NPDES Permit No. IL0072745
Notice No. 6621c

Public Notice Beginning Date: **December 5, 2013**

Public Notice Ending Date: **January 6, 2014**

National Pollutant Discharge Elimination System (NPDES)
Permit Program

Draft Modified and Renewed 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:

Knight Hawk Coal, L.L.C.
500 Cutler-Trico Road
Percy, Illinois 62272

Name and Address of Facility:

Knight Hawk Coal, L.L.C.
Creek Paum Mine
5 miles northeast of Ava, Illinois
(Jackson 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 surface coal mine (SIC 1221). Mine operations result in the discharge of alkaline mine drainage, surface runoff from reclamation areas and stormwater discharges.

Public comments are invited on this permit renewal which also incorporates the following proposed modifications:

Outfall 022 has been mined through, no longer exists and was removed from the permit.

The construction of an east-west collector ditch across a portion of the permit area which presently flows to Sediment Pond 029.

The addition of Refuse Disposal Area Nos. 5, 6, 7, and 8, and Monitoring Well Nos. MW-16 and MW-17.

The addition of 20 acres to OMM Permit No. 398 to be used as support area for construction of access roads, drainage ditches and soil stockpiles.

Outfalls 008 and 013 have been directed to final cut, Outfall 011, and are to be considered temporarily inactive.

This facility has seventeen (17) existing discharges which are located in Jackson County, Illinois. The following information identifies the discharge points, receiving streams, and stream classifications:

| Outfall | Receiving Stream | Latitude (North) | Longitude (West) |
|---|---|---|---|
| 001 | Unnamed tributary to Galum Creek | 37º 55' 57.7" | 89º 25' 4.4" |
| 002 | Unnamed tributary to Galum Creek | 37º 56' 21.8" | 89º 25' 5.5" |
| 003 | Unnamed tributary to Rattlesnake Creek | 37º 55' 39.3" | 89º 25' 15.9" |
| 008 | Unnamed tributary to Beaucoup Creek | 37º 55' 21.7" | 89º 23' 27.2" |
| 011 | Unnamed tributary to Beaucoup Creek | 37º 55' 0.5" | 89º 23' 33.0" |
| 013 | Unnamed tributary to Beaucoup Creek | 37º 55' 0.1" | 89º 23' 34" |
| 021 | Unnamed tributary to Rattlesnake Creek | 37º 54' 45.3" | 89º 24' 55.4" |
| 023 | Unnamed tributary to Beaucoup Creek | 37º 55' 56.2" | 89º 23' 21.4" |
| 024 | Unnamed tributary to Beaucoup Creek | 37º 54' 57.2" | 89º 23' 35.5" |
| 025 | Unnamed tributary to Rattlesnake Creek | 37º 54' 33.1" | 89º 24' 39.2" |
| 030 | Unnamed tributary to Rattlesnake Creek | 37º 55' 4.0" | 89º 25' 22" |
| 031 | Unnamed tributary to Rattlesnake Creek | 37º 53' 54" | 89º 24' 05" |
| 032 | Unnamed tributary to Rattlesnake Creek | 37º 54' 11" | 89º 23' 42" |
| 033 | Unnamed tributary to Rattlesnake Creek | 37º 54' 4.0" | 89º 24' 23" |
| 034 | Unnamed tributary to Rattlesnake Creek | 37º 53' 53" | 89º 23' 43" |
| 035 | Unnamed tributary to Rattlesnake Creek | 37º 54' 5.0" | 89º 24' 24" |
| 036 | Unnamed tributary to Rattlesnake Creek | 37º 53' 53" | 89º 24' 08" |

The stream segment (NCB-01) of Rattlesnake Creek receiving the discharge from Outfalls 003, 021, 025, 030, 031, 032, 033, 034, 035 and 036 is not on the 2012 303(d) list of impaired waters.

