

NPDES Permit No. IL0078727  
Notice No. 6584c

Public Notice Beginning Date: **November 25, 2013**

Public Notice Ending Date: **December 26, 2013**

National Pollutant Discharge Elimination System (NPDES)  
Permit Program

Draft Renewed with Modifications NPDES Permit to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency  
Bureau of Water, Division of Water Pollution Control  
Permit Section  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276  
217/782-0610

Name and Address of Discharger:

Hillsboro Energy, L.L.C.  
925 South Main Street  
Hillsboro, Illinois 62049

Name and Address of Facility:

Hillsboro Energy, L.L.C.  
Deer Run Mine  
1 mile southeast of Hillsboro, Illinois  
(Montgomery County)

The Illinois Environmental Protection Agency (IEPA) has made a tentative determination to issue an NPDES permit to discharge into waters of the state and has prepared a draft permit and associated fact sheet for the above named discharger. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice/Fact Sheet. Comments will be accepted until the Public Notice period ending date indicated above, unless a request for an extension of the original comment period is granted by the Agency. Interested persons are invited to submit written comments on the draft permit to the IEPA at the above address. Commentors shall provide his or her name and address and the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to those issues. Commentors may include a request for public hearing. The NPDES permit and notice number(s) must appear on each comment page.

The application, engineer's review notes, Public Notice/Fact Sheet, draft permit, comments received, and other documents are available for inspection and may be copied at the IEPA between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

As provided in Section 309.115(a) of the Act, any person may submit a request for a public hearing and if such written comments or requests indicate a significant degree of public interest in the draft permit, the permitting authority may, at its discretion, hold a public hearing. The Agency shall issue public notice of such hearing no less than thirty (30) days prior to the date of such hearing in the manner described by Sections 309.109 through 309.112 of the Act for public notice. The Agency's responses to written and/or oral comments will be provided in the Responsiveness Summary provided when the final permit is issued.

The applicant operates an existing underground coal mine (SIC 1222). Mine operations result in the discharge of alkaline mine drainage.

Public comments are invited on the following proposed modifications incorporated into this Permit renewal:

Total area covered by this permit is increased to 839.5 acres with incorporation of 36.0 acres.

Revised layout of the Sediment Pond 005 is approved.

Groundwater Monitoring Well MW-38 (originally identified as MW-37) has been installed at the North-East corner of the Refuse Disposal Area No. 1.

Incorporate bi-annual metals monitoring of discharges from Outfall Nos. 001, 002, 003, 004 and 005.

This facility has 7 existing discharges which are located in Montgomery County, Illinois. The following information identifies the discharge points, receiving streams, and stream classifications:

<u>Outfall</u>	<u>Receiving Stream</u>	<u>Latitude (North)</u>	<u>Longitude (West)</u>
001	Shoal Creek Watershed Structure No. 5 to unnamed Tributary to Middle Fork Shoal Creek	39°08'51"	89°28'26"
002	Unnamed tributary to Shoal Creek Watershed Structure No. 5 tributary to Middle Fork Shoal Creek	39°08'45"	89°28'07"
003	Shoal Creek Watershed Structure No. 5 to unnamed Tributary to Middle Fork Shoal Creek	39°08'43"	89°28'23"
004	Unnamed tributary to Shoal Creek Watershed Structure No. 5 tributary to Middle Fork Shoal Creek	39°08'25"	89°28'18"
005	Unnamed tributary to Shoal Creek Watershed Structure No. 5 tributary to Middle Fork Shoal Creek	39°08'16"	89°27'21"
006	Shoal Creek Watershed Structure No. 5 to unnamed Tributary to Middle Fork Shoal Creek	39°08'32"	89°28'25"
007	Unnamed tributary to Shoal Creek Watershed Structure No. 5 tributary to Middle Fork Shoal Creek	39°08'46"	89°28'08"

The stream segment OIL03 of Middle Fork Shoal Creek receiving the flow from the unnamed tributary which receives the overflow from Shoal Creek Watershed Structure No. 5 into which Outfalls 001, 002, 003, 004, 005, 006 and 007 discharges are not on the 2012 303(d) list of impaired waters.

The alkaline mine discharge from this facility shall be monitored and limited at all times as follows:

Outfall: 001

Discharge Condition	Parameters												
	Total Suspended Solids (3) (mg/l)		Iron (total) (3) (4) (mg/l)		pH (3) (S.U.)	Alkalinity/ Acidity (3)	Sulfate (1) (mg/l)	Chloride (mg/l)	Mn (total) (mg/l) (6)	Hardness (5)	Mercury	Flow (MGD)	Settleable Solids (2) (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	771	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	771	500	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	771	500	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	771	500	1.0	Monitor only	Monitor only	Measure When Sampling	-

I Dry weather discharge (base flow or mine pumpage) from the outfall.

II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24 hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.

III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).

IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For outfalls which have no allowed mixing, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

- (1) Sulfate water quality standards and effluent limitations determined in accordance with 35 Ill. Adm. Code 302.208(h).
- (2) Settleable solids are monitored only as a result of a discharge due to precipitation events which exceed a predetermined 24-hour duration or snowmelt total. Settleable solids effluent limitations for alkaline mine discharges are contained in 35 Ill. Adm. Code 406.110.
- (3) Effluent standards for mine discharges are contained in 35 Ill. Adm. Code 406.106.
- (4) Discharges from Outfall 001, being approved after July 27, 1987, are subject to a 30-day average effluent limitation for Iron of 3.0 mg/l. Daily maximum effluent concentrations are calculated as twice the 30-day average.
- (5) Hardness monitoring is required to determine the appropriateness of the sulfate permit limit.
- (6) The Manganese permit limit of 1.0 mg/l has been retained herein from the previous NPDES Permit to ensure compliance with Section 402(o) of the Clean Water Act, Anti-Backsliding.

The alkaline mine discharge from this facility shall be monitored and limited at all times as follows:

Outfall: 002

Discharge Condition	Parameters												
	Total Suspended Solids (3) (mg/l)		Iron (total) (3) (4) (mg/l)		pH (3) (S.U.)	Alkalinity/ Acidity (3)	Sulfate (1) (mg/l)	Chloride (mg/l)	Mn (total) (mg/l) (6)	Hardness (5)	Mercury	Flow (MGD)	Settleable Solids (2) (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1435	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	1435	1000	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	1435	1000	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.0-9.0	Alk.>Acid	1435	1000	1.0	Monitor only	Monitor only	Measure When Sampling	-

- I Dry weather discharge (base flow or mine pumpage) from the outfall at times of "low flow" or "no flow" conditions in the receiving stream as defined in Special Condition No. 13.
  - II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24 hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
  - III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
  - IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. At such time that receiving stream flow subsides to the degree that the mixing ratio specified in Special Condition No. 13 is not available, monitoring requirements and permit limitations shall revert to Discharge Condition I.
- (1) Sulfate water quality standards and effluent limitations determined in accordance with 35 Ill. Adm. Code 302.208(h).
  - (2) Settleable solids are monitored only as a result of a discharge due to precipitation events which exceed a predetermined 24-hour duration or snowmelt total. Settleable solids effluent limitations for alkaline mine discharges are contained in 35 Ill. Adm. Code 406.110.
  - (3) Effluent standards for mine discharges are contained in 35 Ill. Adm. Code 406.106.
  - (4) Discharges from Outfall 002, being approved after July 27, 1987, are subject to a 30-day average effluent limitation for Iron of 3.0 mg/l. Daily maximum effluent concentrations are calculated as twice the 30-day average.
  - (5) Hardness monitoring is required to determine the appropriateness of the sulfate permit limit.
  - (6) The Manganese permit limit of 1.0 mg/l has been retained herein from the previous NPDES Permit to ensure compliance with Section 402(o) of the Clean Water Act, Anti-Backsliding.

The alkaline mine discharge from this facility shall be monitored and limited at all times as follows:

Outfall: 003

Discharge Condition	Parameters												
	Total Suspended Solids (3) (mg/l)		Iron (total) (3) (4) (mg/l)		pH (3) (S.U.)	Alkalinity/ Acidity (3)	Sulfate (1) (mg/l)	Chloride (mg/l)	Mn (total) (mg/l) (6)	Hardness (5)	Mercury	Flow (MGD)	Settleable Solids (2) (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1435	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	1435	500	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	1435	500	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1435	500	1.0	Monitor only	Monitor only	Measure When Sampling	-

I Dry weather discharge (base flow or mine pumpage) from the outfall.

II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24 hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.

III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).

IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For outfalls which have no allowed mixing, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

- (1) Sulfate water quality standards and effluent limitations determined in accordance with 35 Ill. Adm. Code 302.208(h).
- (2) Settleable solids are monitored only as a result of a discharge due to precipitation events which exceed a predetermined 24-hour duration or snowmelt total. Settleable solids effluent limitations for alkaline mine discharges are contained in 35 Ill. Adm. Code 406.110.
- (3) Effluent standards for mine discharges are contained in 35 Ill. Adm. Code 406.106.
- (4) Discharges from Outfall 003, being approved after July 27, 1987, are subject to a 30-day average effluent limitation for Iron of 3.0 mg/l. Daily maximum effluent concentrations are calculated as twice the 30-day average.
- (5) Hardness monitoring is required to determine the appropriateness of the sulfate permit limit.
- (6) The Manganese permit limit of 1.0 mg/l has been retained herein from the previous NPDES Permit to ensure compliance with Section 402(o) of the Clean Water Act, Anti-Backsliding.

The alkaline mine discharge from this facility shall be monitored and limited at all times as follows:

Outfall: 004

Discharge Condition	Parameters												
	Total Suspended Solids (3) (mg/l)		Iron (total) (3) (4) (mg/l)		pH (3) (S.U.)	Alkalinity/ Acidity (3)	Sulfate (1) (mg/l)	Chloride (mg/l)	Mn (total) (mg/l) (6)	Hardness (5)	Mercury	Flow (MGD)	Settleable Solids (2) (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	837	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	837	500	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	837	500	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	837	500	1.0	Monitor only	Monitor only	Measure When Sampling	-

- I Dry weather discharge (base flow or mine pumpage) from the outfall.
- II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24 hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For outfalls which have no allowed mixing, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.
- (1) Sulfate water quality standards and effluent limitations determined in accordance with 35 Ill. Adm. Code 302.208(h).
- (2) Settleable solids are monitored only as a result of a discharge due to precipitation events which exceed a predetermined 24-hour duration or snowmelt total. Settleable solids effluent limitations for alkaline mine discharges are contained in 35 Ill. Adm. Code 406.110.
- (3) Effluent standards for mine discharges are contained in 35 Ill. Adm. Code 406.106.
- (4) Discharges from Outfall 004, being approved after July 27, 1987, are subject to a 30-day average effluent limitation for Iron of 3.0 mg/l. Daily maximum effluent concentrations are calculated as twice the 30-day average.
- (5) Hardness monitoring is required to determine the appropriateness of the sulfate permit limit.
- (6) The Manganese permit limit of 1.0 mg/l has been retained herein from the previous NPDES Permit to ensure compliance with Section 402(o) of the Clean Water Act, Anti-Backsliding.

