

**Authorization to Proceed (ATP)**

**MAR 31 2011**

Hwy 476 Water Supply Project  
based on Environmental Assessment (EA)  
Breathitt County, Kentucky

The Office of Surface Mining Reclamation and Enforcement (OSM) has completed a review of the March 24, 2011, request for ATP with construction activity on the Hwy 476 Water Supply Project prepared by the Kentucky Department for Natural Resources, Division of Abandoned Mine Lands (DAML).

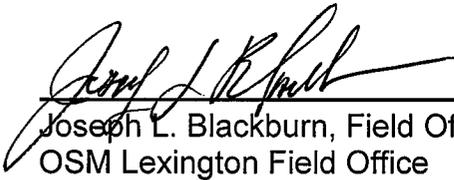
OSM found that the appropriate request documents were submitted and appear to support the need for the proposed construction activity. OSM has been assured that the required information for this project will be included in the AML Inventory System (AMLIS) for Problem Areas (PA) # KY-004111-SGA. It is not currently in the system due to recent system modifications to the AMLIS; however DAML has agreed to input the appropriate information as soon as it is available. OSM has signed approval form for the new PA #s KY-004111-SGA.

OSM reviewed the EA prepared by DAML documenting the National Environmental Policy Act (NEPA) environmental review of this project. OSM determined that the EA adequately discusses the environmental issues and impacts associated with the construction of the project. Based on the analysis in the EA, I have determined that reclamation of this abandoned mine site would not have significant effects on the quality of the human environment. Therefore, I conclude that no environmental impact statement is necessary. As a result, I have signed the Finding of No Significant Impact (FONSI) for the Hwy 476 Water Supply Project. Please give special attention to the following recommendation (s).

- Please ensure that the boring method of waterline installation is used at the creek crossings that are within this proposal. If this method is not used, please submit the modified project again to the appropriate staff to assess the need for a Water Quality Certification and/or Corps of Engineers 404 permit. LFO requests that all required permits are received before expending AML funds this project.
- Trees are not planned to be cut in this proposal, however, if at any time should trees need to be cut please refer to the Memorandum of Agreement between the DAML and the Kentucky Field Office of the U.S. Fish and Wildlife Service, which describes the type to trees that may serve as habitat for the Indiana bat. To cut trees outside of the established cutting period, a biological assessment or mist net survey will be required, and must be performed by a certified biologist.

- Please be mindful of the recommendation by the Kentucky Heritage Council and the State Historic Preservation Officer, that since a portion of the site has not had its eligibility assessed, any change in the project near site 15Br256 will require their office to be contacted.

Accordingly, pursuant to Section 5-11-20D.3 of the Federal Assistance Manual and my signature on this notification document, DAML is authorized to proceed with the construction activity for this project as described in the ATP request documents submitted by DAML for this project and further conditioned in this notification, and expend Federal funds in accordance with AML grant terms and conditions.

  
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Joseph L. Blackburn, Field Office Director  
OSM Lexington Field Office

4/01/11  
Date

## FINDING OF NO SIGNIFICANT IMPACT (FONSI)

MAR 31 2011

Hwy 476 Abandoned Mine Lands (AML)  
Water Supply Project  
Breathitt County, Kentucky

The Commonwealth of Kentucky submitted an Authorization to Proceed with Construction Activity (ATP) request for Federal AML grant funds to the Office of Surface Mining Reclamation and Enforcement (OSM) for this project. The ATP request consists of a request letter, Environmental Assessment (EA) with consultation correspondence, project description, location map, AML Inventory System (AMLIS) Problem Area (PA) Description forms, and other supporting enclosures. The project area may be centrally located on the Haddix and Noble, Kentucky U.S.G.S. 7.5 minute Topographic Quadrangle map(s) at 37° 27' 52.7" North Latitude and 83° 16' 10.8" West Longitude near the community of Hardshell, Kentucky. The project location, AML problems to be addressed and proposed reclamation activity/cost are also available at <http://www.osmre.gov> in the AMLIS under PA# KY-004111-SGA. The project involves reclamation of AML conditions consisting of PWHC at 192 sites.