The stream segment (NCD-03) of Galum Creek receiving the flow from the unnamed tributary into which Outfalls 001 and 002 discharges is on the 2012 303(d) list of impaired waters. The following parameters have been identified as the pollutants causing impairment:

| Outfall | Pollutant |
|---|---|
| 001, 002 | Oxygen (dissolved), Sedimentation/Siltation, Sulfates |

The stream segment (NC-07) of Beaucoup Creek receiving the flow from the unnamed tributary into which Outfalls 008, 011, 013, 023 and 024 discharges is on the 2012 303(d) list of impaired waters. The following parameters have been identified as the pollutants causing impairment:

| Outfall | Pollutant |
|---|---|
| 008, 011, 013, 023, 024 | Oxygen (dissolved), Sedimentation/Siltation, Total Suspended Solids, Phosphorus (total), Fecal Coliform |

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

Outfalls: 001, 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) | 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 | 2000 | 500 | 1.0 | Monitor only | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 2000 | 500 | - | Monitor only | - | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 2000 | 500 | - | Monitor only | - | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 2000 | 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 5.21 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 and 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.

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

Outfalls: 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) | 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 | 1395 | 500 | 1.0 | Monitor only | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | - | Monitor only | - | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | - | Monitor only | - | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1395 | 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 5.21 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.

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

Outfall: 008, 011, 013, 023, 024

| 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 | 2000 | 500 | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 2000 | 500 | Monitor only | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 2000 | 500 | Monitor only | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 2000 | 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 5.21 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 Outfalls 008, 011, 013, 023 and 024, 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.

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

Outfall: 021

| 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) | | Hardness (5) | Mercury | Flow (MGD) | Settleable Solids (2) (ml/l) |
| | 30 day average | daily maximum | 30 day average | daily maximum | | | | | 30 day Average | Daily maximum | | | | |
| I | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1395 | 500 | 2.0 | 4.0 | Monitor only | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | - | - | Monitor only | - | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | - | - | Monitor only | - | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1395 | 500 | 2.0 | 4.0 | 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 5.21 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 021, 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.

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

Outfalls: 025, 030, 031, 032, 033, 034, 035, 036:

| 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 | 1395 | 500 | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | Monitor only | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | Monitor only | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1395 | 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 5.21 inches.

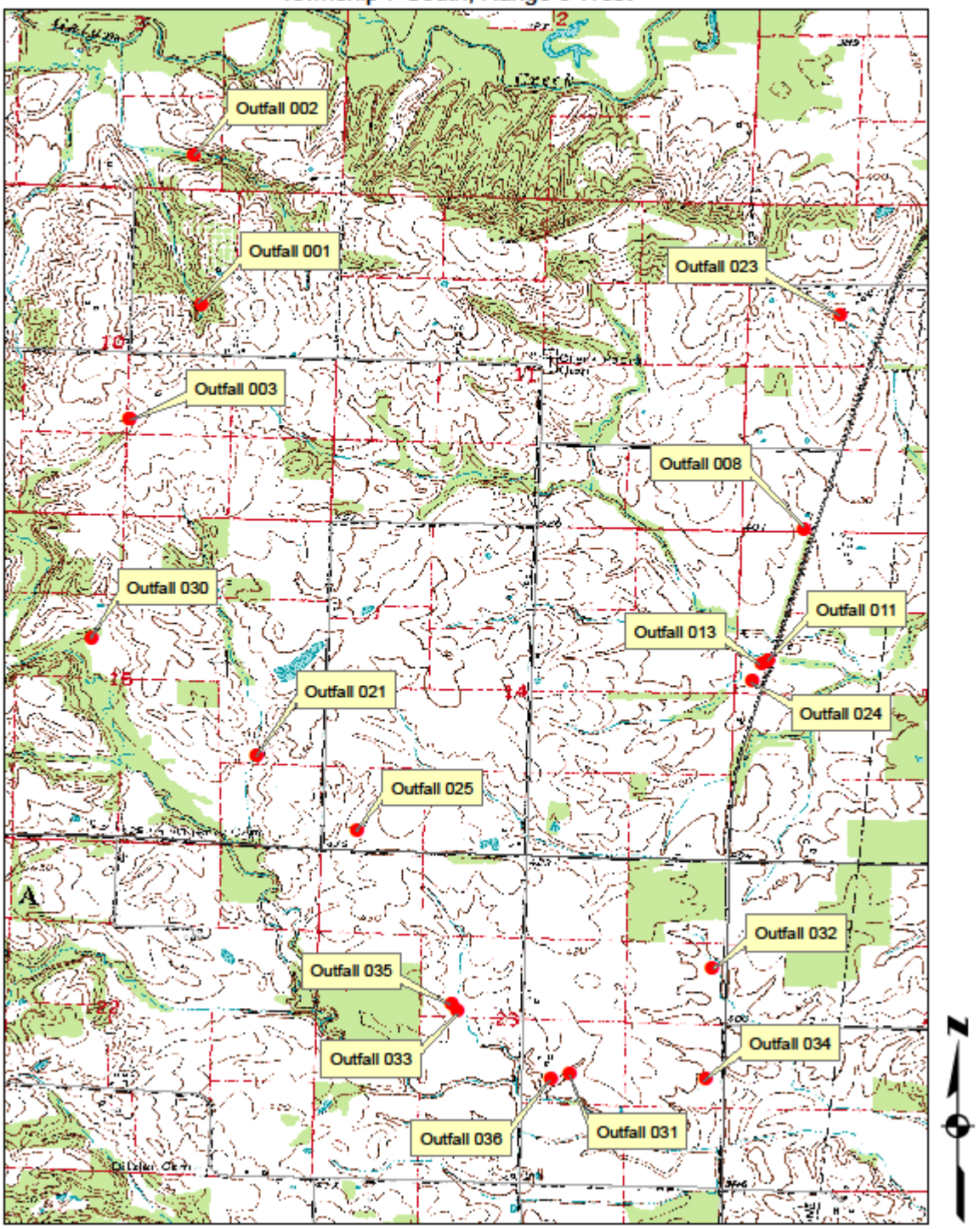
III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those 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 Outfalls 025, 030, 031, 032, 033, 034, 035 and 036, 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.