The alkaline mine discharge from this facility shall be monitored and limited at all times as follows:

Outfall: 005

Discharge Condition	Parameters												
	Total Suspended Solids (3) (mg/l)		Iron (total) (3) (4) (mg/l)		pH (3) (S.U.)	Alkalinity/ Acidity (3)	Sulfate (1) (mg/l)	Chloride (mg/l)	Mn (total) (mg/l) (6)	Hardness (5)	Mercury	Flow (MGD)	Settleable Solids (2) (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	837	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	837	638	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	837	638	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.0-9.0	Alk.>Acid	837	638	1.0	Monitor only	Monitor only	Measure When Sampling	-

- I Dry weather discharge (base flow or mine pumpage) from the outfall at times of "low flow" or "no flow" conditions in the receiving stream as defined in Special Condition No. 13.
- II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24 hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. At such time that receiving stream flow subsides to the degree that the mixing ratio specified in Special Condition No. 13 is not available, monitoring requirements and permit limitations shall revert to Discharge Condition I.
- (1) Sulfate water quality standards and effluent limitations determined in accordance with 35 Ill. Adm. Code 302.208(h).
- (2) Settleable solids are monitored only as a result of a discharge due to precipitation events which exceed a predetermined 24-hour duration or snowmelt total. Settleable solids effluent limitations for alkaline mine discharges are contained in 35 Ill. Adm. Code 406.110.
- (3) Effluent standards for mine discharges are contained in 35 Ill. Adm. Code 406.106.
- (4) Discharges from Outfall 005, being approved after July 27, 1987, are subject to a 30-day average effluent limitation for Iron of 3.0 mg/l. Daily maximum effluent concentrations are calculated as twice the 30-day average.
- (5) Hardness monitoring is required to determine the appropriateness of the sulfate permit limit.
- (6) The Manganese permit limit of 1.0 mg/l has been retained herein from the previous NPDES Permit to ensure compliance with Section 402(o) of the Clean Water Act, Anti-Backsliding.

The alkaline mine discharge from this facility shall be monitored and limited at all times as follows:

Outfall: 006, 007

Discharge Condition	Parameters										
	Total Suspended Solids (3) (mg/l)		Iron (total) (3), (4) (mg/l)		pH (3) (S.U.)	Alkalinity/ Acidity (3)	Sulfate (1) (mg/l)	Chloride (mg/l)	Hardness (5)	Flow (MGD)	Settleable Solids (2) (ml/l)
	30 day average	daily maximum	30 day average	daily maximum							
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1435	500	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	1435	500	Monitor only	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	1435	500	Monitor only	Measure When Sampling	-
IV	35	70	3.0	6.0	6.0-9.0	Alk.>Acid	1435	500	Monitor only	Measure When Sampling	-

- I Dry weather discharge (base flow or mine pumpage) from the outfall.
- II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24 hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For outfalls which have no allowed mixing, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

- (1) Sulfate water quality standards and effluent limitations determined in accordance with 35 Ill. Adm. Code 302.208(h).
- (2) Settleable solids are monitored only as a result of a discharge due to precipitation events which exceed a predetermined 24-hour duration or snowmelt total. Settleable solids effluent limitations for alkaline mine discharges are contained in 35 Ill. Adm. Code 406.110.
- (3) Effluent standards for mine discharges are contained in 35 Ill. Adm. Code 406.106.
- (4) Discharges from Outfall 006, 007, being approved after July 27, 1987, are subject to a 30-day average effluent limitation for Iron of 3.0 mg/l. Daily maximum effluent concentrations are calculated as twice the 30-day average.
- (5) Hardness monitoring is required to determine the appropriateness of the sulfate permit limit.



Antidegradation Assessment  
Hillsboro Energy, L.L.C. – Deer Run Mine  
NPDES Permit No. IL0078727  
Montgomery County

The catchment area for the clean coal pile sedimentation pond (Outfall 004) will be expanded at this existing underground coal mine. An increase of 17.8 acres will make the total area reporting to Pond 004 55.3 acres. Information used in this review was obtained from the applicant in a document entitled Antidegradation Assessment, Hillsboro Energy, LLC, Deer Run Mine, Renewal of NPDES Permit No. IL0078727 dated July 2013 and in subsequent correspondence.

#### **Identification and Characterization of the Affected Water Body.**

Outfall 004 discharges to an unnamed tributary of Watershed Structure Five, which is an impoundment of an unnamed tributary of the Middle Fork Shoal Creek, also known as Town Park Creek (no segment code). The unnamed tributary and Watershed Structure Five are General Use water bodies. The 7Q10 flow is zero at the point of the discharge. The unnamed tributary and Watershed Structure Five are not listed on the draft 2012 Illinois Integrated Water Quality Report and Section 303(d) List. The Illinois EPA has not assessed these water bodies. The unnamed tributary is not listed as biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*, nor is it given an integrity rating. The unnamed tributary is not designated as an enhanced water pursuant to the dissolved oxygen water quality standard.

#### **Identification and Proposed Pollutant Load Increases or Potential Impacts on Uses.**

Suspended solids will be treated in the sedimentation pond. Effluent discharged from this pond will contain suspended solids loadings that are similar to those occurring from the land in its present use. Sulfates and chlorides will increase in loading to the receiving stream as a result of this activity. This increase in loading is expected to be very small given the nature of the new area in the pond catchment. Limits for these substances will be applied and will be set equal to the water quality standards.

#### **Fate and Effect of Parameters Proposed for Increased Loading.**

Suspended solids discharged will eventually be incorporated into bed sediments and will continue to move downstream. Sulfate and chloride will remain dissolved in the water and will move through the downstream continuum. Small amounts of these substances will be removed by organisms as these substances are necessary for life. No adverse impacts to the receiving waters will occur as all water quality standards will be met. Increases as a result of the expansion of the Pond 004 catchment area will not be discernable in the downstream receiving water.

#### **Purpose and Social & Economic Benefits of the Proposed Activity.**

Allowing this increase in the catchment area of Pond 004 allows the mine to function efficiently. The jobs the mine provides will then be preserved, continuing this benefit to the community.

#### **Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.**

Stormwater control at coal mines is a matter of applying established best management practices. The final step in these practices involves sedimentation ponds to catch all runoff from the mine, settle out solids, provide a venue for pH adjustment if necessary and allow a controlled discharge of the effluent to the receiving stream. Prior steps involve the minimization of exposed earth, refuse and coal to the elements. In this case, a very small change is being made to the catchment area for the sedimentation pond serving the clean coal storage area. The sedimentation pond already exists and is capable of accommodating the additional runoff it will receive. No other alternatives are reasonable given a treatment system already exists.

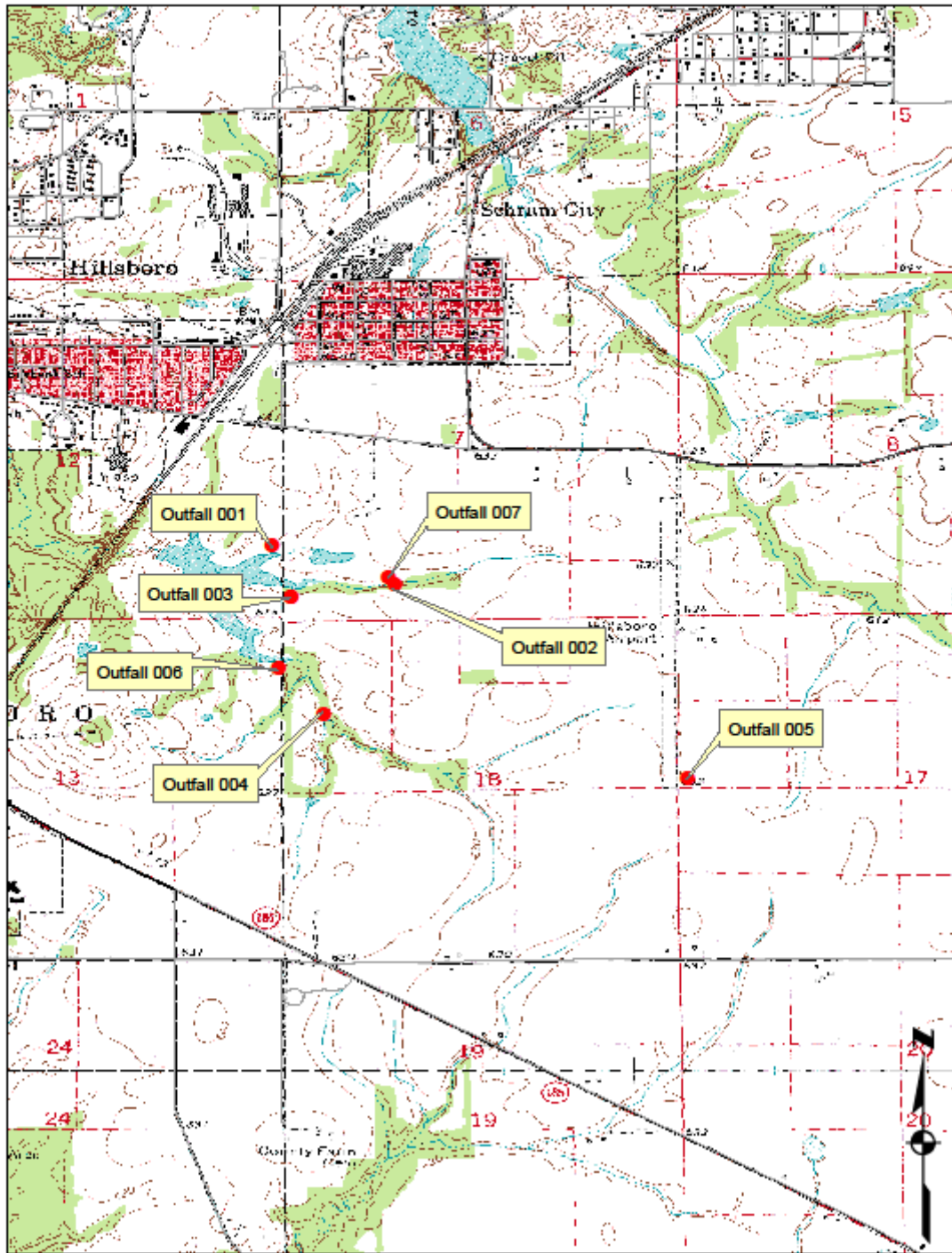
#### **Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities.**

The Illinois Department of Natural Resources was consulted on endangered species issues via the Eco-CAT system on August 30, 2013. No aquatic endangered or threatened species were identified. Consultation was terminated immediately.

