CUMULATIVE IMPACT ASSESSMENT
PROPOSED PASCO SITE
for
OXFORD MINING COMPANY, LLC
WELLS TOWNSHIP
JEFFERSON COUNTY, OHIO

Pasco Area

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INTRODUCTION

Oxford Mining Company, LLC is planning to impact streams and wetlands on the proposed permit area (260.2 acres -preferred alternative) by surface mining and highwall miner operations in order to recover the No. 8 and No. 8A coal seams to meet contractual obligations to deliver coal. The applicant has estimated that the proposed project would result in the recovery of approximately 322,560 tons of coal.

The site lies within Sections 21 and 27 of Wells Township, in Jefferson County, Ohio. See the Project Location Map included with the Compensatory Mitigation Plan.

Construction of the preferred alternative would result in the discharge of approximately 2,675 cubic yards of fill material into jurisdictional waters. As a result, the project will cause primary impacts to approximately 3,490 linear feet of jurisdictional streams and 0.04 acres of jurisdictional wetland. Materials discharged to jurisdictional waters overlie the coal, and include shale and sandstone. The waters associated with this project are within the Rush Run watershed (05030106-010-020) which lies entirely within the Ohio River watershed. The Rush Run drainage basin is under the jurisdiction of the U.S. Corps of Engineers (Corps) Pittsburgh, PA District.

Mining of the proposed permit area is developing the Pomeroy (#8A) and Pittsburgh (#8) coal seams by contour mining using the box cut method, and auger mining using a conventional auger. Dozers, scrapers, loaders and trucks will be used to mine and reclaim this area. The #8A and #8 coal is found, ranging in elevation between 980 and 1080 feet M.S.L., as represented by the submitted test holes to ODNR. 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 June 2012, after issuance of permits, and remain active until June of 2017.

STREAMS

IMPACTS TO STREAMS

Nine jurisdictional streams are proposed to be permitted under the minimal degradation alternative for a total of 3,490 linear feet of primary 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 one (1) jurisdictional wetland totaling 0.04 acres. For information concerning the location, composition, structure and function of these wetlands please refer to Application and Hydrology Map, Wetlands and Streams Map and Preliminary Jurisdictional Determination Report.

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 20,546 linear feet of streams and 3.12 acres of wetlands identified in the approved jurisdictional determination report will be avoided under the preferred alternative. Tables 1 and 2 list the resources identified in the Preliminary Jurisdictional Determination Report that will be avoided under the preferred 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.

Table 1 - Wetlands within delineation area avoided by project.

Wetland Name	Acreage	Wetland Type	ORAM Score	Impact Type
Wetland A	0	PEM	45	None
Wetland B	0.31	PEM	34	None
Wetland C	0.06	PEM	19	None
Wetland D	0.54	PEM	21	None
Wetland E	0.13	PEM	46	None
Wetland F	1.5	PEM	66	None
Wetland G	0.53	PEM	55	None
Wetland H	0.05	PEM	53	None
Total Avoidance	**3.12**			

Table 2 –Stream within Delineation area avoided by project.

Ephemeral Streams			
Stream ID	Flow Regime	Length Avoided	HHEI Score
STREAM 11	EPHEMERAL	196	13
Intermittent Streams			
Stream ID	Flow Regime	Length Avoided	HHEI Score
STREAM 1	INTERMITTENT	1,381	47
STREAM 2	INTERMITTENT	174	19
STREAM 3	INTERMITTENT	190	26
STREAM 4	INTERMITTENT	43	19
STREAM 5	INTERMITTENT	241	14
STREAM 6	INTERMITTENT	380	49
STREAM 7	INTERMITTENT	320	25
STREAM 8	INTERMITTENT	2,492	39
STREAM 9	INTERMITTENT	16	25
STREAM 12	INTERMITTENT	644	18
STREAM 14	INTERMITTENT	1,575	35
STREAM 15	INTERMITTENT	1,072	26
STREAM 16	INTERMITTENT	1,252	26
STREAM 17	INTERMITTENT	255	35
STREAM 18	INTERMITTENT	200	36

Perennial Streams			
Stream ID	Flow Regime	Length Delineated	HHEI Score
STREAM 10	PERENNIAL	787	65
STREAM 12	PERENNIAL	1,732	49
STREAM 13	PERENNIAL	7,596	50
Total Length of Delineated Streams Avoided		20,546	

It is important to note that upon completion of a determination of surface waters within the project area, the permit limits were modified to avoid the surface waters listed in Table 1 and 2.

SEDIMENT PONDS

Under the preferred alternative, nine sediment basins will be constructed to protect the local watershed from receiving excessive sediment during mining and reclamation. Each of the sediment ponds are being proposed as temporary and will be removed and reclaimed upon project completion. 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 Rush Run watershed. Pond construction is expected to take several weeks, beginning upon issuance of the permit (likely June 2012).