To assist you in identifying the location of the discharges, please refer to the attached map. The permit area for this facility is located in Sections 2, 3, 10, 11, 12, 13, 14, 15 and 23, Township 7 South, Range 3 West, 3rd P.M., Jackson County, Illinois.

**Knight Hawk Coal, L.L.C. - Creek Paum Mine**
**NPDES No. IL0072745**
Jackson County
Township 7 South, Range 3 West



Antidegradation Assessment
Knight Hawk Coal - Creek Paum Mine
NPDES Permit No. IL0072745
Jackson County

The subject facility has applied for a renewed NPDES permit with several changes; addition of slurry ponds 5, 6, 7, and 8, a redirection of stormwater from basin 029 to basin 002, and a 20 acre addition (Permit 398).

The slurry ponds 5, 6, 7, and 8 are incised cut ponds that have no watershed and are designed as non-discharging. When the slurry pond reaches the end of its useful life, it is reclaimed according to the reclamation plan. Since these slurry ponds do not discharge, there is no increase in loading and therefore, no antidegradation assessment is necessary.

The construction of a Collector Ditch to redirect stormwater from basin 029 to basin 002 will help prevent erosion of some of the sloped drainage area now reporting to Pond 029. Since both ponds discharge to the unnamed tributary of Galum Creek, there will be no increase in loading to the unnamed tributary. Therefore, no antidegradation assessment is necessary.

Permit 398 is a 20 acre addition to the mining area to add support area in which a portion of the Retail Haul Road will be constructed. No overburden removal will occur within the boundaries of this IBR area. This IBR proposes an additional ditch which will collect drainage from the proposed IBR area and report to Sediment Pond 031. The area will be reclaimed in accordance with the reclamation plan. Suspended solids will be treated in the sedimentation ponds. Effluent discharges from these ponds will contain suspended solids loadings that are similar to or less than those occurring from the land in its present use. Therefore, there will be no additional loading of suspended solids and no antidegradation assessment is necessary.

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

Outfall 002 discharges to an unnamed tributary of Galum Creek at a point where 0 cfs of flow exists upstream of the outfall during critical 7Q10 low-flow conditions. The unnamed tributary of Galum Creek is classified as a General Use Water. The unnamed tributary of Galum Creek is not listed as a 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 in that document. The unnamed tributary of Galum Creek, tributary to Waterbody Segment, NCD-03, is not listed on the draft 2012 Illinois Integrated Water Quality Report and Section 303(d) List since it has not been assessed. However, Galum Creek, Waterbody Segment, NCD-03, is listed on the draft 2012 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for aquatic life use with potential causes given as dissolved oxygen (non-pollutant), sedimentation/siltation (non-pollutant), and sulfates. The unnamed tributary of Galum Creek is not subject to enhanced dissolved oxygen standards.