#### **Agency Conclusion.**

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time the draft permit was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; that all existing uses of the receiving stream will be maintained; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity will benefit the community at large by preserving jobs. Comments received during the NPDES permit public notice period will be evaluated before a final decision is made by the Agency.

**Hillsboro Energy, L.L.C. - Deer Run Mine**  
**NPDES No. IL0078727**  
Montgomery County  
Township 8 North, Range 3 West  
Township 8 North, Range 4 West



NPDES Permit No. IL0078727

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue, East

P.O. Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Renewed with Modifications NPDES Permit

Expiration Date:

Issue Date:

Effective Date:

Name and Address of Permittee:

Facility Name and Address:

Hillsboro Energy, L.L.C.  
925 South Main Street  
Hillsboro, Illinois 62049

Hillsboro Energy, L.L.C.  
Deer Run Mine  
1 mile southeast of Hillsboro, Illinois  
(Montgomery County)

Discharge Number and Classification:

Receiving waters

001, 003, 006                      Alkaline Mine Drainage  
002, 004, 005, 007              Alkaline Mine Drainage

Shoal Creek Watershed Structure No. 5  
Unnamed tributary to Shoal Creek Watershed  
Structure No. 5

In compliance with the provisions of the Illinois Environmental Protection Act, Subtitle C and/or Subtitle D Rules and Regulations of the Illinois Pollution Control Board, and the Clean Water Act, the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.

Larry D. Crislip, P.E., Permit Manager  
Mine Pollution Control Program  
Bureau of Water

LDC:IW:cs/6584c/10-8-13

## NPDES Coal Mine Permit

NPDES Permit No. IL0078727

## Effluent Limitations and Monitoring

From the effective date of this Permit until the expiration date, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall\*: 001 (Alkaline Mine Drainage)

Discharge Condition	Parameters												
	Total Suspended Solids (mg/l) ***		Iron (total) (mg/l) ***		pH** (S.U.) ***	Alkalinity/ Acidity ***	Sulfate (mg/l) ***	Chloride (mg/l) ***	Mn (total) (mg/l) ***	Hardness ***	Mercury see Special Condition No. 17	Flow (MGD)	Settleable Solids (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	771	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	771	500	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	771	500	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	771	500	1.0	Monitor only	Monitor only	Measure When Sampling	-

- I Dry weather discharge (base flow or mine pumpage) from the outfall.
- II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For outfalls which have no allowed mixing, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method.

\*\*\* There shall be a minimum of nine (9) samples collected during the quarter when the pond is discharging. Of these 9 samples, a minimum of one sample each month shall be taken during either Discharge Condition I or IV should such discharge condition occur. A "no flow" situation is not considered to be a sample of the discharge. In the event that Discharge Conditions II and/or III occur, grab sample of each discharge caused by the above precipitation events (Discharge Conditions II and/or III) shall be taken and analyzed for the parameters identified in the table above during at least 3 separate events each quarter. For quarters in which there are less than 3 such precipitation events resulting in discharges, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s). Should a sufficient number of discharge events occur during the quarter, the remaining three (3) quarterly samples may be taken during any of the Discharge Conditions described above.

The water quality standards for sulfate and chloride must be met in discharges from the above referenced outfall as well as in the receiving stream.

\* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 15 for the discharges from Outfall 001 and Shoal Creek Watershed Structure No. 5 receiving such discharges. Also, discharges from Outfall 001 shall be subject to the limitations, and monitoring and reporting requirements of Special Condition No. 18.

\*\* No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

## NPDES Coal Mine Permit

NPDES Permit No. IL0078727

## Effluent Limitations and Monitoring

From the effective date of this Permit until the expiration date, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall\*: 002 (Alkaline Mine Drainage)

Discharge Condition	Parameters												
	Total Suspended Solids (mg/l) ***		Iron (total) (mg/l) ***		pH** (S.U.) ***	Alkalinity/ Acidity ***	Sulfate (mg/l) ***	Chloride (mg/l) ***	Mn (total) (mg/l) ***	Hardness ***	Mercury see Special Condition No. 17	Flow (MGD)	Settleable Solids (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1435	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	1435	1000	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	1435	1000	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.0-9.0	Alk.>Acid	1435	1000	1.0	Monitor only	Monitor only	Measure When Sampling	-

- I Dry weather discharge (base flow or mine pumpage) from the outfall at times of "low flow" or "no flow" conditions in the receiving stream as defined in Special Condition No. 13.
- II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. At such time that receiving stream flow subsides to the degree that the mixing ratio specified in Special Condition No. 13 is not available, monitoring requirements and permit limitations shall revert to Discharge Condition I.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method.

\*\*\* There shall be a minimum of nine (9) samples collected during the quarter when the pond is discharging. Of these 9 samples, a minimum of one sample each month shall be taken during either Discharge Condition I or IV should such discharge condition occur. A "no flow" situation is not considered to be a sample of the discharge. In the event that Discharge Conditions II and/or III occur, grab sample of each discharge caused by the above precipitation events (Discharge Conditions II and/or III) shall be taken and analyzed for the parameters identified in the table above during at least 3 separate events each quarter. For quarters in which there are less than 3 such precipitation events resulting in discharges, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s). Should a sufficient number of discharge events occur during the quarter, the remaining three (3) quarterly samples may be taken during any of the Discharge Conditions described above.

Discharges from the above referenced outfall that are subject to the requirements of Discharge Conditions II, III and/or IV must meet the water quality standards for sulfate and chloride in the receiving stream.

\* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 13 for the discharges from Outfall 002 and the unnamed tributary to Shoal Creek Watershed Structure No. 5 receiving such discharges. Also, discharges from Outfall 002 shall be subject to the limitations, and monitoring and reporting requirements of Special Condition No. 18.

\*\* No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

## NPDES Coal Mine Permit

NPDES Permit No. IL0078727

## Effluent Limitations and Monitoring

From the effective date of this Permit until the expiration date, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall\*: 003 (Alkaline Mine Drainage)

Discharge Condition	Parameters												
	Total Suspended Solids (mg/l) ***		Iron (total) (mg/l) ***		pH** (S.U.) ***	Alkalinity/ Acidity ***	Sulfate (mg/l) ***	Chloride (mg/l) ***	Mn (total) (mg/l) ***	Hardness ***	Mercury see Special Condition No. 17	Flow (MGD)	Settleable Solids (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1435	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	1435	500	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	1435	500	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1435	500	1.0	Monitor only	Monitor only	Measure When Sampling	-

- I Dry weather discharge (base flow or mine pumpage) from the outfall.
- II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For outfalls which have no allowed mixing, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method.

\*\*\* There shall be a minimum of nine (9) samples collected during the quarter when the pond is discharging. Of these 9 samples, a minimum of one sample each month shall be taken during either Discharge Condition I or IV should such discharge condition occur. A "no flow" situation is not considered to be a sample of the discharge. In the event that Discharge Conditions II and/or III occur, grab sample of each discharge caused by the above precipitation events (Discharge Conditions II and/or III) shall be taken and analyzed for the parameters identified in the table above during at least 3 separate events each quarter. For quarters in which there are less than 3 such precipitation events resulting in discharges, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s). Should a sufficient number of discharge events occur during the quarter, the remaining three (3) quarterly samples may be taken during any of the Discharge Conditions described above.

The water quality standards for sulfate and chloride must be met in discharges from the above referenced outfall as well as in the receiving stream.

\* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 15 for the discharges from Outfall 003 and Shoal Creek Watershed Structure No. 5 receiving such discharges. Also, discharges from Outfall 003 shall be subject to the limitations, and monitoring and reporting requirements of Special Condition No. 18.

\*\* No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

## NPDES Coal Mine Permit

NPDES Permit No. IL0078727

## Effluent Limitations and Monitoring

From the effective date of this Permit until the expiration date, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall\*: 004 (Alkaline Mine Drainage)

Discharge Condition	Parameters												
	Total Suspended Solids (mg/l) ***		Iron (total) (mg/l) ***		pH** (S.U.) ***	Alkalinity/ Acidity ***	Sulfate (mg/l) ***	Chloride (mg/l) ***	Mn (total) (mg/l) ***	Hardness ***	Mercury see Special Condition No. 17	Flow (MGD)	Settleable Solids (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	837	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	837	500	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	837	500	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	837	500	1.0	Monitor only	Monitor only	Measure When Sampling	-

- I Dry weather discharge (base flow or mine pumpage) from the outfall.
- II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For outfalls which have no allowed mixing, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method.

\*\*\* There shall be a minimum of nine (9) samples collected during the quarter when the pond is discharging. Of these 9 samples, a minimum of one sample each month shall be taken during either Discharge Condition I or IV should such discharge condition occur. A "no flow" situation is not considered to be a sample of the discharge. In the event that Discharge Conditions II and/or III occur, grab sample of each discharge caused by the above precipitation events (Discharge Conditions II and/or III) shall be taken and analyzed for the parameters identified in the table above during at least 3 separate events each quarter. For quarters in which there are less than 3 such precipitation events resulting in discharges, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s). Should a sufficient number of discharge events occur during the quarter, the remaining three (3) quarterly samples may be taken during any of the Discharge Conditions described above.

The water quality standards for sulfate and chloride must be met in discharges from the above referenced outfall as well as in the receiving stream.

\* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 15 for the discharges from Outfall 004 and the unnamed tributary to Shoal Creek Watershed Structure No. 5 receiving such discharges. Also, discharges from Outfall 004 shall be subject to the limitations, and monitoring and reporting requirements of Special Condition No. 18.

\*\* No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

## NPDES Coal Mine Permit

NPDES Permit No. IL0078727

## Effluent Limitations and Monitoring

From the effective date of this Permit until the expiration date, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall\*: 005 (Alkaline Mine Drainage)

Discharge Condition	Parameters												
	Total Suspended Solids (mg/l) ***		Iron (total) (mg/l) ***		pH** (S.U.) ***	Alkalinity/ Acidity ***	Sulfate (mg/l) ***	Chloride (mg/l) ***	Mn (total) (mg/l) ***	Hardness ***	Mercury see Special Condition No. 17	Flow (MGD)	Settleable Solids (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	837	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	837	638	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	837	638	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.0-9.0	Alk.>Acid	837	638	1.0	Monitor only	Monitor only	Measure When Sampling	-

- I Dry weather discharge (base flow or mine pumpage) from the outfall at times of "low flow" or "no flow" conditions in the receiving stream as defined in Special Condition No. 13.
- II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. At such time that receiving stream flow subsides to the degree that the mixing ratio specified in Special Condition No. 13 is not available, monitoring requirements and permit limitations shall revert to Discharge Condition I.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method.

