	0.35	0.35	0.32
6/22/2021	0.32	0.32	
6/29/2021	<0.30	0.30	
7/13/2021	<0.30	0.30	0.28
7/20/2021	0.25	0.25	
7/27/2021	0.29	0.29	
8/3/2021	0.16	0.16	0.15
8/17/2021	0.14	0.14	
8/24/2021	0.16	0.16	
8/31/2021	0.14	0.14	
9/7/2021	0.22	0.22	0.22
9/14/2021	0.13	0.13	
9/28/2021	0.30	0.30	
10/12/2021	0.28	0.28	0.41
10/19/2021	0.52	0.52	
10/26/2021	0.44	0.44	
11/2/2021	<0.30	0.30	0.28
11/9/2021	<0.30	0.30	
11/16/2021	<0.30	0.30	
11/23/2021	<0.24	0.24	
11/30/2021	<0.24	0.24	
12/7/2021	0.58	0.58	0.41
12/14/2021	<0.30	0.30	
12/21/2021	0.36	0.36	
1/4/2022	0.42	0.42	0.36
1/11/2022	0.38	0.38	
1/18/2022	0.33	0.33	
1/25/2022	<0.30	0.30	
2/1/2022	<0.30	0.30	0.30
2/15/2022	<0.30	0.30	

Date	Iron (mg/l)		
	Daily	Adjusted Daily	Monthly Average
3/1/2022	<0.30	0.30	0.63
3/8/2022	1.30	1.30	
3/15/2022	<0.30	0.30	
4/13/2022	0.78	0.78	0.58
4/19/2022	0.34	0.34	
4/26/2022	0.61	0.61	
5/17/2022	0.43	0.43	0.40
5/24/2022	0.36	0.36	
6/14/2022	<0.30	0.30	0.31
6/21/2022	<0.30	0.30	
6/28/2022	0.32	0.32	
7/5/2022	0.43	0.43	0.35
7/12/2022	0.30	0.30	
7/19/2022	0.32	0.32	
8/16/2022	<0.30	0.30	
10/4/2022	<0.30	0.30	0.30
10/18/2022	<0.30	0.30	
10/25/2022	<0.30	0.30	
11/1/2022	0.54	0.54	0.37
11/8/2022	0.34	0.34	
11/22/2022	<0.30	0.30	
11/29/2022	<0.30	0.30	
12/20/2022	<0.30	0.30	0.31
12/27/2022	0.32	0.32	
1/6/2023	<0.30	0.30	0.37
1/10/2023	<0.30	0.30	
1/31/2023	0.50	0.50	
2/6/2023	<0.30	0.30	0.36
2/13/2023	0.34	0.34	
2/20/2023	0.45	0.45	
3/6/2023	0.53	0.53	0.47
3/13/2023	0.46	0.46	
3/20/2023	0.41	0.41	
4/10/2023	0.39	0.39	0.37
4/24/2023	0.35	0.35	
5/1/2023	0.37	0.37	0.34
5/22/2023	0.31	0.31	
Outlier Analysis	mean	0.38	
	std	0.21	
	mean + 3std	1.0	
Reasonable Potential Analysis	n	145	45
	CV	0.5	0.4
	max	1.7	0.97

ATTACHMENT 8
Effluent Data for Gibson County Coal, LLC - Gibson South Mine Outfall 003A/003B

Date	Iron (mg/l)		Monthly Average
	Daily	Daily	
7/24/2018	0.19	0.19	
9/25/2018	0.67	0.67	
10/16/2018	0.25	0.25	
11/20/2018	0.25	0.25	
12/25/2018	0.48	0.48	
2/12/2019	1.10	1.10	
5/21/2019	0.26	0.26	
6/18/2019	0.17	0.17	0.21
6/25/2019	0.25	0.25	
7/23/2019	0.36	0.36	
8/13/2019	0.71	0.71	0.43
8/20/2019	0.15	0.15	
9/3/2019	0.20	0.20	
10/22/2019	0.36	0.36	
11/5/2019	0.39	0.39	0.31
11/12/2019	0.30	0.30	
11/26/2019	0.25	0.25	
12/17/2019	0.30	0.30	0.35
12/24/2019	0.40	0.40	
5/5/2020	0.60	0.60	0.67
5/19/2020	0.74	0.74	
6/9/2020	0.65	0.65	0.54
6/30/2020	0.42	0.42	
7/21/2020	0.41	0.41	
8/18/2020	0.32	0.32	
9/1/2020	<0.30	0.30	
10/13/2020	0.33	0.33	
11/10/2020	0.48	0.48	0.52
11/24/2020	0.55	0.55	
1/12/2021	0.44	0.44	0.41
1/19/2021	0.45	0.45	
1/26/2021	0.35	0.35	
3/30/2021	0.43	0.43	
4/20/2021	0.52	0.52	
5/4/2021	0.58	0.58	0.52
5/18/2021	0.46	0.46	
5/25/2021	0.51	0.51	
6/1/2021	0.72	0.72	0.56
6/8/2021	0.40	0.40	
7/6/2021	0.53	0.53	
8/10/2021	0.23	0.23	
9/21/2021	0.43	0.43	
10/5/2021	0.34	0.34	
12/28/2021	0.54	0.54	

