
**CUMULATIVE IMPACT ASSESSMENT
PROPOSED LAFFERTY-KACZOR SITE
for
OXFORD MINING COMPANY, LLC.
RICHLAND, UNION & WHEELING TOWNSHIP
BELMONT COUNTY, OHIO**

Lafferty-Kaczor Area

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**Prepared for:
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INTRODUCTION

Oxford Mining Company, LLC. is planning to impact the area (including surface waters) by surface mining operations in order to recover the #9 to meet market demands. Oxford Mining Company, LLC. is proposing the minimal degradation alternative to conduct surface and auger mining activities on a 178.2 - acre site to meet contractual obligations to deliver coal. The applicant has estimated that the proposed project would result in the recovery of approximately 254,520 tons of coal.

The site lies within Section 35 of Richland Township, Section 5 of Union Township and Section 36 of Wheeling Township in Belmont County, Ohio. Please refer to the Project Location Map included as Appendix A of the Compensatory Mitigation Plan.

Construction of the preferred alternative would result in the discharge of approximately 1,509 cubic yards of fill material into jurisdictional waters. As a result, the project will cause primary impacts to approximately 4,487 linear feet of jurisdictional streams and 0.63 acres of jurisdictional wetlands. Materials discharged to jurisdictional waters overlie the coal, and include shale and sandstone. The waters associated with this project are within the Wheeling Creek above Crabapple Creek watershed (05030106-040-030) which is under the jurisdiction of the U.S. Corps of Engineers (Corps) Huntington District.

Mining of the proposed permit area is developing the Meigs Creek Coal seam by contour mining using the box cut method, and auger mining using a conventional auger for both coal seams. Dozers, scrapers, loaders and trucks will be used to mine and reclaim this area. The #9 coal is found, ranging in elevation between 1,040 and 1,160 feet msl respectively as represented by the submitted test holes. Fill is required for the construction of the staging area, equipment crossing, coal loading, coal extraction, haul road construction, hauling and reclamation. These constructive uses are required for the intended purpose of obtaining and maximizing coal resources. Mining activities are anticipated to begin in July 2012, after issuance of permits, and remain active until July of 2017.

STREAMS

IMPACTS TO STREAMS

A total of 11 jurisdictional streams are proposed to be permitted under the preferred alternative for a total of 4,487 linear feet of impacts. Detailed descriptions of the streams and the proposed impacts are available in the General Description of the Aquatic Environment Directly Affected and the Wetland and Stream Impact/Avoidance Summary Tables.

WETLANDS

IMPACTS TO WETLANDS

The proposed mining activity will impact 0.63 acres of jurisdictional wetlands (Table 1). For information concerning the location, composition, structure and function of these wetlands please refer to Application and Hydrology Map and Preliminary Jurisdictional Determination Report.

<i>Table 1 – Jurisdictional Wetlands proposed for impact.</i>					
Name	Jurisdictional / Isolated	Previously Mined	ORAM Score	Acreage Delineated	Proposed Impact
WD-A	Jurisdictional	Y	47	1.23	0.40
WD-C	Jurisdictional	Y	27	0.06	0.06
WD-D	Jurisdictional	N	25	0.11	0.11
WD-F	Jurisdictional	Y	37	0.06	0.06
Totals				1.83	0.63

AVOIDANCE

Upon reviewing the locations of streams and wetlands within the project area in relation to the location of coal reserves, the applicant has taken great care to revise the permit area. As a result, approximately 4,240 linear feet of streams 0.37 acres of wetlands will be avoided under the preferred alternative. Tables 2 and 3 list the resources identified in the Preliminary Jurisdictional Determination Report that will be avoided under the minimal degradation alternative. For a breakdown of impacts anticipated under each of the three alternatives (preferred, minimal and non-degradation) please refer to the Clean Water Act 404/401 Alternatives Analysis included with this application package.

<i>Table 2 - Jurisdictional wetlands within delineation area avoided under preferred alternative.</i>				
Wetland Name	Avoided Area	Wetland Type	ORAM Score	ORAM Category
Wetland B	0.07	PEM	17	1
Wetland E	0.30	PEM	46	2
Total	0.37			

Table 3 - Streams within delineation area avoided by preferred alternative.