\*\*\* There shall be a minimum of nine (9) samples collected during the quarter when the pond is discharging. Of these 9 samples, a minimum of one sample each month shall be taken during either Discharge Condition I or IV should such discharge condition occur. A "no flow" situation is not considered to be a sample of the discharge. In the event that Discharge Conditions II and/or III occur, grab sample of each discharge caused by the above precipitation events (Discharge Conditions II and/or III) shall be taken and analyzed for the parameters identified in the table above during at least 3 separate events each quarter. For quarters in which there are less than 3 such precipitation events resulting in discharges, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s). Should a sufficient number of discharge events occur during the quarter, the remaining three (3) quarterly samples may be taken during any of the Discharge Conditions described above.

Discharges from the above referenced outfall that are subject to the requirements of Discharge Conditions II, III and/or IV must meet the water quality standards for sulfate and chloride in the receiving stream.

\* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 13 for the discharges from Outfall 005 and the unnamed tributary to Shoal Creek Watershed Structure No. 5 receiving such discharges. Also, discharges from Outfall 005 shall be subject to the limitations, and monitoring and reporting requirements of Special Condition No. 18.

\*\* No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.



NPDES Coal Mine Permit  
NPDES Permit No. IL0078727  
Effluent Limitations and Monitoring

From the effective date of this Permit until the expiration date, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall\*: 006, 007 (Alkaline Mine Drainage)

Discharge Condition	Parameters										
	Total Suspended Solids (mg/l) ***		Iron (total) (mg/l) ***		pH** (S.U.) ***	Alkalinity/ Acidity ***	Sulfate (mg/l) ***	Chloride (mg/l) ***	Hardness ***	Flow (MGD)	Settleable Solids (ml/l)
	30 day average	daily maximum	30 day average	daily maximum							
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1435	500	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	1435	500	Monitor only	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	1435	500	Monitor only	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1435	500	Monitor only	Measure When Sampling	-

- I Dry weather discharge (base flow or mine pumpage) from the outfall.
- II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For outfalls which have no allowed mixing, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method.

\*\*\* There shall be a minimum of nine (9) samples collected during the quarter when the pond is discharging. Of these 9 samples, a minimum of one sample each month shall be taken during either Discharge Condition I or IV should such discharge condition occur. A "no flow" situation is not considered to be a sample of the discharge. In the event that Discharge Conditions II and/or III occur, grab sample of each discharge caused by the above precipitation events (Discharge Conditions II and/or III) shall be taken and analyzed for the parameters identified in the table above during at least 3 separate events each quarter. For quarters in which there are less than 3 such precipitation events resulting in discharges, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s). Should a sufficient number of discharge events occur during the quarter, the remaining three (3) quarterly samples may be taken during any of the Discharge Conditions described above.

The water quality standards for sulfate and chloride must be met in discharges from the above referenced outfall as well as in the receiving stream.

\* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 15 for the discharges from Outfalls 006 and 007 and Shoal Creek Watershed Structure No. 5 and the unnamed tributary to Shoal Creek Watershed Structure No. 5 receiving such discharges.

\*\* No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

## NPDES Coal Mine Permit

NPDES Permit No. IL0078727

## Effluent Limitations and Monitoring

Upon completion of Special Condition 10 and approval from the Agency, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall\*: 001 (Reclamation Area Drainage)

Discharge Condition	Parameters					
	pH** (S.U.) ***	Sulfate (mg/l) ***	Chloride (mg/l) ***	Hardness ***	Flow (MGD)	Settleable Solids (ml/l) ***
I	6.5-9.0	771	500	Monitor only	Measure When Sampling	0.5
II	6.0-9.0	771	500	Monitor only	Measure When Sampling	0.5
III	6.0-9.0	771	500	Monitor only	Measure When Sampling	-
IV	6.5-9.0	771	500	Monitor only	Measure When Sampling	0.5

I Dry weather discharge (base flow, if present) from the outfall.

II In accordance with 35 Ill. Adm. Code 406.109(b), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations. The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.

III In accordance with 35 Ill. Adm. Code 406.109(c), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.109(b).

IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For reclamation area discharges, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method. A "no flow" situation is not considered to be a sample of the discharge.

\*\*\* One sample per month (1/month) shall be collected if and/or when a discharge occurs under either Discharge Condition I, II or IV and analyzed for the parameters identified in the table above. In addition, at least three (3) grab samples shall be taken each quarter from separate precipitation events under Discharge Condition III and analyzed for parameters indicated in the above table. For quarters in which there are less than 3 such precipitation events, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s).

The water quality standards for sulfate and chloride must be met in discharges from the above referenced outfall as well as in the receiving stream.

---

\* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 15 for the discharges from Outfall 001 and Shoal Creek Watershed Structure No. 5 receiving such discharges.

\*\* No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

## NPDES Coal Mine Permit

NPDES Permit No. IL0078727

## Effluent Limitations and Monitoring

Upon completion of Special Condition 10 and approval from the Agency, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall\*: 002, 003, 006, 007 (Reclamation Area Drainage)

Discharge Condition	Parameters					
	pH** (S.U.) ***	Sulfate (mg/l) ***	Chloride (mg/l) ***	Hardness ***	Flow (MGD)	Settleable Solids (ml/l) ***
I	6.5-9.0	1435	500	Monitor only	Measure When Sampling	0.5
II	6.0-9.0	1435	500	Monitor only	Measure When Sampling	0.5
III	6.0-9.0	1435	500	Monitor only	Measure When Sampling	-
IV	6.5-9.0	1435	500	Monitor only	Measure When Sampling	0.5

- I Dry weather discharge (base flow, if present) from the outfall.
- II In accordance with 35 Ill. Adm. Code 406.109(b), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations. The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.109(c), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.109(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For reclamation area discharges, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method. A "no flow" situation is not considered to be a sample of the discharge.

\*\*\* One sample per month (1/month) shall be collected if and/or when a discharge occurs under either Discharge Condition I, II or IV and analyzed for the parameters identified in the table above. In addition, at least three (3) grab samples shall be taken each quarter from separate precipitation events under Discharge Condition III and analyzed for parameters indicated in the above table. For quarters in which there are less than 3 such precipitation events, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s).

The water quality standards for sulfate and chloride must be met in discharges from the above referenced outfall as well as in the receiving stream.

---

\* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 14 for the discharge from Outfall 002 and the unnamed tributary to Shoal Creek Watershed Structure No. 5 and Special Condition No. 15 for the discharge from the Outfalls 003, 006 and 007 and Shoal Creek Watershed Structure No. 5 and the unnamed tributary to Shoal Creek Watershed Structure No. 5 receiving such discharges.

\*\* No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

## NPDES Coal Mine Permit

NPDES Permit No. IL0078727

## Effluent Limitations and Monitoring

Upon completion of Special Condition 10 and approval from the Agency, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall\*: 004, 005 (Reclamation Area Drainage)

Discharge Condition	Parameters					
	pH** (S.U.) ***	Sulfate (mg/l) ***	Chloride (mg/l) ***	Hardness ***	Flow (MGD)	Settleable Solids (ml/l) ***
I	6.5-9.0	837	500	Monitor only	Measure When Sampling	0.5
II	6.0-9.0	837	500	Monitor only	Measure When Sampling	0.5
III	6.0-9.0	837	500	Monitor only	Measure When Sampling	-
IV	6.5-9.0	837	500	Monitor only	Measure When Sampling	0.5

- I Dry weather discharge (base flow, if present) from the outfall.
- II In accordance with 35 Ill. Adm. Code 406.109(b), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations. The 10-year, 24-hour precipitation event for this area is considered to be 4.65 inches.
- III In accordance with 35 Ill. Adm. Code 406.109(c), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.109(b).
- IV Discharges continuing 24 hours after cessation of precipitation event that resulted in discharge. For reclamation area discharges, monitoring requirements and permit limitations of Discharge Condition IV are identical to Discharge Condition I to which the outfall discharge has reverted.

Sampling during all Discharge Conditions shall be performed utilizing the grab sampling method. A "no flow" situation is not considered to be a sample of the discharge.

\*\*\* One sample per month (1/month) shall be collected if and/or when a discharge occurs under either Discharge Condition I, II or IV and analyzed for the parameters identified in the table above. In addition, at least three (3) grab samples shall be taken each quarter from separate precipitation events under Discharge Condition III and analyzed for parameters indicated in the above table. For quarters in which there are less than 3 such precipitation events, a grab sample of the discharge shall be required whenever such precipitation event(s) occur(s).

The water quality standards for sulfate and chloride must be met in discharges from the above referenced outfall as well as in the receiving stream.

---

\* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 15 for the discharge from Outfall 004 and the unnamed tributary to Shoal Creek Watershed Structure No. 5 and Special Condition No. 14 for the discharge from the Outfall 005 and unnamed tributary to Shoal Creek Watershed Structure No. 5 receiving such discharges.

\*\* No discharge is allowed from any above referenced permitted outfall during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

NPDES Coal Mine Permit  
NPDES Permit No. IL0078727  
Effluent Limitations and Monitoring

Upon completion of Special Condition No. 11 and approval from the Agency, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfalls: 001, 002, 003, 004, 005, 006 and 007 (Stormwater Discharge)

Parameters	
pH* (S.U.) **	Settleable Solids (ml/l) **
6.0-9.0	0.5

Stormwater discharge monitoring is subject to the following reporting requirements:

Analysis of samples must be submitted with second quarter Discharge Monitoring Reports.

If discharges can be shown to be similar, a plan may be submitted by November 1 of each year preceding sampling to propose grouping of similar discharges and/or updated previously submitted groupings. If updating of a previously submitted plan is not necessary, a written notification to the Agency, indicating such is required. Upon approval from the Agency, one representative sample for each group may be submitted.

Annual stormwater monitoring is required for all discharges until Final SMCRA Bond is released and approval to cease such monitoring is obtained from the Agency.

---

\* No discharge is allowed from any above referenced permitted outfalls during "low flow" or "no flow" conditions in the receiving stream unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302.204 for pH.

\*\* One (1) sample per year shall be collected and analyzed for the indicated parameter; however, such sampling and analysis is required only if and/or when a discharge occurs from the individual Outfall(s) identified above.

## NPDES Permit No. IL0078727

## Construction Authorization No. 5306-13

C.A. Date: August 29, 2013

Authorization is hereby granted to the above designee to construct and operate the mine and mine refuse area described as follows:

An underground mine containing a total of 839.5 acres, as described and depicted in IEPA Log Nos. 0006-08 (OMM Permit No. 399), 8111-10, 6242-12, 5065-13 and 5156-13 located in Sections 7, 8, 17 and 18, Township 8 North, Range 3 West, Montgomery County, and Section 12 and 13, Township 8 North, Range 4 West, 3<sup>rd</sup> P.M., Montgomery County, Illinois.

