

The social benefits are also significant. Increased tax revenues to local governments relate to better roads, schools, etc. Maintaining and increasing the use of coal, as the fuel of choice, will provide the lowest possible energy cost to consumers and decrease our dependence on foreign sources of fuel. For the reasons just stated, coal is essential as a component to any national energy policy and this operation should be given a high priority for permit issuance.

Social and economic benefits from the preferred alternative are significant. The continued successful operation of Oxford Mining Company will allow them to maintain over 900 jobs. In February 2007, the market value for coal was set at \$30-34/ton. Under this alternative, mining will produce approximately 278,400 tons of coal. The "coal value" is therefore approximately \$8,352,000 - \$9,465,600. It is also important to realize that the vast majority of this coal value will be directly invested in the local and state economies for salaries, fuel, equipment, equipment maintenance, shipping, and materials, including seed and vegetation purchased for reclamation of the site. This coal value will secondarily be invested local restaurants, gas stations, mechanics shops, hardware stores, grocery stores, car dealerships, and housing. Oxford Mining Company is clearly a vital industry in the State of Ohio. Lost energy production may also seem inconsequential, but consider the impact of a 3-day power outage in a major metropolitan area. Every day of energy production is vital to our State.

Several taxes are assessed on each ton of coal mined within Ohio. Oxford will pay \$0.55 per ton in federal excise taxes (black lung and other various federal programs), \$0.35 per ton for reclamation of abandoned mine lands from the pre SMCRA era, and \$0.25 per ton to the State for various programs. Oxford will pay \$1.15 in state and federal taxes per each ton of coal mined from this site. Based on the estimated tonnage yield proposed within the mining application of 278,400 tons of coal removed, estimated combined state and federal tax revenue will total \$320,160 which directly funds several state and federal programs. The proposed temporary lowering of water quality is necessary to accommodate important economic development and to meet a demonstrated public need as defined in rule 3745-1-50 of the Administrative Code:

3745-1-50(11)

"Public need" means an activity or project that provides important tangible and intangible gains to society that satisfies the expressed or observed needs of the public where accrued benefits significantly outweigh reasonably foreseeable detriments.

Environmental Benefits:

Within the permit site, substantial vegetation and substrate disturbance typical of surface mining will occur. However, this disturbance will be temporary as an extensive, phased post-mining reclamation and restoration plan has been developed that will be instituted over the life of the mine as portions of the mine are closed. The reclamation plan has been developed with all due consideration for the local physical, environmental, and climatological conditions.

Temporary impacts are expected to occur within the study watersheds if the proposed action is approved, as land disturbance will occur on the permit site. These impacts will result from the potential removal of forest habitat and disturbance of streams. An extensive mining

reclamation plan and stream mitigation plan have been developed to mitigate for these impacts. Buffers will be replanted on the permit site. Long-term watershed impacts will be limited to forest conversion to agricultural use, which will eventually return to forest habitat. This is typical of surface mining operations within the study watersheds as this type of mining requires removing large amounts of vegetation and overburden to harvest coal seams.

No effect on endangered or threatened species is expected. **Please see Appendix D.**

AVOIDANCE ALTERNATIVE:

The avoidance alternative requires that no damage (i.e., no excavation or fill) occur to surface water quality. This alternative was very carefully examined to determine if any mining could occur on the proposed site without impacting water quality. A plan under this alternative would be to extract only the coal reserves located outside of stream buffer zones and other waters of the state. Coal underlies a portion of most of the streams; therefore the avoidance alternative is not technically feasible. It was determined that no cost-effective mining could occur on the project site without impacting water quality. Therefore, an avoidance alternative should be considered a no-action alternative.

Description of Construction or Placement of Fill:

Under the avoidance alternative, no fill would be placed in onsite surface waters. To accomplish this, some areas would have to be avoided entirely while others would require alternate mining methods, crossings, or surface water controls. Streams would be protected from runoff by diversion ditches that direct runoff to constructed sediment ponds. Several pits must be opened to mine the proposed site. Water resources occur proximal to proposed mining areas, spoil would have to be transported much greater distances for storage. In addition, adequate upland area would be lacking to store all of the spoil overlying coal resources creating an inability to continue mining in that area because the cut has become "dirt-bound" (i.e., no where to place spoil). All of this would substantially increase the cost associated with mining and would make this alternative not feasible or practicable. If required to implement this alternative, no action would be taken.

Magnitude of Lowering Water Quality:

Under the avoidance or no action alternative, there would be no lowering in water quality.

Technical Feasibility:

The avoidance alternative is not technically feasible because economical recovery of coal resources on the proposed site is impossible without affecting surface water quality. As described above, waters lie in proximity to remaining coal resources in areas necessary for economical spoil storage. Transporting overburden to alternate upland sites is expensive and technical. Fuel consumption would substantially increase from longer haul distances and steeper slopes. Longer haul distances would also decrease the rate at which coal could be recovered with the same amount or type of equipment. As upland areas reached their maximum allowable spoil slopes, no more overburden could be moved in those areas. This would result in otherwise economically obtainable coal reserves being left behind.

Social and Economic Benefits:

The determination of practicability considered social and economic benefits and impacts. No social or economic benefits would be realized under this alternative. This alternative would have no benefit to tourism or recreational activities. Under avoidance or no-action alternative, 148,892 tons of coal would be lost. Average revenue is therefore between \$3,885,240 and \$4,403,272. The loss of coal under this alternative will result in the projected total tax loss of \$171,226.

Environmental Benefits:

The proposed project areas consist primarily of undisturbed forests. Under this alternative, this habitat would be subject to timber harvest (at the landowner request) activities and possibly the development of agricultural fields in the lower lying areas.

