Impacts of Reclamation and Remining on Watersheds of Pre-Law Legacy Coal Mines

Final Report for Phase I - Part II - Advancing Ohio’s Remining Program

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The genesis for this report and support for Ohio’s Remining Program came from the primary project researcher of this study, Robert Baker, who spent his entire professional career in the mining and reclamation arena. Mr. Baker, who retired from the State of Ohio in 2005, was hired by OSU as a project researcher on various mining and reclamation projects. This study was conceptualized while Mr. Baker was employed by the State of Ohio, Division of Mineral Resources Management (DMRM), as a part time employee tasked with re-energizing Ohio’s Remining Program in 2009. Mr. Baker worked approximately 1,000 hours focusing his efforts on further developing Ohio’s Remining Program. Approval for OSU to proceed with a full proposal for funding came from Professor William Wolfe, Ph.D., P.E., in 2010, a professor in the OSU’s Department of Civil, Environmental, & Geodetic Engineering. In addition, administrative direction and support came from Tarunjit Butalia, Ph.D., P.E., and a project researcher at OSU, who serves as the project’s Principal Investigator.

In Part II OSU researchers received excellent support from staff at the DMRM that included, former Chief, John Husted, current Chief, Lanny Erdos, and hydrologists Cheryl Socotch and Mike Dillman. Ohio’s Remining Task Force (RTF) served an important role, as a sounding board and audience for interim reports, comments on the scope of work for the proposed Phase II study, and were the focus of the Phase I Part II “Advancing Ohio’s Remining Program.”

Phase I part II focused on the program aspect of the study which provided assistance to Ohio’s RTF where numerous program objectives were developed and completed through OSU’s close participation in the leadership role of the task force. One of the most notable goals achieved was the Division’s creation of a full time “remining coordinator” position. Cheryl Socotch, a long time experienced employee in both regulatory and AML programs accepted this position in the summer of 2012. However, sadly Cheryl passed away in 2014. Numerous other administrative program objectives achieved or in progress are outlined in the companion report. The goals and objectives of the task force are aligned with OSU’s goals in participating in this phase of the approved study. Significant progress on the program elements has occurred, but there still remains much to be accomplished. It is apparent to OSU researchers, that the visibility and effectiveness of Ohio’s Remining Program has been elevated as a result of OSU’s work on both Part I and Part II of this study, and we look forward to our continued participation in this program area.
EXECUTIVE SUMMARY

Since the passage of modern coal mining laws over 38 years ago in Ohio, remining has played an important role in watershed restoration, however, this restoration activity has not been well documented in the state. In recent years coal mine permitting has become increasingly more difficult especially with the regulatory reviews associated with obtaining federal and state water quality permits (i.e. Section 401, 402, and 404 permits) as well as the increasingly more stringent federal Surface Mining Control and Reclamation Act (SMCRA) regulations and state of Ohio O.R.C. 1513 coal mine laws. Studying the impact remining has had on a watershed basis is important and unprecedented in Ohio, and can serve as valuable background information for regulators involved in permitting activities as well as for the general public. It is also important for the Division of Mineral Resources Management (DMRM) to effectively administer the remining program and provide for a seamless permitting system that facilitates remining of coal reserves and reclaims previously affected abandoned mined areas. During Phase I, Part II OSU researchers provided program support to the DMRM to advance Ohio’s Remining Program. A primary focus for this advancement of program issues centered on participation and advancement of program issues through Ohio’s Remining Task Force, created by the Chief of DMRM.

During remining operations, acid-forming materials are removed or buried concurrently with the extraction of coal reserves; pollution abatement best management practices (BMPs) are implemented according to applicable regulatory requirements; dangerous highwalls are eliminated; and exposed spoils are graded and revegetated resulting in the reclamation of the abandoned mined land (AML). Furthermore the implementation of appropriate BMPs during remining can be effective at improving the water quality of, or eliminating completely, pre-existing mine drainage (often referred to as acid mine drainage). Many of the problems associated with AML have been historically remediated with public funds, but through the remining process, mining companies reclaim AML sites as part of their normal mining and reclamation operations. Not only does remining save public funds but it generates federal, state and local taxes and creates high paying jobs within some of the poorest counties in southeastern Ohio. It should be noted that coal mining provides a large portion of the tax base for the schools in many of the counties in which mining operations are based.
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1. INTRODUCTION

1.1 Regulatory Environment

As a result of increased environmental awareness and public concern, in 1972 Ohio enacted a comprehensive strip mine law which at the time was the most stringent in the country. As a part of this reclamation law, disturbed ground had to be reclaimed to its approximate original contour, mimicking the pre-mining surface, and be capable of supporting land uses equal to or higher than those existing prior to mining. Ohio’s 1972 updated strip mine law ushered in modern mining laws in the U.S., culminating in Congress passing the federal SMCRA of 1977. One of the stated goals was the reclamation of abandoned mine land (AML) sites present prior to enactment of SMCRA. Many coal mines were left in an abandoned condition and continued to degrade the environment and pose health and safety risks to the public.

The Ohio legislature also created the Board on Unreclaimed Strip Mine Lands in the 1972 Ohio Strip Mine Law. One of the first acts of this Board was to commission the “Land Reborn Study.” It identified watersheds impacted by the legacy mining operations in the state and reported its findings to the state legislature. The environmental impacts and challenges facing the State of Ohio from this pre-1972 mining were thoroughly documented. This study has not been updated since its publication in 1974. One of the most endemic problems generated from these AML sites is the transport of spoil materials and mine drainage off site through local drain ways and streams. Ohio EPA and DMRM consider acid mine drainage and sediment originating from AML sites a major problem in eastern Ohio. These agencies also recognize that one of the most successful means for the restoration of AML sites is for coal mining companies to remine these sites by extracting the remaining coal reserves and reclaim the land. Finally, Ohio EPA and DMRM realize that if AML sites go unreclaimed while coal mining operations are conducted on adjacent areas, a time-critical opportunity for reclamation is lost.

Coal remining is defined in the law as the mining of surface mine lands, underground mine lands, and coal refuse piles that were abandoned prior to the enactment of SMCRA in 1977. During remining operations, acid-forming materials are removed or buried concurrently with the extraction of coal reserves; pollution abatement best management practices (BMPs) are implemented according to applicable regulatory requirements; dangerous highwalls are
eliminated; and exposed spoils are graded and revegetated resulting in the reclamation of the AML site. Furthermore the implementation of appropriate BMPs during remining can be effective at improving the water quality of, or eliminating completely, pre-existing mine drainage (often referred to as acid mine drainage). Many of the problems associated with AML have been historically remediated with public funds, but through the remining process, mining companies reclaim AML sites as part of their normal mining and reclamation operations.

DMRM is in the process of updating its rules and policies in response to Federal Regulatory Rules promulgation that occurred in 2003. In addition, DMRM is evaluating methods to increase the coal mining industry’s participation in remining through enhanced incentives. The coal mining industry has seen increased involvement by federal and state agencies in the permitting of surface coal mines. This involvement stems from the enhanced review process implemented by the US Environmental Protection Agency (USEPA) and the US Army Corp of Engineers (USACE) over the issuance of Clean Water Act (CWA) Section 401, 402, and 404 permits associated with mining. Coal remining provides an incentive for these agencies and the coal industry to work together in the cleanup of legacy AML sites while meeting the compensatory mitigation goals of the CWA. Currently, coal remining represents a significant percentage of surface mine applications being submitted in Ohio.

1.2 Project Approach

This report was generated as Phase I of a proposed two phased project conducted by OSU in cooperation with DMRM, the Ohio Coal Association and various coal industry leaders. The Phase I study was conducted in two distinct parts with unique goals associated with each. Part I involves a preliminary assessment of remining activities in Duck Creek watershed and will be issued as a companion report. The Part I report will establish the baseline conditions that we found to be present in the Duck Creek Watershed prior to the advent of the modern day mining activities. It will also preserve the historical record of the pre 1972 conditions recorded in various reports and scanned or preserved as a digital record. In addition, the Best Management Practices (BMPs) utilized by the coal remining operations will be described along with their impact on the watershed. Part II focused on advancing Ohio’s Remining Program, and is the subject of this report. In this activity, OSU researchers participated and assisted DMRM in advancing Ohio’s Remining Program. This assistance included leadership participation in Ohio’s RTF and its subcommittees and the development and implementation of numerous program objectives.
The completion of both the Phase I and a proposed but unfunded Phase II study will provide valuable information to regulatory agencies involved in the review; approval and maintenance of surface coal mine permits. The following tasks were undertaken or deferred as indicated:

Part 1: Duck Creek Watershed Study (see companion report Phase I Part I companion report Task 1-9)

Part II: Advancing Ohio Remining Issues (Task 10-13)

Task 10 - Participate in RTF meetings, scheduled by the DMRM, including appropriate sub-committees established by the RTF to update and develop DMRM remining policies and procedures.
Task 11 - Propose to RTF other remining incentives that may facilitate reclamation of AML lands.
Task 12 - Review proposed remining projects in the field with DMRM staff and coal applicants and consultants.
Task 13 - Conduct outreach activities
2. BACKGROUND

2.1 Pre Modern Coal Mining and Reclamation

According to the Ohio’s Division of Geological Survey (OGS) coal has been mined Ohio since 1800. Since 1800, 3.6 billion tons of coal have been mined; 1.4 billion from surface mining and 2.2 billion from underground mines. (GeoFacts No. 14, ODNR, OGS). Surface mining was first reported in 1810 in Summit County. The early surface mines excavated coal veins exposed on the outcrop of hillsides. Surface mining increased to meet the demands for fuel during WWI. By 1948, surface mining had become the dominate method of coal extraction until 1995 when surpassed by underground mining. By necessity, surface land is disturbed in the process of mining, where topsoil, subsoil, and overburden, rock layers above the coal are removed to access and remove the coal reserve. This material following excavation is called mine spoil and the floor of the excavation is called the pit or bench, and the end point of the excavation a highwall. The highwalls are near vertical cliffs and generally range from 30 - 90 feet in height. AML sites can vary in size from a few acres to hundreds of acres with far reaching impacts in terms of ecological and environmental damage, resulting in streams filled with sediment, acid mine drainage, landslides, and subsidence. (GeoFacts No. 15, ODNR, Division of Geological Survey)

Before mining takes place, a surface mining permit (O.R.C. 1513) must be obtained from the DMRM, (formally known as the Division of Reclamation). Until 1947 surface mining was unregulated in Ohio and coal companies were not required to reclaim the land following mining. During this era, reclamation was not considered to be practical from an economic perspective since the price of coal delivered to market did not support reclamation activities. In 1949 the Division of Reclamation was created and was coupled with the Ohio Division of Forestry until 1973. During this time, reforestation was the main focus of reclamation. From 1949 until 1972, Ohio’s mining law was amended several times. Although the laws and amendments were an improvement they were still ineffective in preventing pollution to the waters of the state and in restoring the land to a higher or equal land use prior to mining. A law revision in 1965 created the first series of permits that were labeled A-permits. Areas affected prior to the 1965 amendments were labeled pre-A permits. Although, the amendments generally required the areas to be reforested, highwalls generally remained. The A-law amendments, however, did require pits to be filled in and some drainage provided.
2.2 Modern Mining and Reclamation

In 1972, Ohio passed the most stringent and rigorous surface mine law in the country. This law required mine operators to save topsoil, backfill highwalls, control runoff, reclaim and revegetate all affected areas, and minimize impacts to the hydrologic regime. The coal permits issued during this period were labeled B-permits. The legislation also created the “Board on Unreclaimed Strip Mines” which immediately commissioned a study to assess the impact past mining had on Ohio’s coal mine regions prior to 1972. This report was titled “Land Reborn,” (Skelly and Loy Engineering and Consultants, 1974) and together with the associated technical report presented a comprehensive benchmark of the state of the land and waters impacted by past unregulated mining. (Contact ODNR, DMRM for access to those reports).