Ephemeral & Intermittent Streams			
Stream Name	Length Avoided	Flow Regime	HHEI Score
1	827	Intermittent	50
2	0	Intermittent	38
3	164	Intermittent	24
4	120	Ephemeral	14
5	28	Ephemeral	28
5	517	Intermittent	28
6	0	Ephemeral	37
6	0	Intermittent	47
7	0	Ephemeral	37
7	0	Intermittent	37
7A	0	Ephemeral	24
8	124	Intermittent	31
9	924	Intermittent	37,58
10	108	Intermittent	19
11	583	Ephemeral	15
12	282	Intermittent	26
13	533	Intermittent	26
14	30	Ephemeral	25
14	0	Intermittent	25
15	0	Ephemeral	26
15	0	Intermittent	26
	4,240	Total Length of Delineated Streams Avoided	

SEDIMENT PONDS

Four sediment basins (four temporary and zero permanent) will be constructed to protect the local watershed from receiving excessive sediment during mining and reclamation. The ponds will have controlled release control structures. The proposed locations are illustrated on the Application/Hydrology Map. The ponds will have controlled release structures, which also function in slowing the flow of runoff and will detain sediment-laden runoff from the drainage area long enough for most of the sediment to settle out. Ponds will trap sediment resulting from mining and reclamation activities; thus, reducing sedimentation and pH impacts while maintaining water quality standards in the Wheeling Creek. Pond construction is expected to take several weeks, beginning upon issuance of the permit (likely Summer 2012).

Approximately 178.2 acres will be mined and reclaimed under the preferred alternative.

EXISTING WATER IMPOUNDMENTS

A total of four impoundments exist within the area delineated for this proposed permit. Refer to the Application/Hydrology Map for locations of the impoundments identified within the) Mining area.

EVALUATION OF CUMULATIVE EFFECTS

PREVIOUS AND CURRENT LAND USE/COVER

The cumulative impact area is defined as the Wheeling Creek above Crabapple Creek watershed (05030106-040-030). The Ohio Environmental Protection Agency has not performed a study on the Wheeling Creek watershed.

The area within the watershed affected by pre-law mining is unknown, however, it is suspected that much of the area was affected. The current proposal would involve the disturbance of approximately 178.2 acres, which would affect approximately 1.1% of the watershed area. Present impacts include existing highwalls, spoil ridges, and existing water impoundments.

A number of coal mines are either currently operating or have recently been completed within a short distance of the Lafferty-Kaczor Mining Area. These include permits D-2315 (1207.3 acres), D-2266 & D-2266-1 (359 acres), D-2198 & D-2198-1 (502 acres), D-2261-1 (95.1 acres) and D-2286-1 (113.4). These areas total more than 2,276 acres of mining that have occurred or will occur within a short distance of the Lafferty-Kaczor Mining Area. As previously stated, the Lafferty-Kaczor Mining Area would disturb less than 178.2 acres (1.1%) of the entire Wheeling Creek watershed.

Other impacts within the watershed include timber harvesting, road construction, and agricultural activities. The historical land use for the majority of the project site is undeveloped and agriculture. Mining was performed on approximately 40 acres within the area delineated for the proposed project area. Underground mining for coal was initiated in the 1920's while surface mining began in the mid 1900's. Currently under the preferred alternative, the land use of the proposed site (178.2 acres total) includes undeveloped, pasture land and cropland. A majority of the undeveloped area and riparian areas are comprised of woodland and scrub/shrub vegetation.

The effects past and present disturbances within the watershed vary in severity. Therefore, streams present within the watershed exhibit overall moderate water quality, with regard to specific conductivity and pH, dissolved oxygen and biological integrity. With the performance of approximately 178.2 acres of mine-related earth disturbance (preferred alternative), it would be reasonable to predict some changes in water quality, such as increased conductivity and TSS would occur immediately following reclamation. However, after the mining areas have permanent vegetative cover established, the sediment yield should approximate pre-mining values.

The historical land use for the majority of the project site is undeveloped, agriculture and mining. Portion of the site was previously surfaced mined as there are existing water impoundments, highwalls and spoil piles.

The proposed project will avoid approximately 3.80 acres of jurisdictional wetlands. In addition, a total of 11 jurisdictional streams are proposed to be permitted under the preferred alternative for a total of 4,487 linear feet of primary impacts. A total of 4,240 linear feet of jurisdictional streams will be avoided. The anticipated timeline of environmental effects will include mining for approximately five years. Approximately 36 acres of coal will be mined during each of the 5 years.

WATERSHED FUNCTION, RESOURCES, AND IMPAIRMENTS

The proposed permit site is located in the Wheeling Creek watershed located within the Ohio River Drainage Basin. Specifically, the proposed permit area drains via several unnamed tributaries to Wheeling Creek. During 2002 OEPA conducted a Biological and Physical Habitat study on Fall Run which is located in the Wheeling Creek watershed.

To reduce the impact of AMD on receiving waters, the applicant would reclaim the entire site. This would include filling in existing water impoundments and backfilling highwalls. The result will be an overall improvement in water quality.