MINIMIZATION ALTERNATIVE:

Minimization alternatives, including avoidance of stream and wetland areas that would appear to have the least impact on the proposed mining operation, were examined in detail. Several areas have been avoided to the greatest extent practicable. Avoidance of all stream segments examined resulted in substantial losses of economically recoverable resources. These alternatives additionally impacted the economic recovery of reserves adjacent to stream and wetland areas. Included in the considerations of economical recovery were the offsets created by those reserves that have very low cover ratios. These reserves typically, as they do on the proposed site, occur in the hollows (i.e., stream valleys). By avoiding streams on portions of this site, adjacent reserves are no longer economically recoverable.

The minimization alternative eliminates the surface and auger mining of approximately 55,638 tons of No. 8 coal. While the selection of this alternative would result in a reduced impact to waters of the US, it would also have substantial economic impacts to the mining operation. The actual economically obtainable coal reserves would be left unmined. This minimal alternative discussion isn't a feasible option as Oxford has already reduced impacts to the greatest extent practicable within the permit area.

Information that demonstrates the social and economic impacts of this alternative, and why preservation of this aquatic resource is not a reasonable decision in light of those impacts, is provided below. Several minimization alternatives were investigated to extract the coal. No minimal alternative (beyond what is currently being proposed) would be technically or economically feasible to commence mining of the site.

Description of Construction or Placement of Fill:

The minimization alternative is to avoid 1,735 feet of stream channel as shown in the table titled "USACE Jurisdictional Stream Impact Summary Table." No wetlands are proposed for impact in this alternative.

Magnitude of Lowering Water Quality:

Under the minimization alternative, approximately 1,101 linear feet of stream will be affected by proposed mining activities. Impacts to streams, although reduced, will be similar to the preferred alternative. Although impacts are reduced, the tonnage is greatly reduced as well.

Technical Feasibility:

The minimization alternative would provide similar erosion and sediment protection for surface waters as the revised minimal alternative. Valuable coal reserves (based on a combination of the seam thickness and amount of cover) would be avoided, which would increase the cost per ton of coal removed from the site.

Social and Economic Benefits:

The minimization alternative would result in the generation of \$256,176 in state tax revenues, support of the existing jobs for a temporary amount time. The minimal alternative will result in a loss of approximately 55,638 tons of coal compared to the preferred alternative. Additional economic impacts of this alternative to Oxford Mining Company would result in potential layoffs and economic hardships. These effects must be considered in light of the temporary nature of the proposed impacts.

Environmental Benefits:

The proposed project areas consist primarily of undisturbed forests. Under this alternative, this habitat would be subject to timber harvest (at the landowner request) activities and possibly the development of agricultural fields in the lower lying areas.

FINAL ENVIRONMENTAL ASSESSMENT

A. CONSERVATION

The applicant has avoided and minimized impacts to waters of the U.S. to the extent practicable as significant coal reserves underlie the site (See 404 Clean Water Act Alternatives Analysis). This project proposes the use of sediment control structures to prevent the contribution of solids to streams located downstream of the project. During construction, the temporary sediment control structures may include, but not be limited to, temporary silt basins, ditches, straw/hay bale fencing, and cloth filter fences. Measures proposed to be taken to control drainage around, over and through the mining operation would include the construction of appropriately designed sediment ditches, diversion ditches, culverts, flumes, and drains. Timely construction and maintenance of sediment control structures combined with concurrent reclamation and revegetation of disturbed areas will also minimize any downstream sediment impacts. Monitoring of all outlets where water is discharged from the permit area would take place according to the approved Section 402 permit issued for this project. It is unlikely that the project would result in any adverse effects on human use characteristics such as municipal and private water supplies, recreational and commercial fisheries, water related recreation, aesthetics, local, state, or national parks. Additionally, no human health effects are anticipated as a result of the proposed project.

B. ECONOMICS

The anticipated life of the project is five years from the original permitted starting date. Oxford Mining Company will provide 15-20 jobs at the mine site. The project would also generate approximately \$320,160 tax dollars, while recovering approximately 278,400 tons of coal.

C. AESTHETICS

Temporary adverse impacts to visual aesthetics are anticipated as a result of construction uses of the area for staging, equipment crossing, coal loading, coal extraction, and hauling. The waters proposed to be adversely impacted as a result of this project are located in a relatively remote area and mostly out of public view. It is anticipated that surrounding tree cover, in addition to the proposed reclamation activities would minimize visual effects. It is anticipated that any adverse visual effects associated with the project would be temporary in nature and would become increasingly less apparent as vegetation matures.

D. WETLANDS AND OTHER HIGH VALUE AQUATIC SITES

A wetland exists on the proposed permit area, however will not be impacted by mining or mining related activities. For specific impacts, refer to the attached tables.

E. HISTORIC PROPERTIES

A potential impact to historic properties was evaluated as part of the mining application review. ODNR concluded there are no known historical, architectural or archaeological sites listed on or eligible for inclusion in the National Register of Historic Places within the immediate vicinity of the project.

F. FLOOD HAZARDS

The Flood Insurance Rate Map (FIRM) for the project was examined. There are no flood hazards associated with this project.

G. FLOODPLAIN VALUES

This project is not located within any mapped floodplains. Impacts to floodplains of existing streams will be temporary. Erosion and sediment control measures will moderate any peak storm discharges from the site, thereby replacing, and in fact improving, this floodplain function. Site reclamation will restore floodplain functions and values.

H. LAND USE

The historical land use of this project area is undeveloped. No portions of the proposed project have been historically used as residential areas. The proposed post mining land use is grazingland.

I. NAVIGATION

Streams within the project area are small, perennial, intermittent and ephemeral streams that are unsuitable for navigation. Therefore, there will be no impacts to navigation.

J. RECREATION

The Gibson area is on private lands and serves a recreational function only to the owners and parties with permission to use this property. The primary recreational use is hunting. The post-mining site will continue to provide these functions.