This 1972 Ohio law served as one of the models for the national legislation SMCRA in 1977. This legislation required states with coal mining operations to meet or exceed the federal standards of reclamation or face federal takeover of their respective mining programs. Ohio received primacy from the SMCRA regulatory authority, the Office of Surface Mining and Reclamation Enforcement( OSMRE) in 1979, and the permits issued after that time were labeled C- permits. In the early 1980’s administrative updates of the federal rules and other changes mandated on the states required states to change and update regulations ushering in the D permits in Ohio.

After receiving primacy each state program became eligible to receive federal grants to correct the problems and impacts from past mining practices in their state. This program is titled “The AML Program”, and has been operating effectively in Ohio since 1979. Ohio coal operators pay federal reclamation fees of 35 cents per ton for surface coal mining and 15 cents per ton for underground and state severance taxes of 12 cents per ton. These funds provide support for grants from the OSMRE to the states to operate and fund their abandoned mined land and regulatory mining programs, and a state administered abandoned mined land program.
3. **PART II - REMINING BACKGROUND**

3.1 **Introduction**

Remining in Ohio began in 1972 when Ohio passed one of the nation’s most stringent strip mine laws. As coal reserves in previously unmined areas decrease, the trend in Ohio has been to conduct secondary recovery operations at unreclaimed mine sites. It is generally accepted that remining of these lands has provided many benefits to both the aquatic and terrestrial ecologies of the coal regions throughout Ohio. In addition, many dangers to the public’s health and safety have been eliminated by remining operations.

3.2 **Studies**

- A study conducted by Skelly and Loy Engineers for the State of Ohio Board on Unreclaimed Strip Mine Lands in 1974 indicated a total of 370,000 acres or 5.2% of the coalfields had been disturbed by strip mining and were inadequately reclaimed using today’s modern mining standards. In addition 1,200 acres of coal refuse from underground mines were also identified during the study. In 60 of the 79 watersheds surveyed the pollution loading calculations revealed that nearly 1.1 million pounds per day of acidity, 0.37 million pounds per day of iron, and 7 million pounds per day of sulfates in excess of acceptable levels were being produced at the time. The study recognized that numerous watershed studies in the Appalachian coal fields have placed underground mine contributions of AMD at 75% of the total amount of pollutants produced in the bituminous coal fields. Underground and strip mine drainages are often interrelated, and it is usually difficult to distinguish which source is causing pollution without intensive study.

- ODNR, Division of Geological Survey - Since 1800, 3.7 billion tons of coal have been mined in Ohio. This tonnage consists of 2.3 billion from underground mines and 1.4 billion from surface mines. In 1898, there were 1,155 underground mines operating in Ohio compared to 7 in 2003. (GeoFacts No. 14)

- One study of particular note was conducted by Pennsylvania in 2002 titled “Effectiveness of Pennsylvania’s Remining Program in Abating Abandoned Mine Drainage: Water
Quality Impacts.”. The combined impact of remining on the 110 study sites was to reduce acidity loadings by 61% or 15,916 lbs./day; over one year the annual acid load was reduced by approximately 6 million pounds.

- OSU has recently embarked upon a remining study in Ohio titled “A Closer Look at Coal Remining: A Review of Duck Creek Watershed and Remining’s Role on Mitigating the Impacts from Pre-law Legacy Mining in Ohio” (part I companion report). A review of historic water quality data compared to more recent data and case studies has shown significant water quality improvements in the watershed over a 30 year time period. These preliminary findings are supported by the OEPA’s TMDL final report for Duck Creek (see Part I companion report). The major factors contributing to this improvement are remining, construction of AML projects, and natural amelioration or attenuation. Although, at this time it is difficult to assign percentages to the three factors, it is clear from the preliminary findings that remining has played a major role in the watershed’s recovery. In addition, remining in this watershed has eliminated over 40 miles of dangerous legacy highwalls, and reclaimed 554 acres of AML pits and spoil. Approximately 20% of the unreclaimed per modern law legacy lands have been reclaimed by remining operations in this watershed. All of these remining operations have been conducted with little or no funds from public reclamation programs.

- OEPA, Division of Surface Water, September 2003 “Total Maximum Daily Loads for Duck Creek” Final Report- This report indicated that Duck Creek was placed on the 303(d) list in 1998 as an impaired watershed based on data collected in 1987. The 2003 report summary states that overall, 85% of the stream miles sampled in the Duck Creek watershed fully attained the designated or recommended aquatic life uses. 9% partially attained, and only 6% of the stream miles sampled did not attain the designated or recommended aquatic life use. In addition the report stated; “most sampled tributaries surveyed throughout the basin improved dramatically from past or perceived impaired water quality from historic mining or other uses. Time, mine land reclamation, and in some areas remining contributed to improvements.” Regarding metals reduction the report stated; “there are a number of options for obtaining load reductions for metals that are identified in this report. One option is to encourage remining to reclaim abandoned mine land sites, and eliminate public safety hazards such as dangerous highwalls.”

3.3 Legislation

The USEPA has recognized the importance of remining and its role in abating mine drainage, and in 1987, Congress provided amendments to the Clean Water Act known as the “Rahall Amendment.”
Following rulemaking USEPA developed a Coal Remining Best Management Practice (BMP) Manual for use by coal operators, consultants and regulators. The document is highlighted by the following list of BMPs, many of which are frequently implemented during remining operations in Ohio.

- daylighting of abandoned underground mines,
- removing coal refuse piles,
- reducing the volume of AMD through the proper handling of acid forming materials,
- eliminating abandoned highwalls,
- reconstructing streambeds,
- draining and backfilling abandoned pits, while promoting positive drainage
- establishing cover vegetation

In 1993 the Federal Energy Policy Act provided additional incentives for remining by defining lands eligible for remining. States provided regulations consistent with the goals of the Act by identifying eligible lands (pre-1977) identified on a coal permit. These reclaimed acres are eligible for a reduced maintenance period from 5 years to 2 years. Ohio created Policy Procedure Directive (PPD) 99-1, (see DMRM website) as a guidance document for the coal industry to fully implement this provision.

The SMCR also contained provisions for reclaiming AML lands. States with primacy operate AML programs with the goal of systematically eliminating the highest priority sites on their inventories. Unfortunately, considering the universe of AML problems present in the Appalachian coal region, these funds are limited on an annually to only addressing the highest priority sites, and the lower priority sites are often not included in the grant funding.

### 3.4 Programs

**Mine Safety Health Administration (MSHA)**

The dangers associated with unreclaimed mine sites are present but not well documented over the past several decades. However, in 2000 MSHA felt compelled to launch a nationwide “Stay Out- Stay Alive”! Campaign to alert the public about the dangers present at abandoned mine sites. According to the MHSA fact sheet, “…every year dozens of people are injured or killed while exploring or playing on mine property.” The number of injuries and fatalities is alarming, with the top three causes, in descending order are: drowning, all-terrain vehicle (ATV) mishaps,
and falls. In Ohio, the use of ATVs in and around unreclaimed coal surface mine sites has become common place. These unreclaimed highwalls and pit ponds provide an attractive hazard to the public. More information about this program and statistics is available at www.MSHA.gov.

AML

The federal AML program was created under Title IV of the SMCRA. Protection of the public’s health and safety is the number one priority in the federal act and in Ohio’s approved AML program. Since the program’s inception over $147 million dollars have been expended allowing reclamation of over 27,000 acres. The AML inventory, however, estimates over 43,000 acres remain unfunded at an estimated cost of 200 million dollars (from the OSMRE’s National Abandoned Mined Land Inventory System (AMLIS)). The inventory is dynamic and does not include all AML problem areas. Funds for this program come from reclamation fees on coal mined by active mine coal operations. Under Ohio’s AML program, full reclamation and restoration of AML highwalls and pits are rarely undertaken due to the high costs and extensive area that needs to be affected to provide full restoration of these unreclaimed highwall and pit complexes. Where these areas exist in close proximity to homes, schools or churches, the preferred method of abatement is to construct fences and restrict access to the highwall areas. In areas such as the Duck Creek watershed where reclamation of abandoned coal surface mines has occurred under the AML program, the remnant highwall still remain along with associated auger mining holes. These auger areas are often a constant source and conduit for discharges with high metals and acid water. In many cases remining operations can eliminate these discharges.

DMRM’s website indicates: 1) DMRM staff engineers and project managers design and oversee the reclamation of a variety of hazardous or environmentally degrading mine-land problems, including mine openings, landslides, highwalls, erosion, toxic spoil, subsidence, and acid mine drainage. 2) The Federal AML Program is completely supported by federal grants derived from fees on every ton of coal mined in the U.S. The program emphasizes the elimination of health and safety hazards left by mining operations prior to May, 1977. A Federal Emergency Program has been created to expedite reclamation when an immediate danger exists. 3) A separately funded State AML Program, using funds from a severance tax on Ohio mine operators, completes environmental-reclamation projects in areas affected by mining prior to April, 1972. Reclamation is achieved by means of cost sharing, direct contracting, and state-initiated projects. When possible, acid soils or partially reclaimed land is reforested. Program staff members also work with active mine operators to encourage remining abandoned mine land to eliminate toxic lands and reduce acid mine drainage at limited or no cost to the state. 4) Through the Acid Mine Drainage (AMD) Abatement Program, the division assists public efforts to restore the quality of water resources in communities impacted by acid mine drainage. Partnerships are formed with watershed groups, government agencies, and private industry. The DMRM provides funding and
implements construction projects to restore mine-impacted watersheds. (Source DMRM web site)

The timeline depicted in figure 3.1 below shows the relationship between past mining, legislative history, and coal remining regulations and permitting, in addition to the establishment of DMRM’s RTF, which will be discussed in more detail in the following chapters.

