NPDES Permit No. IL0079405
Notice No. 5931c

Public Notice Beginning Date: **August 6, 2012**

Public Notice Ending Date: **September 5, 2012**

National Pollutant Discharge Elimination System (NPDES)
Permit Program

Draft New 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:

Grindstone Management, L.L.C.
P.O. Box 9320
Springfield, IL 62791-9320

Name and Address of Facility:

Grindstone Management, L.L.C.
Littleton Mine
2.8 miles East Northeast of Littleton, Illinois
(Schuyler 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 proposes a new surface coal mine (SIC 1221). Mine operations will result in the discharge of alkaline mine drainage.

Application is made for four (4) new discharges which are located in Schuyler County, Illinois. The following information identifies the discharge points, receiving streams, and stream classifications:

Outfall	Receiving Stream	Latitude (North)	Longitude (West)	Stream Classification
001	Unnamed tributary to West Branch Sugar Creek	40°15'17.44"	90°33'50.12"	General Use
002	Unnamed tributary to Boeur Branch	40°14'30.29"	90°33'43.22"	General Use
003	Unnamed tributary to Boeur Branch	40°14'28.74"	90°33'54.52"	General Use
004	Unnamed tributary to Boeur Branch	40°14'22.07"	90°33'59.32"	General Use

The stream segment DHG of West Branch Sugar Creek receiving the flow from the unnamed tributary into which Outfall 001 discharges is not on the draft 2010 303(d) list of impaired waters.

The stream segment DHJ of Boeur Branch receiving the flow from the unnamed tributary into which Outfalls 002, 003, 004 discharges is not on the draft 2010 303(d) list of impaired waters.

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

Outfall: 001, 002, 003, 004

Discharge Condition	Parameters												
	Total Suspended Solids (3) (mg/l)		Iron (total) (3) (4) (mg/l)		pH (3) (S.U.)	Alkalinity/ Acidity (3)	Sulfate (1) (mg/l)	Chloride (mg/l)	Mn (total) (mg/l)	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	1729	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	1729	500	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	1729	500	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1729	500	1.0	Monitor only	Monitor only	Measure When Sampling	-

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

II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24 hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.45 inches.