K. AND L. ENERGY AND MINERAL NEEDS

Oxford Mining Company has estimated that the proposed project will result in the recovery of approximately 278,400 tons of coal.

M. SAFETY

The applicant will comply with all state and federal regulations. Measures incorporated into the project designed to ensure workers and public safety include: inspection and certification of the ponds and fills during and after construction, blasting plan that requires a minimum distance of 500 feet from any active or abandoned underground mine, and compliance with

the GWPP. Workers safety issues would be administered by the Mine Safety and Health Administration (MSHA). Proposed haulage and access roads have been designed in accordance with the issued SMCRA permit. Overall this project should not result in any notable increase in truck traffic, nor should it result in any adverse effects on local road safety.

N. WATER QUALITY

The proposed project would result in temporary adverse impacts to these waters. Measures proposed to be implemented that would protect the receiving streams would include the construction of sediment control ponds, adherence to the approved SMCRA permit, adherence to the NPDES permit issued for the project, implementation of a materials handling plan, and reclamation of the site to a post-mining land use of fish and wildlife habitat. Slightly increased turbidity as a result of increases in total suspended solids (TSS) and total dissolved solids (TDS) would likely occur as a result of the construction of the project. However, these effects would likely be temporary and limited in nature. Based on the above and provided the applicant would adhere to the terms and conditions of the SMCRA permit and Section 402 authorizations, the project as proposed, with compensatory mitigation, should not result in any notable adverse effects on water quality.

O. FISH AND WILDLIFE VALUES

Temporary adverse impacts to fish and wildlife values would occur as a result of temporary loss of habitat. However, these adverse effects would be minimized through the implementation of successful site reclamation following coal extraction. The applicant will use native plants where applicable throughout the mitigation areas associated with the site.

However, in accordance with the SMCRA permit a mix of several species including native species, as well as a number of non-native, including aggressive non-native species would be planted throughout the site. During active mining, essentially all wildlife habitat would be eliminated from the site. Upon reclamation and successful revegetation, areas suited for various types of wildlife would again become available for colonization. Since restoration of a diverse mature forest requires many years, wildlife habitat suited for woodland dwelling wildlife would not be available for approximately 20 to 30 years upon completion of mitigation work. Therefore, the project would result in temporary losses of habitat required by those species dependent on forest for all or part of their life cycles.

The project was also evaluated relative to its potential effects on threatened and endangered species. Based on a review of all available information, it was determined that the proposed project would not affect any endangered or threatened species.

P. SHORE EROSION AND ACCRETION

No effects to shore erosion and accretion are expected to occur as a result of this proposed project.

Q. WATER SUPPLY AND CONSERVATION

There are no users of surface water within or near the permit area or adjacent areas. In the unlikely event the project would affect any water users, the applicant would be required to mitigate these effects, in accordance with the issued SMCRA permit.

R. FOOD AND FIBER PRODUCTION

The site had no pre-mining food or fiber production uses. Therefore, there would be no impacts on food and fiber production as a result of the proposed mining activity.

S. CONSIDERATIONS OF PROPERTY OWNERSHIP

All areas proposed to be utilized by the proposed project are either owned by or are leased to the applicant for use as a coal mining operation. No lands contained in the permit area would require additional leases or acquisition before mining operations could commence.

T. GENERAL ENVIRONMENTAL CONCERNS

General environmental concerns associated with this project include blasting, noise, and fugitive dust. These issues have been addressed by the ODNR through the SMCRA permit process.

BLASTING

To minimize off-site damage and/or provide public safety Oxford Mining will provide residents or owners of each dwelling or other structure within one-half mile of the permit area with a blasting notice at least 30 days prior to the first blast. In addition, personnel will be checking high wall face and the shot pattern itself for cracks, mud seams or any other means that would cause flyrock and airblast.

NOISE

There are no environmental concerns relating to noise that would result from the proposed project.

DUST

Oxford Mining will keep all supervisory personnel advised of all the rules and regulations of the Clean Air Act, and will act accordingly so no violations will occur. Dust will be minimized by spreading water on the roads as needed.

U. NEEDS AND WELFARE OF THE PEOPLE

The proposed project would enable future coal recovery, which is utilized on a local, regional and national basis to produce electricity. The proposed project would meet the needs and welfare of the people relative to the establishment of approximately 900 jobs and through the continued availability of coal. The specific mining activity will employ 15-20 full time

employees. These employees are supported by approximately 110 other workers such as welders, mechanics, truck drivers, local businesses, engineers, and consultants. Local workers could be unemployed and eventually the entirety of Oxford Mining could find themselves unemployed if this site does not operate on a timely and efficient level. According to the National Mining Association in 2012, Annual Coal Minings for the State of Ohio was \$71,745. In comparison, the median household income in Guernsey and Noble Counties averages \$31,500. The jobs provided by the proposed mine would offer higher than average salaries and better benefits than most in this region.

IV. MITIGATION

INTRODUCTION

PROJECT OVERVIEW

Oxford Mining Company seeks to mine the No. 8 coal seam within an approximately 132 acres (preferred alternative) site located in Guernsey and Noble Counties to meet contractual obligations to deliver coal. The area contains steep slopes with small streams and narrow valleys. The proposed project will impact streams to maximize coal recovery and to minimize overall impacts on the land and water resources as well as the need for future mining impacts in the project area. The proposed project will produce 278,400 tons of coal to be used to generate electricity. Approximately 5 years will be required to complete coal recovery. Following recovery of the coal, the land will be reclaimed and stream habitats will be restored.