OSM has thoroughly reviewed the EA prepared for this project by the Kentucky Division of Abandoned Mine Lands (DAML) and determined that it adequately discusses the environmental issues and impacts as required by the National Environmental Policy Act (NEPA) for OSM abandoned mine lands reclamation grant construction activities for authorization purposes.

Based on the analysis in the EA, I find that the construction activity performed under this project will not have significant impacts on the quality of the human environment. Therefore, I conclude that a detailed Environmental Impact Statement is unnecessary. My specific reasons are as follows:

The alternative to not fund the project would result in no favorable impacts and the adverse impacts would continue unabated. The long-term beneficial impact of the proposed action will result in the protection of the health, safety, general welfare, and property of the local citizens and other persons who may come in contact with these AML conditions. No long-term adverse impacts are anticipated. Short-term environmental impacts are limited to sedimentation, noise, and inconvenience to the local residents while the project is constructed. Sedimentation will be controlled by using silt control and prompt revegetation of the disturbed area. Noise, dust, and other inconveniences to local residents are unavoidable impacts related to construction activities.

All appropriate government agencies were consulted or their review criteria applied by agreement. As a result, it was determined that the project area does not contain or

significantly affect threatened or endangered species or their habitat, jurisdictional wetlands, cultural or historic values, prime and unique farmland values, recreational resources, or Class I air quality regions. To reduce impacts from the project, the recommendations made by the agencies consulted were considered and, as appropriate, incorporated into the EA prepared by DAML and/or as an element of their request for ATP with construction submitted for OSM authorization. The responses from agencies consulted for the National Environmental Policy Act (NEPA) review include the following comments and/or recommendations:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) identified no known federally threatened/endangered fish and wildlife within a 10 mile radius of the project area. They also identified no records of state listed species of concern within 1 mile radius of the project area. They recommended that the erosion control measures that were included in the proposal are implemented and maintained throughout the life of the project.

The DAML staff biologist reviewed the Kentucky State Nature Preserves Commission's (KSNPC) BIOTICS database in lieu of further consultation. The findings are noted in the ATP request letter and an attached memorandum. DAML found that KSNPC data indicated one federally listed threatened or endangered species within a 10-mile radius and eight species of State concern within a 1-mile radius of the project. DAML listed and discussed these species in the biologist's memorandum, the EA, and their ATP request letter, finding that the noted species will not be impacted, since the project will not result in a significant negative impact to their critical habitat and/or suitable habitat does not exist within the project area to support the species. No reason was identified to dispute their determination.

The DAML Biologist also noted that the federally listed endangered Indiana bat, although three summer mist net records have been found within 10-20 miles of the project vicinity; would not be disturbed by the project. This is based on the fact that the project proposes to disturb no mine portals, cliffs, or caves, and proposes no disturbance of forested areas that could be utilized as roosting sites and in the event that any trees that represent potential Indiana bat habitat need to be removed, removal will only occur between October 15 and March 31 to avoid potential impacts to the Indiana bat. The DAML staff biologist also states that, since tree clearing is not anticipated within this water supply project, the construction should not negatively impact the Indiana bat.

In a meeting held in February 2010 between LFO, USFWS Kentucky Field Office (KFO) and DAML; Steve Hohmann, Director of DAML, offered to coordinate NEPA consultation with the KFO of the USFWS in Frankfort, Kentucky, utilizing the

agreements in the September 18, 2009, Memorandum of Agreement (MOA) signed by the OSM, LFO and USFWS, KFO. This document outlined the acceptable conditions that the projects potential impacts can have where the KFO will not need to be further consulted for comment. When the conditions within the agreement are present, processing of the ATP may proceed with the confidence that the biological environment is being protected. It was agreed to by all parties, acknowledging that LFO would retain the final review to determine if the NEPA documentation is complete.

