

IEPA Log No.: **C-0012-14**  
CoE appl. #: **2013-751**

Public Notice Beginning Date: **January 20, 2015**  
Public Notice Ending Date: **February 19, 2015**

Section 401 of the Federal Water Pollution Control Act  
Amendments of 1972

**Section 401 Water Quality Certification to Discharge into Waters of the State**

**Public Notice/Fact Sheet Issued By:**

Illinois Environmental Protection Agency  
Bureau of Water  
Permit Section  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276  
217/782-3362

**Name and Address of Discharger:** Knight Hawk Coal LLC – 500 Cutler - Trico Road, Percy, IL 62272

**Discharge Location:** Near Pinckneyville in Sections 5 and 8 of Township 6S, Range 3W of the 3rd P.M. in Perry County.

**Name of Receiving Water:** Unnamed tributaries to Little Galum Creek and unnamed wetlands

**Project Description:** Proposed surface mine facility.

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge into the waters of the state associated with a Section 404 permit application received by the U.S. Army Corps of Engineers. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice. The last day comments will be received will be on the Public Notice period ending date unless a commenter demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the project to the IEPA at the above address. Commenters shall provide their names and addresses along with comments on the certification application. Commenters may include a request for public hearing. The certification and notice number(s) must appear on each comment page.

The attached Fact Sheet provides a description of the project and the antidegradation assessment.

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

If written comments or requests indicate a significant degree of public interest in the certification application, the IEPA may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing. If a Section 401 water quality certification is issued, response to relevant comments will be provided at the time of the certification. For further information, please call Darren Gove at 217/782-3362.

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Fact Sheet for Antidegradation Assessment  
For Knight Hawk Coal LLC  
IEPA Log No. C-0012-14  
COE Log No. 2013-751  
Contact: Diane Shasteen (217) 558-2012  
Public Notice Start Date: January 20, 2015

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Knight Hawk Coal, LLC (“Applicant”) has applied for Section 401 water quality certification for impacts to approximately 1,892.7 linear feet (lf) of two ephemeral, unnamed tributaries to Little Galum Creek, a tributary to Galum Creek. The proposed project encompasses Sections 5 and 8, Township 6 South, Range 3 West and is located approximately 4 miles southwest of Pinckneyville, Perry County, Illinois. The surface coal mine’s proposed permitted area covers 297.4 acres of which 283.2 acres will be disturbed and 14.2 acres will remain undisturbed. The land is currently used for cropland (243.4 acres), woody and herbaceous wildlife areas (41.8 acres), water resources (1.9 acres), roads (3.9 acres) and residential areas (6.4 acres). The purpose of the project is to construct a new surface coal mine (Golden Eagle Mine) which will remove overburden to recover the coal product and excavate topsoil and subsoil to construct an 8 acre sediment pond (NPDES Pond 001) and spillway in the southern portion of the site. The mine will recover the approximately 5.2’ thick Herrin #6 seam which lies 60 to 80’ below the overburden and the approximately 2.7’ thick Springfield #5 seam located approximately 22’ below the Herrin #6 seam. The seams, which will produce approximately 6 million tons of coal over a span of 7 to 8 years, will be extracted utilizing conventional surface mining and highwall miner methods.

In addition to the stream impacts, the proposed project will impact 8.24 acres of jurisdictional emergent wetlands and 1.98 acres of non-jurisdictional wetlands. On-site mitigation will occur during the reclamation phase of the mine project. To reconnect the site to its downstream drainage, a 2,625 lf ephemeral stream will be constructed to direct drainage from north to south. A 300 foot forested riparian buffer will be established on the northern portion (300 lf) of the constructed stream; a 50 foot buffer will be established on the remaining 2400 lf of stream. The on-site mitigation for the 8.24 acre emergent wetland is proposed at a 1:1 ratio near the NPDES Pond 001 site and will occur after active mining and reclamation activities have completed. A 12.9 acre lake located in the northern portion of the site will remain a result of the surface mining. The entire site will be deeded to the State of Illinois for inclusion into Pyramid State Park following all regulatory requirements and agreements.

