

NPDES Permit No. IL0074802
Notice No. 6100c

Public Notice Beginning Date: **August 10, 2012**

Public Notice Ending Date: **September 10, 2012**

National Pollutant Discharge Elimination System (NPDES)
Permit Program

Draft 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:

Peabody Midwest Mining, LLC
7100 Eagle Crest Boulevard
Evansville, IN 47715

Name and Address of Facility:

Peabody Midwest Mining, LLC
Riola Mine, Vermilion Grove Portal
½ mile northwest of Vermilion Grove, Illinois
Vermilion 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 acid mine drainage.

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

Include approval of minor surface operation plan revisions.

Permittee name change from Black Beauty Coal Company, LLC to Peabody Midwest Mining, LLC.

This facility has one (1) existing discharge which is located in Vermilion 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>
003	Unnamed tributary to Little Vermilion River	39°56'12.8"	87°40'25.6"

The stream segment BO-09 of Little Vermilion River receiving the discharge from Outfall 003 is not on the draft 2010 303(d) list of impaired waters

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

Outfall: 003

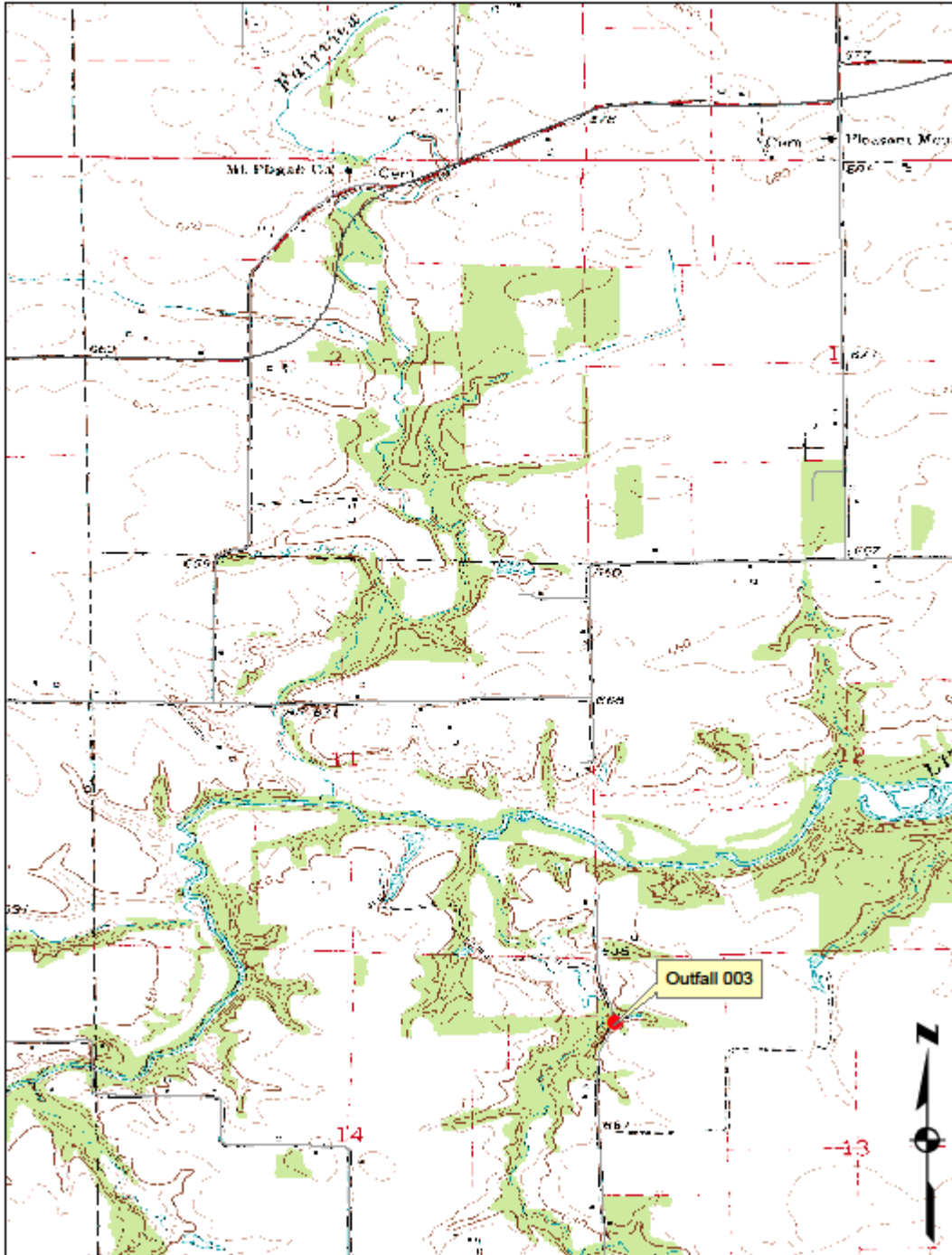
Discharge Condition	Parameters												
	Total Suspended Solids (3) (mg/l)		Iron (total) (3) (4) (mg/l)		pH (3) (S.U.)	Alkalinity/ Acidity (3)	Sulfate (1) (mg/l)	Chloride (mg/l)	Mn (total) (mg/l)	Hardness (5)	Mercury	Flow (MGD)	Settleable Solids (2) (ml/l)
	30 day average	daily maximum	30 day average	daily maximum									
I	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	2109	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	2109	500	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	2109	500	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	2109	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(b), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 1-year, 24-hours precipitation event, but 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 1-year, 24-hour precipitation event for this area is considered to be 2.47 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). The 10-year, 24-hours precipitation grant for this area is considered to be 4.26 inches.
 - 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 acid mine drainage discharges are contained in 35 Ill. Adm. Code 406.110(b), (c), and (d).
 - (3) Effluent limitations 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 limitation.