![Remining in Ohio, past, present, and future](image)

**Figure 3-1.** relative timeframes of the various eras of mining and associated regulatory programs
4. OHIO’S REMINING TASK FORCE

4.1 Introduction

Ohio formed the RTF to bring Ohio’s remining program into compliance with the new federal regulations and stimulate more remining activity. During 2006 - 2008, the DMRM convened the RTF force with the goal of improving Ohio’s low record of acceptance by surface coal mine operators of modified effluents (numeric or non-numeric). Although well intended, the task force lacked consistency, effectiveness, and leadership, so in 2009, the Division hired a recent retiree to spearhead Ohio’s RTF. The task force began meeting regularly at a rate of four to five times per year. The DMRM formulated a 10 step program to reinvigorate the Remining Program:

1. Review existing program and background material with DMRM staff and the industry.
2. Send introductory letter to the stakeholders.
3. Develop a survey/questionnaire for the stakeholders (results of the survey are on the DMRM website).
4. Gather input from the industry, DMRM staff, IMCC member states, and other involved agencies (small meeting format and geographically located throughout the coal field).
5. Facilitate discussions with stakeholders on new remining proposals and revisit shelved proposals that may have merit.
6. Brainstorm innovative remining strategies with stakeholders.
7. Assemble RTF to review any newly developed proposals and discuss improvements to the existing remining program in Ohio.
8. Develop training programs with OSMRE.
10. Implement program.
This ten step program was reviewed by the RTF sub-committee and was approved by the Chief of the DMRM, in 2009.

4.2 Remining Task Force Charter

In addition to the ten step program, the RTF and the DMRM established a charter to guide the RTF’s activities. The full content of the RTF charter is located on the DMRM website.

The following are excerpts from the charter;

1. Mission: To recommend rules, policies, and procedures to the DMRM administration that will fully implement existing Federal Rules which will update and enhance Ohio’s remining program. In addition, the task force will review DMRM’s internal and external processes with other agencies involved in the remining permitting process and make recommendations for improvement. Other incentives and training programs to enhance remining and reclamation of abandoned mined lands will be examined and recommendations made to the appropriate entity involved.

2. Working Definition of Remining: Remining is a secondary recovery of coal reserves by an active mine operator that will re-affect and reclaim previously unreclaimed mined lands in the permitted area or outside the permit limits which results in improvements to water quality, land use, and elimination of hazards to the public’s health and safety.

3. Focus: This task force will focus on fully implementing procedures for rules currently in affect and future rules to be filed by the Division. The task force will also make recommendations for improvement in the overall operation of the remining program within the Division and the other entities participating in the program either directly or indirectly through a review process. Other incentives and ideas suggested in the remining survey that have merit should be explored further and rated for their potential to be implemented and have a positive effect on the program.

- Task one: Review the results of the remining survey including the comments provided, and make a short list of actions or recommendations that the task force will want to consider for final recommendations

- Task two: Recommend to the Steering Committee DMRM procedures/ policies or actions by other agencies that will; 1) streamline the review of applications that propose to remine, 2) maximize the opportunities and incentives available to reclaim abandoned mined land sites at or near remining operations, and 3) remove disincentives to remining.
• Task three: Form subcommittees to draft procedures to fully implement updated remining rules being filed by the DMRM

• Task four: Form a subcommittee to review processes and procedures being used by other agencies at remining application areas, and make recommendations to the task force for adoption of a recommendation.

• Task five: Review comments from Steering committee and make final recommendations to the Division and other entities

4. Task Force Membership: Representatives from the Coal Industry, Mining Consultants, Agencies, OSMRE, Watershed Groups, and DMRM staff

This Charter was approved by the Chief of DMRM in 2009.

4.3 Remining Task Force 2009

DMRM staff, Robert Baker, program specialist, and Mike Dillman, hydrologist, were named co-chairmen of the task force. The RTF met four times during 2009, and then suspended meetings in 2010 due to the departure of Robert Baker. Summary of the RTF in 2009:

• Background - The DMRM Remining rules, OAC 1501-13-4-15(modified NPDES permits), were circulated to outside parties for comment on October 7, 2009. The rules were also submitted to OEPA for comment along with an updated Memorandum of Agreement (MOA). OSMRE responded with comments in November 2009. The DMRM responded with suggested changes to the proposed rule in response to OSMRE’s concerns and provided more information on the rationale for the proposed changes.

• MOA with OEPA- DMRM staff worked closely with OEPA contact, John Morrison for six months on an updated MOA between the agencies. This MOA would serve as a template for the agencies to work cooperatively using each other’s resources in the most effective manner. It also established time frames for reviews in order for remining modified effluents operations to be permitted in a timely fashion (contact DMRM for a copy of the fully executed MOA). As a result of the close coordination, some final revisions to the document were agreed upon with OEPA, and the document was resubmitted
for further review by the agency. OEPA informed the Division staff that on December 7, 2009 the MOA was ready for execution by the Director of OEPA.

- Remining Task Force Charter Update on Activities
  - Task one: Review the results of the remining survey including the comments provided, and make a short list of actions or recommendations that the task force will want to consider for final recommendations
  - Status: Survey results were reviewed and a list of proposed actions developed to address concerns. Final recommendations to be developed by the Task Force. The survey results are located on the DMRM web site under the “Coal Mining/Remining” tab.
  - Task two: Recommend to the Steering Committee DMRM procedures/policies or actions by other agencies that will: 1) streamline the review of applications that propose to remine, 2) maximize the opportunities and incentives available to reclaim abandoned mined land sites at or near remining operations, and 3) remove disincentives to remining.
    - Status: Subgroups have been established to address this task
  - Task three: Form subcommittees to draft procedures to fully implement updated remining rules being filed by the DMRM
    - Status: A sub group has been established and work is underway to draft the procedure directives (see details below).
  - Task four: Form a subcommittee to review processes and procedures being used by other agencies at remining application areas, and make recommendations to the task force for adoption of a recommendation.
    - Status: a subcommittee was established
  - Task five: Review comments from Steering committee and make final recommendations to the Division and other entities
    - Status: To be completed
4.4 Remining Task Force Subgroups

In order to manage the needs and tasks identified in the 2009 Remining survey several subgroups were established by the RTF. Work by these subgroups continued in 2011 and 2012. This allowed RTF members to work on a more detailed level and bring recommendations and work products back to the full RTF for action. The general nature of the work included updating several existing PPDs and associated outdated forms, creating new Policy Directives (PDs) for recent changes in remining regulations, and brainstorming new remining initiatives. In addition one subgroup focused on improving interagency coordination and obtaining a greater understanding of those agencies’ policies, procedures, and regulations.

Below are the following subgroups created by the RTF;

- Subgroup A. Processes and Procedures being used by other agencies at remining application areas 1) USACOE, 404 NW 49 nationwide permit, 2) OEPA, 401 NW permitting certifications
  - Status: Meetings ongoing primarily focused on the requirements to obtain a NW 49 permit from the ACOE. Measurements for determining the ecological lift obtained through a remining operation discussed in some detail.

- Subgroup B. Coal Modified Effluent Permitting 1501:13-4-15 (Remining Rules) PD
  - Status: One PD was developed for Remining Regulatory Inspections 2012-02, and a second guideline for pollution abatement areas replaces PPD Permitting 97-1: and both are on the DMRM web site. http://minerals.ohiodnr.gov/laws-regulations/procedure-directives#COAL

- Subgroup C. Remining Funding – Several initiatives were developed by the subgroup to provide financial incentives to mine operators who are actively remining and/or are located adjacent to eligible AML sites.
  - Status: A proposal to provide design assistance to mine operators entering into no cost contracts with the Division that reclaim AMLs is currently being considered by the Chief, DMRM.

- Subgroup D. Remining Application
  - Status: The existing DMRM surface mining application was revised by this subgroup to clarify for operators and other agencies remining areas within the proposed mining site and insure all of the pertinent information needed by the regulating agencies was addressed in the application. The
goal was to reduce ambiguity and redundancy by the regulating community. Many of these changes were included in the DMRM’s electronic permitting initiative. (See the DMRM website for updates on the electronic permitting)

- **Subgroup E. AML Government Financed Construction Contract:**
  - **Status:** This subgroup worked with the Deputy Chief of AML and other DMRM staff to update PPD-97-2 and PPD 97-1. In addition AML contract documents, specifications, and project proposal forms for mine operator contracts (both no cost and cost contracts) were updated. These updated PD’s and contract documents were forwarded to the DMRM steering committee for further review. They are currently being evaluated and revised by DMRM staff prior to circulation to the stakeholders. These two policy directives and associated proposal forms also address incidental coal removal (AML enhancement) in a general sense, however, a more specific guidance document will need to be developed by the AML subgroup or DMRM staff (available on the DMRM website [http://minerals.ohiodnr.gov/mining-industry/remining#ADD](http://minerals.ohiodnr.gov/mining-industry/remining#ADD)).

- **Subgroup F. Improved Coordination**
  - **Status:** Focused on identifying potential AML sites at or near proposed mining sites. This was done at the earliest possible time so applicants and the DMRM could work synergistically to enter into contracts for the reclamation of eligible areas. A draft internal DMRM document was developed; essentially the draft language will be included in an updated PD (undergoing final review by the DMRM staff) before being circulated to stakeholders for comments. Some major points:
    - Application Manager (AM) receives the Jurisdictional Waters Determination (JD) map from the applicant. Using the UGM topographic series, available GIS and other resources, the AM compares the JD map with historic pre-law mining information in the area.
    - If the general area under consideration contains AML areas, the AM will send a copy of the JD map along with any other pertinent information, to the AML Project Officer for review of potential AML No Cost and Direct Negotiated opportunities. The AML Project Officer will check with Division’s GIS data base and other
resources for any unreclaimed AML sites in the immediate area. If warranted the Project Officer will contact the applicant directly to explore mine operator contracting opportunities for any qualified sites adjacent to the proposed mine site.

- AM will attend the JD site review and will review the area for any potential remining sites which include reduced maintenance, modified effluent (including BMPs), No Cost, Direct Negotiated, and AML Enhancement. The AM will also consult with the ACOE representative during the field review to determine if the site may qualify for an NWP 49. If there are potential remining incentives applicable to the site, the AM will discuss them with the applicant /consultant/ACOE. AM will post pictures of obvious unreclaimed AML areas on the m: drive that are outside the application area, but within a 1000 feet of the proposed application area. AM will send photo link to AML project officer, with a copy to the AML regional manager.

- If the site is a potential modified effluent site and there is applicant interest, a follow up site visit will be conducted with the division hydrologist, AM, and the applicant to confirm the site meets these criteria and to identify the necessary hydrology sampling sites.
The RTF was reconvened in 2011 after a one year layoff. The DMRM administration named Robert Baker, researcher at OSU, and Mike Dillman, DMRM as co-chairman of the task force. The RTF met five times in 2011, in February, March, June, September, and December. The RTF met three times in 2012. A list of the meeting dates and attendees is located in Appendix A.

5.1 Policy Directives, Guidelines, documents, forms, and Agreements

The subgroups formed in 2009 continued to work on various documents and recommendations that were brought before the RTF and approved to be sent to the DMRM steering committee. Table 5-1 depicts the documents that were revised, created, or otherwise recommended to the RTF and lists their current status at that time (contact DMRM for current status of all these documents listed).