The surface facilities at this underground mine contains the incline slope to reach the coal seam, two vertical shafts, coal preparation plant, reclaim tunnels, rail loading loop, rail loadout, parking lots, access roads, drainage control structures, office buildings, change rooms, assembly rooms, warehousing facilities, administration building, storage facilities, elevator facilities, ventilation facilities, refuse disposal areas, overland conveyors, screens, crusher, power distribution facilities, power lines, water lines, parking lots, topsoil and subsoil stockpile areas.

As proposed and depicted in IEPA Log Nos. 9232-09 and 9420-09 (IPR Nos. 2 and 3 to OMM Permit 399, respectively), various surface facilities including soil storage areas, railroad layout, coal storage areas, drainage ditches, buildings, etc. have been relocated in support of mine development.

As proposed in IEPA Log No. 8111-10, an additional area consisting of 19.5 acres (IBR No. 1 to OMM Permit No. 399) located in Sections 7 and 18, Township 8 North, Range 3 West, Montgomery County is incorporated into the permit for the construction of a railroad loop and future coal refuse conveyor. Alternate drainage control will be provided by silt fence, straw bale dikes and vegetation. Runoff from this area will be monitored in accordance with stormwater monitoring requirements of Special Condition No. 12 of this permit. This additional acreage is included in the total permit area cited above.

As proposed in IEPA Log No. 6242-12, an additional area consisting of 7.0 acres (IBR No. 4 to OMM Permit No. 399) located in Sections 7 and 18, Township 8 North, Range 3 West, Montgomery County is incorporated into the permit for the installation of a waterline. Water from the underground mining operation will be pumped from the bleeder shaft into Sedimentation Pond 005. This additional acreage is included in the total permit area cited above.

As proposed in IEPA Log No. 5065-13, an additional area consisting of 4.5 acres (IBR No. 3 to OMM Permit No. 399) located in Section 7, Township 8 North, Range 3 West, Montgomery County is incorporated into the permit for the construction of a railroad loop. Alternate drainage control will be provided by silt fence, straw bale dikes and vegetation. Runoff from this area will be monitored in accordance with stormwater monitoring requirements of Special Condition No. 12 of this permit. This additional acreage is included in the total permit area cited above.

As proposed in IEPA Log No. 5156-13, an additional area consisting of 5.0 acres (IBR No. 5 to OMM Permit No. 399) located in Section 18, Township 8 North, Range 3 West, Montgomery County is incorporated into the permit for the installation of a drainage control ditch along the eastern perimeter of the clean coal stockpile area. This drainage control structure will convey runoff from the expanded coal stockpile to Sedimentation Basin 004. This additional acreage is included in the total permit area cited above.

Surface drainage control is provided by seven (7) sedimentation ponds with discharges designated as Outfalls 001, 002, 003, 004, 005, 006 and 007, all classified as alkaline mine drainage.

Location and receiving stream of the Outfalls at this facility is as follows:

Outfall Number	Latitude			Longitude			Receiving Waters
	DEG	MIN	SEC	DEG	MIN	SEC	
001	39°	08'	51"	89°	28'	26"	Shoal Creek Watershed Structure No. 5 to unnamed tributary to Middle Fork Shoal Creek
002	39°	08'	45"	89°	28'	07"	Unnamed tributary to Shoal Creek Watershed Structure No. 5 tributary to Middle Fork Shoal Creek
003	39°	08'	43"	89°	28'	23"	Shoal Creek Watershed Structure No. 5 to unnamed tributary to Middle Fork Shoal Creek
004	39°	08'	25"	89°	28'	18"	Unnamed tributary to Shoal Creek Watershed Structure No. 5 tributary to Middle Fork Shoal Creek
005	39°	08'	16"	89°	27'	21"	Unnamed tributary to Shoal Creek Watershed Structure No. 5 tributary to Middle Fork Shoal Creek
006	39°	08'	32"	89°	28'	25"	Shoal Creek Watershed Structure No. 5 to unnamed tributary to Middle Fork Shoal Creek
007	39°	08'	46"	89°	28'	08"	Unnamed tributary to Shoal Creek Watershed Structure No. 5 tributary to Middle Fork Shoal Creek

NPDES Permit No. IL0078727

Construction Authorization No. 5306-13

C.A. Date: August 29, 2013

As proposed and depicted in IEPA Log No. 8591-10 the layout and configuration of Sedimentation Pond 005 has been revised to a narrow impoundment surrounding Refuse Disposal Area No. 1. Reconfiguration of this basin will have no effect on the discharge quality or Outfall location.

For reference purposes only, as-built volumes and final basin certifications for Sedimentation Ponds 002, 003, 004 and 007 have been provided in IEPA Log No. 7039-11. As built volumes and final basin certifications for Sedimentation Basin 005 is contained in IEPA Log No. 6348-12.

As proposed and depicted in IEPA Log No. 5205-13, (IPR No. 12 to OMM Permit No. 399), the geometry of drainage ditches 008-A and 008-B will be modified to correct the effects of subsidence to ensure appropriate conveyance of runoff to the sedimentation basin.

Coarse and fine coal refuse disposal is approved in the eastern portion of the permit area as depicted in IEPA Log No. 0006-08-D. The four foot compacted clay liner originally proposed and approved for Refuse Disposal Area No. 1 has been replaced by a synthetic liner as discussed below.

As proposed and described in IEPA Log No. 8356-10, a 40-mil synthetic liner will be utilized in place of the originally proposed and approved 4 foot compacted clay liner for sedimentation Ponds 002, 003, 004 and 005. Similar liners will be installed under the raw and clean coal stockpiles. The Quality Assurance/Quality Control (QA/QC) Plan for the installation of the synthetic liners is contained in IEPA Log No. 8189-10.

As proposed and described in IEPA Log No. 8361-10, a 40-mil synthetic liner will be utilized in place of the originally proposed and approved 4 foot compacted clay liner for Refuse Disposal Area No. 1. The QA/QC Plan for the installation of the synthetic liner for Refuse Disposal Area No. 1 is contained in IEPA Log No. 8361-10-A.

As proposed and described in IEPA Log Nos. 7224-11 and 7224-11-D (Revision No. 1 to OMM Permit No. 399), the coarse refuse embankment originally proposed will be enclosed to develop an impounding structure for slurry disposal. The coarse refuse embankment will be constructed with a top elevation of approximately 690.0 feet above msl. The approval of this refuse disposal area modification supersedes and replaces Subtitle D Permit No. 2013-MW-5104 previously issued for an interim modification of Refuse Disposal Area No. 1

Areas designated for "future" refuse disposal in IEPA Log No. 0006-08-D are not currently approved. Coal refuse may not be disposed in these designated areas until such time that plans and specifications addressing foundation preparation and groundwater monitoring are submitted to and approved by this Agency.

Design and construction/installation of either compacted clay liners or synthetic liners for future facilities at this mine site shall be subject to the requirements of Condition Nos. 12 or 13, respectively. Supplemental approval shall be obtained from the Agency prior to the construction and/or installation of either a compacted clay or synthetic liner and for the facilities requiring such liner system.

Groundwater monitoring for this facility will consist of the following:

Existing and/or proposed monitoring wells identified as Well Nos. MW4/4R, MW22, MW23, MW24S, MW25S, MW26S, MW27S, MW28, MW30, MW31, MW32, MW33 and MW34 as depicted in IEPA Log No. 0006-08 and MW35 and MW36 as depicted in IEPA Log no. 5243-13.

As depicted in IEPA Log Nos. 8580-10 and 5244-13, Groundwater Monitoring Well MW-38 (originally identified as MW-37) has been installed at the North-East corner of the Refuse Disposal Area No. 1.

Monitoring Well Nos. MW4/4R, MW22, MW23, MW24S, MW25S and MW38 will monitor effects of the refuse disposal area.

Groundwater monitoring requirements are outlined in Condition No. 14.

Sediment and erosion control measures shall be implemented as outlined in Condition No. 15.

The abandonment plan shall be executed and completed in accordance with 35 Ill. Adm. Code 405.109.

All water remaining upon abandonment must meet the requirements of 35 Ill. Adm. Code 406.202. For the constituents not covered by Parts 302 or 303, all water remaining upon abandonment must meet the requirements of 35 Ill. Adm. Code 406.106.

This Authorization is issued subject to the following Conditions. If such Conditions require additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval to secure issuance of a Supplemental Authorization to Construct.



NPDES Permit No. IL0078727

Construction Authorization No. 5306-13

C.A. Date: August 29, 2013

1. If any statement or representation is found to be incorrect, this permit may be revoked and the permittee thereupon waives all rights thereunder.
2. The issuance of this permit (a) shall not be considered as in any manner affecting the title of the premises upon which the mine or mine refuse area is to be located; (b) does not release the permittee from any liability for damage to person or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (c) does not take into consideration the structural stability of any units or parts of the project; and (d) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or with applicable local laws, regulations or ordinances.
3. Final plans, specifications, application and supporting documents as submitted by the person indicated on Page 1 as approved shall constitute part of this permit in the records of the Illinois Environmental Protection Agency.
4. There shall be no deviations from the approved plans and specifications unless revised plans, specifications and application shall first have been submitted to the Illinois Environmental Protection Agency and a supplemental permit issued.
5. The permit holder shall notify the Environmental Protection Agency (217/782-3637) immediately of an emergency at the mine or mine refuse area which causes or threatens to cause a sudden discharge of contaminants into the waters of Illinois and shall immediately undertake necessary corrective measures as required by 35 Ill. Adm. Code 405.111. (217/782-3637 for calls between the hours of 5:00 p.m. to 8:30 a.m. and on weekends.)
6. The termination of an NPDES discharge monitoring point or cessation of monitoring of an NPDES discharge is not authorized by this Agency until the permittee submits adequate justification to show what alternate treatment is provided or that untreated drainage will meet applicable effluent and water quality standards.
7. Initial construction activities in areas to be disturbed shall be for collection and treatment facilities only. Prior to the start of other activities, surface drainage controls shall be constructed and operated to avoid violations of the Act or Subtitle D. At such time as runoff water is collected in the sedimentation pond, a sample shall be collected and analyzed, for the parameters designated as 1M through 15M under Part 5-C of Form 2C and the effluent parameters designated herein with the results sent to this Agency. Should additional treatment be necessary to meet the standards of 35 Ill. Adm. Code 406.106, a Supplemental Permit must be obtained. Discharge from ponds is not allowed unless applicable effluent and water quality standards are met in the basin discharge(s).
8. This Agency must be informed in writing and an application submitted if drainage, which was previously classified as alkaline (pH greater than 6.0), becomes acid (pH less than 6.0) or ferruginous (base flow with an iron concentration greater than 10 mg/l). The type of drainage reporting to the basin should be reclassified in a manner consistent with the applicable rule of 35 Ill. Adm. Code 406 as amended in R84-29 at 11 Ill. Reg. 12899. The application should discuss the treatment method and demonstrate how the discharge will meet the applicable standards.
9. A permittee has the obligation to add a settling aid if necessary to meet the suspended solids or settleable solids effluent standards. The selection of a settling aid and the application practice shall be in accordance with a. or b. below
  - a. Alum ( $\text{Al}_2(\text{SO}_4)_3$ ), hydrated lime ( $\text{Ca}(\text{OH})_2$ ), soda ash ( $\text{Na}_2\text{CO}_3$ ), alkaline pit pumpage, acetylene production by-product (tested for impurities), and ground limestone are acceptable settling aids and are hereby permitted for alkaline mine drainage sedimentation ponds.
  - b. Any other settling aids such as commercial flocculents and coagulants are permitted only on prior approval from the Agency. To obtain approval a permittee must demonstrate in writing to the Agency that such use will not cause a violation of the toxic substances standard of 35 Ill. Adm. Code 302.210 or of the appropriate effluent and water quality standards of 35 Ill. Adm. Code parts 302, 304, and 406.
10. A general plan for the nature and disposition of all liquids used to drill boreholes shall be filed with this Agency prior to any such operation. This plan should be filed at such time that the operator becomes aware of the need to drill unless the plan of operation was contained in a previously approved application.
11. Any of the following shall be a violation of the provisions required under 35 Ill. Adm. Code 406.202:
  - a. It is demonstrated that an adverse effect on the environment in and around the receiving stream has occurred or is likely to occur.