Information used in this review was obtained from the Applicant in a document entitled, Illinois Joint Application, Knight Hawk Coal, LLC, Golden Eagle Mine dated December 18, 2013 and a supplemental document entitled Assessment of Alternatives for Minimal Environmental Degradation and Economic Benefit Analysis, Golden Eagle Mine, Knight Hawk Coal, LLC Perry County, Illinois Received by the Agency on November 24, 2014.

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

The ephemeral streams to be impacted, unnamed tributaries (no Segment Codes) to Little Galum Creek, have not been assessed by Illinois EPA. These streams 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 USGS Illinois Streamstats basin characteristics program gives a watershed size of 0.37 square miles and 0.13 square miles for the unnamed tributaries. According to the Illinois State Water Survey, these unnamed tributaries are likely to be a 7Q1.1 zero flow streams. In this region of Illinois, 7Q1.1 zero flow streams are streams with a watershed area of 5 square miles or less. These streams will exhibit no flow for at least a continuous seven day period nine out of ten years. Aquatic life communities in these headwater streams are tolerant of the effects of drying. Depending on the rainfall received before biological surveys, either a very limited aquatic life community, or no community at all would be found. Given this flow regime, no additional biological characterization would be required.

The Applicant contracted Midwest Reclamation Resources to identify water resources located in the project area. In September and December 2011 and January 2012, a bioassessment was conducted following the Environmental Protection Agency's Rapid Bio-assessment Protocol (RBP II) for wadeable and headwater streams. This assessment was completed on two ephemeral streams (Sites 01S and 02) and 6 grassy swales. Total RBP scores for sites 01S and 02 were 114 and 66, respectively. Physical habitat assessments consistently scored in the marginal to sub-optimal categories; the sites were considered limited due to lack of available cover for aquatic species, percentage of fine sediments, low channel flow status, and lack of riffles and vegetative riparian zone.

Little Galum Creek (IL\_NCDB), a direct tributary to Galum Creek, is a General Use Water with an estimated zero cfs 7Q10 flow. According to the draft 2014 Illinois Integrated Water Quality Report and Section 303(d) List, Little Galum has been assessed by Illinois EPA and is listed as not supporting Aquatic Life use. Causes listed for impairment include Alteration in stream-side or littoral vegetative covers, Loss of Instream Cover (non-pollutants), and Sedimentation/Siltation. Fish Consumption, Secondary Contact, and Aesthetic Quality uses have not been assessed. Little Galum Creek is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*; nor is it given an integrity rating in that document. Little Galum Creek is not designated as an enhanced water pursuant to the dissolved oxygen water quality standard.

A wetland assessment was completed by Midwest Reclamation Resources at the proposed site. A total of 8.24 acres of jurisdictional emergent wetlands (Wetland Unit 1) and 1.98 acres of non-jurisdictional wetlands were delineated in the project area. Wetland Unit 1 surrounds the ephemeral creek (Site 01S) and contains common and invasive wetland species such as reed canarygrass (*Phalaris arundinacea*), broadleaf cattails (*Typha latifolia*), common reed (*Phragmites australis*) and black willow (*Salix nigra*). No FQI was reported for Wetland Unit 1; however based on the species present, it would be classified as a low quality wetland.

Impacts to these areas are unavoidable and on-site mitigation will consist of the following post active mining construction and mitigation credits:

- 2,625 lf ephemeral stream to drain the site from north to south-4,593 credits
- 300 foot forested riparian buffer (300 lf), 50 foot buffer (2400 lf) – 5,985 credits
- 8.24 acres of emergent wetland located around NPDES Pond 001

- 12.9 acre final cut lake and associated incline lake

The on-site mitigation for the ephemeral stream and associated riparian buffer exceeds the needed mitigation credits (8,627) by 1,951 credits. The mitigation for the 8.24 acre emergent wetland is proposed at a 1:1 ratio. The addition of the 12.9 acre lake will result in a net gain of aquatic resources located on site after completion of the surface mining. The entire site will be deeded to the State of Illinois for inclusion into Pyramid State Park following all regulatory requirements and agreements.