After review of the ATP documents for this project, which included consultation with the KSNPC and the KDFWR, DAML determined that additional consultation with the USFWS is not required because the proposed project will not adversely affect a federally listed species (Federal Assistance Manual (FAM) Chapter 5-11-15, A. 3.)

The conditions in the MOA are met because:

- There will be no purposeful removal of standing trees larger than 5 inches diameter at breast height or standing snags with loose bark that are 9 inch or greater diameter at breast height and at least 10 feet in height, during the period of April 1 to October 14, and the proposed activity does not occur in "Known Indiana Bat Habitat".
- No caves or clifflines will be disturbed;
- No purposeful filling or crossing of streams using heavy equipment or the removal of riparian vegetation using heavy equipment within the Tradewater, lower Ohio, Upper Cumberland, Green, and Licking River basins.
- In order to avoid/reduce indirect impacts, erosion and sediment control plans will be implemented and monitored until permanent vegetation has become established in the above listed watersheds and all other watersheds as may be appropriate.

With the specifics of the proposal meeting the criteria set out in the MOA, OSM agrees with DAML's determination that the proposed project would not adversely impact the species if these conditions are present. With this information, they found the requirements of Section 7 of the Endangered Species Act have been fulfilled.

The Kentucky Office of State Archaeology (KOSA) found that their records did indicate any known archaeological sites directly in the project area, although 10% of the waterline proposal passes through areas that have had a systematic archaeological

survey. The remaining portion of the project has not had an archaeological survey and KOSA states that they have insufficient information to determine the likelihood that archaeological sites may be present or potentially impacted by construction of the water supply. They recommended coordination with the State Historic Preservation Officer (SHPO) before beginning construction activities. The Kentucky Heritage Council and SHPO were contacted for this project and their response was based on a survey of the project area. The survey yielded one new archaeological site identified as "15Br256". DAML also has a Programmatic Agreement signed on January 3, 2011, by the KHC, SHPO and the DAML. This agreement identifies the criteria to be used to determine which projects are exempt from review by the. The agreement defines exempt projects as:

*"Routine and recurring projects whose impacts are foreseeable and cause little or no ground disturbance or that have a low probability of affecting known or unknown historic properties."*

The definition also includes a list of areas that fit the above definition. They are listed below.

1. Activities that occur on previously disturbed land, including highwalls, refuse piles; slurry cells, subsidence areas, mine benches, mine portals with no constructed entry support, and any coal mining remains less than 50 years of age, including tipples, other structures, intact rail tracks, and mining equipment.
2. Roads and roadside ditches.
3. Areas disturbed by timber operations.
4. Areas disturbed by gas and oil well development.
5. Areas disturbed by residential and commercial development.
6. Areas with water flows from mine discharges.
7. Trenches excavated for waterline installation in previously disturbed soils."

According to the ATP request and project description, the proposal "would appear to be exempt under the Programmatic Agreement. This is based on the majority of the proposal being in previously disturbed land such as roads and roadside ditches, and areas disturbed by residential and commercial development. However, the survey was deemed necessary because the project area did not fully fit the Programmatic Agreement criteria, or the project area had been previously surveyed. The survey conducted by the KHC did identify one new site; however, with this discovery they concluded that the project will have "No Adverse Effect" to the portion of the site within the project area. This fulfills the responsibility to consult with the SHPO under the Section 106 review process. Neither agency recommended conducting archeological surveys/investigations or mitigation measures.