<table>
<thead>
<tr>
<th>Document</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD Permitting 97-1; Permitting of Pollution Abatement Areas</td>
<td>Currently on DMRM web site for comments due by May 18, 2012</td>
</tr>
<tr>
<td>PD Regulatory 93-4; Remining Enforcement Procedure</td>
<td>Currently on DMRM web site for comments due by May 18, 2012</td>
</tr>
<tr>
<td>Application for Remining (renamed Remining – Modified Effluent Limitations)</td>
<td>Under review by DMRM electronic permitting team. If appropriate, revisions will be accepted and form will be placed on DMRM website.</td>
</tr>
<tr>
<td>Surface Coal Mining and Reclamation Permit Application</td>
<td>Under review by electronic permitting team, which is taking the recommendations of the RTF application sub-committee into consideration?</td>
</tr>
<tr>
<td>PD Regulatory 99-1; Lands Eligible for Remining.</td>
<td>Under review by DMRM for final revisions and start of comment period</td>
</tr>
<tr>
<td>Remining – Reduced Maintenance form</td>
<td>Form finalized and placed on DMRM website.</td>
</tr>
<tr>
<td>PD Regulatory 97-1; Direct Negotiated Mine Operator Contracts</td>
<td>Under final review by DMRM for start of comment period.</td>
</tr>
<tr>
<td>PD Regulatory 97-2; Placement of Excess Spoil on Unpermitted Areas Adjacent to a Mining Permit</td>
<td>Under review by DMRM for final revisions and start of comment period.</td>
</tr>
<tr>
<td>Funding for Remining memo re: assistance to AML operators for Stormwater Plans</td>
<td>Under review by the Chief of DMRM and Remining coordinator</td>
</tr>
<tr>
<td>Funding for Remining memo re: promoting remining in Strategic Plan</td>
<td>Steering committee accepted recommendation to address remining incentives in strategic plan.</td>
</tr>
</tbody>
</table>
Table 5-1. Status of Remining Documents

<table>
<thead>
<tr>
<th>AML/Permitting Coordination Memo</th>
<th>Steering committee recommended that this language be included in PDs, under review by DMRM, (language contained in PD 97-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reclamation Proposal Cost, No Cost and AML Enhancement Contract; General Conditions, General Specifications</td>
<td>Steering Committee agreed to move forward with the RTF’s recommendations. DMRM preparing to circulate final documents to outside stakeholders</td>
</tr>
<tr>
<td>Memorandum Of Agreement ODNR/OEPA Remining NPDES Permits</td>
<td>Signed by OEPA and ODNR. In effect.</td>
</tr>
</tbody>
</table>

5.2 Comments by the RTF members on other Agencies Rules/ Guidelines - ACOE

ACOE-The subgroups formed in 2009 continued to work on various documents and recommendations that were brought before the RTF and approved to be sent on to the DMRM steering committee. The RTF drafted formal comments regarding the ACOE proposed reissuance of the Nationwide 49 Permit (excerpts of which are located below) for the Chief of the DMRM to submit to the ACOE’s headquarters. Additional comments from other Remining Task Force members are also included. The elements of the ACOE’s NW 49 permit proposed renewal follows:

ACOE Proposal: Discharges of dredged or fill material into non-tidal waters associated with remining and reclamation of lands that were previously mined for coal, includes reclaimed mine sites, AML lands, or bond forfeiture overall mining plan will result in a net increase in aquatic resource functions. The Corps will consider SMCRA's agency's decision regarding the amount of currently undisturbed lands needed to facilitate the remining and reclamation of the previously mined land. The total area disturbed by new mining must not exceed 40% of the total acreage covered by both the remined area and the additional area necessary to carry out the reclamation of the previously mined area.

Comments by Ohio’s Remining Task Force to the ACOE on the reissuance of Nationwide Permits. Docket Number COE-2010-0035

The Remining Task Force’s mission, as outlined in its charter, is to recommend rules, policies, and procedures to the ODNR, DMRM’s administration that will fully implement existing Federal Rules and update and enhance Ohio’s remining program. In addition, the task force will review DMRM’s internal processes and external processes with other agencies involved in the remining permitting process and make recommendations for improvement.

The following are comments prepared by the RTF for consideration by the ACOE in response to this recent publication and proposed reissuance of the nationwide permits.

ACOE Proposal to Reissue and Modify Nationwide Permits
NW 49 Comments:

Federal Register/Vol. 76, No.32 /Wednesday, February 16th, 2011 page 9199

The ACOE’s reissuance of existing nationwide permits, specifically NW 49, is of great interest to the task force. The RTF strongly supports the reissuance of this permit and applauds the agency for developing such a tool for remining. Ohio coal operators have played an important role in educating the ACOE administrators and staff about the challenges and benefits attributed to remining. Like any tool it is important to receive feedback from the end users and improve upon its design to achieve its intended purpose.

This NW permit as designed is somewhat rigid, requiring a 40% limitation on new mining for remining operations to be eligible for this permit. The ACOE basis for the 40% limitation is unclear. In order for a remining operation to be successful, the economics have to be favorable to the operation. In many instances the operation encounters thick overburden at the onset of mining which then tends to only increase with additional mining. Additionally, remining requires the movement of what is termed “dead” spoil with no coal recovery which hinders the economics of the operation compared to virgin areas where the stripping ratios are favorable. In addition it is common in previously mined areas for auger mining to have occurred before the operation is ended at the final cut. Auger mining can remove up to 50% of coal reserves in the area affected. In these situations this requires remining operations to advance the mining approximately 100-150 feet through the previous auger mining before solid coal is encountered. The elimination of these remnant auger areas eliminates a common source of pollution from the site.

The 40% requirement works reasonably well in areas where multiple seams are present and the remining operation is targeting a lower seam for remining which lies below a previously affected and unreclaimed higher seam. However, for areas where the operation is targeting the primary seam left unreclaimed and the mining plan intends to advance the highwall, the 40% limitation becomes an obstacle or disincentive to remining. In many instances it is necessary to advance the existing highwall to the extent necessary to make the operation viable or to access another unreclaimed area nearby. Therefore the RTF is recommending that the ACOE consider increasing this limitation to a number higher than 40%. A range between 50% and 60% would be more beneficial and result in more unreclaimed areas being restored to near pre-mining topography and ecological environment. It is also important to recognize that remining operations have less coal to be extracted than virgin areas and therefore are inherently more expensive to mine. Many of these remining sites have had previous auger mining which decrease coal recovery significantly. Remining operations often daylight these past auger audits eliminating a source of acid mine drainage from the watershed.

The RTF is also recommending that the ACOE provide an option for a waiver from the 40% requirement for new mining. Again, for remining operations flexibility is a key factor since no two remining operations are alike. Situations where a waiver from the current 40% requirement should be considered include;
The operator has received an approved pollution abatement plan with detailed BMPs and is approved by the state’s regulatory authority. This plan is consistent with the goals of the Clean Water Act, and the Rahall amendment. The reduction of pollution loads from targeted pollution producing sites should override the 40% requirement by providing and “ecological lift” or “a net increase in aquatic resource functions” for the receiving streams.

The remining operation is located in a completed Acid Mine Drainage Abatement Treatment (AMDAT) watershed area and contains acid mine drainage meriting remedial action. These plans outline projects and steps for overall improvement in water quality from impaired areas caused by legacy mining areas.

As a requirement of the Clean Water Act, EPA conducts TMDL in various watersheds. These plans may contain recommendation for remining as means of pollution abatement in the watershed. An example of this is contained in the OEPA Duck Creek Watershed TMDL study 2003, described above.

General Condition 22. Mitigation

The RTF understands the importance mitigation plays in nationwide permitting process. For remining sites the District Engineer should consider the role remining plays in the overall restoration of the watershed/subwatershed. The RTF feels strongly that BMPs not only induce improvement in terms of the water quality, but there is a definite and quantifiable improvement in terms of the ecological conditions. Abandoned highwalls, pits, spoil piles and ridges are regraded to eliminate unnatural impoundments, create positive drainage, eliminate vertical ground water migration through unconsolidated acid spoils, return the area to approximate the original contour, and blend into the surrounding topography. The regraded spoil area is then revegetated. Revegetation will return the land to a productive ecosystem. Additionally, the revegetation will ultimately improve recharge to the ground-water system, which in conjunction large storage capacity of mine spoils permits base flow to streams through protracted periods of drought. Thus, streams in areas with considerable amounts of reclaimed surface mines tend to flow more continuously throughout the summer months while streams in adjacent areas with little or no surface mining may be dry. There is a large amount of published research on the increased stream base flow due to surface mining and subsequent reclamation. These references could be provided upon request. With the increased base flow quantity and duration, some Class I streams could turn into Class II due to the reclamation from remining operations.

Smith and others (2002) recorded an overall acid load reduction at 110 remining sites in Pennsylvania of nearly 16,000 lbs. per day or 61% improvement. Similar results were seen for
metals (iron, manganese and aluminum). Acidity loads were significantly improved (95% confidence) or eliminated at 49% of the discharges, 50% were unchanged and less than 1% failed. Many of the discharges that were “unchanged” visually showed improvement but did not meet the 95% confidence threshold. This is all the while thousands of acres were being reclaimed without the use of AML funds. The anticipated water quality improvements, along with the ecological improvements created by the reclamation are in effect a mitigation practice that is equivalent to “ecological lift.”

Studies indicate there are dramatic recharge rate changes of reclaimed areas compared to the abandoned unreclaimed mined lands. Streams fed by base flow from heavily mined areas tend to continue flowing through a protracted drought; whereas streams in adjacent unmined areas will exhibit less base flow per unit area or tend to go dry during the drought. This is indicative of not only higher recharge of the mine spoil, but also of a much higher storage capacity (effective porosity) for this additional recharging water (Hawkins and Smoyer, 2011). An overall increase in-stream flow is due mainly to the higher base flow during summer low-flow periods, which is caused primarily by the decrease in evapotranspiration. Dickens and others (1989) noted a 30% increase in low-flow stream discharge rates for the New River Basin (Tennessee) due to increased ground-water storage from surface mining. Streams originating from surface mining areas tend to continue to flow during periods of drought when prior to mining they did not. The conversion of hardwood forest cover to grasses greatly contributes to the increased infiltration. The resultant increases in-stream base flow is also directly proportional to the area of deforestation (Douglass and Swank, 1975).

The increased infiltration rates are facilitated by the development of macro pores in the mine soil and cause the effective reduction of peak runoff rates and dramatically increase the length of the recession limb of storm events (Guebert and Gardner, 2001). They observed that infiltration rates on newly reclaimed mine soils tend to exhibit low steady state rates of infiltration (1-2 cm/h), but within four years after reclamation the infiltration rates of “some mine soils” near the pre-mining rates of 8 cm/h.

Messinger and Paybins (2003) noted that during low-flow periods the normalized discharge rate (i.e. discharge rate per unit area drained) of a heavily surface mined watershed in West Virginia was more than twice the rate of an adjacent unmined watershed. For a complete two year period, total unit flow in cubic feet per second per square mile of the heavily-mined watershed was about 1.75 times greater than the unmined watershed. They attributed much of this change to decreased evapotranspiration due to deforestation and changes in the plant species and soil characteristics (thin soils retaining less water). The heavily-mined watershed continued to discharge during a protracted dry spell when similar nearby unmined watersheds stopped flowing. They did, however, attribute some continued base flow through the summer to increased storage capacity of mine spoil. The substantially increased ground-water storage exhibited by mine spoil (Hawkins, 1998) coupled with the increased infiltration facilitated by decreased evapotranspiration would support stream flow below reclaimed mine sites during periods of drought. Truax (1965) observed that at a time when mined watersheds in southwestern Indiana
were yielding about 0.27 cubic feet per minute per square mile (September and October 1964), other nearby watersheds were dry.