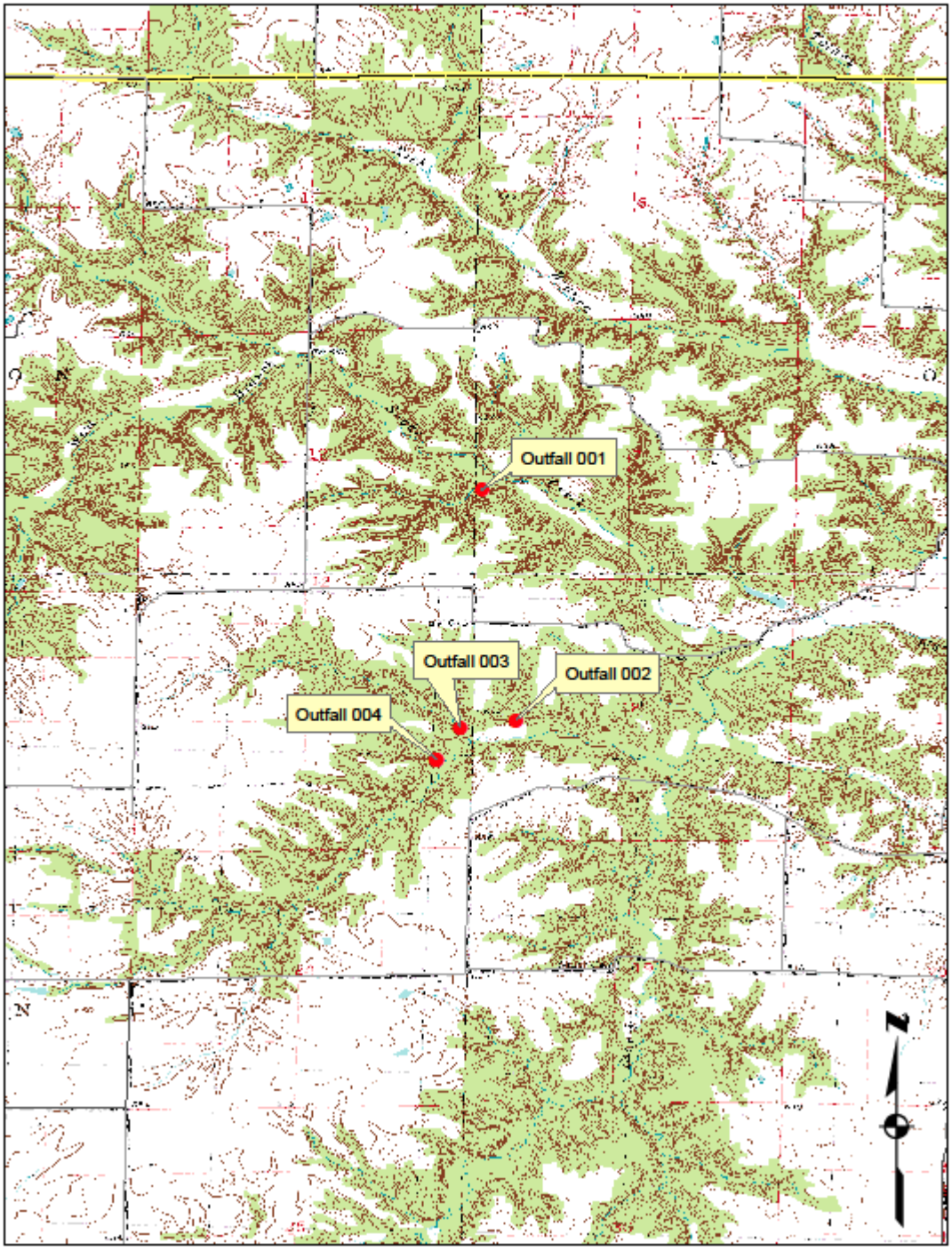
III In accordance with 35 Ill. Adm. Code 406.110(d), any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall comply with the indicated limitations instead of those 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 001, 002, 003, 004 being approved after July 27, 1987, are subject to a 30-day average effluent limitation for Iron of 3.0 mg/l. Daily maximum effluent concentrations are calculated as twice the 30-day average.
(5) Hardness monitoring is required to determine the appropriateness of the sulfate permit limit.

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 12 and 13, Township 3 North, Range 2 West, and Sections 7 and 18, Township 3 North, Range 1 West, 3rd P.M., Schuyler County, Illinois.

Grindstone Management, L.L.C. - Littleton Mine
NPDES No. IL0079405
Schuyler County
Township 3 North, Range 2 West
Township 3 North, Range 1 West



Antidegradation Assessment
Grindstone Management, L.L.C. – Littleton Mine
NPDES Permit No. IL0079405
Schuyler County

The subject facility has applied for an NPDES permit for a new surface mine. The proposed Littleton Mine includes the operation of a surface coal mine on a 772.9 acre parcel of land located in Schuyler County. An application for an NPDES permit for storm related discharges of wastewater from a 551.2 acre mine site has been received. The unaffected area of the mine property will be 221.7 acres. Four operational outfalls from sedimentation ponds are proposed. Outfall 001 is proposed to discharge to an unnamed tributary of West Branch Sugar Creek and Outfalls 002, 003 and 004 are proposed to discharge to unnamed tributaries of Boeur Branch.

Initially, the mine will produce 150,000 tons until a complete boxcut is opened. The mine is expected to produce approximately 400,000 raw tons annually at full capacity. The projected life is approximately 4.0 years.

The discharge structures were designed using a maximum pit pumpage of 15,000 gallons/day. It is anticipated normal daily pit pumpage will be considerably less or not at all. The facility will contain a temporary coal storage area and temporary office facilities. No processing plant or refuse disposal areas will be present. The coal will be transferred directly to an off-site coal preparation plant, a customer, or to a temporary storage pile.