Environmental and Public Protection Cabinet (EPPC) (changed to the Environment and Energy Cabinet (EEC) in July 2008) Secretary order dated December 12, 2006, transferred authority for issuance of Clean Water Act (CWA) Section 401 Water Quality Certifications (WQC) associated with surface coal mine operations, to include any reclamation projects proposed by the DAML, to the Kentucky Department for Natural Resources (DNR) DNR. DNR assigned this responsibility to their Division of Mine Permits (DMP). The DMP further delegated this responsibility to DAML, with consultation as needed on a case by case basis. In addition, the DAML Director in a meeting held in

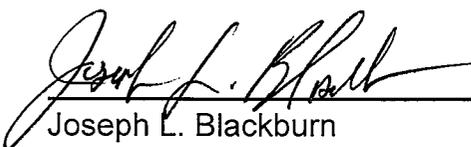
February 2010, offered and agreed to coordinate consultation with the U.S. Army Corps of Engineers (COE) concerning CWA 404 permits, as DAML had been doing without an agreement in the past. OSM LFO accepted DAML's offer to conduct this consultation.

Under a 2005 agreement with the DOW Floodplain Management Section (FMS) of the Water Resources Branch, DOW authorized DAML to apply DOW floodplain standards in lieu of a DOW review. In this agreement, DAML will directly consult with DOW if it appears a permit may be required. DAML has acquired a set of Federal Emergency Management Agency (FEMA) floodplain maps that include the project area.

As a result, DAML applies each responsible agency's criteria by agreement or physically consults with the DMP and DOW concerning CWA 401 WQC and floodplain permits to "Construct Across or Along a Stream", and with the COE concerning CWA 404 permits. This review has been centralized with DAML's Design Branch, whose staff has previous experience in this area and with the Kentucky DOW. DAML determined from the written description that the project does not impact a stream, wetland, or floodplain that requires a 401 WQC, or a 404 CWA permit; due to the use of the boring method of waterline installation used in this project. However, after reviewing the proposal, it has been determined that a DOW floodplain permit is required.

  
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OSM Environmental Reviewer  
AML Program Specialist

*FOR COREY MILLER*    4-1-11  
\_\_\_\_\_  
Date

  
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Joseph L. Blackburn  
Field Office Director

4/1/11  
\_\_\_\_\_  
Date

Memorandum

Date: April 1, 2011

To: Hwy 476 Abandoned Mine Land (AML) Water Supply Project File  
SubAccount# 99.101040000

From: Corey Miller, Program Specialist  
Lexington Field Office (LFO), Program Support Branch (PSB)

Subject: Review of "Authorization to Proceed" (ATP) Request

The Branch recommends that the Field Office Director (FOD) authorize the State of Kentucky to proceed with the construction activity proposed on the Hwy 476 AML Water Supply Project. The Branch prepared an ATP letter, Problem Area (PA) approval forms, as required by OSM Directive AML-1-2 (signed June 22, 2007), and Finding of No Significant Impact (FONSI) for the FOD review. The Branch recommends that the FOD sign the FONSI, PA approval forms, and ATP in the space provided on each document. The original signed ATP letter will be sent to the Division of Abandoned Mine Lands (DAML) Director, along with associated approval documents consisting of a copy of the LFO review memorandum, and PA approval forms and FONSI. A scanned copy of these authorization documents will be attached to an email to the Department for Natural Resources (DNR) Commissioner.

The Kentucky DAML ATP request dated March 24, 2011, was received at LFO attached to an email on March 24, 2011. The ATP was processed within 6 working days; therefore, the customer service target of 14 working days to process an ATP was met. The ATP was processed in 8 calendar days; therefore, the Federal employee performance appraisal standard of 30 calendar days to process an ATP was met.

DAML did not designate a funding source under the budget category entitled Project Costs (Non-Water Supply) of any of Kentucky's AML Annual Construction Grants (ACG). In previous discussions, DNR indicated they would assign projects to a grant before they go to construction. Until a final AG and Location Code are assigned the LFO Project/Site ID # 99.101040000 was assigned to the project file for LFO tracking purposes until actual AG and Location Code numbers are assigned by DAML and can be inserted in the appropriate positions at the beginning and end of the LFO Project #. No bid advertisement, bid opening, or construction completion dates were provided by DAML in the ATP request letter, therefore I inserted dates in the database based on the ATP request letter stating that these activities will occur as soon as possible. The following proposed dates were assigned and entered by LFO for database tracking purposes: Bid Advertisement Date was entered as April 15, 2011, Contract Award was entered as May 15, 2011, and Contract/Construction Completion was entered as October 1, 2011.