PROJECT IMPACTS AND AVOIDANCE MEASURES

The proposed mining activity will impact approximately 2,008 linear feet of stream and no acres of wetland, located within the Wills Creek watershed. Coal underlies these resources or occurs proximal to them, such that impacts are unavoidable without sacrificing coal reserves. It is neither practicable nor environmentally responsible to leave portions of the coal resources on the project site. These un-recovered resources would only serve as potential sources of acid mine drainage and provide a reason to re-affect these lands in the future. Therefore, responsible, maximum utilization of the project site's coal resources requires the filling or mining through of all the streams within the permit limits. Avoidance and minimization alternatives were evaluated and are described in the permit application. In summary, avoidance and minimization alternatives impose economic hardships on the applicant and local community and do not result in desirable utilization of mineral resources in comparison to the magnitude of environmental impacts and compensatory mitigation measures. Reclamation of the project site and restoration of water resources is expected to have a minimal adverse impact on the environment.

PROJECT BENEFITS

The proposed surface mining activity will make a substantial contribution to the coal resources needed to meet the energy demands of the public, thereby maintaining economic viability of an important local employer. The mining activity will also support the local community with jobs, ancillary spending, and tax revenues. Mitigation activities (which include reclamation to contemporary standards) within the project site will improve water quality within the watershed.

MITIGATION GOALS AND OBJECTIVES

The proposed surface mining activity will impact stream functions, including stream length, aquatic life habitat, stormwater attenuation, and wildlife habitat. Impacted values include flood reduction, aesthetic and recreational. The streams affected by the activity have small

watersheds and provide minimal stream functions. The proposed project will mitigate for approximately 2,008 linear feet of stream. Wetlands on-site will not be impacted. Oxford Mining is proposing to reconstruct stream length on site. Reclamation is expected to replace stream length, aquatic life and wildlife habitat, and stormwater attenuation functions. The natural channels will replace flood reduction values. The mitigation site will continue to be under private ownership and will, therefore, provide the same aesthetic and recreational values.

BASELINE INFORMATION

The area contains relatively steep slopes with small streams and narrow valleys. Surface waters identified within the project site are shown in **Appendix A**. Streams exhibiting small watersheds and limited in-stream habitat will be affected by proposed mining activities at the Gibson mine site. They will be impacted due to the position of the coal within the geologic layering in the local area. If coal operators could avoid streams and wetlands and still mine coal, that option would be exercised.

Streams proposed for impact within the project area are unnamed, undesignated tributaries to Leatherwood Creek, within the Wills Creek Watershed.

STREAMS

Please refer to the **Appendix A** found within this application. Tables and charts are a better representation of numerical data rather than lengthy discussions pertaining to flow direction, development, and miscellaneous, trivial information. The quality and quantity of streams are represented in the referenced tables.

WETLANDS

The “Eastern Mountains and Piedmont” regional supplement to the Corps of Engineers Wetland Delineation Manual” was used to delineate the wetland boundaries. No wetlands are proposed for impacts.

Please refer to the associated tables in **Appendix A** that summarize the aquatic resources on site.

MINING PROCESS

The mining activity is expected to occur over a 5 year period, although the rate of mining will be determined by coal market activity. Reclamation will follow behind mining when there is no longer a need to disturb an area. Therefore, some reclamation activity (backfilling, grading, seeding and mulching) may occur before the coal removal is complete.

DRAINAGE CONTROLS

The first protective measure to occur at the proposed mine site is drainage control. All drainage from the proposed mine site will be directed by diversion ditches and/or stream channels to constructed sediment basins. To protect downstream water quality during

construction of ponds and diversion ditches, work will be conducted during favorable weather conditions. Stabilization, seeding, and mulching will be conducted as soon as possible after construction is complete. Where possible, run-off from off-site areas will be prevented from flowing across disturbed areas. Silt fences, straw bales, and if necessary, sumps will be utilized to trap sediment during construction.

SEDIMENT PONDS

Sediment ponds will protect the local watershed from receiving excessive sediment during mining and reclamation. Their proposed locations are illustrated on the mining application map. Ponds will trap sediment resulting from mining and reclamation activities; thus, reducing sedimentation and pH impacts while maintaining water quality standards in the Wills Creek watershed. No sediment ponds are constructed within streams, and are proposed as permanent features on site.

DIVERSION DITCHES

Temporary diversion ditches (TDD) are used to direct mine runoff to sediment ponds. TDDs are generally constructed with a slight grade uphill starting at each pond, thereby allowing runoff to flow naturally to the ponds. The most practicable location for TDDs is at the lowest point on the permit area, which may require TDDs to be located within stream buffer zones. Diversion ditches may also be utilized during reclamation to direct runoff to sediment ponds until vegetation is established. These reclamation diversion ditches will reduce stresses on reconstructed stream channels until the channels can stabilize and riparian vegetation becomes established.

HAUL ROADS

Haul roads are necessary to transport topsoil and overburden to spoil piles and transport extracted coal off-site.

TOPSOIL AND OVERBURDEN REMOVAL AND STORAGE

The first step in the actual mining process is the removal and storage of topsoil. Topsoil will be stored in the areas indicated on the mining application map. The topsoil will be used in reclamation. Soil stockpiles will be stabilized by a cover crop to prevent erosion and leaching of soil nutrients.

After the topsoil has been removed, the overburden will be removed. Overburden will be deposited (spoiled) proximal to the active mining area and will be redistributed upon reclamation. Topsoils and overburden will not be commingled. Removal of topsoil and overburden will commence after sediment ponds are constructed and continue through the end of active mining.

COAL EXTRACTION

The operator will mine the coal seam(s). This reserve will be mined using contour surface and auger mining methods. As the coal is exposed by removal of overburden, it will be

loaded in mine trucks for transportation to processing and loading areas.

IMPACTS TO WATERS

Impacts to waters will not occur until necessary for the mining activity. Sediment ponds will not be constructed until they are needed to maintain water quality and drainage control in the working mine area. Mining will proceed as shown on the application map. Therefore, the streams in these areas will be impacted as needed.

STREAM IMPACTS

Recovery of the site's coal resources will impact jurisdictional stream segments totaling 2,008 linear feet. These streams are unavoidable to maximize coal recovery. A discussion of practicability is provided in the antidegradation review completed for the water quality certification application and is incorporated by reference.