Date	Iron (mg/l)		
	Daily	Daily	Monthly Average
2/8/2022	<0.30	0.30	3.9
2/22/2022	7.50	7.50	
3/22/2022	0.84	0.84	0.64
3/29/2022	0.43	0.43	
4/5/2022	0.57	0.57	
5/3/2022	0.48	0.48	
6/7/2022	0.44	0.44	
7/26/2022	1.20	1.20	
8/2/2022	0.83	0.83	0.69
8/9/2022	0.30	0.30	
8/30/2022	0.95	0.95	
9/6/2022	<0.30	0.30	
11/15/2022	<0.30	0.30	
12/6/2022	<0.30	0.30	0.30
12/13/2022	<0.30	0.30	
1/17/2023	0.37	0.37	0.34
1/24/2023	0.30	0.30	
2/27/2022	0.34	0.34	
3/28/2023	<0.30	0.30	
4/3/2023	0.53	0.53	0.42
4/20/2023	<0.30	0.30	
5/8/2023	0.71	0.71	0.58
5/15/2023	0.45	0.45	
Outlier Analysis	mean	0.55	
	std	0.89	
	mean + 3std	3.2	
Reasonable Potential Analysis	n	67	17
	CV	1.6	1.3
	max	7.5	3.9

ATTACHMENT 9

Reasonable Potential Statistical Procedure for Discharges in the Non-Great Lakes System (Excluding Discharges to the Ohio River)

Facility Name: Gibson County Coal - South Mine NPDES Number: IN0064157 WLA Number: 002728 WLA Report Date: August 21, 2023 Outfall Number: 003C Receiving Water: Emerson Ditch		Monthly Average Determination							Daily Maximum Determination						
Parameters	Reasonable Potential to Exceed? (Yes or No)*	Maximum Monthly Average (ug/l)	Number of Monthly Averages	CV	MF	PEQ (ug/l)	PEL (ug/l)	PEQ > PEL?	Maximum Daily Sample (ug/l)	Number of Daily Samples	CV	MF	PEQ (ug/l)	PEL (ug/l)	PEQ > PEL?
Chloride	Yes I	948000	51	0.2	1	950000	380000	Yes	1300000	209	0.3	0.9	1200000	670000	Yes

* Reasonable Potential to Exceed:

- 1) "Yes I" means that a projected effluent quality (PEQ) exceeded a preliminary effluent limitation (PEL) based on a Tier I criterion.
- 2) "Yes II" means that a PEQ exceeded a PEL based on a Tier II criterion.
- 3) "Yes SSC" means that a PEQ exceeded a PEL based on a site-specific criterion.
- 4) "No" means that a PEQ did not exceed a PEL.
- 5) "Evaluate Criteria" means that a PEQ exceeded a PEL based on a screening value.