An office review of the request documents was conducted. The documents consisted of; a project description, a location map, water quality sampling analysis, a National Environmental Policy Act (NEPA) review documented in an Environmental Assessment (EA) with agency consultation response letters attached; and an Abandoned Mine Land Inventory System (AMLIS) Problem Area Description (PAD) summary and appropriate Priority Documentation Forms, with engineer cost estimates and reference to a water supply study, for PA#s KY-004111-SGA.

A pre-approval field inspection of the proposed project was deemed unnecessary, since no unique characteristics warranting special field verification were noted and it wasn't selected for field verification under the EY 2011 Oversight Agreement.

The EA submitted for the construction activity at the site was reviewed and found to adequately document the environmental review of the construction activity within the current NEPA review guidance.

No significant impacts have been reported to this office or identified by the Branch. The Branch recommends that the Office of Surface Mining Reclamation and Enforcement (OSM) accept the EA submitted by the Kentucky DAML. The EA prepared by the State and the State's ATP request letter summarized the responses from agencies consulted for the NEPA review and discussed appropriate resolution of all their concerns and recommendations. The responses from agencies consulted for the NEPA review are summarized in the FONSI prepared by OSM for the EA:

The comments from the Kentucky State Clearinghouse, Kentucky's "Single Point of Contact" (SPOC) pertaining to AML Non-Water Supply projects included no comments that affect this proposal. The information to update PA #KY-4111-SGA will be directly input into the AMLIS by the DAML once the e-AMLIS system is operational, according to the ATP request document. PA # KY-4111-SGA represents a "new Problem Area" requiring FOD approval under OSM Directive AML-1-2 (signed June 22, 2007). A FOD approval form was prepared for the PA and submitted for FOD signature. The signed form will be kept on file at LFO and a copy will be transmitted to DAML as an enclosure with their copy of the ATP letter.

# Hwy 476 AML Waterline Supply Project

## Breathitt County

### Environmental Assessment

#### A. Description of the Proposed Action:

The Kentucky Division of Abandoned Mine Lands (AML) proposes to provide 192 residences with a public water supply, by constructing approximately 126,488' of new water service lines that stretches from the Haddix and Noble, Kentucky 7.5' United States Geological Survey (USGS) quadrangles at 37° 27' 52.7", 83° 16 10.8" north latitude to 37° 27' 38", 83° 9' 23" west longitude. The federal Office of Surface Mining (OSM) has requested that all water supply project proposals include an environmental assessment.

#### B. Need for the Proposed Action:

Poor quality well water threatens the health of anyone who drinks it. The problems proposed to be mitigated by this project are rated as Priority 2. The problems are further described in the priority documentation form for national AML inventory problem area KY 4111-SGA.

#### C. Alternatives Considered:

1. Extend existing public waterlines, to replace groundwater wells contaminated or destroyed by previous mining.
2. Drill wells and/or provide and maintain cisterns.
3. Take no action, allowing the human health hazards to continue.

#### C.1. Preferred Alternative:

An AML-funded ground water study for several areas in Breathitt County, (see the attached map) has shown that groundwater in portions of the area are degraded primarily due to pre-law coal mine operations. As a result, portions of the study areas are eligible for AML expenditures to abate the problems.

The project consists of providing full municipal water service to approximately 192 residences. Approximately 126,488' of water-supply pipe will be installed, with diameters ranging from 3/4" to 8". Pipes will be installed in previously disturbed ditches and shoulders of public road rights-of-way. A creek crossing and river crossing will be performed using the directional boring method. Meters and service lines will primarily be located in residential yards. All of the project areas have no forest areas to be cleared.