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

The pollutant load increases that would occur during this project include possible increases in suspended solids during mining operations. The Applicant will utilize an approved Drainage Control Plan, Good Mining Practices, and Best Management Practices (BMP) to insure that the design meets NPDES mandated discharge requirements. A settlement pond, (NPDES Pond 001), located on the downstream portion of the mining operation, and corresponding drainage channels will be constructed to collect all runoff from the mine operations. Drainage from undisturbed areas will be diverted around the disturbed mining area and routed through vegetated channels to the receiving stream. Stockpiled coal product will be delivered to Knight Hawk Coal LLC Prairie Eagle facility for further processing as soon as practical to reduce weathering of the coal product and reduce the potential for contaminant runoff. The coal stockpile area, crushing and screening areas, drainage channels, and the settlement pond will be lined with a minimum of 2' of compacted clay liner or an HDPE geomembrane liner to eliminate the potential for ground water contamination.

The proposed project will eliminate approximately 1,892.7 lf of ephemeral streams, unnamed tributaries to Little Galum Creek, a tributary to Galum Creek and approximately 8.24 acres of emergent wetlands surrounding the ephemeral streams.

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

The increase in suspended solids in the project area will be local and temporary. Erosion control measures mentioned above will be utilized to minimize any increase in suspended solids. All releases from the sedimentation basin will be regulated by Section 402 of the Clean Water Act and subject to NPDES effluent discharge limits.

On-site mitigation will occur during the reclamation phase of the mine project. To reconnect the site to its downstream drainage, a 2,625 lf ephemeral stream will be constructed to direct drainage from north to south. A 300 foot forested riparian buffer will be established on the northern portion (300 lf) of the constructed stream; a 50 foot buffer will be established on the remaining 2,400 lf of stream. A total of 8,627 credits would be required to mitigate the adverse impacts caused by the proposed stream diversion based on the Illinois Stream Mitigation Method. The proposed stream restoration and riparian buffer establishment will generate 10,579 credits resulting in a surplus of 1,951 mitigation credits. The on-site mitigation for the 8.24 acre emergent wetland is proposed at a 1:1 ratio near the NPDES Pond 001 site and will occur after active mining and reclamation activities have completed. A 12.9 acre lake located in the

northern portion of the site will remain a result of the surface mining. The entire site will be deeded to the State of Illinois for inclusion into Pyramid State Park following all regulatory requirements and agreements.

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

The purpose of constructing the Golden Eagle Mine is to provide approximately six million tons (seven to eight years) of recoverable coal reserves. The mine will produce approximately 800,000 tons of coal per year at full production which will be crushed at the mine site and transported directly to the final customer or transported to the Knight Hawk Coal LLC Prairie Eagle facility nearby for further processing. The mine will generate approximately \$240 million in open market revenue, based on current coal prices, and employ approximately 40 direct and contractor employees with annual payroll and benefits package totaling over \$6 million. The opening of the Golden Eagle Mine will bring an influx of revenues to a depressed area of the state where according to the Bureau of Labor Statistics (January 2014), approximately 17.1% of the population in Perry County lives below the poverty level and unemployment is 12.3% compared to the Illinois average of 9.4%. The Applicant plans to spend in excess of \$15 million to develop the site prior to beginning mining operations and approximately the same amount each year during the life of the mine on material, supplies, and services. The mining operation would provide local and state tax revenue as well as provide an affordable and reliable fuel source for the region and surrounding area. Nearly 50% of Illinois' electricity is generated from coal, the production of Illinois coal helps keep the cost of electricity low and provides affordable energy to Illinois' citizens and businesses.

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

The Applicant has completed an assessment of the economic and environmental advantages and disadvantages of four alternatives to opening the Golden Eagle Mine including a review of all reasonable stormwater treatment methods. The results of the analysis are listed in Table 1 and 2 below. The preferred action alternative is the construction of Golden Eagle Mine due to land ownership, utilization of mineral and property rights, and the proximity to the existing coal processing plant. Other alternatives would result in significant and substantial company expenditures and/or economic losses. The no action alternative would result in company losses and a lack of foreseeable returns due to prior investments in land and equipment and no mining activities at the proposed site.