EXISTING WATER IMPOUNDMENTS

Five (5) existing water impoundments were identified onsite. Refer to the Application/Hydrology Map for locations of the resources. These resources are all pre-law pit impoundments found at the base of existing highwalls. As part of the Reclamation Plan the pre-law pit impoundments will be eliminated and graded to approximate original contours.

EVALUATION OF CUMULATIVE EFFECTS

PREVIOUS AND CURRENT LAND USE/COVER

The cumulative impact area is defined as the Rush Run watershed (05030106-010-020). The Ohio Environmental Protection Agency has not preformed a study on the Rush Run watershed. The Rush Run watershed totals approximately 12.42 square miles (7,950 acres), with agriculture, forestland, and undeveloped comprising the major land uses.

The historical land use for the project area is mining and agriculture. Mining was performed on approximately 45.4 acres within the project area and in addition to the surrounding area. Underground mining for coal was initiated in the 1920's while surface mining began in the mid 1900's. A majority of the undeveloped area and riparian areas are comprised of woodland and scrub/shrub vegetation. Other impacts within the watershed include timber harvesting, road construction, pre-law mining and agricultural activities.

The current proposal would involve the disturbance of approximately 260.2 acres, which would affect approximately 3.3% 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 Pasco Mining Area. These include permits D-2180 (10.5 acres), D-2180 (127.9 acres) and the Ellis Mine site (428.7 acres) which is currently under review by ODNR Division of Mineral Resource Management. As previously stated, the Pasco Mining Area would disturb less than 260.2 acres (3.3%) of the entire Rush Run watershed.

Other impacts within the watershed include timber harvesting, road construction, agricultural and mining activities. No portions of the proposed permit area have been used historically as residential areas. Currently, the land use of the proposed permit area (260.2 acres total) includes undeveloped, grazingland and cropland. A majority of the undeveloped area and riparian areas are comprised of old field, 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 260.4 acres of mine-related earth disturbance, it would be reasonable to predict some changes in water quality, such as increased conductivity and TSS would occur during reclamation. However, after the mining areas have permanent vegetative cover established, the sediment yield should approximate pre-mining values.

Mining activities are anticipated to begin upon issuance of permits, June of 2012 and end June of 2017. The proposed project will avoid approximately 3.12 acres of jurisdictional wetlands and 20,546 linear feet of stream. In addition, a total of nine jurisdictional streams are proposed to be permitted under the preferred alternative for a total of 3,490 linear feet of primary impacts. The anticipated timeline of environmental effects will include mining for approximately five years.

WATERSHED FUNCTION, RESOURCES, AND IMPAIRMENTS

The proposed permit site is located in the Rush Run watershed. Specifically, the proposed permit area drains via several unnamed tributaries directly to Rush Run. To date, no biological assessment has been preformed for this portion of the watershed.

To reduce the impact of AMD on Rush Run and the Ohio River, the applicant would reclaim the entire site including all areas impacted under the permitted activity in addition to those occurring prior to the existence of mining laws this includes exposed highwalls, pre-law pit impoundments and spoil piles. The result would have no prolonged degradation of water quality either onsite nor on the cumulative watershed.

REGIONAL SEWAGE COLLECTION AND TREATMENT FACILITIES

The proposed permit area is located in Wells Township, Jefferson County, Ohio and lies entirely within the Rush Run watershed. The surface water from the permit area flows to Rush Run and eventually into the Ohio River.

The Smithfield Sewage Treatment Plant is located upstream of the permit area. This is the only treatment plant located within the Rush Run watershed. Currently, there is no information available about the Smith Sewage Treatment Plant.

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 June of 2012 and end June of 2017. Please refer to the Compensatory Mitigation Plan, for details concerning the location, size and type of mitigation. Timing of construction will obviously be weather-dependent, but construction will occur as soon as possible following mining.

MITIGATION AND RESTORATION TECHNIQUES

Construction of the proposed project would result in the discharge of approximately 2,675 cubic yards of fill material into jurisdictional waters. As a result, the project will cause primary impacts to approximately 3,490 linear feet of jurisdictional streams and 0.04 acres of jurisdictional wetland. As required under the coordinated permit, reclamation of the site will include all areas impacted under the permitted activity in addition to those occurring prior to the existence of mining laws. The result will be an overall improvement in water quality.

Mitigation for stream impacts will take place at a 1:1 ratio at each streams approximate original location. The impacted wetland will be replaced at a 1:1.5 ratio totaling approximately 0.06 acres of wetland created onsite. For details concerning the location, design, length and size of all mitigation associated with this project, please refer to the Compensatory Mitigation Plan.

Under the preferred alternative, nine sediment basins will be constructed to protect the local watershed from receiving excessive sediment during mining and reclamation. 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 Rush Run 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 Pasco 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.