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 11, 12 and 13, Township 17 North, Range 12 West, and Section 18, Township 17 North, Range 11 West, 2nd P.M., Vermilion County, Illinois.

Peabody Midwest Mining, L.L.C. - Riola Mine, Vermilion Grove Portal
NPDES No. IL0074802

Vermilion County
Township 17 North, Range 11 West
Township 17 North, Range 12 West



NPDES Permit No. IL0074802

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 and Modified NPDES Permit

Expiration Date:

Issue Date:

Effective Date:

Name and Address of Permittee:

Facility Name and Address:

Peabody Midwest Mining, LLC
7100 Eagle Crest Boulevard
Evansville, IN 47715

Peabody Midwest Mining, LLC
Riola Mine, Vermilion Grove Portal
½ mile northwest of Vermilion Grove, Illinois
Vermilion County

Discharge Number and Classification:

Receiving waters

003 Acid Mine Drainage
(from Coal Refuse Disposal Piles)

Unnamed tributary to Little Vermilion River

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.

Ronald E. Morse, Manager
Mine Pollution Control Program
Bureau of Water

REM:LDC:IW:cs/6100c/8-1-12

NPDES Coal Mine Permit
 NPDES Permit No. IL0074802
 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 (Acid 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. 14	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	2109	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	2109	500	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	2109	500	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	2109	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(b), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 1-year, 24-hour precipitation event, but 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 1-year, 24-hour precipitation event for this area is considered to be 2.47 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). The 10-year, 24-hour precipitation event for this area is considered to be 4.26 inches.
- 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. 12 for the discharges from Outfall 003 and unnamed tributary to Little Vermilion River 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
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Effluent Limitations and Monitoring

Upon completion of Special Condition 9 and approval from the Agency, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall*: 003 (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	2109	500	Monitor only	Measure When Sampling	0.5
II	6.0-9.0	2109	500	Monitor only	Measure When Sampling	0.5
III	6.0-9.0	2109	500	Monitor only	Measure When Sampling	-
IV	6.5-9.0	2109	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 4.26 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 or 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. 12 for the discharges from Outfall 003 and unnamed tributary to Little Vermilion River 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.

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Effluent Limitations and Monitoring

Upon completion of Special Condition No. 10 and approval from the Agency, the effluent of the following discharge shall be monitored and limited at all times as follows:

Outfall: 003 (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.

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.