ATTACHMENT 10

Reasonable Potential Statistical Procedure for Discharges in the Non-Great Lakes System (Excluding Discharges to the Ohio River)

Facility Name: Gibson County Coal - South Mine NPDES Number: IN0064157 WLA Number: 002728 WLA Report Date: August 21, 2023 Outfall Number: 003D Receiving Water: Emerson Ditch		Monthly Average Determination							Daily Maximum Determination							
Parameters	Reasonable Potential Exceed? (Yes or No)*	to	Maximum Monthly Average (ug/l)	Number of Monthly Averages	CV	MF	PEQ (ug/l)	PEL (ug/l)	PEQ > PEL?	Maximum Daily Sample (ug/l)	Number of Daily Samples	CV	MF	PEQ (ug/l)	PEL (ug/l)	PEQ > PEL?
Iron	No		970	45	0.4	1	970	2400	No	1700	145	0.5	0.9	1500	4100	No

* Reasonable Potential to Exceed:

- 1) "Yes I" means that a projected effluent quality (PEQ) exceeded a preliminary effluent limitation (PEL) based on a Tier I criterion.
- 2) "Yes II" means that a PEQ exceeded a PEL based on a Tier II criterion.
- 3) "Yes SSC" means that a PEQ exceeded a PEL based on a site-specific criterion.
- 4) "No" means that a PEQ did not exceed a PEL.
- 5) "Evaluate Criteria" means that a PEQ exceeded a PEL based on a screening value.

ATTACHMENT 11

Reasonable Potential Statistical Procedure for Discharges in the Non-Great Lakes System (Excluding Discharges to the Ohio River)

Facility Name: Gibson County Coal - South Mine NPDES Number: IN0064157 WLA Number: 002728 WLA Report Date: August 21, 2023 Outfall Number: 003A/003B Receiving Water: Emerson Ditch		Monthly Average Determination							Daily Maximum Determination						
Parameters	Reasonable Potential to Exceed? (Yes or No)*	Maximum Monthly Average (ug/l)	Number of Monthly Averages	CV	MF	PEQ (ug/l)	PEL (ug/l)	PEQ > PEL?	Maximum Daily Sample (ug/l)	Number of Daily Samples	CV	MF	PEQ (ug/l)	PEL (ug/l)	PEQ > PEL?
Iron	Yes SSC	3900	17	1.3	1.9	7400	2400	Yes	7500	67	1.6	0.9	6800	4100	Yes

* Reasonable Potential to Exceed:

- 1) "Yes I" means that a projected effluent quality (PEQ) exceeded a preliminary effluent limitation (PEL) based on a Tier I criterion.
- 2) "Yes II" means that a PEQ exceeded a PEL based on a Tier II criterion.
- 3) "Yes SSC" means that a PEQ exceeded a PEL based on a site-specific criterion.
- 4) "No" means that a PEQ did not exceed a PEL.
- 5) "Evaluate Criteria" means that a PEQ exceeded a PEL based on a screening value.

Appendix B
Waste Load Allocation (WLA002038)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

INDIANAPOLIS

OFFICE MEMORANDUM

Date: May 2, 2014

To: Miranda Ritchie
Industrial NPDES Permits Section

From: John Elliott *JE*
Permits Branch

Subject: Wasteload Allocation Report for Gibson County Coal - South Mine in Gibson County (IN0064157, WLA002038)

Gibson County Coal submitted a permit modification request and antidegradation demonstration for their South Mine dated February 19, 2014 requesting the addition of a new Outfall 006 to discharge water from their underground mine after dilution with groundwater. Based on an analysis of estimated discharge quality included with the submittal, water quality-based effluent limitations (WQBELs) were calculated for chloride. In addition, WQBELs were calculated for iron for comparison to technology-based effluent limitations that will be required in the permit.

The discharge would be to Emerson Ditch, downstream of the current permitted discharge of treated sanitary wastewater through Outfall 005. The facility is proposing to dilute 49 gallons per minute (gpm) of mine water with 1,000 gpm of groundwater for a combined discharge flow of 1,049 gpm (1.5 mgd). Emerson Ditch is a tributary to Scott Ditch which flows to Wabash River. Therefore, the proposed discharge is covered under the rules for the non-Great Lakes system. The Q7,10 of Emerson Ditch is 0.0 cfs. The 2012 assessment unit of Emerson Ditch is INB1335_02 and this assessment unit is not on the 2012 303(d) list. No TMDL for Emerson Ditch has been completed or is in progress. Emerson Ditch is designated for full-body contact recreation and shall be capable of supporting a well-balanced, warm water aquatic community.

Water quality-based effluent limitations for chloride and iron are included in the attached table. The estimated effluent sulfate concentrations are not at levels that exhibit reasonable potential to exceed a water quality criterion for sulfate. However, due to the source and nature of the discharge, monitoring of the effluent for sulfate and hardness should be required. This will provide information for the permit renewal to refine the aquatic life chloride criteria which are a function of sulfate and hardness concentrations in surface water. Emerson Ditch is considered a high quality water for both chloride and iron. Since the facility submitted an antidegradation demonstration along with the permit modification, no additional antidegradation analyses were done as part of this wasteload allocation report. The documentation of the wasteload allocation analysis is included as an attachment.