The information in this antidegradation assessment came from the application and a letter dated June 23, 2011 that contained the Socio-Economic Impact, Alternative Analysis, and EcoCAT Consultation.

Identification and Characterization of the Affected Water Body.

Outfall 001

The subject facility discharges to an unnamed tributary of West Branch Sugar Creek at a point where 0 cfs of flow exists upstream of the outfall during critical 7Q10 low-flow conditions. The unnamed tributary of West Branch Sugar Creek is classified as a General Use Water. The unnamed tributary of West Branch Sugar 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 West Branch Sugar Creek, tributary to Waterbody Segment, DHG, is not listed on the draft 2010 Illinois Integrated Water Quality Report and Section 303(d) List since it has not been assessed. The unnamed tributary of West Branch Sugar Creek is not subject to enhanced dissolved oxygen standards.

The USGS Illinois Streamstats basin characteristics program gives a watershed size of 0.33 square miles for Outfall 001 at the discharge point on the unnamed tributary of West Branch Sugar Creek. According to the Illinois State Water Survey, the unnamed tributary of West Branch Sugar 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 3 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 002, 003, and 004

The subject facility discharges to several unnamed tributaries of Boeur Branch at a point where 0 cfs of flow exists upstream of the outfall during critical 7Q10 low-flow conditions. The unnamed tributaries of Boeur Branch are classified as General Use Waters. The unnamed tributaries of Boeur Branch are not listed as biologically significant streams in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*, nor are they given an integrity rating in that document. The unnamed tributaries of Boeur Branch, tributary to Waterbody Segment, DHJ, are not listed on the draft 2010 Illinois Integrated Water Quality Report and Section 303(d) List since they have not been assessed. The unnamed tributaries of Boeur Branch are not subject to enhanced dissolved oxygen standards.

The USGS Illinois Streamstats basin characteristics program gives a watershed size of 0.06, 0.08, and 0.08 square miles for Outfalls 002, 003, and 004 respectively at the discharge point on the unnamed tributaries of Boeur Branch. According to the Illinois State Water Survey, the unnamed tributaries of Boeur Branch in the area of the proposed mine discharges are 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 3 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.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.

The mine outfalls will be classified as alkaline mine drainage. Suspended solids will be treated in the sedimentation ponds. Effluent discharged from these ponds will contain suspended solids loadings that are similar to those occurring from the land in its present use. Sulfates and chlorides will undergo an increase in loading to the receiving streams as a result of the mining activities. Based on estimated effluent concentrations for this mine, chloride and sulfate will meet water quality standards in the discharged effluent. Additionally, since the sedimentation ponds will only discharge as a result of a storm event, the receiving stream will have flow that will dilute the effluent whenever it is discharged. However, no allowed mixing was considered; llimits for parameters regulated in the permit are set at the water quality standard.

Fate and Effect of Parameters Proposed for Increased Loading.

Suspended solids discharged will eventually be incorporated into bed sediments and will continue to move downstream. Sulfate and chloride will remain dissolved in the water and will move through the downstream continuum. Small amounts of these substances will be removed by organisms as these substances are necessary for life. No adverse impacts to the receiving streams will occur as all water quality standards will be met.

Purpose and Social & Economic Benefits of the Proposed Activity.

The surface mine will extract the coal resources of the site. According to information given in a document dated June 16, 2011 by Rapps Engineering & Applied Science entitled Socio-Economic Impact, Littleton Mine, opening a new mine will provide jobs for 35 local residents with an annual payroll of approximately $2.25 million. In addition, other local businesses would also benefit from the wealth created by the mine. Local and state taxes will increase by $9.7 million as a result of the mine. In October 2009, 13.3% of Schuyler County was unemployed. In 2008, 9.9% of county residents were living below the poverty level.