- b. It is demonstrated that the discharge has adversely affected or is likely to adversely affect any public water supply.

NPDES Permit No. IL0078727

Construction Authorization No. 5306-13

C.A. Date: August 29, 2013

- c. The Agency determines that the permittee is not utilizing Good Mining Practices in accordance with 35 Ill. Adm. Code 406.204 which are fully described in detail in Sections 406.205, 406.206, 406.207 and 406.208 in order to minimize the discharge of total dissolved solids, chloride, sulfate, iron and manganese. To the extent practical, such Good Mining Practices shall be implemented to:
- i. Stop or minimize water from coming into contact with disturbed areas through the use of diversions and/or runoff controls (Section 406.205).
  - ii. Retention and control within the site of waters exposed to disturbed materials utilizing erosion controls, sedimentation controls, water reuse or recirculation, minimization of exposure to disturbed materials, etc. (Section 406.206).
  - iii. Control and treatment of waters discharged from the site by regulation of flow of discharges and/or routing of discharges to more suitable discharge locations (Section 406.207).
  - iv. Utilized unconventional practices to prevent the production or discharge of waters containing elevated contaminant concentrations such as diversion of groundwater prior to entry into a surface or underground mine, dewatering practices to remove clean water prior to contacting disturbed materials and/or any additional practices demonstrated to be effective in reducing contaminant levels in discharges (Section 406.208).
- d. The Agency determines that the permittee is not utilizing Best Management Practices associated with coal refuse disposal activities in order to minimize the discharge of total dissolved solids, chloride, sulfate, iron and manganese. As stated in IEPA Log No. 0006-08-F, the Best Management Practices to be implemented are:

Coarse Refuse Disposal:

- i. Maximization of the distribution of un-oxidized coarse refuse so as to minimize the exposure to oxidation and weathering.
- ii. Concurrent compaction of coarse refuse; placement of material lifts, grading and compaction of disposed materials including side slopes.
- iii. Minimization of long term end dumped storage of loose coarse refuse.
- iv. Alkaline amendment of coarse refuse as, or if necessary for permitted water quality standard compliance, including the use of agricultural lime or other similarly alkaline materials so as to achieve a NNP in excess of 10 tons per 1000 tons of material.
- v. Oxidation management as part of the final reclamation process to enhance coarse refuse alkalinity.

Fine Refuse (Slurry) Disposal:

- i. Maintenance of adequate water depth over fine refuse to maximize retention time and differential separation of slurried material.
  - ii. Sequential movement of slurry input to assure better distribution of material.
  - iii. As part of the final reclamation process, incremental limestone amendment over the appropriate time period to evaluate soil cover alternatives, if necessary.
12. Compacted clay liners of four (4) foot thickness proposed to be constructed beneath any future facility at this mine site shall be subject to the following specifications and procedures and detailed in IEPA Log No. 0006-08-C.

**Construction Specifications**

- a. All soils to be used for compacted clay liner shall be free of grass, vines, vegetation, and rock or stones greater than 4 inches in diameter.
- b. Each location at which a compacted clay liner is to be constructed shall be excavated to the proposed base elevation and then over-excavated an additional three (3) feet. One (1) foot of the resulting base material shall be scarified and re-compacted to achieve the minimum permeability requirements cited below.
- c. Each successive soil lift shall be laced to a 6 to 8 inch loose thickness; however, in no instance shall the loose lift thickness exceed the length of the pads or feet on the compactor or roller.
- d. Each soil lift shall be compacted to the minimum Standard Proctor (ASTM D698) density identified in Item no. 12(q) below, at a moisture content of 0% to 5% above the optimum moisture content of the soil.
- e. Inter-lift surfaces shall be adequately scarified to ensure inter-lift bonding.
- f. Liner construction shall be performed to ensure consistent achievement of density, moisture content, and hydraulic conductivity for each successive lift.
- g. The placement of frozen material or the placement of material on frozen ground shall be prohibited.
- h. Contemporaneous placement or protective covering shall be provided to prevent drying, desiccation and/or freezing where necessary.
- i. Liner construction shall be completed in a manner which reduces void spaces within the soil and liner.
- j. All construction stakes shall be removed during construction, and all test holes (Shelby tube samples) are to be backfilled with bentonite.
- k. The compacted clay liner shall be constructed in a manner to achieve a uniform barrier with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec.
- l. In the event that acceptable compaction results are not achieved, the soil lift shall be re-processed or removed and replaced. If moisture content is less than optimum, or greater than 5% above optimum, the failing material shall be wetted or dried to a moisture content within specification and re-compacted. If the dry density is below specification, the failing material shall be re-compacted until a passing test is achieved.
- m. In the event of a failing conductivity test, the soil may be removed or re-compacted and retested until a passing result is obtained; or the soil immediately above and below the test specimen from the same Shelby tube may be tested. If both tests pass, the original test shall be nullified. If either test fails, that portion of the liner shall be rejected and shall be reconstructed and retested until passing results are obtained. The limits of necessary reconstruction shall be determined by additional sampling and testing within the failed region, thereby isolating the failing area of work.

**Testing Specifications**

- n. Prior to initiating soil liner construction, borrow soils shall be identified, qualified, and verified. At a minimum, a representative sample of each soil type identified within the borrow area is to be collected and analyzed for gradation, compaction, and hydraulic conductivity characteristics.
- o. Samples collected from the borrow area shall be evaluated in accordance with ASTM D422, D4318 and D2487 to ensure classification criteria are met.
- p. Samples collected from the borrow area shall be tested in accordance with ASTM D698 to determine maximum dry density and optimum moisture content of the soil.

NPDES Permit No. IL0078727

Construction Authorization No. 5306-13

C.A. Date: August 29, 2013

- q. Samples collected from the borrow area shall be compacted to 90% and 95% standard Proctor density at or near optimum moisture content. The hydraulic conductivity of the re-compacted samples shall be determined in accordance with ASTM D5084 procedures. The results of this testing shall be used to establish the minimum dry density for soil liner compaction necessary to achieve a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec or less.
  - r. Moisture and density testing by nuclear methods (ASTM D2922 and D3017) shall be conducted at a rate of at least one test per 1,000 cubic yards placed. Testing locations shall be random, and shall not be known to the earthwork contractor prior to lift placement.
  - s. To ensure the accuracy and reproducibility of the nuclear testing, all nuclear density gauges shall be certified to calibration. Soil compaction tests shall be double-checked with independent test methods. A drive cylinder test and laboratory moisture content determination shall be conducted and compared to gauge readings. These independent checks shall be made at the outset of construction and on a bi-weekly basis (e.g., every ten working days) thereafter.
  - t. Samples for hydraulic conductivity verification shall be retrieved from the compacted soil liner and tested in accordance with ASTM D5084 procedures. Samples shall be retrieved using three-inch Shelby tubes. Samples shall be completed at a frequency of one sample/test per 20,000 cubic yards placed. The vertical location of the recovered samples shall be varied so that representative portions or lifts of the constructed liner are tested. Testing locations shall be random, and shall not be known to the earthwork contractor prior to soil liner construction.
  - u. Survey checks shall be conducted at a maximum spacing of 100 ft. centers, and at 100 ft. intervals along each line where a break in slope occurs, to verify liner thickness. To verify liner thickness, the survey checks shall be taken before and after liner construction.
13. Synthetic (geo-membrane) liners proposed to be installed beneath any future facility at this mine site shall be subject to the following specifications and procedures:

**Site preparation**

- a. Subgrade material below geo-membrane liner shall consist of structural fill and/or in-situ soils.
- b. The subgrade shall be inspected and cleared of any potentially deleterious materials.
- c. Subgrade material will consist of relatively homogeneous, fine-grained soils and be free of debris, vegetation, frozen materials, foreign objects and organics. The subgrade surface shall be solid, uniform and smooth.

**Liner material and placement**

- d. The synthetic liner will consist of a High Density Polyethylene (HDPE) Geo-membrane and will be installed directly above the subgrade soils.
- e. The HDPE Geo-membrane shall be installed in accordance with manufacturer's requirements.
- f. A 12-ounce per square yard non-woven geotextile cushion will be placed above the HDPE liner to prevent puncture during protective cover placement.