TABLE
Water Quality-based Effluent Limitations
For Gibson County Coal - South Mine in Gibson County
Outfall 006 to Emerson Ditch
(IN0064157, WLA002038)

Parameter	Quality or Concentration*			Quantity or Loading*			Monthly Sampling Frequency
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	
Iron	2.4	4.1	mg/l	30	51	lbs/day	2
Chloride	360	730	mg/l	4500	9100	lbs/day	4

* Based on an effluent flow of 1.5 mgd.

May 2, 2014

Documentation of Wasteload Allocation Analysis For Discharges in the Non-Great Lakes System

Analysis By: John Elliott *JE*
 Date: May 2, 2014
 WLA Number: 002038

Facility Information

- **Name:** Gibson County Coal – South Mine
- **NPDES Permit Number:** IN0064157
- **Permit Expiration Date:** September 30, 2018
- **County:** Gibson
- **Purpose of Analysis:** WQBELs for modification of permit to add new outfall. The facility submitted a permit modification request and an antidegradation demonstration with both dated 2-19-2014.
- **Outfall Number:** 006
- **Facility Operations:** The source of wastewater is water that collects in an underground mine.
- **Applicable Effluent Guidelines:** 40 CFR 434.40 Subpart D Alkaline Mine Drainage; the pollutant covered for which comparable water quality-based effluent limitations need to be calculated is iron
- **Type of Treatment:** Groundwater from wells in the flood plain area of Emerson Ditch near the proposed outfall location will be pumped back to the mine area and used to dilute the mine water in a mixing chamber; the diluted mine water will be directed back to Emerson Ditch for discharge through Outfall 006 (about 1.8 miles)
- **Effluent Flow for WLA Analysis:** 1.5 mgd (49 gpm of mine water diluted with 1,000 gpm of groundwater)

Pollutants of Concern and Type of WLA Analysis

Pollutants of Concern and Type of WLA Analysis		
Parameter	Type of Analysis	Reason for Inclusion on Pollutants of Concern List
Chloride	WQBEL	Present in mine water at elevated concentrations.
Sulfate	WQBEL	Present in mine water.
Iron	WQBEL	Applicable Effluent Guideline

Receiving Stream Information

- **Receiving Stream:** Outfall 006 will discharge to Emerson Ditch which enters Scott Ditch after about 0.6 miles. Scott Ditch is a tributary to Wabash River. (see Attachment 1 which is the map provided with the permit application)
- **Public Water System Intakes Downstream:** None
- **Designated Stream Use:** Emerson Ditch and Scott Ditch are designated for full-body contact recreation and shall be capable of supporting a well-balanced, warm water aquatic community.

- **12 Digit HUC:** 051201130305
- **Assessment Unit (2012):** INB1335_02
- **303(d) List (2012):** Emerson Ditch is not on the 2012 303(d) list.
- **TMDL Status:** No TMDL has been completed or is in progress for Emerson Ditch.
- **Q7,10 (Outfall):** 0.0 cfs (the drainage area of Emerson Ditch upstream of the outfall is about 1.0 mi² and was determined using the USGS StreamStats website; the Q7,10 is based on the small drainage area)
- **Nearby Dischargers:** Outfall 005 from the sanitary WWTP discharges to Emerson Ditch about 1.6 miles upstream. The average design flow of the sanitary WWTP is 0.018 mgd. This discharge will not impact the limits for the discharge of mine water since the stream design flow is zero.

Calculation of Preliminary Effluent Limitations

The sulfate criterion at 327 IAC 2-1-6(a)(6) is dependent on the stream chloride and hardness concentrations and the acute and chronic chloride criteria at 327 IAC 2-1-6(a)(5) are dependent on the stream sulfate and hardness concentrations. Downstream water quality data is typically used to determine the water quality characteristics for calculating water quality criteria. The use of the downstream water quality data is intended to determine values of the water quality characteristics that are representative of design conditions. The 50th percentile downstream values of hardness, chloride and sulfate are used to calculate the criteria. The design condition for chloride and sulfate is based on the facility effluent flow and the Q7,10 low-flow of the receiving stream.