Spoil itself is capable of storing much larger quantities of ground water than the pre-existing strata, so if more water infiltrates into the spoil much of it can be stored and released gradually over longer periods of time. Effective porosity of mine spoils has been measured approaching 20% (Hawkins, 1998); whereas, pre-mining porosity values in fractured strata are generally less than 1% (Mackay and Cherry, 1989. Curtis (1979) stated that spoil can store large quantities of water that eventually discharge as base flow to the streams. He further states that they “function as reservoirs.” Peak storm flow show reductions commensurate with the area of the watershed disturbed.

In summary, remining returns the previously mined area to a more natural condition, resulting in improvements to the aquatic and terrestrial environments. Therefore the RTF is requesting the District Engineer consider acceptable mitigation to include the reclamation of previously mined highwalls, pits, and spoil as environmentally appropriate for linear feet of stream loss or other open waters for areas that are within the limits of a NW 49 permit. Two proposed acceptable method for accounting for this mitigation would be as follows;

1) For example; a calculation of pit acreage reclaimed on a 1:1 ratio for open water lost, and the length of highwall reclaimed located adjacent to Jurisdictional (JD) waters on a 1:1 ratio with stream loss. Other ratios may also be acceptable to remining operations on a case by case by basis.

2) The 2008 mitigation rule explicitly stated that in-lieu-fee projects are more favorable as mitigation than on-site, in-kind mitigation. As such, there must be some existing formula or methodology to determine how much of a fee is required for filling or dredging certain stream length or wetland acreage. The same method could be used to allow reclamation as mitigation. The realized average cost for AML reclamation is easily obtained. For example ODNR, DMRM calculates these AML costs on an annual basis for use in their bonding estimates for active mine operations. On NWP-49 sites, the acreage of pre-act reclamation to be accomplished by the new mining would determine a dollar amount according to the realized previous AML cost. This dollar amount could then be used in the in-lieu-fee formula or methodology to determine if the amount is adequate as mitigation. If the in-lieu-fee program is viable, this should be also.

Furthermore, the revised universal soil loss equation can be used to determine improvement to the amounts of off-site sedimentation that can be expected as the result of reclaiming abandoned mine lands. Thus, a quantifiable improvement can be calculated. Perhaps this alone, or in conjunction with other measures such as that listed above can be used as an accounting method to determine the amount of reclamation needed to offset stream and wetland disturbance.

Summary
Remining is a very cost effective means to improving water quality and reclaiming abandoned mined lands, without placing a burden on limited public funds. We feel strongly that the NW 49 can be an effective tool and incentive to accomplish remining in Ohio’s legacy mining areas through speeding up the permitting process. As noted above, a number of Federal and State programs are involved in the reclamation of AML lands and only through a concerted and coordinated effort will this be accomplished. The ACOE needs to recognize the important role they play in this equation and work earnestly to include flexibility into the program specific to the remining of coal mine lands.

Submitted by Robert S. Baker, Ohio State University, and Mike Dillman, Division of Mineral Resources Management, co-chairmen of the Remining Task Force.

Comments by Jay Hawkins, 3-1-2011, OSMRE hydrologist regarding ACOE’s proposed NW 49 renewal

“In regard to the statement that “The permittee must clearly demonstrate to the district engineer that the reclamation plan will result in a net increase in aquatic resource functions.” This demonstration is fundamentally the function of the mandatory pollution abatement plan that all Rahall-type remining permits must have. The pollution abatement plan outlines through a series of site-specific best management practices (BMPs) how the water quality in terms of net acidity, iron, manganese and total suspended solids (TSS), when needed, will be reduced. The BMPs, based on historical use and published research, are known to cause the pre-existing mine discharges to improve. This improvement is often shown to be significant at a 95% confidence level. See the Coal Remining – Best Management Practices Guidance Manual, EPA-821-R-00-007, Coal Remining Statistical Support Document, EPA-821-B-00-001, and the Statistical Analysis of Abandoned Mine Drainage in the Assessment of Pollution Load (“The Griffiths Report”), EPA-821-B-01-014 for a more detailed analysis of the efficacy of BMPs.

BMPs not only induce improvement in terms of the water quality, but there is a definite and quantifiable improvement in terms of the ecological conditions. Abandoned highwalls, pits, spoil piles and ridges area regraded to eliminate unnatural impoundments, create positive drainage, approximate the original contour, and blend into the surrounding topography. The regraded spoils area then revegetated; also a BMP. Revegetation will return the land to a productive ecosystem. Additionally, the revegetation will ultimately improve recharge to the ground-water system, which in conjunction large storage capacity of mine spoil permits base flow to streams through protracted periods of drought. Thus, streams in areas with considerable amounts of reclaimed surface mines tend to flow more continuously throughout the summer months while streams in adjacent areas with little or no surface mining may be dry. There is a large amount of published research on the increased stream base flow due to surface mining and subsequent reclamation. These references could be provided upon request. With the increased base flow quantity and duration, some Class I streams could turn into Class II due to the reclamation from remining operations.

Given that remining permits will have a site-specific detailed pollution abatement plan is there some way to tie this directly to the NWP-49 “net increase in aquatic resource functions” requirement? Essentially, if the permit has a pollution abatement plan with detailed BMPs and is approved by the state mining
agency, then it would automatically qualify for a NWP-49 assuming all other criteria (e.g., stream and wetland impacts) are met.

- What is the rationale for the 40% new mining area to 60% remining area provision? Considerably more remining might be conducted if this ratio is modified to more closely reflect actual field conditions. A suggested ratio of 33.3% remining areas to 66.7% new mining areas would greatly expand the amount of area that would ultimately be remined. This would be a bigger inducement for mining companies to enter into projects that will require considerable expenses on and above the normal mining costs. Additionally, with remining there generally less recoverable coal than mining in virgin areas. Remining operations for abandoned surface mines enter into areas where there is an existing highwall, so overburden is thick at the onset and/or a considerable amount of “dead” spoil has to be regraded with little to no coal mined in the process. Daylighting of abandoned underground mines means that the coal recovery will in most cases less than 50%, plus clean coal removal is made more difficult due to collapsed mine voids.

Remember, that the alternate effluent limits area only apply for discharges that are hydrologically connected to the area(s) to be remined. Standard 40 § CFR 434 effluent limits apply to all discharge water hydrologically connected to new mining areas. So, the intent of the NWP-49 would be just as effective if the ratios were changed.

- What is the approximate turnaround time for the permittee to receive the “written authorization” from the district engineer after the pre-construction notification has been submitted. Where this question is going, is can this procedure be streamlined to preclude delays in starting mining?

- The “unlimited stream impacts” authorized under number 5 of the “Ohio State Certification General Limitations and Conditions” appears to contradict to some degree the provisions under number 1, part b. which sets limits based on this stream classification level. It is recommended that the disposition of these provisions with respect to each other be clarified.

The predicate of the above comments and suggestions are purely to foster remining in Ohio and thereby gain considerable reclamation and mine water quality improvement in the process without the use of AML funds.”

Comments for 2012 NW-49 Permit by Jennifer Kleski, President of Kleski Environmental Consulting

1. The 40% criteria is explained better in this version (February 16, 2011) and leaves it to the ODNR-DMRM to determine the percentage of necessary area for re-mining. Thus, we will need to work with ODNR-DMRM on how this will be evaluated.
2. This permit also does not specify type of mining (i.e.: neither did the original) thus it includes both surface and underground. Both the Corps and ODNR-DMRM were adamant about 49 only pertaining to surface mining. Thus when evaluating previous un-
reclaimed impacts for the 40% the deep mine footprint, and gob should be included and the area necessary for the re-mining for day-lighting, gob removal and entry sealing included.

3. It should also be noted that the NW-49 usage is not dependent on other programs such as AML program; the ODNR-DMRM Re-mining Program or the OEPA Modified Effluent for Re-mining program.

4. The one thing, as we briefly discussed, that needs revised in the language of the proposed permit is the criteria for use of the NW-49 being reliant of the applicant ability to clearly demonstrate to the district engineer that the overall mining plan will result in a net increase in aquatic resource function.

Because the Corps, ODNR-DMRM and Ohio EPA interpret this as water chemistry improvements, it has resulted in narrowing the focus of NW-49 use to just sites with water chemistry problems. This is contradictory to the Corps, and the other agencies for that fact, “programmatic wide” goal of basing the scope of Section 404/401 review at the watershed level. This naturally expands the focus of the review beyond just the stream scale to what would benefit the drainage system as a whole. Based on this type of analysis, water chemistry alone should be used to demonstrate the benefits of the re-mining project. For example most re-mining projects are approached on a holistic level. When looking at the full scope of the project, it provides the benefit of restoring the watershed drainage system through the removal of high walls and pit impounds, restoring gravity drainage, and reconstructing the stream channels to reconnect those isolated above the high wall with the main stem. Thus the NW-49 permit should clearly state that when evaluating the benefits of re-mining project it should be viewed on a watershed scale.”

Comments by Roger Osborne, Vice President of B&N Coal Co. 2-18-2011 Page 9183-NW 49, Coal Remining Activities

“This permit should not be limited to the improvement to aquatic resource functions. The improvement in water chemistry and sedimentation should also be considered when determining if an area is eligible for remining using NW 49. Consideration should also be given to the improvement in the safety of the area by the elimination of pits and highwalls. The bottom line should be that the area is not the way Mother Nature created the area and therefore needs to be reclaimed so that it can again be possible for the area to reestablish itself. The area should not be limited to percentage of area if it is necessary to affect more area to provide access to the area to be reclaimed by mining undisturbed area to make that possible. If it is unlikely that an area would be reclaimed, unless it is remined, then all parties should be willing to make it possible for that to happen through remining by encouraging the mining companies to do so by streamlining the process as much as possible, especially since the history of the improvements by remining is well documented.”

COMMENTS ON "DRAFT GUIDANCE ON IDENTIFYING WATERS PROTECTED BY THE CLEAN WATER ACT" Gary Alkire May 2011

General Overview
This new guidance will undoubtedly result in more streams and wetlands being defined as jurisdictional. The "draft" states explicitly, "...under the understandings stated in this draft guidance, the extent of waters over which the agencies assert jurisdiction under the CWA will increase compared to the extent of waters over which jurisdiction has been asserted under existing guidance..." The new guidance also states, "...key goals of this draft guidance are to increase clarity and to reduce costs and delays in obtaining CWA permits by reducing the complexity of Corps of Engineers and EPA decisions concerning waters protected by the CWA..." It is obvious that the guidance cannot achieve these goals. Clarity is muddied by the initiation of new, vague, concepts such as "proximate waters", "significant affectment", and "similarly situated waters." If more waters will be deemed jurisdictional, more permitting and mitigation will be required. Costs will undoubtedly go up. More permitting means more government review and more delays in obtaining permits. It is absurd to assume that increased clarity, reduced costs, and decreases in permitting review time will result from this guidance.