The USGS Illinois Streamstats basin characteristics program gives a watershed size of 0.22 square miles for Outfall 002 at the discharge point on the unnamed tributary of Galum Creek. According to the Illinois State Water Survey, the unnamed tributary of Galum Creek in the area of the proposed mine discharges is likely to be a 7Q1.1 zero flow stream. In this region of Illinois, 7Q1.1 zero flow streams are streams with a watershed area of 5 square miles or less. These streams will exhibit no flow for at least a continuous seven day period nine out of ten years. Aquatic life communities in these headwater streams are tolerant of the effects of drying. Depending on the rainfall received before biological surveys, either a very limited aquatic life community, or no community at all would be found. Given this flow regime, no additional biological characterization is required.

Outfall 031 discharges to an unnamed tributary of Rattlesnake Creek at a point where 0 cfs of flow exists upstream of the outfall during critical 7Q10 low-flow conditions. The unnamed tributary of Rattlesnake Creek is classified as a General Use Water. The unnamed tributary of Rattlesnake Creek is not listed as a 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 in that document. The unnamed tributary of Rattlesnake Creek, tributary to Waterbody Segment, NCB-01, is not listed on the draft 2012 Illinois Integrated Water Quality Report and Section 303(d) List since it has not been assessed. Additionally, Rattlesnake Creek, Waterbody Segment, NCB-01, is not listed on the draft 2012 Illinois Integrated Water Quality Report and Section 303(d) List. Aquatic life use is fully supported. The unnamed tributary of Rattlesnake Creek is not subject to enhanced dissolved oxygen standards.

The USGS Illinois Streamstats basin characteristics program gives a watershed size of 0.13 square miles for Outfall 031 at the discharge point on the unnamed tributary of Rattlesnake Creek. According to the Illinois State Water Survey, the unnamed tributary of Rattlesnake Creek in the area of the proposed mine discharges is likely to be 7Q1.1 zero flow streams. In this region of Illinois, 7Q1.1 zero flow streams are streams with a watershed area of 5 square miles or less. These streams will exhibit no flow for at least a continuous seven day period nine out of ten years. Aquatic life communities in these headwater streams are tolerant of the effects of drying. Depending on the rainfall received before biological surveys, either a very limited aquatic life community, or no community at all would be found. Given this flow regime, no additional biological characterization is required.

NPDES Permit No. IL0072745

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

Modified and Renewed NPDES Permit

Expiration Date:

Issue Date:
Effective Date:

Name and Address of Permittee:

Knight Hawk Coal, L.L.C.
500 Cutler-Trico Road
Percy, Illinois 62272

Facility Name and Address:

Knight Hawk Coal, L.L.C.
Creek Paum Mine
5 miles northeast of Ava, Illinois
Jackson County

| Discharge Number and Classification: | | Receiving waters |
|---|---|---|
| 001, 002 | Alkaline Mine Drainage | Unnamed tributary to Galum Creek |
| 003, 021, 025, 030, 031, 032, 033, 034, 035, 036 | Alkaline Mine Drainage | Unnamed tributary to Rattlesnake Creek |
| 008, 011, 013, 023, 024 | Alkaline Mine Drainage | Unnamed tributary to Beaucoup Creek |

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:DM:cs/6621c/10-31-13

NPDES Coal Mine Permit

NPDES Permit No. IL0072745

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, 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. (VAR) | 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 | 2000 | 500 | 1.0 | Monitor only | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 2000 | 500 | - | Monitor only | - | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 2000 | 500 | - | Monitor only | - | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 2000 | 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 5.21 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.

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* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 13 for the discharges from Outfalls 001, 002 and unnamed tributary to Galum Creek 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. IL0072745

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. (VAR) | 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 | 1395 | 500 | 1.0 | Monitor only | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | - | Monitor only | - | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | - | Monitor only | - | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1395 | 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 5.21 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.

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* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 13 for the discharges from Outfall 003 and unnamed tributary to Rattlesnake Creek 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. IL0072745

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*: 008, 011, 013, 023, 024 (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 | 2000 | 500 | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 2000 | 500 | Monitor only | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 2000 | 500 | Monitor only | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 2000 | 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 5.21 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.