**C.2. Drilled Wells:**

Should the Commonwealth drill wells and/or provide and maintain cisterns, the cost would be prohibitive, and encountering a good water source by drilling in an area already disturbed by mining is unlikely.

**C.3. No Action:**

Should the Commonwealth take no action, people drinking well water contaminated by pre-law mining, or drinking contaminated water from other sources after their well was destroyed by pre-law mining, could suffer from health problems.

**D. Affected Environment:**

**D.1. General Setting:**

The predominant land uses in the vicinity are residential, commercial (small businesses), agricultural, and forestland. Second growth, unmanaged upland hardwood forest and coal mines are on the steep slopes.

**D.2. Affected Resources:**

Resources that could, but will not, be negatively affected by the proposed project include:

- Historic/Cultural
- Fish and Wildlife/Plants
- Soils
- Agricultural
- Recreation
- Small Business Use
- Air Quality
- Noise
- Topography
- Other (Socioeconomic or Political)

The following agencies and databases were consulted to identify resources that may occur in the project vicinity:

- Kentucky Department of Fish and Wildlife Resources (KDFWR)
- Kentucky Division of Mine Permits (KDMP) floodplain database
- Kentucky Heritage Council (KHC)
- Kentucky Office of State Archaeology (OSA)
- Kentucky State Nature Preserves Commission (KSNPC) BIOTICS database

Replies from these agencies and a memo addressing the KSNPC database search are attached.

**E. Environmental Impacts of the Proposed Alternative:**

The following resources will not be significantly impacted by reclamation activities using the preferred alternative:

- Historic/Cultural Resources
- Fish and Wildlife/Plants
- Soils
- Agricultural
- Recreation
- Small Business Use
- Air Quality
- Noise
- Topography
- Other (Socioeconomic or Political)

The proposed project will not adversely impact low income or minority persons. Development of an area for residential and business uses usually increases after a public water supply is available, especially for locations with existing poor quality and quantity well water, which may result in more jobs available. Due to the proposed disturbances to install water lines in drainage ditches and right-of-way property along roads, in residential yards, and at stream crossings, hydrology will be discussed. Due to the possible occurrence of eight species monitored by the Kentucky State Nature Preserves Commission (KSNPC), fish and wildlife/plants will be discussed. Due to an archaeological survey that was performed at the tank and pump sites, archaeology will be discussed.

**E.1.a. Hydrology:**

A formulated erosion, sediment, and drainage control plan will be implemented during construction, to minimize sedimentation of receiving streams. This plan includes hay-bale silt checks and silt fences maintained throughout the life of the project, and prompt vegetation of disturbed areas, especially at and near stream crossings. The completed project will provide non-eroding drainage controls and a vigorous, complete cover of perennial vegetation, which will result in the same or less stream sedimentation after project construction. The disturbance of sediments and resulting turbidity in streams will be limited to those found during heavy storm events. Therefore, the hydrology of the project areas and downstream areas should not suffer long-term negative impacts due to construction of this project.

As indicated in the attached email dated March 8, 2011, a floodplain permit will be required. Because the waterlines are to be installed subsurface and the creek

and river crossings will be performed using the directional boring method, no COE permit or WQC will be required. The engineers and/or contractors retained for this project are required to obtain all necessary permits. This Division will not fund this project until all required permits and authorizations are received.

**E.1.b. Fish and Wildlife/Plants:**

AML personnel searched the KSNPC BIOTICS database in order to determine if any species that are monitored by the KSNPC are known to occur within the near vicinity (a 1-mile radius) of the project site, and if any federally-listed threatened and endangered species are known to occur within the general area (a 10-mile radius) of the project site. This search revealed eight species of state concern monitored by the KSNPC are known to occur within one mile of the project site and one species listed as Threatened and Endangered under the United States Endangered Species Act (USES A) are known to exist within ten miles of the project site. The species noted in the search are:

KSNPC species found within 1 mile from the project sites:

- Kentucky Arrow Darter (*Etheostoma sagitta spilotum*)
- Mountain Maple (*Acer spicatum*)
- Coal Skink (*Eumeces anthracinus*)
- Sharp-shinned Hawk (*Accipiter striatus*)
- Rafinesque's Big-eared Bat (*Coryhorhinus rafinesquii*)
- Indiana Bat (*Myotis sodalist*)
- Evening Bat (*Nycticeius humeralis*)

USES A listed species found within 10 miles from the project site:

- Indiana Bat (*Myotis sodalist*)

The attached memorandum by Keith B. Coleman, dated March 8, 2011, indicates that none of these species should be negatively impacted. Since tree clearing is not anticipated within the water supply project area, none of the listed bat species should be negatively impacted regardless of the timing of the construction. See the attached KSNPC database search summary for more information.

KY HWY 476 WSP - KSNPC response 3.8.11.pdf

**E.1.c. Archaeology:**

An archaeological survey was performed for the pump and tank sites and was sent to KHC for their review of the report on February 28, 2011. By the writing of this EA, March 24, 2011, no corresponded from KHC has been received. The sites are located in previously disturbed yards and no archaeological resources were

identified in the report. Under the Programmatic Agreement between AML and KHC, the sites would be exempt due to the previous disturbance. The Programmatic Agreement also indicates that if AML receives no comments from KHC within 30 days, AML may proceed with project work and assume KHC concurrence.

**E.1.d. Cumulative Environmental Impact:**

No significant environmental impacts should occur as a result of construction of the preferred alternative in the watersheds where the proposed construction sites are located. No previous AML projects have been found to significantly negatively impact the environment- the projects are designed to reclaim human safety problems where the land has been disturbed by abandoned coal mining, with insignificant negative environmental impacts during and after these reclamation projects. Therefore, as neither previous projects, nor the proposed alternative, will have any significant impact upon the environment within these watersheds, there will be no cumulative negative impact as a result of the construction of this proposed AML project.

**E.2. Drilling Wells Alternative:**

**E.2.a. Hydrology:**

Drilling wells and/or providing and maintaining cisterns is unlikely to significantly change existing hydrologic conditions.

**E.2.b. Fish and Wildlife/Plants:**

Drilling wells and/or providing and maintaining cisterns is unlikely to significantly change the habitats for existing plant and animal species.

**E.2.c. Archaeology:**

Drilling wells and/or providing and maintaining cisterns is unlikely to disturb archaeological resources.

**E.3. No Action Option:**

**E.3.a. Hydrology:**

If the Commonwealth takes no action, existing hydrologic conditions would remain unchanged.

**E.3.b. Fish and Wildlife/Plants:**

If the Commonwealth takes no action, existing plant and animal species would remain unchanged.

**E.3.c. Archaeology:**

If the Commonwealth takes no action, any archaeological resources would remain undisturbed.

**F. Summary:**

The Commonwealth considered three options:

1. Extend public waterlines to replace wells damaged by pre-law mining.
2. Drill wells and/or provide and maintain cisterns.
3. Take no action.

The first option was selected due to its overall advantages.

**G. Consultations:**

The following agencies and databases were consulted prior to preparation of this document:

- Kentucky Department of Fish and Wildlife Resources (KDFWR)
- Kentucky Division of Mine Permits (KDMP) floodplain database
- Kentucky Heritage Council (KHC)
- Kentucky Office of State Archaeology (OSA)
- Kentucky State Nature Preserves Commission (KSNPC) BIOTICS database

**H. Preparers/Reviewers:**

Kentucky Division of Abandoned Mine Lands Personnel:

- Jeff Ruebens, Environmental Technologist III
- Keith Coleman, Environmental Technician III
- Ryan Howell, Environmental Control Supervisor
- Bill Overman, Program Development Branch Manager

• Steve Hohmann 3/24/11  
Steve Hohmann, Director Date