Appalachian coal operators are uniquely affected. Coal, in the Appalachian region, is nearly always underlain with clay. Commonly, water perches on this underclay, creating sources for many headwater streams and wetlands. The mining of coal must be conducted where the coal lies. It is difficult to move mining operations away from these headwaters and wetlands. Because of the onerous costs and time delays in obtaining CWA 401/404 permits, coal operators have practiced avoidance of these hydrologic features to the extent possible. This avoidance has resulted in operational inefficiency and loss of coal reserves. Under this guidance, avoidance may no longer be an option. It is possible that more hydrologic features will be proposed for dredging or filling as operators can no longer avoid all of the small streams and wetlands that may be "proximate waters" or "similarly situated waters." If CWA 401/404 permits will be necessary in all cases, there is no longer any incentive to practice avoidance. Coal operators will be forced to plan for higher costs and more permitting time in return for operational efficiency and maximum coal recovery.

A significant amount of Appalachian coal mining is conducted at sites that were surface mined before any comprehensive mining laws. These "pre-act" sites are usually hazardous to the health and safety of the public as well as sources of increased sedimentation to their watersheds and sometimes producers of acid mine drainage (AMD). Re-mining of these sites reclaims the abandoned pits to current standards. This re-mining has proven to result in significant environmental lift to these areas and their watersheds. Furthermore, wasteland is returned to productive uses. Because of these known benefits, Ohio has initiated a Re-mining Task Force to examine means to provide incentive for more re-mining. Unfortunately, this new guidance will be devastating to the re-mining process. One of the most serious disincentives to re-mining is the need for CWA 401/404 permits. The abandoned pits create water impoundments that serve as sources for streams. These pits commonly include wetlands. Water seeping from the toe of old spoil creates streams and wetlands. Although artificial, these hydrologic features are deemed jurisdictional and must be permitted under the CWA. Many potential re-mining sites have been left un-reclaimed because of the onerous cost of permitting, permitting time delay, and mitigation costs that are imposed. This guidance will only exacerbate this situation by establishing more jurisdictional waters. Government funds for reclaiming these sites will never
be adequate to reclaim all of the Appalachian pre-act mines. Re-mining, under current reclamation standards, has provided most of the reclamation and at no public cost. In contrast, these operations provide jobs and revenue. It is senseless to promote new guidance that provides disincentive to environmental improvement, job creation, and revenue production.

It is my opinion that the coal industry must be given special dispensation under the CWA to prevent the costs and delays that are now being experienced. This would be appropriate since the geology of coal provides for coal operators to be disproportionately affected by Chapters 401 and 404. The Surface Mining Control and Reclamation Act (SMCRA) has resulted in significantly less pollution from surface coal mining through its provisions that have reduced sedimentation and the production of AMD and achieved productive post mining land use. Furthermore, CWA rules provide a disincentive to re-mining. Significant benefit is lost. This new guidance amounts to a piling-on of more jurisdiction, more permitting, more cost, more delays, and more frustration for coal operators. This is undesirable at any time but even more so now when energy and jobs are at the forefront of national concerns.

My comments on specific items of the proposed guidance follow. They relate to the effects on Appalachian coal operators.

**Legal Justification**

I am not an attorney. My comments are the result of my research and discussions with attorneys

The Rapanos decision of the US Supreme Court established CWA jurisdiction. The plurality opinion was written by Justice Scalia. This opinion represents the rationale for the decision and is therefore the guiding rationale. The plurality opinion states explicitly that jurisdiction extends beyond traditional navigable waters to include "relatively permanent, standing or flowing bodies of water" and that only wetlands with a "continuous surface connection" to traditional navigable waters are considered protected by the CWA. This guidance goes far beyond the plurality opinion and establishes that nearly every hydrologic feature is jurisdictional under the CWA. The legal justification for this is that 5 separate opinions were rendered for Rapanos with no single opinion commanding a majority of the court. The guidance refers most often to the Kennedy opinion to justify its proposals for deeming almost every hydrologic feature as jurisdictional under the CWA. The legal justification for this is that 5 separate opinions were rendered for Rapanos with no single opinion commanding a majority of the court. The guidance refers most often to the Kennedy opinion to justify its proposals for deeming almost every hydrologic feature as jurisdictional. Thus, this guidance puts the weight of one opinion above that of the others to stretch the Rapanos interpretation beyond that of the plurality standard. My view is that Rapanos established limits on what is jurisdictional under the CWA. This guidance only limits what is not jurisdictional. It is, essentially, contempt of court.

**Section 3: Significant Nexus Analysis**

The Kennedy opinion is cited as justification for creating new categories of jurisdictional features. The guidance states that the agencies intend to consider "similarly situated waters", "proximate other waters", "waters in the region", and any other water with a "significant nexus" to be jurisdictional. Similarly situated waters are defined as, "...waters of the same resource type, specifically (a) tributaries; (b) adjacent wetlands; or (c) other waters that are in close physical
proximity to traditional navigable waters, interstate waters, or their jurisdictional tributaries..." Waters are considered "in the region", "...if they fall within the same watershed." The watershed is described as "...the area draining into the traditional navigable water or interstate water." Waters have a "significant nexus" if they are similarly situated, in the region, and "...have an effect on the chemical, physical, or biological integrity of traditional navigable waters or interstate waters that is more than "speculative or insubstantial"." In other words, if any hydrologic feature is of the same type, in close proximity to, in the same watershed and has any effect at all on downstream waters, it is jurisdictional. The guidance goes on to explain that a hydrologic connection is not necessary to establish a significant nexus per Justice Kennedy's opinion. This begs the question, "what is not jurisdictional?"

Field staff are not required to identify or evaluate every similarly situated water. It is only required that a sufficient number of such waters be identified and evaluated to establish a significant nexus. The unidentified and unevaluated similarly situated waters are assumed to have nexus. It appears that the onus is on Coal operators to identify features that have not been identified by agency evaluation yet are jurisdictional. This guidance is not conducive to the stated goal of providing clarity. How is this a cost and time saving?

**Section 4: Tributaries**

Again in this section, the EPA and Corps defer to the Kennedy opinion to expand the number of tributaries that would be jurisdictional under the plurality standard. The plurality standard established that a tributary to a navigable water is deemed to be jurisdictional if it is connected directly or indirectly through other tributaries and flow in the tributary is at least seasonal. Guidance explains that the Kennedy opinion will be used to deem tributaries that are not relatively permanent to be evaluated. Under the Kennedy standard the EPA and the Corps expect to assert jurisdiction over all tributaries to traditional navigable waters or interstate waters, provided that the tributary, alone or in combination with other similarly situated tributaries in the watershed, significantly affects the chemical, physical, or biological integrity of traditional navigable waters or interstate waters. Thus a tributary is jurisdictional where:

1. It is a tributary as defined for purposes of this guidance to a traditional navigable water or an interstate water; and
2. The tributary, alone or in combination with other tributaries in the watershed, has a significant nexus with the traditional navigable water or interstate water."

The key language, that a tributary must flow seasonally, is ignored. Thus, streams that are dry almost all of the time can be jurisdictional. This includes erosion ditches, roadside ditches, streams that have been altered, and other inconsistent conveyances of water that can be shown to have a normal high water mark. Natural and man-made swales are not to be considered tributaries under this guidance but that statement is qualified with the statement, "Even when not jurisdictional waters, these geographic features (e.g., swales, ditches) may still contribute to a surface hydrologic connection between an adjacent wetland and a traditional navigable water..." This clouds the issue as to the determination of jurisdiction for these "connection" features. How can they not be jurisdictional? By acting as connecting features between jurisdictional features, they meet the definition of having a significant nexus.
The features to be treated as tributaries will increase under this section, requiring more, not less time and money to permit and mitigate. Clarity has not been enhanced under this section.

Section 5: Adjacent Wetlands

The plurality decision in Rapanos defines adjacent wetlands as a wetland that is adjacent to a jurisdictional tributary. A surface connection must be present between the wetland and the jurisdictional tributary but the connection does not necessarily require the presence of water at all times. In order to be jurisdictional, an adjacent wetland must directly about the jurisdictional water and not be separated by "uplands, a berm, dike, or similar feature."

The Kennedy opinion is employed under this section to expand the number of wetlands that would be jurisdictional. Adjacent wetlands, according to Kennedy, can include any wetland that has a chemical, physical, or biological effect on jurisdictional tributaries. The guidance states, "As a general matter, "similarly situated" adjacent wetlands include all adjacent wetlands located in the point-of-entry watershed." In other words, all adjacent wetlands within a defined watershed are jurisdictional. The guidance states that wetlands are adjacent if they are bordering contiguous, or neighboring. In order to be considered adjacent, the wetland must have an unbroken surface or shallow subsurface connection, be physically separated by natural or man-made barriers, or be "reasonable close" or "neighboring." The guidance further states, "The agencies recognize that as the distance between the wetland and jurisdictional water increases, the potential ecological interconnection between the waters is likely to decrease." The acceptance of the Kennedy standard for adjacent wetlands clouds the issue. The plurality standard is more definitive. There must be a physical connection to a jurisdictional tributary. The vague terms used in this guidance (i.e., "neighboring", "shallow" subsurface connection, "reasonably close", "similarly situated") will make jurisdictional determination a highly subjective practice. Again, the guidance provides less clarity, will cause more features to be jurisdictional, causing increased costs and delays as opposed to its stated goals.

Section 6: Other Waters

Other waters include, "intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds..." The guidance describes "physically proximate other waters" as a subset of the above and defers to the Kennedy opinion to treat these in the same manner as adjacent wetlands. Consequently, the same difficulties with vague terms will make jurisdictional determination difficult, more time consuming, and costly.

"Other waters that are not physically proximate to jurisdictional waters" is another defined subset of "other waters." The jurisdictional determinations for this subset of "other waters" is deemed too difficult for field personnel to make a determination. The guidance states, "...at this time, we are not providing specific guidance on making such determinations and are instead directing agency field staff to continue the current practice of referring determinations for non-physically proximate other waters to their respective Headquarters and obtaining formal project-specific
approval before asserting or denying jurisdiction." This is not a situation that improves clarity or decreases costs and time.

**Section 7: Waters Generally not Jurisdictional**

Under the several categories of hydrologic features listed as non-jurisdictional, are artificial irrigated areas, artificial lakes or ponds, artificial reflecting pools or swimming pools in upland areas, small ornamental bodies of water for esthetic purposes, water-filled depressions created in dry land incidental to construction activities, and "pits excavated in dry land for the purpose of obtaining fill, sand, or gravel, unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States." It appears that most man-made hydrologic features are exempt from jurisdiction. This is as it should be. The purpose of the CWA is to protect natural waters. It is surprising that the exempt pits are limited with regard to the minerals being obtained and that the exemption ends when the site is abandoned. A man-made pit of water, created for any purpose, should not be jurisdictional. This is especially true of the pre-act abandoned coal pits found throughout Appalachia. These are, essentially, open windows to ground water. As previously stated, the coal underclay is typically an aquitard that will perch water. Consequently, the abandoned pre-act pits contain ponded water. Most often, the source of the water is ground water that flows freely into the open air of the pit on the underclay. The pit is essentially, a large cut-off ditch that has disrupted the normal flow of ground water that had previously served as recharge for downslope streams and wetlands. These pits can have an effect on navigable waters. However, the effects are artificial and create a hydrologic scheme that is significantly different from the natural scheme that existed prior to mining. Re-mining and reclamation of these pre-act pits restores the original hydrologic scheme to the greatest extent possible. It would seem appropriate that pre-act coal pits be given the same non-jurisdictional status as the other artificial features. This would eliminate the significant disincentive to re-mining, enabling significant environmental lift to watersheds containing such pits. It is senseless for environmental regulatory agencies to promote guidance that is adverse to environmental enhancement.