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

Stormwater control at surface coal mines is a matter of applying established best management practices. The final step in these practices involves sedimentation ponds to catch all runoff from the mine, settle out solids, provide a venue for pH adjustment if necessary and allow a controlled discharge of the effluent to the receiving stream. Prior steps involve the minimization of exposed earth and coal refuse to the elements. Alternatives to this system of prevention and treatment of pollutants have been evaluated by Rapps Engineering & Applied Science in a document dated June 16, 2011 entitled Alternatives Analysis, Little Mine and are summarized as follows:

Treat water to eliminate pollutants. Given the intermittent nature of stormwater runoff, facilities to treat the effluent for sulfate and chloride would be subject to large volumes for a few days per year and little or no effluent to treat for the remainder of the year. This has implications for sizing of the treatment facilities and maintenance of idled equipment that makes treatment for these substances infeasible. Additionally, each identified option has these or other drawbacks as described:

Filtration. Filtration will not remove dissolved substances, which are the primary potential pollutants present in sedimentation pond effluent.

Ion Exchange. Ordinary ion exchange would produce a high strength waste water that would have to be disposed of offsite. The ion exchange equipment would not operate successfully with an intermittent runoff-related effluent stream such as that found at coal mines. These drawbacks make ion exchange infeasible for use at the coal mine.

Membrane Processes. Standard reverse osmosis (RO) treatment would not be feasible as it has high energy and maintenance requirements and produces a waste stream that must be disposed of offsite. Membrane systems would not be amenable to sudden surges in wastewater typical of stormwater runoff events because they have limited capacity and are not easily started after periods of no flow. For these reasons membrane processes would be infeasible for use at the coal mine.

Biological treatment in wetlands or reactors. Anaerobic conditions must be maintained in wetlands for sulfate to be reduced by bacteria. Large wetlands would be required and treatment would be very hard to control. This method is not feasible for the conditions of intermittent flow present at this mine. Likewise, biological reactors must maintain bacteria under anaerobic conditions. The intermittent nature of the stormwater runoff effluent would also make this treatment infeasible as the bacteria would be difficult to maintain without a constant food supply.

Cost Effective Sulfate Removal (CESR) process. This is a proprietary technology that uses hydrated lime and proprietary chemicals to precipitate gypsum, metals and ettringite. Sludges would be produced that would require landfill disposal. The proprietary technology is still being developed. These drawbacks make the CESR process infeasible for use at the coal mine.

Mine Relocation. The location of the Littleton Mine was chosen specifically based on the following factors: depth of the underlying coal seam to be mine, thickness of the coal seam to be mined, amount of overburden material to be removed, proximity to coal preparation plant and or utility, and negligible impact to existing ecology. Other locations with comparable coal seams could be harder to permit due to the present of threatened or endangered species, pristine wetland, archaeological or historic resources, or other important resources.

Alternative Mining Methods. Alternative mining techniques have been considered to remove the coal from the Littleton Mine site, including underground mining, auger mining, and pod mining. None of these alternatives were determined to be feasible.

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

On October 8, 2010, the IDNR EcoCat web-based tool was used and indicated that there were no endangered/threatened species present in the vicinity of the discharge. The IDNR EcoCAT web-based tool terminated the consultation.

Agency Conclusion.

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

NPDES Permit No. IL0079405

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

New NPDES Permit

Expiration Date:

Issue Date:
Effective Date:

Name and Address of Permittee:

Grindstone Management, L.L.C.
P.O. Box 9320
Springfield, IL 62791-9320

Facility Name and Address:

Grindstone Management, L.L.C.
Littleton Mine
2.8 miles East Northeast of Littleton, Illinois
(Schuyler County)

Discharge Number and Classification:		Receiving waters
001	Alkaline Mine Drainage	Unnamed tributary to West Branch Sugar Creek
002, 003, 004	Alkaline Mine Drainage	Unnamed tributary to Boeur Branch

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:cs/5931c/06-28-12

NPDES Coal Mine Permit

NPDES Permit No. IL0079405

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, 003, 004 (Alkaline Mine Drainage)