IDEM sampling data are not available for Emerson Ditch or Scott Ditch, so the facility, as part of their antidegradation demonstration, provided sampling data of Emerson Ditch at a county road bridge about 500 feet downstream of the proposed outfall location. A sample collected 10-14-2013 during low-flow conditions had a chloride of 11 mg/l, a sulfate of 25 mg/l and a hardness of 130 mg/l. A sample collected 12-23-2013 after a significant rainfall and snowmelt event had a chloride of 3.8 mg/l, a sulfate of 4.2 mg/l and a hardness of 80 mg/l.

On Form 2C of the permit modification request, the facility provided an estimated maximum monthly average sulfate concentration of 37 mg/l and a daily maximum of 74 mg/l. The effluent concentrations were estimated using data collected at the Gibson North Mine 3-15-2013 and data from the shaft of Gibson South Mine 1-13-2013 and 3-15-2013. The North Mine (IN0061786) has a permit to discharge mine water augmented with groundwater from a similar geologic setting. The chloride in the undiluted North Mine water was 5,100 mg/l and the sulfate was 7.9 mg/l. The chloride in the shaft of the South Mine was 6,800 mg/l and 2,400 mg/l and the sulfate was 0.49 mg/l and 74 mg/l. No hardness data were collected. A sample of the groundwater to be used for dilution was collected 12-5-2013 and had a chloride of 17 mg/l, a sulfate of 44 mg/l and a hardness of 400 mg/l. According to the antidegradation demonstration, the groundwater wells to be used for dilution are adjacent to Emerson Ditch and obtain water from the unconsolidated alluvial deposits in the flood plain area (see Attachment 1).

Since the Q7,10 of Emerson Ditch is zero, the receiving stream downstream of the outfall during stream design flow conditions will be composed of effluent. Therefore, estimated 50th percentile concentrations of sulfate and hardness in the discharge from Outfall 006 were used to calculate preliminary effluent limitations (PELs) for chloride. The limiting wasteload allocation for chloride was then used as the chloride concentration to calculate the sulfate criterion. The estimated 50th percentile concentration of hardness was 400 mg/l and the estimated 50th percentile concentration of sulfate was 74 mg/l. The limiting wasteload allocation for chloride is based on the chronic aquatic chloride criterion and the concentration is 443 mg/l.

The coefficient of variation used to calculate monthly average and daily maximum PELs was set equal to the default value of 0.6. The number of samples per month used to calculate monthly average PELs was set equal to 4 for chloride and to 2 for iron based on the expected monitoring frequency. The spreadsheet used to calculate PELs for chloride, sulfate and iron for an effluent flow of 1.5 mgd is included in Attachment 2.

Calculation of Water Quality-based Effluent Limitations

The PELs for chloride and iron in Attachment 2 are based on water quality criteria and may be included in an NPDES permit as water quality-based effluent limitations (WQBELs). A consideration in the calculation of WQBELs is that the level of water quality to be achieved by WQBELs is derived from, and complies with, all applicable water quality standards (327 IAC 5-2-11.1(h)(7)). The PELs for sulfate in Attachment 2 are much greater than the expected effluent concentration that was used to calculate the WQBELs for chloride. The application of the PELs for sulfate in Attachment 2 as WQBELs would allow higher concentrations of sulfate that would not meet the requirements of 5-2-11.1(h)(7) under design conditions for aquatic life protection from the impacts of chloride. Since the expected effluent quality for sulfate is much less than the PELs, the PELs should not be applied as WQBELs. If higher concentrations of sulfate occur in the discharge, the WQBELs for chloride can be recalculated. Therefore, monitoring should be required in the permit for sulfate. The permit should also include monitoring for hardness since limited groundwater data and no mine water data were available to determine the discharge hardness for the calculation of the aquatic life criteria for chloride.

Antidegradation Analysis for Non-BCCs

The discharge of mine water augmented with groundwater will result in an increase in the loading of and new limits for the regulated pollutants chloride and iron. Therefore, antidegradation was considered for chloride and iron.