MITIGATION SITE SELECTION AND JUSTIFICATION

The proposed mitigation area is the mine site. Streams will be relocated while coal resources are recovered and reconstructed near their original locations when the areas are reclaimed. Therefore, stream aquatic resources will be replaced on-site. No off-site mitigation is proposed. Because the entire site will be regraded and vegetated, it is practicable to replace stream length at a 1:1 ratio. Because the post-mining land use will be grazing land, the likelihood of successfully reestablishing the appropriate stream length is good. Protection of riparian upland buffers will compensate for temporary impacts and contribute to the likelihood of success.

TIMING OF MITIGATION CONSTRUCTION

Mitigation activities will commence during the first suitable constructional planting season after the area is reclaimed and revegetated. The projected timeframe for mitigation commencement to completion is approximately 1 year after reclamation — dependent on suitable weather conditions. Stream Reconstruction Plans are located in **Appendix C**.

MITIGATION WORK PLAN

Proposed mitigation activities to off-set the temporary impacts of mining activities will primarily consist of reconstruction of the drainages during site reclamation. The pre-mining lengths of streams that are mined through will be replicated as shown in the engineering plans associate with this submittal.

STREAM DESIGN

Proposed mitigation stream channels were designed using an integrated natural channel design approach. The pre-mining conditions of the streams were evaluated for both physical (channel dimensions) and biological (habitat and riparian) characteristics. The drainage area of each stream was determined using the Application and Hydrology Map. The slopes and contributing watershed for each segment were then determined. Next, the average slope and

hydraulic length of each sub-area were determined. Runoff for the post-mining land condition was determined using the SCS method for determining peak runoff rates for a Type II storm and channel design was completed using SedCad. The channels were designed to contain the 1.5-Year, 6-hour storm event. The entire channel will accommodate the 100-Year, 6-Hour storm event. Floodplains were designed to contain these flows. With this understanding of the hydrologic behavior of the channels, riffle-pool spacing and substrate types and sizes could be determined to create stable stream geometries. This approach is similar to the design methods developed by Ohio DNR, but with the advantage of more flexibility in designing in-stream habitats based on pre-mining field conditions. Bair, Goodie and Associates, Inc. completed the stream design.

WETLAND DESIGN

No impacts to wetlands are proposed on site. No wetland mitigation is proposed.

STREAM RECONSTRUCTION

Stream reconstruction is typically one of the last stages of a mining and reclamation project. Reconstructing new stream channels will complete stream mitigation. DNRM permit does not require ephemeral stream channel design sheets. Ephemeral channels will be mitigated at a 1:1 ratio on site. The reconstructed stream channels will be located in the approximate locations of the impacted stream channels.

The proposed stream channels are multi-stage, conceptually trapezoidal in design and will be rock lined. These channels have been designed so that the rock in the channel, combined with channel dimensions, provides stabilization and sediment control while allowing for natural sediment transport. The resulting multi-stage channels allow for base flow aquatic life habitat development, active floodplain development, and a channel that should be neither aggrading nor degrading. Each channel (including floodplain) has been designed to safely pass a 100 Year-6 Hour storm event to eliminate the possibility of flooding. The rock used in the channels will be of a durable, non-toxic nature and will be appropriately sized for the stream type and predicted flows.

The pre-existing environmental/habitat conditions of streams will be restored in the following manner.

- Once the stream channel is restored, flow variations will gradually and naturally modify the stream channel (within the designed streambed) to provide changing depth, width, and channel bank slope. Riffles will also naturally develop in transitional zones.

RIPARIAN ENHANCEMENT/RE VEGETATION

Grasses planted along the stream banks will hang into the water and provide nutrients and cover for aquatic life. Trees and shrubs planted within the riparian zone will shade certain areas of the stream and create varying microclimates. As these grasses, trees and shrubs mature, their roots will infiltrate the stream bank to create additional habitats. Trees and shrubs will be planted at a rate of 600 trees per acre and at a minimum width 50 feet on

either side of the stream where any disturbance within the buffer zone has occurred. Trees not immediately adjacent to the streambed will function to improve water quality via stormwater management, filtration, wildlife habitat, and contaminant sequestration. Only native tree species will be planted.

PERFORMANCE STANDARDS

Performance standards for mitigation areas will be to attain the quality equal to or greater than the pre-mining conditions. Biologists will provide their professional opinion of the reconstructed stream functions as they relate to the pre-mining conditions. Reconstructed stream channels will be monitored annually for stability and an annual assessment of aquatic function will be determined.

SITE PROTECTION AND MAINTENANCE

Oxford Mining will be responsible for success of the mitigation areas during the monitoring period. Long-term maintenance of the site will be the responsibility of the property owner. The reconstructed streams will be identified as jurisdictional waters and will be under the same protection afforded to those watercourses prior to the mining and reclamation of the permit area. Any future disturbance would require permits from the regulatory agencies. As such, the applicant will make every attempt to preserve and protect the mitigated areas in perpetuity. Their liability and environmental stewardship, on the permit area, is relinquished once the performance requirements have been achieved as set forth in the proposed mitigation plan. The applicant does not own the land in which they are mining (only have a leasehold interest on the mineral rights); it is leased to them by private landowners and the applicant subsequently cannot require the landowner to sign off rights to their private property in the way of conservation easements and/or deed restrictions.

Maintenance of the site beyond the monitoring period is not anticipated. The proposed riparian enhancements will be self-maintaining and will improve the functions and values of the reconstructed channel. The proposed mine area was an area of low intensity land use. Low intensity land use is anticipated in this area in the foreseeable future. The mine will be used as grazing-land and pastureland. Therefore, the proposed protective measures are expected to adequately protect the constructed mitigation areas and their buffers.