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Construction Authorization No. 7526-11

C.A. Date: July 6, 2012

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 413.9 acres located in Sections 3, 11, 12 and 13, Township 17 North, Range 12 West, and Section 18, Township 17 North, Range 11 West, 2nd P.M., Vermilion County, approximately ½ mile northwest of Vermilion Grove, Illinois, identified as IDNR/OMM Permit No. 342 area, and as described in IEPA Log Nos. 8196-00, 8196-00-A, 8196-00-B and 8196-00-C. This facility is currently being reclaimed, however, the surface facilities originally permitted at this underground mine site included a preparation plant, soil and coal stockpiles, rail road loop and rail load out facility, ventilation shafts, office, shop, bath house, roads, refuse disposal area, diversions and three (3) sedimentation ponds in series.

As this facility is currently being reclaimed no coal processing or refuse disposal is being performed at this facility.

The operation plan for this facility is revised as per IEPA Log No. 0249-08 for the construction of new culverts to access the refuse area, farm fields with the rail loop, and miscellaneous drainage control around the plant and shop area.

Drainage for this site continues to be controlled by diversions and three (3) sedimentation ponds in series as described and depicted in IEPA Log No. 8196-00-B. Revised basin design and discharge structure information is included in IEPA Log Nos. 7259-01 and 6196-02. Discharges from Basin 003B will report to Basin 003A, with discharges from Basin 003A reporting to Basin 003. The discharge from Basin 003, designated as Outfall 003, will be classified acid mine drainage from coal refuse piles, and will report to an unnamed tributary to Little Vermilion River.

The location and receiving stream of the Outfall at this facility is as follows:

Outfall Number	Latitude			Longitude			Receiving Water
	DEG	MIN	SEC	DEG	MIN	SEC	
003	39	56'	12.8"	87	40'	25.6"	Unnamed tributary to Little Vermilion River

Groundwater monitoring for this facility consists of Well Nos. 12MW-2 and 13MW-1. Groundwater monitoring requirements are outlined in Condition 12.

As proposed in Log No. 7519-01 approval is granted for the use of EnviroGard 181 Gel Log Flocculant for suspended solids control on an as needed basis. Utilization of this material shall be in accordance with manufacturer's recommended procedures only.

In accordance with information contained in IEPA Log No. 9544-09, permittee's name has changed from Black Beauty Coal Company, LLC to Peabody Midwest Mining, LLC.

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.

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C.A. Date: July 6, 2012

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 permitted 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).

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C.A. Date: July 6, 2012

- 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. Groundwater monitoring requirements for Well Nos. 12MW-2 and 13MW-1 are as follows:

- 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	Water Elevation
Copper	Selenium	
Cyanide	Silver	

Note: Ambient background monitoring has previously been completed for monitoring Well Nos. 12MW-2 and 13MW-1.

- b. Following the ambient monitoring as required under 12(a) above, routine monitoring shall continue on a quarterly basis as follows:
 - i. Monitoring Well Nos. 12MW-2 and 13MW-1 shall continue to be monitored quarterly for the contaminants identified in 12(a) above.
- 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 12(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. 12(a) and 12(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.

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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 (\bar{X}_b) 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.

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

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.

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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. IL0074802

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, the Agency shall be notified via correspondence or e-mail at such time that the electronic filing has been completed.

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	May 1
April, May, June	August 1
July, August, September	November 1
October, November, December	February 1

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: 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. 7: 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 Condition No. 8: 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 Conditions

Special Condition No. 9: 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 45 days prior to the month that the permittee wishes the discharge be classified as a reclamation area discharge. The Agency will notify the permittee upon approval of the change.

Special Condition No. 10: The special stormwater effluent standards apply only on approval from the Agency. To obtain approval, a request with supporting documentation shall be submitted 45 days prior to the month that the permittee proposes 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. 11: 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. 12: Sediment Pond Operation and Maintenance (Outfalls 003:

- 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 003 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 Little Vermilion River which receives discharges from Outfalls 003.
 - i. All sampling and monitoring required under (12)(b)(ii) and (iii) below shall be performed during a discharge and monitoring event from the associated outfall.
 - ii. Unnamed tributary to Little Vermilion River 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. Unnamed tributary to Little Vermilion River shall be monitored and reported annually for Discharge Rate, Chloride, Sulfate and Hardness upstream of the associated outfall.

Special Condition No. 13: Data collected in accordance with Special Condition No. 12 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. 14: Mercury shall be monitored quarterly until a minimum of ten (10) samples have been collected. 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 1.0 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.