High Quality Water Determination

High Quality Water Determination		
Pollutant	High Quality Water? Yes/No	Rationale for Determination
Chloride	Yes	A sample collected by the facility 10-14-2013 during a low-flow condition had a chloride of 11 mg/l at a sulfate of 25 mg/l and hardness of 130 mg/l which is less than the chronic criterion of 381 mg/l at these conditions.
Iron	Yes	The total recoverable iron in the 10-14-2013 sample collected during low-flow conditions was 1.5 mg/l which is less than the dissolved chronic iron criterion of 2.5 mg/l.

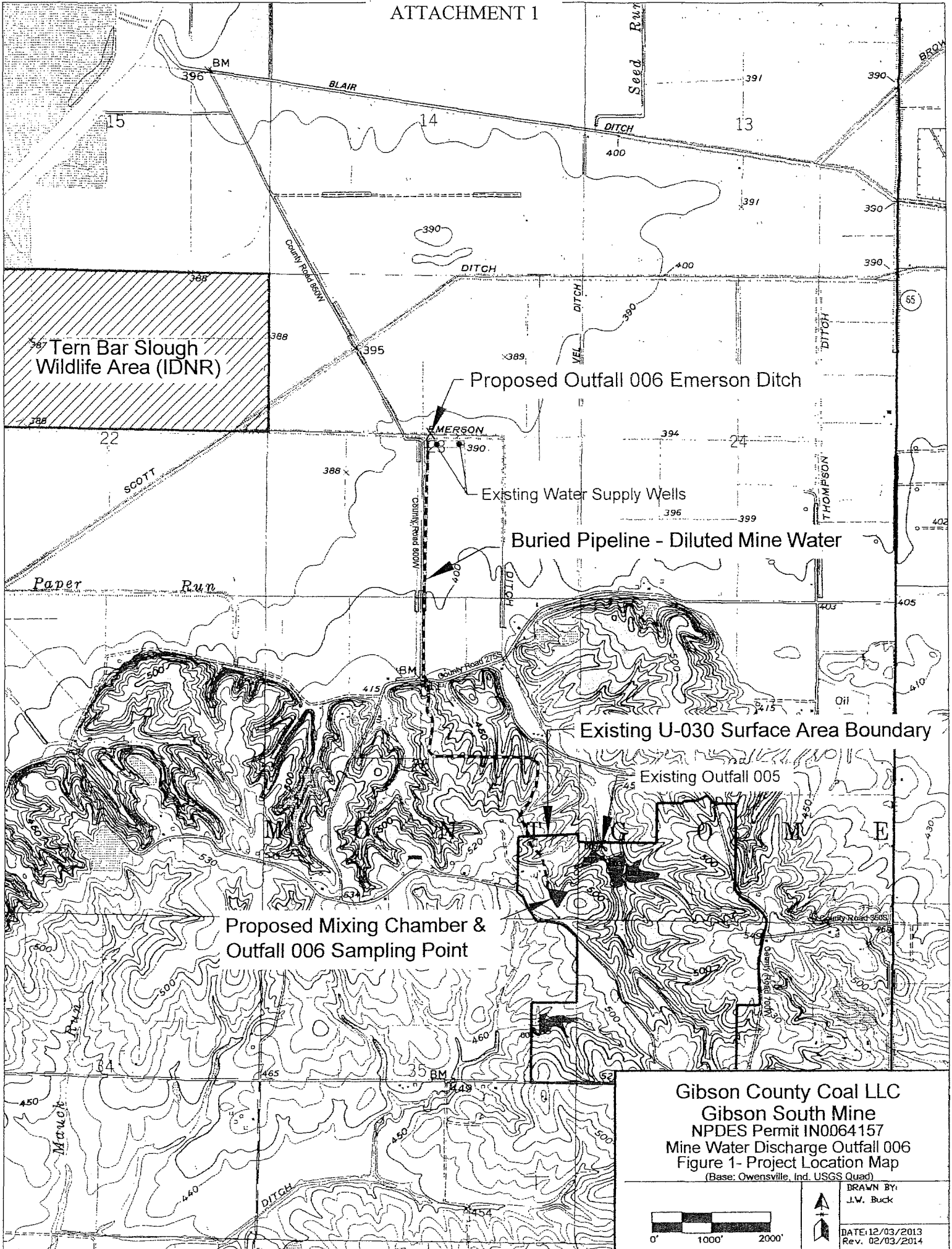
Significant Lowering Determination

The facility submitted an antidegradation demonstration along with the permit modification so additional antidegradation analyses were not done as part of this wasteload allocation report.