**Outcome of ACOE’s NW 49 permit renewal- as prepared by Cheryl Socotch, hydrologist, DMRM and submitted to Lanny Erdos for his information**

The major changes to NWP 49 - The ACOE did not appear to make it more difficult to get a NWP49 for remining. They are placing more burden on operator to quantify net increases in aquatic resources or environmental benefit (or ecological lift). They also clarified how the 40/60% provision of what area is determined to meet ‘remining’ verses “new mining” in order to meet the general permit criteria. We (RTF) provided a great deal of comments and argument for the criteria although it did not seem to do much in modifying the ACOE way of thinking.

The ACOE specifically noted during the review process that “…We believe authorizing remining of an unreclaimed site and requiring actions to restore unreclaimed areas is one of the most effective ways to reverse degraded water quality in a watershed.” Because of this “…the ACOE did not impose any new limits or restrictions on the NWP49. The states of Ohio,
Pennsylvania, Virginia and West Virginia frequently use remining activities to reduce acid mine drainage and sedimentation and have data to demonstrate these improvements”.

The ACOE further expressed that they do not believe the NWP 49 should have any linear footage or acreage limits, since the NWP 49 authorizes discharges of dredged or fill material into the waters of the US to reclaim previously mined sites and were unreclaimed, abandoned, forfeited and typically exhibit water quality and safety hazards.

These unreclaimed mine sites have unreclaimed highwalls, unvegetated mine spoil, disconnected stream segments, and/or pit impoundments. We as well as other state and federal agencies recognize that remining and reclaiming these areas is one of the most successful means for improving water quality, because these activities reduce sedimentation and acid mine drainage.

In many cases the net result of combing remining of a previously mined site with new surface coal mining activities in adjacent areas is to facilitate reclamation of the older mine site and reduce acid mine drainage and sediment from the older mine site to downstream stream segments.

Furthermore, NWP 49 provides an incentive to remine degraded areas, similar to the 1987 Rahall Amendments to the Clean Water Act, which enables mine operators to apply for the USEPA modified effluent limits developed specifically for remining projects.

5.3 Comments by the RTF members on other Agencies Rules/ Guidelines - OEPA

OEPA 404/404 certification of ACOE’s nationwide permits- The task force in 2011 and 2012 had a significant interest in the certification process by the OEPA for NW permits issued by the agency, which can place additional more stringent requirements on the applicant for a nationwide permit in addition to the requirements contained in the ACOE’s permit. Of specific interest for the remining program is the NW 49 (see section above for more details). In January of 2012 several task force members attended an information meeting with stakeholders hosted by the OEPA and the DMRM. In response to that meeting with assistance and input from the various attendees at the meeting, the Task Force Chairman prepared informal comments for the agency’s consideration in formulation of their final rule. Other staff members within ODNR, DMRM also
submitted comments directly to the agency. Robert Baker, OSU, Co-chairman of the RTF submitted comments to the OEPA on January 26th, 2012 via email to Rachel Taulbe.

**Informal comments from the Remining Task Force’s OEPA sub group in attendance for discussions on January 18th, with OEPA’s proposed water quality certifications for ACOE Nationwide Permit 49**

Attendees: DMRM; Mike Dillman, Scott Stiteler, Laura Bibby, and Cheryl Socotch, OSU; Robert Baker, OCA; Mike Carey, Melanie Schott, Ohio Coal Operators; Roger Osborne, Gary Alkire, Jamie Thomas, Rich Walker, OEPA; Rachel Taulbee, and Steve Cassidy, consultant, Dan Suzany

Initial comments to OEPA’s proposed certification to NW 49

**Part One: General Limitations and Conditions for all Ohio EPA Certified Nationwide Permits**

Comments:

1. Section D. Best Management Practices (1)- Reference is made to a document, "Rainwater and Land Development Manual", that needs to be checked to see if there is anything in it that could be a problem with respect to remining.

2. Section F. Mitigation (1)- Compensatory mitigation is required for the dredged or fill material into wetlands when cumulative wetland impacts, whether temporary or permanent, exceed one-tenth acre. This either needs to reference an exception for open pits in previously mined areas or at least give an exception under NW 49. I would rather that an exception is given for open pits in any previously mined area, whether it is a NW 49 or an individual permit.

3. Section F. Mitigation (2)- Previously mined areas with open pits definitely should not have any mitigation ratios applied to the open pits.

**Part Two: Nationwide Permit 49 (Coal Remining Activities)**

Comments:

1. Part 2 (g) - Why should low level class III streams, which can be, and has been considered in the past, as class III streams, have to be permitted as individual permits. There are situations where a stream can be classified as class III across old spoils that have matured over time. Those streams need to be a part of the remining operation for the remining and reclamation to occur on the area.

2. Part 3 (b) - A total of 2,000 feet of class II PHWH streams is too restrictive. When streams are being classified as class II, above the existing highwall, and even through the previously affected area, the totals very quickly exceed 2000 feet. In addition, ponds must be constructed to contain the runoff from the remine area, which adds additional class II
stream length to be affected. One drain way can easily total 2,000 feet of class II stream affectment. For remining to be encouraged, it needs to be determined that it is necessary to affect some stream length, which can be class II upstream of the previously affected stream in order to do the remining and reclamation. To do this, the amount of class II stream to be affected can add up very quickly. By doing this, a class II stream can eventually become a better class II stream when it no longer has the limitations due to previous disturbance. If an area needs to be reclaimed, then there should be no restriction by footage of stream. The only restriction should be that the stream length should be limited to what can be demonstrated to be necessary to do the remining and reclamation of the previously mined area, plus the drainage controls that have to be constructed to comply with the NPDES requirements for that area.

3. Part 3 (c) - The last sentence- three years is too restrictive-It sometimes takes five years to acquire all of the information necessary to develop all of the permit applications necessary for submittal to the different agencies. When the time frame and the information necessary for a DMRM permit was all that was necessary, three years was adequate. Now, even the DMRM time frames for background sampling that they have used in the past, need to be extended.

4. Part 10 - Permanent ponds in the upper headwaters can be a real asset for both virgin and previously mined areas. They can be constructed to provide water to the headwater streams throughout the year by providing a mechanism for slow release of storm water drainage. Without having storage for stormwater it just runs off over a short period of time. Unless there is continuous flow from some perched aquifer year round, the stream is considered to be intermittent. Ponds can be placed near, but downstream, of the intermittent flow, as well as, be positioned to be multipurpose by capturing sediment during mining to comply with NPDES requirements, then, after mining, they can provide for the slow release of both intermittent flow and stormwater flow, when combined will provide enough storage and slow release of water for a greater period of time and most likely continual flow of water year round and possibly could be classified as perennial after mining. The stored slow release of the water from the ponds could be done by various means to achieve a controlled flow that will assure that water can be released until the next storm event that can replenish the slow release volume to last until the next storm event, even in the driest time of the year. Ponds can especially be beneficial in remine areas where there is still some potential to be residual flow from the old spoils that might remain on the outslopes. Even though remining eliminates most of the problems created by the previous mining, there most likely will be small amounts of water that does not meet NPDES standards in the immediate vicinity of the source. The amount (loading) of substandard water is nearly always greatly reduced by remining. The residual amount of substandard water that is released to the greatly improved water quality downstream of the remine areas can even be better by utilizing storm water to dilute the substandard water before being released to higher quality streams that need protected. This will make better habitat downstream by providing a dependable source of water flow, even during the dry summer months. In addition, ponds with the ability to
provide slow drawdown in the upper headwaters greatly reduce the amount of damaging stormwater flows and help to control flooding downstream. This makes the watershed groups happy.

Pages 59 through 62

Using the appropriate functional assessment method as determined by OEPA, this certification authorizes. Unlimited impacts on streams that meet at least two of the following conditions

Comments:
1. Iron greater than 6.0 and manganese greater than 4.0 seem restrictive and technology based max daily effluent limitations. Monthly averages are half of these values
2. What is the basis of having to meet two of the three conditions?
3. pH and acidity could be very low, but the other two conditions cannot be met, which appears counter to the purpose of improving streams
4. Perhaps a tiered system should be considered
5. DMRM has developed criteria for polluted streams that will be provided to OEPA for their consideration
6. Using Ohio EPA’s rapid assessment method this certification authorizes
   a. no more than six acres of impact to category 1 wetlands

Comments:
1. the six acre number seems low for remining coal areas where unreclaimed pits are often present that contain low value wetlands and fringe encroachment of invasive species, which are dormant for extended periods of time
2. Most unreclaimed pits associated with past mining practices should not be classified as wetlands since the underclay is not a hydric soil
3. These pits are perched groundwater features with the underclay acting as an aquitard, and should not be considered surface water

This certification authorizes unlimited impacts to jurisdictional open waters resulting from previous mining

Comments:
1. OEPA and USACOE need to be on the same page in their respective interpretation of “jurisdictional open waters”
2. recommend OEPA participate with the RTF’s agency sub group, that meets periodically at the offices of the ACOE at Dillon Lake
3. what is the definition of jurisdictional open waters
4. Often these open waters may discharge via small cuts in the spoil by past mining operations, or unstable material movement, and have been characterized as JD waters. This interpretation is a significant disincentive to remining. The policy makers need to examine this phenomenon and develop policies that will provide incentives for remining
and restoration of the sub-watershed back to its pre-mining drainage patterns following remining.

6. This certification authorizes unlimited stream impacts associated with activities that satisfy the requirements of OAC section 1501:13-4-15 for pollution abatement and have an approved pollution abatement plan for coal mining operation.
   Comment: The USACOE needs to be on the same page in their implementation of NW 49

7. Impacts to waterways with a slope greater than two percent authorized under this nationwide permit shall be reclaimed and/or reconstructed using natural channel design standards identified in the OEPA/DMRM-Ohio EPA joint Stream Reconstruction Guidelines, when appropriate. Reclamation of streams with less than two percent slope will be completed using natural channel design techniques.
   Comments:
   1. Natural channel design techniques on steep slopes greater than 15% are not feasible or effective in a coal mining environment.
   2. A careful review of the guidelines needs to be conducted by a joint OEPA and DMRM group to determine if the guidelines reflect the latest field trials in a coal mining environment.

8. Ohio EPA will determine compliance with all of the certification conditions of this NWP.
   Comment: OEPA indicated this will done via a desk top review.

9. This certification does not authorize the placement of any permanent in-stream sediment ponds. All in-stream sediment ponds shall be removed in accordance with ODNR-DMRM regulations.
   Comments:
   1. In typical remining situations in-stream ponds are often a benefit to providing an ecological lift to the area, field applications have shown this to be an effective tool in improving water quality and biological diversity.
   2. OEPA should reconsider this prohibition and allow for in stream ponds at remining sites on a case by case basis, or eliminate the prohibition entirely.