Discharge Condition	Parameters												
	Total Suspended Solids (mg/l) ***		Iron (total) (mg/l) ***		pH** (S.U.) ***	Alkalinity/ Acidity ***	Sulfate (mg/l) ***	Chloride (mg/l) ***	Mn (total) (mg/l) ***	Hardness ***	Mercury see Special Condition No. 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	1729	500	1.0	Monitor only	Monitor only	Measure When Sampling	-
II	-	-	-	-	6.0-9.0	-	1729	500	-	Monitor only	-	Measure When Sampling	0.5
III	-	-	-	-	6.0-9.0	-	1729	500	-	Monitor only	-	Measure When Sampling	-
IV	35	70	3.0	6.0	6.5-9.0	Alk.>Acid	1729	500	1.0	Monitor only	Monitor only	Measure When Sampling	-

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

II In accordance with 35 Ill. Adm. Code 406.110(a), any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt or equivalent volume) shall comply with the indicated limitations instead of those in 35 Ill. Adm. Code 406.106(b). The 10-year, 24-hour precipitation event for this area is considered to be 4.45 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. 12 for the discharges from Outfall 001 and unnamed tributary to West Branch Sugar Creek, Outfalls 002, 003 and 004 and the unnamed tributary to Boeur Branch 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. IL0079405

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*: 001, 002, 003, 004 (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	1729	500	Monitor only	Measure When Sampling	0.5
II	6.0-9.0	1729	500	Monitor only	Measure When Sampling	0.5
III	6.0-9.0	1729	500	Monitor only	Measure When Sampling	-
IV	6.5-9.0	1729	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 4.45 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. 12 for the discharges from Outfall 001 and unnamed tributary to West Branch Sugar Creek, Outfalls 002, 003, 004 and the unnamed tributary to Boeur Branch 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. IL0079405

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:

Outfalls: 001, 002, 003, 004 (Stormwater Discharge)

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

Stormwater discharge monitoring is subject to the following reporting requirements:

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

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

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

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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. IL0079405

Construction Authorization No. 6139-12

C.A. Date: July 2, 2012

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

The surface facilities of surface mine containing a total of 772.9 acres (OMM Permit No. 410), as described and depicted in IEPA Log Nos. 6139-12 and 6139-12-C located in Sections 12 and 13, Township 3 North, Range 2 West, and Sections 7 and 18, Township 3 North, Range 1 West, Schuyler County, Illinois.

The surface facilities at this mine includes coal storage areas, materials storage facility, truck scale, topsoil storage, parts and equipment storage area, drainage control structures (ditches), sedimentation ponds, and office buildings.

Surface drainage control is provided by four (4) sedimentation ponds with discharges designated as Outfalls 001, 002, 003 and 004 all classified as alkaline mine drainage. Pit pumpage from the active mining operation maybe directed to any or all sedimentation basins. It is noted that Pond CS will be constructed immediately downstream of the coal stockpile area and will be tributary to Sedimentation Pond and Outfall 003. See additional discussion regarding Pond CS below.

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

Outfall Number	Latitude			Longitude			Receiving Waters
	DEG	MIN	SEC	DEG	MIN	SEC	
001	40	15	17.44	90	33	50.12	Unnamed tributary to West Branch Sugar Creek
002	40	14	30.29	90	33	43.22	Unnamed tributary to Boeur Branch
003	40	14	28.74	90	33	54.52	Unnamed tributary to Boeur Branch
004	40	14	22.07	90	33	59.32	Unnamed tributary to Boeur Branch

Sanitary wastewater treatment will be provided by septic tanks and seepage field permitted through the County Health Department.

No coal preparation or refuse disposal is currently proposed at this facility. All coal will be transported to the nearby Industry Mine coal preparation facilities. All coal refuse from the processing operation will be disposed in accordance with the approved refuse disposal plan for Industry Mine. Pursuant to information provided in IEPA Log No. 6139-12-C. Coal from the Littleton Mine will not increase the production rate or coal stockpile area at the Industry Mine coal preparation facilities and will therefore not result in increased loadings to the discharges from that site.

As proposed and described in IEPA Log Nos. 6139-12 and 6139-12-C, compacted clay liners will be constructed beneath the coal stockpile area, within pond CS and the drainage control structure (ditch) that connects these facilities. Construction of the two (2) foot compacted clay liners for these areas shall be subject to and in accordance with the specifications and testing requirements of Condition No. 12 and as detailed in the liner specification document included with IEPA Log No. 6139-12-C.