**Protective cover**

- g. A protective cover component will be placed directly above the liner system and will consist of a minimum thickness of 12 inches of homogeneous fine grained soils (clays and silts) and coarse grained sands. This cover material shall be free of debris, vegetation, frozen materials, foreign objects and organics.
14. Groundwater monitoring requirements for Well Nos. MW 4/4R, MW22, MW23, MW24S, MW25S, MW26S, MW27S, MW28, MW30, MW31, MW32, MW33, MW34, MW35, MW36 and MW38 are as follows:

NPDES Permit No. IL0078727

Construction Authorization No. 5306-13

C.A. Date: August 29, 2013

- a. Ambient background monitoring shall be performed for all referenced wells. Such ambient monitoring shall consist of six (6) samples collected during the first year (approximately bi-monthly) following well installation but no later than during the first year of operation or disturbance to determine ambient background concentrations. Background monitoring shall include the following list of constituents:

Aluminum	Fluoride	Sulfate
Antimony	Iron (dissolved)	Thallium
Arsenic	Iron (total)	Total Dissolved Solids
Barium	Lead	Vanadium
Beryllium	Manganese (dissolved)	Zinc
Boron	Manganese (total)	pH
Cadmium	Mercury	Acidity
Chloride	Molybdenum	Alkalinity
Chromium	Nickel	Hardness
Cobalt	Phenols	Static Water Elevation
Copper	Selenium	
Cyanide	Silver	

- b. Following the ambient monitoring as required under Condition No. 14(a) above, routine monitoring shall continue on a quarterly basis as follows:

- i. Monitoring Well Nos. MW 4/4R, MW22, MW23, MW24S and MW25S shall continue to be monitored quarterly for the contaminants identified in Condition No. 14(a) above.
- ii. Monitoring Well Nos. MW26S, MW27S, MW28, MW30, MW31, MW32, MW33, MW34, MW35, MW36 and MW38 shall be monitored quarterly as required by IDNR/OMM for the following list of constituents:

Chloride	Total Dissolved Solids
Iron (dissolved)	Hardness
Iron (total)	Acidity
Manganese (dissolved)	Alkalinity
Manganese (total)	pH
Sulfate	Static Water Elevation

- c. Following completion of active mining and reclamation, post-mining monitoring of the above referenced wells shall consist of six (6) samples collected during a 12-month period (approximately bi-monthly) to determine post-mining concentrations. Post-mining monitoring shall include the list of constituents identified in Condition No. 14(a) above.
- d. Groundwater monitoring reports shall be submitted to the Agency in accordance with Special Condition Nos. 3 and 5 of this NPDES permit.
- e. A statistically valid representation of background and/or post mining water quality required under Condition No. 14(a) and 14(c) above shall be submitted utilizing the following method. This method shall be used to determine the upper 95 percent confidence limit for each parameter listed above.

Should the Permittee determine that an alternate statistical method would be more appropriate based on the data being evaluated, the Permittee may request utilization of such alternate methodology. Upon approval from the Agency, the alternate methodology may be utilized to determine a statistically valid representation of background and/or post mining water quality.

This method should be used to predict the confidence limit when single groundwater samples are taken from each monitoring (test) well.

- i. Determine the arithmetic mean  $\left(\bar{X}_b\right)$  of each indicator parameter for the sampling period. If more than one well is used, an equal number of samples must be taken from each well.

$$\bar{X}_b = \frac{X_1 + X_2 + \dots + X_n}{n}$$

NPDES Permit No. IL0078727

Construction Authorization No. 5306-13

C.A. Date: August 29, 2013

Where:

 $\bar{X}_b$  = Average value for a given chemical parameter $X_n$  = Values for each sample

n = the number of samples taken

- ii. Calculate the background and/or post mining variance ( $S_b^2$ ) and standard deviation ( $S_b$ ) for each parameter using the values ( $X_n$ ) from each sample of the well(s) as follows:

$$S_b^2 = \frac{(X_1 - \bar{X}_b)^2 + (X_2 - \bar{X}_b)^2 + \dots + (X_n - \bar{X}_b)^2}{n - 1}$$

$$S_b = \sqrt{S_b^2}$$

- iii. Calculate the upper confidence limit using the following formula:

$$CL = \bar{X}_b \pm t \sqrt{1 + 1/n} (S_b)$$

Where:

CL = upper confidence limit prediction  
 (upper and lower limits should be calculated for pH)  
 t = one-tailed t value at the required significance level and at n-1 degrees of freedom from Table 1  
 (a two-tailed t value should be used for pH)

- iv. If the values of any routine parameter for any monitoring well exceed the upper confidence limit for that parameter, the permittee shall conclude that a statistically significant change has occurred at that well.
- v. When some of the background and/or post mining values are less than the Method Detection Limit (MDL), a value of one-half (1/2) the MDL shall be substituted for each value that is reported as less than the MDL. All other computations shall be calculated as given above.

If all the background and/or post mining values are less than the MDL for a given parameter, the Practical Quantitation Limit (PQL), as given in 35 Ill. Adm. Code Part 724 Appendix I shall be used to evaluate data from monitoring wells. If the analytical results from any monitoring well exceed two (2) times the PQL for any single parameter, or if they exceed the PQLs for two or more parameters, the permittee shall conclude that a statistically significant change has occurred.

NPDES Permit No. IL0078727

Construction Authorization No. 5306-13

C.A. Date: August 29, 2013

**Table 1**  
Standard t-Tables Level of Significance

Degrees of freedom	t-values (one-tail)		t-values (two-tail)*	
	99%	95%	99%	95%
4	3.747	2.132	4.604	2.776
5	3.365	2.015	4.032	2.571
6	3.143	1.943	3.707	2.447
7	2.998	1.895	3.499	2.365
8	2.896	1.860	3.355	2.306
9	2.821	1.833	3.250	2.262
10	2.764	1.812	3.169	2.228
11	2.718	1.796	3.106	2.201
12	2.681	1.782	3.055	2.179
13	2.650	1.771	3.012	2.160
14	2.624	1.761	2.977	2.145
15	2.602	1.753	2.947	2.131
16	2.583	1.746	2.921	2.120
17	2.567	1.740	2.898	2.110
18	2.552	1.734	2.878	2.101
19	2.539	1.729	2.861	2.093
20	2.528	1.725	2.845	2.086
21	2.518	1.721	2.831	2.080
22	2.508	1.717	2.819	2.074
23	2.500	1.714	2.807	2.069
24	2.492	1.711	2.797	2.064
25	2.485	1.708	2.787	2.060
30	2.457	1.697	2.750	2.042
40	2.423	1.684	2.704	2.021

Adopted from Table III of "Statistical Tables for Biological Agricultural and Medical Research" (1947, R.A. Fisher and F. Yates).

\* For pH only when required.

15. The following additional sediment and erosion control measures shall be implemented at this facility:

- a. Establish and maintain vegetative cover in areas currently cropland.
- b. Soil stockpiles will be seeded with grasses and/or legumes to minimize exposure to excessive water and wind erosion.
- c. Organic mulch or chemical binders will be used as required by IDNR on the side slopes of the stockpiles.
- d. Seeding with small grain or grass cover and applying straw mulch will be used where practicable and the installation of sediment basin will be used as a means of controlling suspended solids from exposed areas where topsoil has been removed.
- e. Final vegetation will be established on all disturbed areas.
- f. Disturbed areas will be seeded and mulched to provide a vegetative cover to prevent erosion.
- g. During construction, sediment control measures such as silt fences, straw bale dikes, riprap check dams and mulching will be used to minimize erosion and prevent sediment from leaving the permit area.
- h. All construction areas will be stabilized with permanent vegetative species, graded stone and/or paving material.



NPDES Permit No. IL0078727

Special Conditions

**Special Condition No. 1:** No effluent from any mine related facility area under this permit shall, alone or in combination with other sources, cause a violation of any applicable water quality standard as set out in the Illinois Pollution Control Board Rules and Regulations, Subtitle C: Water Pollution.

**Special Condition No. 2:** Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

**Special Condition No. 3:** All periodic monitoring and reporting forms, including Discharge Monitoring Report (DMR) forms, shall be submitted to the Agency according to the schedule outlined in Special Condition No. 4 or 5 below with one (1) copy forwarded to each of the following addresses:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
1021 North Grand Ave., East  
P.O. Box 19276  
Springfield, IL 62794-9276

Illinois Environmental Protection Agency  
Mine Pollution Control Program  
2309 West Main Street, Suite 116  
Marion, Illinois 62959

Attn: Compliance Assurance Section

Should electronic filing be available and elected for any periodic monitoring and reporting requirements, written notification shall be provided to the Agency that such electronic filing has been elected and the date on which this filing will be initiated.

**Special Condition No. 4:** Completed Discharge Monitoring Report (DMR) forms and stream monitoring results, shall be retained by the Permittee for a period of three (3) months and shall be mailed and received by the IEPA at the addresses indicated in Special Condition No. 3 above in accordance with the following schedule, unless otherwise specified by the permitting authority.

Period	Received by IEPA
January, February, March	April 15
April, May, June	July 15
July, August, September	October 15
October, November, December	January 15

The Permittee shall record discharge monitoring results on Discharge Monitoring Report forms (DMR's) using one such form for each applicable Discharge Condition each month.

**Special Condition No. 5:** Completed periodic monitoring and reporting, other than DMR's and stream monitoring (i.e., groundwater monitoring, coal combustion waste analysis reports, etc.), shall be retained by the Permittee for a period of three (3) months and shall be mailed and received by the IEPA at the addresses indicated in Special Condition No. 3 above in accordance with the following schedule, unless otherwise specified by the permitting authority.

Period	Received by IEPA
January, February, March	May 1
April, May, June	August 1
July, August, September	November 1
October, November, December	February 1

**Special Condition No. 6:** The Agency may revise or modify the permit consistent with applicable laws, regulations or judicial orders.

**Special Condition No. 7:** If an applicable effluent standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the NPDES Permit, the Agency shall revise or modify the permit in accordance with the more stringent standard or prohibition and shall so notify the permittee.

**Special Condition No. 8:** The permittee shall notify the Agency in writing by certified mail within thirty days of abandonment, cessation, or suspension of active mining for thirty days or more unless caused by a labor dispute. During cessation or suspension of active mining, whether caused by a labor dispute or not, the permittee shall provide whatever interim impoundment, drainage diversion, and wastewater treatment is necessary to avoid violations of the Act or Subtitle D.

## NPDES Permit No. IL0078727

Special Conditions

**Special Condition No. 9:** Plans must be submitted to and approved by this Agency prior to construction of a sedimentation pond. At such time as runoff water is collected in the sedimentation pond, a sample shall be collected and analyzed for the parameters designated as 1M-15M under Part 5-C of Form 2C and the effluent parameters designated herein with the results sent to this Agency. Should additional treatment be necessary to meet these standards, a Supplemental Permit must also be obtained. Discharge from a pond is not allowed unless applicable effluent and water quality standards are met.

**Special Condition No. 10:** The special reclamation area effluent standards of 35 Ill. Adm. Code 406.109 apply only on approval from the Agency. To obtain approval, a request form and supporting documentation shall be submitted to request the discharge be classified as a reclamation area discharge. The Agency will notify the permittee upon approval of the change.

**Special Condition No. 11:** The special stormwater effluent standards apply only on approval from the Agency. To obtain approval, a request with supporting documentation shall be submitted to request the discharge to be classified as a stormwater discharge. The documentation supporting the request shall include analysis results indicating the discharge will consistently comply with reclamation area discharge effluent standards. The Agency will notify the permittee upon approval of the change.

**Special Condition No. 12:** Annual stormwater monitoring is required for all discharges not reporting to a sediment basin until Final SMCRA Bond is released and approval to cease such monitoring is obtained from the Agency.