Additionally, the applicant considered alternatives to constructing the facility's sedimentation pond in an existing wetland. Due to existing surface flow drainage patterns and the adequate pond construction space required, the best alternative location lies west of the proposed pond site and upland from the wetland. According to the Applicant, this location, as well as other alternate locations throughout the permit area, pose several insurmountable complications, do not prevent impacts to the wetland, and are infeasible due to the following reasons.

- Extensive excavation would be required for an upland site to provide adequate pond depth and lowered elevation to allow for site drainage via grass lined waterways and provide adequate sediment settling, storage capacity and retention time.
- Extensive excavation required to achieve the lowered elevation will create additional spoil material creating less available space for mining box cut spoil. To offset the loss of spoil capacity, the sedimentation pond size would need to be increased resulting in an increase in the size of the permit area, the footprint of the mine site, and the associated area affected by the mining operation.
- Increasing the size of the permit area for the increased excavated pond spoil or to provide an alternative location for the sediment pond will require purchasing additional property, thereby increasing the cost of the project. The available land for purchase is limited due to the majority of the permit area being surrounded by state park property, which is unavailable for purchase.
- Constructing the pond adjacent to the wetland may require constructing a dam or ditch between the sediment pond and the wetland to divert affected area runoff from entering the wetland prior to treatment. The dam/ditch will prevent a significant amount of surface runoff from reaching the wetland, creating an adverse impact to the wetland.
- To satisfy the regulatory requirement to collect and treat all affected area surface water runoff prior to allowing the water to discharge from the permit area, construction of a drainage control ditch through the up-gradient drainage swale would be required regardless of which side of the wetland the sediment pond is constructed. Construction of a drainage control ditch through the swale will divert surface water runoff to the pond creating an adverse impact to the wetland by preventing the runoff to recharge the wetland.

**Table 1: Project Alternatives for Knight Hawk Coal LLC Golden Eagle Mine**

No Action Alternative	Preferred Action Alternative - Construction of Golden Eagle Mine
<b>Disadvantages</b>	
Fails to meet Applicant's purpose and need of recovering approximately 6 million tons of coal from Herrin #6 and Springfield #5 coal seams	Loss of function of the disturbed streams and wetlands located in the project footprint
Threatens necessary coal supply for electric utilities-nearly 1/2 of the electricity produced in Illinois comes from coal	<b>Advantages to construction of Golden Eagle Mine</b>
Loss of ~40 direct mining jobs and the resulting spin-off jobs associated with the mine operation	Disturbance of site minimized to maximum extent through an approved Drainage Control Plan, Good Mining Practices and using Best Management Practices to insure compliance
Loss of annual tax revenue for surrounding county and state	Maximizes coal recovery of Herrin #6 and Springfield #5 seams and minimizes disturbances by utilizing coal processing facilities at Prairie Eagle Mine
Loss of approximately \$15 million yearly for purchases of goods and services in a depressed area	Creation of ~40 direct mining jobs with an annual payroll and benefits package in excess of \$6 million and the resulting spin-off jobs associated with mine operation
Continued degradation of jurisdictional waters from agriculture	Provide ~ \$15,000 of revenue through the purchase of goods and services and provide annual tax revenue for the county and state
No assurance of disturbance to site without regulated requirements	Allows for the full utilization of the resource and supplies an energy source to regional utilities resulting in affordable electricity for consumers
Loss of acquisition investments	Low potential for significant environmental or economic damage in event of failure
<b>Advantage</b>	
Eliminates disturbances of streams and wetlands from mining operations	