Groundwater monitoring at this facility will include Monitoring Well Nos. L-MW-1 through L-MW-8. Monitoring requirements for these wells are outlined in Condition 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 and are identified by Log #6139-12 and 6139-12-C 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 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).

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. The two (2) foot compacted clay liner to be constructed beneath the coal stockpile area within Pond CS and the drainage control structure (ditch) that connects these facilities shall be subject to the following specifications and procedures and additional details contained in IEPA Log No. 6139-12-C.

a. All trees and all roots that may compromise liner integrity will be removed from the areas. The area will be inspected to ensure that no organic or foreign material remains in the base material under the liner.
b. Soil for liner construction will be placed in individual lifts not to exceed eight (8) inches (loose) in thickness. A sufficient number of lifts will be placed to arrive at a final minimum liner thickness of two (2) feet.
c. The soil will be compacted to a minimum dry density of 95% standard proctor to achieve a hydraulic conductivity of $1x10^{-7}$ cm/s or less.
d. Liner testing shall be performed as detailed in the liner specification document contained in IEPA Log No. 6139-12-C.

13. Groundwater monitoring requirements for Well Nos. L-MW-1, L-MW-2, L-MW-3, L-MW-4, L-MW-5, L-MW-6, L-MW-7 and L-MW-8 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	

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. L-MW-6 and L-MW-7 shall continue to be monitored quarterly for the contaminants identified in Condition No. 13(a) above.

ii. Monitoring Well Nos. L-MW-1, L-MW-2, L-MW-3, L-MW-4, L-MW-5, and L-MW-8 shall be monitored quarterly as required by IDNR/OMM for the following list of constituents:

Iron (dissolved)	Hardness
Iron (total)	Acidity
Manganese (dissolved)	Aklalinity
Manganese (total)	pH
Sulfate	Water Elevation
Total Dissolved Solids	

c. Following completion of active mining and reclamation, post-mining monitoring of the above referenced wells shall consist of six (6) samples collected during a 12-month period (approximately bi-monthly) to determine post-mining concentrations. Post-mining monitoring shall include the list of constituents identified in Condition No. 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.

e. A statistically valid representation of background and/or post mining water quality required under Condition No. 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 ($\overline{X}_b$) 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.

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

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:

$$CL = \overline{X}_b \pm t\sqrt{1+1/n}\ \hat{s}_b$$

Where:

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

iv. If the values of any routine parameter for any monitoring well exceed the upper confidence limit for that parameter, the permittee shall conclude that a statistically significant change has occurred at that well.

v. When some of the background and/or post mining values are less than the Method Detection Limit (MDL), a value of one-half (1/2) the MDL shall be substituted for each value that is reported as less than the MDL. All other computations shall be calculated as given above.

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

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. IL0079405

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, 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	April 28
April, May, June	July 28
July, August, September	October 28
October, November, December	January 28

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.

NPDES Permit No. IL0079405

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 001, 002, 003 and 004):

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 and 004 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 West Branch Sugar Creek which receives discharges from Outfall 001 and the unnamed tributary to Boeur Branch which receives discharges from Outfalls 002, 003 and 004.

    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. The unnamed tributary to West Branch Sugar Creek and Boeur Branch shall be monitored and reported quarterly for Discharge Rate, Chloride, Sulfate and Hardness downstream of the associated outfall. This downstream monitoring shall be performed a sufficient distance downstream of the associated outfall to ensure that complete mixing has occurred. At such time that sufficient information has been collected regarding receiving stream flow characteristics and in-stream contaminant concentrations the permittee may request a re-evaluation of the monitoring frequency required herein for possible reduction or elimination. For the purpose of re-evaluating the downstream monitoring frequency of the receiving stream, "sufficient information" is defined as a minimum of ten (10) quarterly sampling events.

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

    iii. The unnamed tributary to West Branch Sugar Creek and Boeur Branch 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.