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* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 13 for the discharges from Outfalls 008, 011, 013, 023, 024 and unnamed tributary to Beaucoup Creek 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. IL0072745

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*: 021 (Alkaline Mine Drainage)

| 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) | | Hardness (5) | Mercury | Flow (MGD) | Settleable Solids (2) (ml/l) |
| | 30 day average | daily maximum | 30 day average | daily maximum | | | | | 30 day Average | Daily maximum | | | | |
| I | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1395 | 500 | 2.0 | 4.0 | Monitor only | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | - | - | Monitor only | - | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | - | - | Monitor only | - | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1395 | 500 | 2.0 | 4.0 | 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 5.21 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.

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* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 13 for the discharges from Outfall 021 and unnamed tributary to Rattlesnake Creek 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. IL0072745

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*: 025, 030, 031, 032, 033, 034, 035, 036 (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 | 1395 | 500 | Monitor only | Measure When Sampling | - |
| II | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | Monitor only | Measure When Sampling | 0.5 |
| III | - | - | - | - | 6.0-9.0 | - | 1395 | 500 | Monitor only | Measure When Sampling | - |
| IV | 35 | 70 | 3.0 | 6.0 | 6.5-9.0 | Alk.>Acid | 1395 | 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 5.21 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.

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* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 13 for the discharges from Outfalls 025, 030, 031, 032, 033, 034, 035, 036 and unnamed tributary to Rattlesnake Creek 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. IL0072745

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, 002 (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 | 2000 | 500 | Monitor only | Measure When Sampling | 0.5 |
| II | 6.0-9.0 | 2000 | 500 | Monitor only | Measure When Sampling | 0.5 |
| III | 6.0-9.0 | 2000 | 500 | Monitor only | Measure When Sampling | - |
| IV | 6.5-9.0 | 2000 | 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 5.21 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.

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* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 13 for the discharges from Outfall 001, 002 and unnamed tributary to Galum Creek 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. IL0072745

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*: 003, 021, 025, 030, 031, 032, 034, 035, 036 (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 | 1395 | 500 | Monitor only | Measure When Sampling | 0.5 |
| II | 6.0-9.0 | 1395 | 500 | Monitor only | Measure When Sampling | 0.5 |
| III | 6.0-9.0 | 1395 | 500 | Monitor only | Measure When Sampling | - |
| IV | 6.5-9.0 | 1395 | 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 5.21 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.

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* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 13 for the discharges from Outfall 003, 031, 025, 030, 031, 032, 034, 035, 036 and unnamed tributary to Rattlesnake Creek 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. IL0072745

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*: 008, 011, 013, 023, 024 (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 | 2000 | 500 | Monitor only | Measure When Sampling | 0.5 |
| II | 6.0-9.0 | 2000 | 500 | Monitor only | Measure When Sampling | 0.5 |
| III | 6.0-9.0 | 2000 | 500 | Monitor only | Measure When Sampling | - |
| IV | 6.5-9.0 | 2000 | 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 5.21 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.

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* The Permittee is subject to the limitations, and monitoring and reporting requirements of Special Condition No. 13 for the discharges from Outfalls 008, 011, 013, 023, 024 and unnamed tributary to Beaucoup Creek 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. IL0072745

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, 008, 011, 013, 021, 023, 024, 025, 030, 031, 032, 033, 034, 035, 036 (Stormwater Discharge)

| **Parameters** | |
|---|---|
| pH*<br>(S.U.)<br>** | Settleable Solids<br>(ml/l)<br>** |
| 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.

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* 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. IL0072745

Construction Authorization No. 6222-12

C.A. Date: November 1, 2013

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

Surface mine containing a total of 2,504.8 acres (OMM Permit Nos. 317, 345 and 398), located in Sections 2, 3, 10, 11, 12, 13, 14, 15 and 23, Township 7 South, Range 3 West, Jackson County, Illinois.

Facilities located within the above described area includes surface mining areas, office and maintenance complex, coal processing and storage areas, refuse disposal areas, access of haulage roads, soil storage areas, surface drainage control facilities (ditches), and sedimentation ponds.

As described and depicted in IEPA Log No. 0318-08 and 0318-08-A, an additional area consisting of 20.0 acres located in Sections 23, Township 7 South, Range 3 West, Jackson County, which is contiguous with OMM Permit No. 398 has been incorporated into the permit area. This additional area will accommodate future mining plan activities which may include access roads, sediment control structures (drainage ditches), soil stockpiles and auger mining. This additional area is included in the total permit acreage cited above.