- A. Each discharge must be monitored for pH and settleable solids annually.
- B. Analysis of samples must be submitted with second quarter Discharge Monitoring Reports. A map with discharge locations must be included in this submittal.
- C. If discharges can be shown to be similar, a plan may be submitted by November 1 of each year preceding sampling to propose grouping of similar discharges and/or update previously submitted groupings. If updating of a previously submitted plan is not necessary, a written notification to the Agency indicating such is required. Upon approval from the Agency, one representative sample for each group may be submitted.

**Special Condition No. 13:** Sediment Pond Operation and Maintenance (Outfalls 002 and 005):

- a. No discharge is allowed from Outfall Nos. 002 and 005 during "low flow" or "no flow" conditions in the receiving stream, unless such discharge meets the water quality standards of 35 Ill. Adm. Code 302. For purposes of this Special Condition "low flow" shall be defined as any condition wherein the upstream flow available for mixing is less than the ratio times the flow rate being discharged from the respective outfall. These ratios are as follows:

Outfall No.	Flow Ratio of Receiving Stream to Outfall Discharge
002	4.3:1
005	0.42:1

Pursuant to 35 Ill. Adm. Code 302.120, discharges from the referenced outfalls that otherwise would not meet the water quality standards of 35 Ill. Adm. Code 302 may be permitted if sufficient flow exists in the receiving stream to ensure that applicable water quality standards are met. That is, discharges not meeting the water quality standards of 35 Ill. Adm. Code 302 may only be discharged in combination with stormwater discharges from the basin, and only at such times that sufficient flow exists in the receiving stream to ensure that water quality standards in the receiving stream beyond the area of allowed mixing will not be exceeded. Following any such stormwater discharge, but prior to the flow in the receiving stream subsiding, the impounded water in the basin may be pumped or otherwise evacuated sufficiently below the discharge elevation to provide capacity for holding a sufficient volume of mine pumpage and/or surface runoff to preclude the possibility of discharge until such time that a subsequent precipitation event results in discharge from the basin. Should the Permittee elect to pump impounded water from the basin in accordance with this Special Condition, the pump intake shall be "floated" near the impounded water surface or otherwise managed to prevent re-suspension and subsequent discharge of previously accumulated sediments. At times of stormwater discharge, in addition to the alternate effluent (Discharge Condition Nos. II and III) monitoring requirements, as indicated on the applicable effluent pages of this Permit, discharges from Outfall Nos. 002 and 005 shall be monitored and reported for Discharge Rate, Sulfate, Chloride and Hardness.

- b. The following sampling and monitoring requirements are applicable to flow in the unnamed tributary to Shoal Creek Watershed Structure No. 5 which receives the discharges from Outfalls 002 and 005.
  - i. All sampling and monitoring required under (13)(b)(ii) and (iii) below shall be performed during a discharge and monitoring event from the associated outfall.

NPDES Permit No. IL0078727

Special Conditions

- ii. The unnamed tributary to Shoal Creek Watershed Structure No. 5 shall be monitored and reported quarterly for Discharge Rate, Sulfate, Chloride and Hardness downstream of the associated outfall. This downstream monitoring shall be performed a sufficient distance downstream of the associated outfall to ensure that complete mixing has occurred. At such time that sufficient information has been collected regarding stream flow characteristics and in-stream contaminant concentrations, the permittee may request a re-evaluation of the monitoring frequency required herein for possible reduction or elimination. For the purpose of re-evaluating the downstream monitoring frequency of the receiving stream, "sufficient information" is defined as a minimum of ten (10) quarterly sampling events.

In the event that downstream monitoring of the receiving waters is eliminated during the term of this permit based on an evaluation of the quarterly data, a minimum of three (3) additional samples analyzed for the parameters identified above must be submitted with the permit renewal application a minimum of 180 days prior to expiration of this permit.

- iii. The unnamed tributary to Shoal Creek Watershed Structure No. 5 shall be monitored and reported annually for Discharge Rate, Sulfate, Chloride and Hardness upstream of the associated outfall.

**Special Condition No. 14:** Sediment Pond Operation and Maintenance (Outfalls 002 and 005 – Reclamation Area Discharge Classification):

- a. For discharges resulting from precipitation events, in addition to the alternate effluent (Discharge Condition Nos. II and III) monitoring requirements, as indicated on the applicable effluent pages of this Permit, discharges from Outfalls 002 and 005 shall be monitored and reported for Discharge Rate, Sulfate, Chloride and Hardness.
- b. The following sampling and monitoring requirements are applicable to flow in the unnamed tributary to Shoal Creek Watershed Structure No. 5 which receive discharges from Outfalls 002 and 005.

- i. All sampling and monitoring required under (14)(b)(ii) and (iii) below shall be performed during a discharge and monitoring event from the associated outfall.
- ii. The unnamed tributary to Shoal Creek Watershed Structure No. 5 shall be monitored and reported quarterly for Discharge Rate, Chloride, Sulfate and Hardness downstream of the associated outfall. This downstream monitoring shall be performed a sufficient distance downstream of the associated outfall to ensure that complete mixing has occurred. At such time that sufficient information has been collected regarding receiving stream flow characteristics and in-stream contaminant concentrations the permittee may request a re-evaluation of the monitoring frequency required herein for possible reduction or elimination. For the purpose of re-evaluating the downstream monitoring frequency of the receiving stream, "sufficient information" is defined as a minimum of ten (10) quarterly sampling events.

In the event that downstream monitoring of the receiving waters is eliminated during the term of this permit based on an evaluation of the quarterly data, a minimum of three (3) additional samples analyzed for the parameters identified above must be submitted with the permit renewal application a minimum of 180 days prior to expiration of this permit.

- iii. The unnamed tributary to Shoal Creek Watershed Structure No. 5 shall be monitored and reported annually for Discharge Rate, Chloride, Sulfate and Hardness upstream of the associated outfall.

**Special Condition No. 15:** Sediment Pond Operation and Maintenance (Outfalls 001, 003, 004, 006 and 007):

- a. For discharges resulting from precipitation events, in addition to the alternate effluent (Discharge Condition Nos. II and III) monitoring requirements, as indicated on the applicable effluent pages of this Permit, discharges from Outfalls 001, 003, 004, 006 and 007 shall be monitored and reported for Discharge Rate, Sulfate, Chloride and Hardness.
- b. The following sampling and monitoring requirements are applicable to flow in the unnamed tributary to Middle Fork Shoal Creek (known locally as Central Park Creek) receiving the overflow from Shoal Creek Watershed Structure No. 5 which receives discharges from Outfalls 001, 003 and 006 and the unnamed tributary to Shoal Creek Watershed Structure No. 5 which receives the discharges from Outfalls 004 and 007.

- i. All sampling and monitoring required under (15)(b)(ii) and (iii) below shall be performed during a discharge and monitoring event from the associated outfall.
- ii. The unnamed tributary to Middle Fork Shoal Creek (known locally as Central Park Creek) receiving the overflow from Shoal Creek Watershed Structure No. 5 and the unnamed tributary to Shoal Creek Watershed Structure No. 5 shall be monitored and reported quarterly for Discharge Rate, Chloride, Sulfate and Hardness downstream of the associated outfall. This downstream monitoring shall be performed a sufficient distance downstream of the associated outfall to ensure that complete mixing has occurred. At such time that sufficient information has been collected regarding receiving

stream flow characteristics and in-stream contaminant concentrations the permittee may request a re-evaluation of the monitoring

## NPDES Permit No. IL0078727

Special Conditions

frequency required herein for possible reduction or elimination. For the purpose of re-evaluating the downstream monitoring frequency of the receiving stream, "sufficient information" is defined as a minimum of ten (10) quarterly sampling events.

In the event that downstream monitoring of the receiving waters is eliminated during the term of this permit based on an evaluation of the quarterly data, a minimum of three (3) additional samples analyzed for the parameters identified above must be submitted with the permit renewal application a minimum of 180 days prior to expiration of this permit.

- iii. The unnamed tributary to Middle Fork Shoal Creek (known locally as Central Park Creek) receiving the overflow from Shoal Creek Watershed Structure No. 5 and the unnamed tributary to Shoal Creek Watershed Structure No. 5 shall be monitored and reported annually for Discharge Rate, Chloride, Sulfate and Hardness upstream of the associated outfall.

**Special Condition No. 16:** Data collected in accordance with Special Condition Nos. 13, 14 and 15 above will be utilized to evaluate the appropriateness of the effluent limits established in this Permit. Should the Agency's evaluation of this data indicate revised effluent limits are warranted; this permit may be reopened and modified to incorporate more appropriate effluent limitations. This data will also be used for determination of effluent limitations at the time of permit renewal.

**Special Condition No. 17:** Mercury shall be monitored quarterly until a minimum of ten (10) samples have been collected. This Mercury monitoring is required only under Discharge Condition Nos. I and/or IV and only during quarters in which there are discharges from the outfall which occur under Discharge Condition Nos. I and/or IV. Samples shall be collected and tested in accordance with USEPA 1631E using the option at Section 11.1.1.2 requiring the heating of samples at 50°C for 6 hours in a BrCl solution in closed vessels. This test method has a Method Detection Limit (MDL) of 0.5 ng/l (nanograms/liter). The results of such testing must be reported in "ng/l" (nanograms/liter) and submitted with the quarterly Discharge Monitoring Reports (DMRs). The Permittee may submit a written request to the Agency to discontinue quarterly Mercury monitoring if the sampling results show no reasonable potential to exceed the Mercury water quality standard.

**Special Condition No. 18:** Discharges from Outfall Nos. 001, 002, 003, 004 and 005 shall be monitored twice annually with such monitoring spaced at approximately 6-month intervals during the entire 5-year term of this NPDES Permit. Sampling of the discharges shall be performed utilizing the grab sampling method. The results of the sampling required under this Special Condition shall be reported on Discharge Monitoring Report (DMR) forms and submitted to the Agency in January and July of each calendar year. The parameters to be sampled and the detection limits (minimum reported limits) to be achieved are as follows:

<u>Parameter</u>	<u>Detection Limit</u>
Arsenic	0.05 mg/l
Barium	0.50 mg/l
Cadmium	0.001 mg/l
Chromium (hexavalent)	0.01 mg/l
Chromium (total)	0.05 mg/l
Copper	0.005 mg/l
Lead	0.05 mg/l
Manganese	0.50 mg/l
Mercury*	1.00 ng/l**
Nickel	0.005 mg/l
Phenols	0.005 mg/l
Selenium	0.005 mg/l
Silver (total)	0.003 mg/l
Zinc	0.025 mg/l

\* Utilize USEPA Method 1631E and the digestion procedure described in Section 11.1.1.2 of 1631E.

\* 1.00 ng/l = 1 part per trillion