MONITORING PLAN

An annual monitoring report, including data sheets and site photographs, will be submitted to the U. S. Army Corps of Engineers to fulfill permit conditions. The report will detail yearly performance of the stream mitigation areas. If, at the end of the 5-year monitoring period, the Corps and/or Ohio EPA determine the mitigation to be unsuccessful, the applicant will coordinate with the agency to determine what action should be taken to further enhance the mitigation area. Riparian/buffer plantings will also be subject to a 5-year monitoring period, in which understory growth, survivorship, and coverage will be monitored.

An annual monitoring report will be submitted to the U. S. Army Corps of Engineers and the Ohio EPA to fulfill permit conditions. The report will detail yearly performance of the mitigation site and include the following elements.

- Location: coordinates, maps
- Linear footage of Streams
- Assessment Methods
- Existing Hydrology
- Existing Vegetation: list of species onsite, species density, general age/health of vegetation, native/non-native/invasive status, map showing plant communities

ADAPTIVE MANAGEMENT

If the desired performance is not attained by the end of the 5-year monitoring period, the applicant will negotiate with the Corps appropriate actions to achieve the desired performance. This may include continued enhancement and monitoring of on-site mitigation or additional mitigation. As previously stated, the proposed reconstructed channels are designed to mimic those that existed prior to mining impacts. If channel instability is observed during the monitoring period, the watershed will be evaluated to determine the source of instability (e.g., inadequate grade control, undersized channel, etc.). When the source of instability is identified, measures will be taken to rectify the condition (e.g., channel dimension adjustments).

FINANCIAL ASSURANCES

Oxford Mining Company, LLC (Oxford) is a wholly-owned subsidiary of Oxford Resource Partners, LP (Symbol NYSE: OXF), a publicly-traded master limited partnership. Oxford is a Top 20 Domestic Coal Producer of high value steam coal, and the largest producer of surface mined coal in Ohio. Oxford focuses on acquiring steam coal reserves that can be efficiently mined with modern, large-scale equipment. The company markets coal primarily to large utilities with coal-fired, base-load scrubbed power plants under long-term coal sales contracts. It currently has 23 active surface mines that are managed as eight mining complexes. Oxford's operations also include two river terminals, strategically located in eastern Ohio and western Kentucky. During 2010, Oxford produced 7.5 million tons of coal. During 2010, the company sold 8.1 million tons of coal, including 0.7 million tons of purchased coal. OXF has a loyal, dedicated, non-union workforce of approximately 800 employees: As such, Oxford will continue to perform the required mitigation until all liability is released.

V. CLEAN WATER ACT 404 ALTERNATIVES ANALYSIS

INTRODUCTION

This document provides a 404 Alternatives Analysis for proposed surface mining activities on Oxford Mining Company's proposed Gibson mine site in Guernsey County and Noble Counties, Ohio. Alternatives considered biological and physical impacts, technical feasibility, cost effectiveness, water quality conservation, water pollution control costs, human health impacts, social and economic benefits and losses, environmental benefits and losses, and are described herein.

PROJECT OVERVIEW

The purpose of the proposed activity is to extract the No. 8 coal seam by surface mining. Coal extraction will impact onsite stream habitat. The proposed action involves mining activity that 1) clears the land of trees and other vegetation; 2) removes the topsoil and overburden; 3) removes the coal; and 4) reclaims the land. A small portion of the area has been impacted by previous mining. The site lies within Millwood Township in Guernsey County and Beaver Township, Noble County Ohio. The site is approximately 3 miles southeast of Quaker City, OH on CR-265 and is located on the south side of the road at the Guernsey/Noble county line. The site consists of undeveloped land with early successional forest traits.

PREFERRED ALTERNATIVE PROJECT IMPACTS

The proposed mining activity will impact approximately 2,008 linear feet of ephemeral and intermittent stream. No wetlands will be impacted as a result of this mining operation. Materials discharged to surface waters overlie the coal, and include shale, clay, limestone, and sandstone. The applicant has estimated that the project would result in the recovery of approximately 278,400 tons of coal.

Impacts to Streams on the proposed Gibson mine, are shown in **Appendix A**.

PROJECT BENEFITS

The proposed surface mining activity will make a substantial contribution to the coal resources needed to meet the energy demands of the public, thereby maintaining economic viability of an important local employer. The mining activity will also support the local community with jobs, ancillary spending, and tax revenues. Mitigation activities (which include reclamation to contemporary standards) within the project site will improve water quality within the watershed.

DESCRIPTION OF ALTERNATIVES

No alternate sites were considered in the following analysis because the selected site provides economical recovery of coal, an opportunity to recover a vital resource used by the nation and the state. There is no reason to believe that an alternate site would result in

decreased impacts to water quality. The proposed site also has the benefit of being located in an area of Guernsey and Noble County with a relatively low population density.

PREFERRED ALTERNATIVE

The preferred alternative is to extract the No. 8 coal seam from approximately 132 acres as described in the Ohio DNR Permit Application and the 401/404 applications. Conventional surface mining methods would be used to extract the coal, which requires removal of covering soil and rock (overburden), extraction of coal, and replacement of rock and soil to approximate original contours. This alternative considered impacts to cultural and natural resources and includes only those areas for which there is substantial economic justification. Removal of coal, as proposed, will impact approximately 2,008 linear feet of stream and no wetlands.

Description of Construction or Placement of Fill:

This alternative would impact jurisdictional unnamed tributaries within the Leatherwood Creek watershed. Approximately 2,008 linear feet of stream would be affected along with no wetland impacts. For specific stream and wetland impacts, refer to tables "USACE Jurisdictional Stream Impact Summary Table" and USACE Jurisdictional Wetland and Open Water Impact Summary Table." Materials, which would be discharged to surface waters, are those which overlie the coal and include shale, clay, limestone, and sandstone. These materials are further described in the Drilling Reports located in the ODNR Mining Permit Application. Following redistribution of overburden, stockpiled topsoil will be redistributed over the entire site.