The following mining operations and drainage control plan revisions are incorporated into this permit under this construction authorization:

As described and depicted in IEPA Log No. 0095-08, an east-west collector ditch will be constructed across a portion of the permit area from which surface runoff currently flows to Sediment Pond 029. The collector ditch will redirect runoff from the affected area to Sediment Pond 002 to prevent erosion of some of the sloped area reporting to Sediment Pond 029.

As indicated in IEPA Log No. 6222-12, Basin and Outfall 022 have been mined through and therefore deleted from this permit. Also, discharges from Outfalls 008 and 013 are currently tributary to Basin and Outfall 011; therefore Outfalls 008 and 013 are currently inactive and subject to the requirements of Condition No. 12.

Surface drainage is controlled by seventeen (17) sedimentation ponds. The basins have discharges designated as Outfall Nos. 001, 002, 003, 008, 011, 013, 021, 023, 024, 025, 030, 031, 032, 033, 034, 035 and 036 classified as Alkaline Mine Drainage. Discharges from Outfalls 001 and 002 report to an unnamed tributary to Galum Creek, Outfalls 003, 021, 025, 030, 031, 032, 033, 034, 035 and 036 report to an unnamed tributary to Rattlesnake Creek, and Outfalls 008, 011, 013, 023 and 024 report to an unnamed tributary to Beaucoup Creek.

Location and receiving streams of the Outfalls at this facility are as follows:

| Outfall Numbers | Latitude | | | Longitude | | | Receiving Water |
|---|---|---|---|---|---|---|---|
| | DEG | MIN | SEC | DEG | MIN | SEC | |
| 001 | 37° | 55’ | 57.7” | 89° | 25’ | 4.4” | Unnamed tributary to Galum Creek |
| 002 | 37° | 56’ | 21.8” | 89° | 25’ | 5.5” | Unnamed tributary to Galum Creek |
| 003 | 37° | 55’ | 33.3” | 89° | 25’ | 15.9” | Unnamed tributary to Rattlesnake Creek |
| 008 | 37° | 55’ | 21.7” | 89° | 23’ | 27.2” | Unnamed tributary to Beaucoup Creek |
| 011 | 37° | 55’ | 0.5” | 89° | 23’ | 33” | Unnamed tributary to Beaucoup Creek |
| 013 | 37° | 55’ | 0.1” | 89° | 23’ | 34” | Unnamed tributary to Beaucoup Creek |
| 021 | 37° | 54’ | 45.3” | 89° | 24’ | 55.4” | Unnamed tributary to Rattlesnake Creek |
| 023 | 37° | 55’ | 56.2” | 89° | 23’ | 21.4” | Unnamed tributary to Beaucoup Creek |
| 024 | 37° | 54’ | 57.2” | 89° | 23’ | 35.5” | Unnamed tributary to Beaucoup Creek |
| 025 | 37° | 54’ | 33.1” | 89° | 24’ | 39.2” | Unnamed tributary to Rattlesnake Creek |
| 030 | 37° | 55’ | 4.0” | 89° | 25’ | 22” | Unnamed tributary to Rattlesnake Creek |
| 031 | 37° | 53’ | 54.0” | 89° | 24’ | 05” | Unnamed tributary to Rattlesnake Creek |
| 032 | 37° | 54’ | 11.0” | 89° | 23’ | 42” | Unnamed tributary to Rattlesnake Creek |
| 033 | 37° | 54’ | 4.0” | 89° | 24’ | 23” | Unnamed tributary to Rattlesnake Creek |
| 034 | 37° | 53’ | 53.0” | 89° | 23’ | 43” | Unnamed tributary to Rattlesnake Creek |
| 035 | 37° | 54’ | 5.0” | 89° | 24’ | 24” | Unnamed tributary to Rattlesnake Creek |
| 036 | 37° | 53’ | 53.0” | 89° | 24’ | 08” | Unnamed tributary to Rattlesnake Creek |

Coal processing and refuse disposal at this facility is described as follows:

A coal preparation plant, related equipment, coal stockpiles, water lines, conveyors, slurry disposal areas, and a decant diversion from the original slurry impoundment to Sedimentation Basin 001 was constructed and operated as described in IEPA Log Nos. 8102-00 and 8102-00-B. The freshwater lake for the coal preparation facilities was established as described in IEPA Log Nos. 7553-01 and 3335-05. Fine Coal Refuse (slurry) Disposal Area Nos. 3 and 4 were constructed and operated as described in IEPA Log Nos. 7553-01, 6394-02, and 3438-05. Revised handling and disposal methods for coarse refuse is described in IEPA Log No. 6205-02.