List of Attachments

- Attachment 1: Map of Outfall Location and Water Supply Wells
- Attachment 2: Calculation of PELs for Outfall 006

ATTACHMENT 1



Gibson County Coal LLC
Gibson South Mine
NPDES Permit IN0064157
Mine Water Discharge Outfall 006
Figure 1- Project Location Map
(Base: Owensville, Ind. USGS Quad)



DRAWN BY:
J.W. Buck
DATE: 12/03/2013
Rev. 02/03/2014

ATTACHMENT 2

Calculation of Preliminary Effluent Limitations for Discharges in the Non-Great Lakes System (Excluding Discharges to the Ohio River)

General Information	
Facility Name:	Gibson County Coal - South Mine
County:	Gibson
NPDES Number:	IN0064157
WLA Number:	002038
WLA Report Date:	May 2, 2014
Outfall:	006
Receiving Stream:	Emerson Ditch

Receiving Stream Questions (Yes or No)	
Acute Mixing Zone Allowed?	No
Public Water System (PWS) Intake Downstream?	No
Industrial Water Supply (IWS) Intake Downstream?	No
Interstate Wabash River Discharge?	No
Put-and-Take Trout Fishing?	No
Fish Early Life Stages Present?	Yes

Effluent Flow	=	1.5 mgd
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Receiving Stream Design Flows		
Q1,10 (Outfall)	=	cfs
Q7,10 (Outfall)	=	0 cfs
Q7,10 (Public Water System Intake)	=	cfs
Q7,10 (Industrial Water Supply Intake)	=	cfs
Q30,10 (Outfall)	=	cfs
Q50 (Outfall)	=	cfs
Q50 (Public Water System Intake)	=	cfs

Ambient Downstream Water Quality Characteristics	
Hardness (50th percentile)	= 400 mg/l
Chloride (50th percentile)	= 443 mg/l
Sulfate (50th percentile)	= 74 mg/l
pH (50th percentile)	= s.u.
Acute Ammonia-N	
Summer pH (75th percentile)	= s.u.
Winter pH (75th percentile)	= s.u.
Chronic Ammonia-N	
Summer Temperature (75th percentile)	= C
Summer pH (75th percentile)	= s.u.
Winter Temperature (75th percentile)	= C
Winter pH (75th percentile)	= s.u.

Mixing Zone Dilution			
Dilution Factor (for acute mixing zone)	=		
	Dilution Fraction	Flow	Location
Chronic Aquatic Life (Except Ammonia)	= 50%	Q7,10	Outfall
Chronic Aquatic Life (Ammonia Only)	= 50%	Q30,10	Outfall
Chronic WET	= 25%	Q7,10	Outfall
Human Noncancer Drinking Water	= 100%	Q7,10	PWS Intake
Human Noncancer Nondrinking Water	= 50%	Q7,10	Outfall
Human Cancer Drinking Water	= 100%	Q50	PWS Intake
Human Cancer Nondrinking Water	= 25%	Q50	Outfall
Public Water Supply	= 100%	Q7,10	PWS Intake
Industrial Water Supply	= 100%	Q7,10	IWS Intake

Metals Translators (dissolved to total recoverable)		
	Acute	Chronic
Aluminum	1,000	1,000
Antimony	1,000	1,000
Arsenic	1,000	1,000
Barium	1,000	1,000
Beryllium	1,000	1,000
Cadmium	0.886	0.851
Chromium III	0.316	0.860
Cobalt	1,000	1,000
Copper	0.960	0.960
Iron	1,000	1,000
Lead	0.589	0.589
Manganese	1,000	1,000
Molybdenum	1,000	1,000
Nickel	0.998	0.997
Silver	0.85	
Strontium	1,000	1,000
Thallium	1,000	1,000
Tin	1,000	1,000
Titanium	1,000	1,000
Vanadium	1,000	1,000
Zinc	0.978	0.986