**Table 2: Discharge Alternatives for Knight Hawk Coal LLC Golden Eagle Mine**

Retention of Stormwater without Discharge	Discharge of stormwater to publicly owned treatment plant	Alternative Treatment Technologies
<b>Disadvantages</b>		
Stormwater runoff from a rain event would require a large impoundment or a large cavity for deposition	The City of Pinckneyville owns and operates the closest water treatment facility to the proposed Golden Eagle Mine	<b>Reverse osmosis</b> -large inputs of energy, variable volumes in stormwater flows would overload the system and dry out membranes during non-precip events, create higher concentration of pollutants to be disposed in landfill, cost prohibitive and time consuming
Not economically or technologically feasible to construct an impoundment large enough to retain stormwater events for life of mine	Current capacity for the plant is 0.4 million-gal/day; designed to treat organic waste from the municipal sewer system	<b>Filtration</b> - discharge water passed through a physical barrier; some options would require additional land acquisitions, all would increase production costs, require increased supervision and maintenance, technologically impractical
Increased impacts/disturbance to natural resources to create an impoundment large enough to handle all precipitation	Silt from stormwater would overload system; clarifying stormwater before transmitting to plant would result in redundant use of sedimentation ponds	<b>Bioremediation</b> - methods applicable for fuel-derived toxic compounds not technically feasible or appropriate; tree box biofilter would require nearly 200 units to collect drainage-not practical; wetlands would require additional lands not available within or adjacent to the mine site
Underground cavity of sufficient size to accommodate runoff not available	Volume of stormwater would overload system and cause non-compliance discharges from the facility	<b>Coagulation Precipitation</b> -process is expensive, requires constant monitoring, chemicals harmful to worker's health and safety, sludge requires disposal as a hazardous waste; large precip events would negate benefits of technology and result in effluent exceeding permit limits
A cavity from the Arch Coal Mine, an abandoned underground mine, is located nearby; however, a surface permit would be required and current public law does not allow for issuance of such a permit	Facility would have to be renovated/enlarged to handle additional volume of flow	<b>Ion Exchange</b> -appropriate for treatment of potable water not sediment laden mine drainage, resin would degrade, use of additional energy and expense; <b>Vertical Filtration</b> impractical based of volumes of flow and requiring additional costs and maintenance
Increased impacts/disturbance to another site to produce the same amount of coal	Piped delivery system to treatment facility is beyond scope of services the city could provide	<b>Cost Effective Sulfate Process</b> -would require construction of a treatment plant, intense supervision, high operational costs, construction of holding ponds, and disposal of sludge in an approved landfill
Does not eliminate stream and wetland disturbance	Mining operation non-viable if costs of renovation/pipe construction added to project	<b>Manganese Treatment</b> - not a reasonable alternative due to management of chemicals, health and safety concerns of workers handling chemicals, volume of waste sludge, lack of infrastructure for sludge, and variable concentrations of manganese in mine discharge
	Does not eliminate stream and wetland disturbance	Some options cause additional disturbance or do not eliminate stream and wetland disturbances
<b>Advantages</b>		
No known advantages to this option	No known advantages to this option	Some options above reduce stream and wetland disturbances from mining operations



### Conclusion:

The construction of the proposed project will follow conditions set forth by the Agency and USACE. The opening of Golden Eagle Mine will provide an affordable, reliable and secure fuel source for Illinois and surrounding states and create approximately 40 direct jobs, with a payroll and benefits package of \$6 million annually. The mine will provide additional spin-off jobs, an influx of revenue from the purchase of various goods and services, and an increase in the tax revenue base to an economically depressed area. The sedimentation basin will be located downstream of the mine operation area allowing the drainage control structures to convey runoff from the coal processing area to the basin, thereby, minimizing the disturbance footprint and the effects to aquatic resources. Disturbance to ephemeral and intermittent streams and wetlands will be mitigated through the post-mine creation of a 2,625 lf ephemeral stream with riparian borders ranging from 50 to 300 feet, 8.24 acres of created emergent wetlands, and a 12.9 acre final cut and associated incline lake. The mining site will become part of Pyramid State Park (deeded to the State of Illinois) following all regulatory requirements and agreements.

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

An EcoCAT endangered species consultation submitted on July 14, 2014 to the Illinois Department of Natural Resources resulted in the identification of two protected resources, American Bittern (*Botaurus lentiginosus*) and Northern Harrier (*Circus cyaneus*) in the vicinity of the project location. IDNR has evaluated the EcoCAT information, concluded that adverse effects are unlikely, and terminated consultation for IDNR Project #1500459 on July 15, 2014.

### **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 401 Water Quality Certification was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; 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 approximately 40 direct jobs, additional spin-off jobs, an influx of additional revenue through purchases of goods and services, and increased tax revenues in an economically depressed area of the state, along with affordable energy to Illinois's citizens and businesses. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.