Magnitude of Lowering Water Quality:

Impacts to the streams from the proposed mining activity are temporary and will result in no long-term lowering in water quality as these resources will be restored during the reclamation of the site. The physical and biological features of all affected streams are described in the mitigation portion of the plan. It is important to note that the reconstructed channels on site will have entirely different watershed runoff numbers and therefore need to be sized accordingly.

There are no records of endangered or threatened species in the vicinity of the project area. Therefore, none of the alternatives is likely to adversely affect endangered or threatened species. The unnamed tributaries to Leatherwood Creek do not support commercial or recreational sport fish as these streams are not large enough to support such species. Therefore, no impact to commercial or recreational fishing is expected to result from this project under any alternative.

Technical Feasibility:

As stated earlier, Oxford has considered impacts to waters of the United States, as well as other concerns and constraints. Impacts to streams, for example, were minimized to only those places required for access or erosion/sediment controls. The chosen mining alternative addressed the cost-effectiveness and technical feasibility of extracting the coal seams. In areas where overburden is too great, the cost-effectiveness of coal extraction decreases and the coal is left behind. One consideration in determining cost-effectiveness is the cost of moving equipment around objects (such as streams and wetlands). While some

small areas may not contain adequate coal reserves, it is sometimes more cost-effective to continue mining through the area to the next reserve. As proposed, the chosen mine plan (preferred alternative) is the most technically feasible and cost-effective method of coal extraction for the project area.

Social and Economic Benefits realized through this Project:

The National Mining Association considers Ohio's mining industry to be vital to the State's economy. The coal industry's current estimated total economic benefit to the state of Ohio exceeds \$3 billion. This industry provides jobs to more than 2,600 Ohioans, most of which are high paying jobs that contribute directly and indirectly to the local tax base in a depressed portion of Appalachia. Ohio, the third largest coal consuming state, produces 88% of its electricity at a fraction of the cost of other fuels.

Oxford Mining Company, while obligated to deliver coal resources that provide necessary energy for local communities, is dedicated to the preservation and enhancement of natural resources and water quality within the watershed. To meet these obligations, the company must permit adequate surface acreage with underlying coal. An important consideration in site selection is the depth of coal, which determines economical recovery by surface mining equipment. The choice of the area included in this permit application is the result of several years of consolidated exploration efforts to determine coal reserves and property acquisitions in fee or by lease to legally allow mining. As Oxford Mining Company depletes its existing permitted reserves; its continued economic viability is dependent upon permitting new areas.

Mining is a basic industry. As such, it creates jobs in ancillary businesses. Most directly, equipment suppliers and manufacturers, fuel companies, the electric service provider, and others who provide mining supplies and services will benefit. Additional employment will be created from downstream operations, including transportation, handling, and processing of the coal. The majority of these jobs will pay more than the average pay for the area. The local housing, food, clothing, and other retail businesses will benefit. Economic studies have shown that for every direct mining job, 3 to 7 ancillary jobs are created. It is obvious this operation will generate a significant amount of tax revenue for state and local governments.

The quality of the coal seams proposed for mining are good, providing ease of marketability. This quality of coal is in high demand now and should be in demand even during poor market times. Direct sale of this coal would bring a premium price. Blending of this coal with coals of poorer quality will make the poorer coals marketable at a viable price. Consequently, this coal is essential for flexibility in marketing strategy. As such, it is a key element to the financial success of Oxford Mining Company.

Affordable energy is essential to the sustained growth of the United States and to preservation of the comfortable lifestyle its citizens enjoy. Coal is currently the fuel used to generate more than half the electricity in the US. Consumers have recently experienced higher energy costs due to increasing cost of natural gas and oil. These fuels are 2-3 times more expensive than coal on a cents-per-million-BTU basis. This price disparity will increase due to the limited natural gas and oil reserves that are available to the US.

Studies have estimated the US has a 300-year reserve of coal. All of this coal can be mined within the borders of the US, decreasing dependence on foreign sources for fuel.

The economic advantages to be realized by the mining of this coal are very significant. High paying jobs will be provided for an extended period of time. The direct jobs will create additional jobs in ancillary businesses within the local area. Tax revenues will be enhanced. The financial health of Oxford Mining Company will also be enhanced.

The social benefits are also significant. Increased tax revenues to local governments relate to better roads, schools, etc. Maintaining and increasing the use of coal, as the fuel of choice, will provide the lowest possible energy cost to consumers and decrease our dependence on foreign sources of fuel. For the reasons just stated, coal is essential as a component to any national energy policy and this operation should be given a high priority for permit issuance.

Social and economic benefits from the revised minimal degradation alternative are significant. The continued successful operation of Oxford Mining Company will allow them to maintain over 900 jobs. In February 2007, the market value for coal was set at \$30-34 per ton. Under this alternative, mining will produce approximately 278,400 tons of coal. The "coal value" is therefore approximately \$8,352,000 and \$9,465,600. It is also important to realize that the vast majority of this coal value will be directly invested in the local and state economies for salaries, fuel, equipment, equipment maintenance, shipping, and materials, including seed and vegetation purchased for reclamation of the site. This coal value will secondarily be invested local restaurants, gas stations, mechanics shops, hardware stores, grocery stores, car dealerships, and housing. Oxford Mining Company is clearly a vital industry in the State of Ohio. Lost energy production may also seem inconsequential, but consider the impact of a 3-day power outage in a major metropolitan area. Every day of energy production is vital to our State.