REGIONAL SEWAGE COLLECTION AND TREATMENT FACILITIES

The proposed permit site is located in the Wheeling Creek watershed located within the Ohio River Drainage Basin. Specifically, the proposed permit area drains via several unnamed tributaries to Wheeling Creek.

Currently, there is no information available for regional sewage collection and treatment facilities for the proposed mine site.

SITE PROTECTION AND TIMING OF MITIGATION

The applicant has carefully evaluated various mining alternatives to avoid/minimize impacts to surface waters. The resources avoided under the preferred alternative are listed in the above section. Measures will also be taken to avoid/minimize impacts to surface waters via the timing of impacts to surface waters and reconstruction. Topsoil and subsoil will be removed prior to mining, so that mining is not interrupted waiting on topsoil/subsoil removal. This may occur days to several months prior to mining, especially in the fall when topsoil/subsoil needs to be removed to facilitate the winter mining operation. Following topsoil/subsoil removal the operator will remove overburden and extract coal, as the mining plan indicates. There are several factors influencing the time frame needed for coal removal that include the following:

- The size of the watershed/permit area being mined. Example: a small portion of the permit area may be mined and reclaimed within one year, while a large area may take five years or more.
- Coal market conditions have the greatest influence on coal removal. If market conditions change such that demand for coal decreases, it may take considerably longer to mine and reclaim an area.
- Equipment failure can affect the efficiency of mining and reclamation.
- The number of coal seams proposed for mining and the mining technique (e.g., augering, stripping) has a substantial affect on timely mining and reclamation.

Mining activities are anticipated to begin July of 2012 and end July of 2017. Stream reconstruction will commence at the first suitable construction/planting season upon completion of mining within each area. Please refer to the Compensatory Mitigation Plan, for details concerning the location and length

of mitigation. Timing of construction will obviously be weather-dependent, but construction will occur as soon as possible following mining.

Oxford Mining Company, LLC. currently is working with the landowners to secure an environmental covenant for each of the mitigation areas anticipated on the Lafferty-Kaczor Mining Area. Meetings with the landowners have been scheduled and dialogue concerning the matter is underway. This process is time consuming as details of the agreement must first be conveyed to the landowner before the decision making process can proceed. Upon completion of the agreements, each covenant will be recorded and submitted to the Ohio EPA to be added to the permit package.

Each covenant will protect the section of each stream that is to be reconstructed and a 50-foot buffer on either side of stream (100 feet total). The covenant will also protect each wetland mitigation area including a 25-foot buffer zone. Language contained in each agreement will be borrowed from a general environmental covenant originally drafted by the Ohio EPA.

MITIGATION AND RESTORATION TECHNIQUES

Construction of the proposed project would result in the discharge of approximately 1,509 cubic yards of fill material into jurisdictional waters. As a result, the project will cause primary impacts to approximately 4,487 linear feet of jurisdictional streams and 0.63 acres of jurisdictional wetlands. As required under the coordinated permit, reclamation of the site will include all areas impacted as part of the permitted. This reclamation will come at no cost to the State allowing the use of state money for reclamation of abandoned mine lands at another location.

On-site stream mitigation of 4,487 linear feet will be mitigated at a 1:1 ratio onsite. Wetlands will be mitigated at a 1.5:1 ratio onsite. For details concerning the location, design, length and size of all mitigation associated with this project, please refer to the Compensatory Mitigation Plan.

As indicated in the Attachment 14A's (submitted in the mining application), onsite streams have acceptable water quality. Diversion ditches will be constructed and maintained to assure that all runoff from the permit area will be directed to the sediment ponds to reduce sedimentation within the watershed.

Mitigation protocols to minimize and avoid deleterious effects to Wheeling Creek and unnamed tributaries will be implemented. These processes will involve erosion and sediment controls for stormwater management, revegetation of riparian habitat, wetland construction, and use of original materials in restoring riparian zones. Temporary vegetation will be seeded for the post-mining use of grazing land. Standing timber resources will be utilized when economically feasible. All water will flow through sediment traps prior to discharge to any unaffected surface water. Topsoil will be stockpiled, labeled, and protected from erosion. Topsoil are stockpiled for redistribution over spoil during the reclamation process.

SUMMARY

By using the best available technology and management practices and implementing mitigation techniques, only minimal individual and cumulative adverse impacts on the environment are expected from the proposed Lafferty-Kaczor Mine project. Such procedures can act to effectively and efficiently extract coal resources, while minimizing impacts to the watershed. Implementing

sediment controls will assist in preventing deleterious effects on the local watersheds, such as sediment runoff, and restore pre-mining conditions. These management practices implemented by Oxford Mining Company, LLC. and efforts to reclaim abandon mine lands put forth by ODNR, Division of Mineral Resources Management and local watershed groups will help to clean-up, restore, and maintain the natural functions and health of the watershed.