										Indiana Water Quality Criteria for the Non-Great Lakes System (ug/l)						Preliminary Effluent Limitations														
										A	B	C	D	E	F	G														
										Aquatic Life Criteria		Human Health Noncancer Criteria		Human Health Cancer Criteria		Add. PWS Criteria														
										Acute (AAC)	Chronic (CAC)	Drinking (HNC-D)	Nondrinking (HNC-N)	Drinking (HCC-D)	Nondrinking (HCC-N)	(PWS)	Concentration (ug/l)[3]		Mass (lbs/day)		Criteria									
A	B	C	D	E	F	G	Background (Outfall) (ug/l)	Background (Intake) (ug/l)	Remove Mixing Zone? (Yes or Blank)	Samples/ Month	CV	Facility Specific CV? (Yes or No)	CAS Number	Parameters[2]	Average	Maximum	Average	Maximum	Type [4]	Basis										
7	7									2	0.6	No	7439896	Iron	2744	2495									2400	4100	30	51	SSC	CAC
1	1					1				4	0.6	No	1688706	Chloride[7][10]	716625	442898							250000	360000	730000	4500	9100	Tier I	CAC	
	2					1				4	0.6	No	14808798	Sulfate[7][10]		1842392							250000	1500000	3000000	19000	38000	Tier I	SNE	

[1] Source of Criteria

- 1) Indiana numeric water quality criterion in 327 IAC 2-1-6(a)(3), Table 6-1 or Table 6-2, or in 327 IAC 2-1-6(e).
- 2) "Shall not exceed" (SNE) criterion in 327 IAC 2-1-6(a)(3), Table 6-1 or 327 IAC 2-1-6(a)(6). This criterion is treated as a 4-day average criterion and is implemented in the same manner as the chronic aquatic life criterion.
- 3) Industrial water supply (IWS) criterion in 327 IAC 2-1-6(f). This criterion is treated as a 4-day average criterion and is implemented in the same manner as the chronic aquatic life criterion.
- 4) Acute (1-hour average) and chronic (30-day average) criteria for total ammonia nitrogen in "1999 Update of Ambient Water Quality Criteria for Ammonia," EPA-822-R-99-014, December 1999.
- 5) Tier I criterion derived using the methodology in 327 IAC 2-1-8.2 or 327 IAC 2-1-8.3 when the Method 1 data set is available, or using the methodology in 327 IAC 2-1-8.4, 327 IAC 2-1-8.5 or 327 IAC 2-1-8.6.
- 6) Tier II criterion derived using the methodology in 327 IAC 2-1-8.2 or 327 IAC 2-1-8.3 when the Method 1 data set is not available.
- 7) Site-specific water quality criterion (SSC) in 327 IAC 2-1-8.9, Table 8.9-1 or developed under 327 IAC 2-1-8.9.
- 8) Screening value (SV).
- 9) Numeric interpretation of narrative criterion for toxicity using U.S. EPA recommended water quality criteria for whole effluent toxicity (WET).
- 10) The aquatic life criteria and screening values for all metals except mercury and selenium are in the form of dissolved metal. The aquatic life criteria for mercury and selenium are in the form of total recoverable metal. The human health criteria and screening values and the public water supply screening values for all the metals are in the form of total recoverable metal.
- 11) The preliminary effluent limitations (PELs) for the metals are in the form of total recoverable metal (with the exception of Chromium (VI) which is in the form of dissolved metal).
- 12) See the table "Indiana Water Quality Criteria for the Non-Great Lakes System" for information on the type and source of criteria.
- 13) The above-noted substances are probable or known human carcinogens.
- 14) The above-noted substances are bioaccumulative chemicals of concern (BCCs). Beginning January 1, 2004, the water quality criteria for a BCC shall be applied directly to the undiluted discharge for all discharges of a BCC. To apply the water quality criteria for a BCC directly to the undiluted discharge, enter "Yes" in the "Remove Mixing Zone?" column.
- 15) The above noted substances have a criterion that is a function of an ambient downstream water quality characteristic. See the table "Indiana Water Quality Criteria for the Non-Great Lakes System" for information on the criterion equation.
- 16) Limits based on screening values (as indicated by SV) ARE NOT to be used as water quality-based effluent limitations. These are solely to be used as preliminary effluent limitations.
- 17) The monthly average PEL was set equal to the most stringent WLA because the calculated monthly average PEL exceeded the most stringent WLA and a facility-specific CV was not determined.
- 18) The ambient downstream water quality characteristic must be entered for both chloride and sulfate and it cannot exceed the applicable chronic aquatic life or "shall not exceed" criterion for the substance. Preliminary effluent limitations (PELs) for chloride and sulfate shall not be used to establish water quality-based effluent limitations that do not ensure the water quality criteria for both substances are achieved in the receiving waterbody.