Several taxes are assessed on each ton of coal mined within Ohio. Oxford will pay \$0.55 per ton in federal excise taxes (black lung and other various federal programs), \$0.35 per ton for reclamation of abandoned mine lands from the pre SMCRA era, and \$0.25 per ton to the State for various programs. Oxford will pay \$1.15 in state and federal taxes per each ton of coal mined from this site. Based on the estimated tonnage yield proposed within the mining application of 278,400 tons of coal removed, estimated combined state and federal tax revenue will total \$320,160 which directly funds several state a federal programs. The proposed temporary lowering of water quality is necessary to accommodate important economic development and to meet a demonstrated public need as defined in rule 3745-1-50 of the Administrative Code:

3745-1-50(11)

"Public need" means an activity or project that provides important tangible and intangible gains to society that satisfies the expressed or observed needs of the public where accrued benefits significantly outweigh reasonably foreseeable detriments.

Environmental Benefits:

Within the Permit Site substantial vegetation and substrate disturbance typical of surface mining will occur. However, this disturbance will be temporary as an extensive, phased post-mining reclamation and restoration plan has been developed that will be instituted over the life of the mine as portions of the mine are closed. The reclamation plan has been developed

with all due consideration for the local physical, environmental, and climatological conditions.

Temporary impacts are expected to occur within the study watersheds if the proposed action is approved, as land disturbance will occur on the Permit Site. These impacts will result from the potential removal of forest habitat and disturbance of streams. An extensive mining reclamation plan and stream mitigation plan have been developed to mitigate for these impacts. Stream buffers will be replanted on the Permit site. Long-term watershed impacts will be limited to forest conversion to agricultural use, which will eventually return to forest habitat. This is typical of surface mining operations within the study watersheds as this type of mining requires removing large amounts of vegetation and overburden to harvest coal seams.

No effect on endangered or threatened species is expected.

JUSTIFICATION FOR ALTERNATIVE SELECTION

Social and economic benefits from the preferred alternative are significant. The continued successful operation of Oxford Mining Company will allow them to maintain over 900 jobs. It is also important to realize that the vast majority of the coal value will be directly invested in the local and state economies for salaries, fuel, equipment, equipment maintenance, shipping, and materials, including seed and vegetation purchased for reclamation of the site. This coal value will secondarily be invested into local restaurants, gas stations, mechanics shops, hardware stores, grocery stores, car dealerships, and housing. Oxford Mining Company is clearly a vital industry in the State of Ohio.

AVOIDANCE ALTERNATIVE

As required by 404(b)(1) Guidelines, the applicant is providing an analysis of the impacts and benefits of an avoidance alternative. However, it should be noted that the economic impacts to the mining project under this alternative are significant and would likely result in abandonment of the project. Therefore, all coal resources, energy production, and tax revenues would effectively be lost under this alternative.

The avoidance alternative requires that no damage (i.e., no excavation or fill) occur to surface water quality. This alternative was very carefully examined to determine if any mining could occur on the proposed site without impacting water quality. A plan under this alternative would be to extract only the coal reserves located outside of stream buffer zones and other Waters of the US. Coal underlies the majority of the streams and wetlands and therefore the avoidance alternative is not technically feasible. It was determined that avoiding the streams would also result in the applicant not being able to mine large portions of this site. By avoiding streams onsite this also makes coal that may be augured inaccessible on site. It was determined that no cost-effective mining could occur on the project site without impacting water quality. Therefore, an avoidance alternative should be considered a no-action alternative.

Description of Construction or Placement of Fill:

Under the avoidance alternative, no fill would be placed in onsite surface waters. Streams and wetlands would be protected from runoff by diversion ditches that direct runoff to

constructed sediment ponds. To maintain a negative drainage gradient, the sediment ponds would be constructed near existing streams. It is important to keep in mind that the costs associated with mining will likely make this alternative not feasible. Under the avoidance alternative, no action would be taken.

Magnitude of Lowering Water Quality:

Under the avoidance or no action alternative, there would be no lowering in water quality associated with the mining activity because implementation of best management practices will protect water quality.

Technical Feasibility:

The avoidance alternative is not technically feasible because economical recovery of coal resources on the proposed site is impossible without affecting surface water quality. As described above, waters lie proximal to remaining coal resources in areas necessary for economical spoil storage. Transporting overburden to alternate upland sites is expensive and technical. Fuel consumption would substantially increase from longer haul distances and steeper slopes. Longer haul distances would also decrease the rate at which coal could be recovered with the same amount or type of equipment. As upland areas reached their maximum allowable spoil slopes, no more overburden could be moved in those areas. This would result in otherwise economically obtainable coal reserves being left behind.

Social and Economic Benefits:

The determination of practicability considered social and economic benefits and impacts. No social or economic benefits would be realized under this alternative. This alternative would have no benefit to tourism or recreational activities. Under avoidance or no-action alternative, 148,892 tons of coal would be lost. Under this alternative approximately \$3,885,240 to \$4,403,272 would be realized, a loss of approximately \$4,764,544. The loss of coal under this alternative will result in the projected total tax loss of \$171,226.

Environmental Benefits:

The proposed project areas consist primarily of undisturbed forests. Under this alternative, this habitat would be subject to timber harvest (at the landowner request) activities and possibly the development of agricultural fields in the lower lying areas.

MINIMIZATION ALTERNATIVE

Minimization alternatives, including avoidance of stream and wetland areas that would appear to have the least impact on the proposed mining operation, were examined in detail. Several areas have been avoided to the greatest extent practicable. Avoidance of all stream segments examined resulted in substantial losses of economically recoverable resources. These alternatives additionally impacted the economic recovery of reserves adjacent to stream and wetland areas. Included in the considerations of economical recovery were the offsets created by those reserves that have very low cover ratios. These reserves typically, as they do on the proposed site, occur in the hollows (i.e., stream valleys). By avoiding streams on portions of this site, adjacent reserves are no longer economically recoverable.

The minimization alternative eliminates the surface mining of approximately 55,638 tons of coal. While the selection of this alternative would result in a reduced impact to waters of the