An additional fine coal refuse (slurry) area identified as Coal Refuse Area No. 5 will be developed as described and depicted in IEPA Log Nos. 0106-08, 0106-08-A, and 0106-08-C. Construction and development of Refuse Area No. 5 will include the installation of groundwater monitoring well No. MW-16 as depicted in IEPA Log No. 0106-08-C.

Additional fine coal refuse (slurry) areas identified as Coal Refuse Area Nos. 6, 7, and 8 will be developed as described and depicted in 8082-10, 8082-10-B, and 8082-10-C. As indicated in IEPA Log No. 8082-10-C, existing Monitoring Well No. MW-13 will serve to monitor potential groundwater effects from Refuse Area No. 6. Construction and development of Refuse Area Nos. 7 and 8 will include the installation of groundwater monitoring well No. MW-17 as depicted in IEPA Log No. 8082-10-C which will monitor groundwater effects from these disposal areas.

The updated Reclamation (Abandonment) Plan for OMM Permit No. 317 is depicted in IEPA Log No. 8295-10.

Groundwater monitoring requirements are outlined in Condition No. 13.

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.

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 ($Al_2(SO_4)_3$), hydrated lime ($Ca(OH)_2$), soda ash ($Na_2CO_3$), 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.

    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).

12. Prior to re-establishing the offsite discharge from Outfalls 008 and 013 written notification shall be submitted to the Agency. This notification shall include an updated surface drainage control map to depict revised drainageways which will convey discharges from Outfalls 008 and 013 to waters of the State.

13. Groundwater monitoring requirements for Well Nos. MW-1, MW-2, MW-6, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16 and MW-17 are as follows:

    a. Ambient background monitoring shall be performed for Well Nos. MW-13, MW-14, MW-16 and MW-17. 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. 13(a) above, routine monitoring shall continue on a quarterly basis as follows:

        i. Monitoring Well Nos. MW-13, MW-14, MW-16 and MW-17 shall continue to be monitored quarterly for the contaminants identified in Condition No. 13(a) above.

        ii. Monitoring Well Nos. MW-1, MW-2, MW-6, MW-11, MW-12 and MW-15 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 all 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. 13(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.

14. A statistically valid representation of background and/or post mining water quality required under Condition Nos. 13(a) and 13(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 $\left(\overline{X}_b\right)$ 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.

$$\overline{X}_b = \frac{X_1 + X_2 + \ldots X_n}{n}$$

Where:

$\overline{X}_b$ = 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:

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

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

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

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

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.

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.

NPDES Permit No. IL0072745

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

Attn: Compliance Assurance Section

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

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.

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 001, 002, 003, 008, 011, 013, 021, 023, 024, 025, 030, 031, 032, 033, 034, 035 and 036):

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, 002, 003, 008, 011, 013, 021, 023, 024, 025, 030, 031, 032, 033, 034, 035 and 036 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 tributaries to Galum Creek which discharges from Outfall 001 and 002, the unnamed tributaries to Rattlesnake Creek which receives discharges from Outfall 003, 021, 025, 030, 031, 032, 033, 034, 035 and 036; and the unnamed tributaries to Beaucoup Creek which receives discharges from Outfall 008, 011, 013, 023 and 024.

    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.

    ii. The unnamed tributaries to Galum Creek, the unnamed tributaries to Rattlesnake Creek, and the unnamed tributaries to Beaucoup Creek 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 tributaries to Galum Creek, the unnamed tributaries to Rattlesnake Creek, and the unnamed tributaries to Beaucoup Creek shall be monitored and reported annually for Discharge Rate, Chloride, Sulfate and Hardness upstream of the associated outfall.

Special Conditions

**Special Condition No. 14:** Data collected in accordance with Special Condition No. 13 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. 15:** 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.