10. This certification does not authorize the permanent placement of fill material.
   Comments:
   1. This item was not contained in the earlier draft circulated at the Dec. RTF meeting.
   2. Remining operations often require the blending of old spoils with the newly created spoil which help provide stability to the out slopes and suitable slopes for revegetating following resoiling operations.
   3. Recommend OEPA defer to DMRM rules and guidelines in this area.

11. This certification does not authorize the construction of new point source discharges to wetlands.
   Comment: 1. Does this include all category of wetlands, perhaps should only be applicable to high quality natural wetlands, not ones created by past mining practices.

4-19
12. Concentrated storm water runoff from best management structures to natural wetlands shall be converted to diffuse flow before the runoff enters the wetlands.

Comments:
1. Does this include all category of wetlands, perhaps should only be applicable to high quality natural wetlands, not ones created by past mining practices
2. Permanent ponds in remining situations can often augment or enhance existing wetlands

The following are additional comments provided to OEPA by Cheryl Socotch, DMRM hydrologist and forwarded to OEPA by the RTF Co-Chairman on January 27th, 2012:

“As discussed during our conference call meeting last week I want to provide some preliminary comments for you regarding the DRAFT Nationwide Permit 49 (Coal Remining Activities), with specific emphasis on Page 60 or 67, Item 3 (c):

3. Using the appropriate functional assessment method as determined by OEPA, this certification authorizes
   c. Unlimited impacts on streams that meet at least two of the following conditions: (proposed)
      □ pH less than 6.0 standard units
      □ iron greater than 6.0 mg/L/daily; and
      □ manganese greater than 4.0 mg/L/daily

These conditions must be measured during each of the low, intermediate and high seasonal variation background sampling at the downstream sampling point. Please refer to DMRM Policy and Procedure Directive Permitting and Hydrology 2000-5. Background sampling shall be obtained from a maximum three years prior to the date of the submittal.

Discussion

As we touched on during the conference call, the DRAFT water quality criteria appear to reflect the recommended USEPA tech-based effluent criteria for coal mining permits. These are effluent criteria from NPDES outfalls and would not necessarily reflect what we would standardize as mine-impacted water quality criteria. I am going to provide a few standards, or criteria for you and your staff to ponder (you will probably be sorry you asked for my comments (lol).

Some guidelines we use at MRM include some previous water chemistry values determined by the USEPA that suggest AMD impacts to waters. The parameters include: pH, total dissolved solids (TDS), sulfate, iron, manganese, aluminum, and zinc. The only two aquatic water quality standards established by the USEPA are for pH (6.5 to 9.0 standard units) and TDS (1,500 mg/l) although there are no standards for the other AMD parameters. Several of the neighboring Appalachian states do have some aquatic water quality standards for iron 1.5 mg/l (30-day average). The criteria limits that suggest impacts from AMD are summarized below:
Water quality values that suggest AMD impacts (FWPCA, 1968)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Criteria Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>&gt; 0.5 mg/L</td>
</tr>
<tr>
<td>Manganese</td>
<td>&gt; 0.5 mg/L</td>
</tr>
<tr>
<td>Aluminum</td>
<td>&gt; 0.3 mg/L</td>
</tr>
<tr>
<td>Conductivity</td>
<td>&gt; 800 μS/cm</td>
</tr>
<tr>
<td>Sulfate</td>
<td>&gt; 74 mg/L</td>
</tr>
<tr>
<td>Alkalinity</td>
<td>&lt; 20 mg/L</td>
</tr>
<tr>
<td>pH</td>
<td>&lt; 6.0 standard units</td>
</tr>
</tbody>
</table>

Personally, I feel that some of the above water quality criteria are a bit low, including iron, manganese and sulfate. Those criteria only suggest the presence of AMD, although the following criteria limits are used to determine the effects of certain heavy metals associated with AMD on aquatic life. These criteria limits are based on literary research and suggest that once parameters reach the limit, aquatic can be affected. Those limits are defined as following:


<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron- total (mg/L)</td>
<td>1.0</td>
</tr>
<tr>
<td>Aluminum (mg/L)</td>
<td>0.5</td>
</tr>
<tr>
<td>Manganese (mg/L)</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Again, I believe that the manganese limit is far below what we are actually seeing “in the field” (think 1.5-2.0 mg/L is more appropriate screening criteria) with respect to impact to aquatic resources.

I have also used the table below to assist watershed staff (and our own MRM staff) in characterizing stream water quality.

Table 5-2 Stream Water Quality Characterization

<table>
<thead>
<tr>
<th></th>
<th>No Detectable Mine Drainage Impact</th>
<th>Minimal Mine Drainage Impact</th>
<th>Moderate Mine Drainage Impact</th>
<th>Severe Mine Drainage Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>&gt; 6.0</td>
<td>5.5 – 6.0</td>
<td>4.5 – 5.4</td>
<td>&lt; 4.5</td>
</tr>
<tr>
<td>Total Fe (mg/L)</td>
<td>0 - 0.5</td>
<td>0.5 – 1.0</td>
<td>1 - 10</td>
<td>&gt; 10</td>
</tr>
<tr>
<td>Total Mn</td>
<td>0.0 – 0.5</td>
<td>0.5 – 2.0</td>
<td>2.1 – 4</td>
<td>&gt; 4</td>
</tr>
<tr>
<td>Total Aluminum</td>
<td>0.0 – 0.5</td>
<td>0.5 – 1.0</td>
<td>1.0 – 5.0</td>
<td>&gt; 5.00</td>
</tr>
</tbody>
</table>
---|---|---|---|---
Sulfate | < 75 | 76 - 250 | 250 – 500 | > 500
Alkalinity | > 20 | < 20 | 0 | 0
Acidity | 0.0 – 20. | > 20 | * | *

 Units in mg/L except pH = S.U. and specific conductivity = micromhos/cm
* Always want to see NET Alkaline water. Any net acid water is severe.

Using the above-mentioned criteria alone for periodic grab samples would in all fairness, not provide a good representation of how mine drainage is affecting aquatic organisms. Toxicity of AMD is dependent on discharge volume, loadings of total acidity, and concentrations of dissolved metals. Many organisms have a well-defined range of pH tolerance. The following pH range was taken from the Coal Mine Drainage Prediction and Pollution Prevention Manual, PADEP, 1998 as part of the Acid Drainage Technology Initiative (ADTI).

<table>
<thead>
<tr>
<th>pH</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;4.5</td>
<td>No Fish</td>
</tr>
<tr>
<td>4.5-5.5</td>
<td>Limited Recovery for some trout, dace and chub</td>
</tr>
<tr>
<td>5.6-6.0</td>
<td>Moderate Recovery</td>
</tr>
<tr>
<td>&gt;6.0</td>
<td>Further Recovery with rock bass, small mouth bass and darters</td>
</tr>
</tbody>
</table>

Table 5-3: Recovery Potential for Aquatic Organisms

PH has not always been a good indicator of acidity. PH is an indication of the level of hydrogen ions in a solution. Near-neutral pH can mask the possibility of significant acidity in water. We normally use mineral acidity for evaluation purposes which is produced from the oxidation and precipitation of metals. Another more suitable indicator we use would be the amount of acidity and alkalinity of waters (of waters leaving the site). Waters with an excess of alkalinity are able to buffer low pH and prevent further lowering of the pH to potentially toxic levels. As part of our Division’s restoration efforts (our AMD program) we have found that streams that have achieved a net excess of alkalinity (net-alkaline) meet target restoration goals (meeting WWH, etc).

The Nationwide Permit 49 deals specifically with remining permits and as part of the required characterization of the mine drainage impairment in streams at these mine sites, the operator must sample more frequently and high seasonal sampling events (as recommended in the OEPA draft). In fact, they are required to sample no less than 12 monthly samples during a normal water year and may need to submit more as needed. Sampling locations are very important in determining whether a stream has been impaired or not, therefore the locations should be more specific than designated in the MRM PD 2000-5 directive (as indicated in the Draft). I wouldn’t expect the OEPA to go into specifics of appropriate sampling locations (beyond mixing zones of AMD discharge in stream, outlets, etc) so perhaps we (MRM) can “beef up” our PD for sampling and determining AMD abatement loads for remining permits.
OEPA should consider lower limits than those proposed for streams that have impacts (AMD) from mine drainage. OEPA could possibly consider the lower limits listed above or at the least, the 30-day average (NPDES criteria) for iron and manganese (which is half the limits proposed for both). Another criterion could be “acidity exceeds alkalinity” although many of the streams in Ohio that are net-alkaline are impaired due to metals dissolution from mine drainage.”

Table 5-4  OEPA’s final rule version for their 401 certification of the ACOE’s NW 49 permit

<table>
<thead>
<tr>
<th>NWP 49</th>
<th>2007-2012</th>
<th>2011(as PN'd)</th>
<th>2012 (suggested final draft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QHEI &lt; 45/Class 1</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>QHEI 45-60/Class II</td>
<td>2000 LF</td>
<td>2000 LF</td>
<td>1000 LF- previously mined areas</td>
</tr>
<tr>
<td>QHEI &gt;60/MWH or greater/Class III</td>
<td>0 LF</td>
<td>0 LF</td>
<td>300 LF- unmined areas</td>
</tr>
<tr>
<td>Previously mined streams with poor water quality</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Category I wetlands</td>
<td>6 acres</td>
<td>6 acres</td>
<td>6 acres</td>
</tr>
<tr>
<td>Category II wetlands</td>
<td>1 acre</td>
<td>1 acre</td>
<td>1 acre</td>
</tr>
<tr>
<td>Category III wetlands</td>
<td>0 acres</td>
<td>0 acres</td>
<td>0 acres</td>
</tr>
</tbody>
</table>

Comments provided by Mike Dillman to Chief Erdos regarding the final version of the OEPA NW49 permit regulations on May 14th, 2012:

“Based on my read of the public-noticed final 401 water quality certification, the applicant can have unlimited impacts to streams if: 1) they are associated with a pollution abatement area for the purposes of obtaining modified NPDES effluent limits; or 2) they meet two out of three thresholds for pH, iron, and manganese (pH 6.0, iron 3.0) mg/L, manganese 2.0 mg/L). If none of those situations apply, then the applicant is limited to the 1000 linear feet within previously mined areas, even though alkaline mine drainage, and highwalls, etc. may be present.

The original public-noticed version from January of this year had essentially maintained the tiered system from the just expired certification, which contained the 2,000-foot criterion and was also based on a combination of QHEI scores and stream classes applicable to primary headwater habitat streams. The final version appears to have scrapped that in favor of a distinction between mined and unmined areas.
One thousand linear feet may make it difficult to qualify for the certification, given sizes of application areas. It should be noted, though, that unlimited impacts can occur if pH, iron, and manganese degradation exists, or if, in the case of the 1000-foot limit, written authorization is provided by the OEPA. Perhaps we can work out a mechanism with OEPA for obtaining that authorization based on documentation from DMRM.”

5.4 Proposal to the DMRM for funding to assist Ohio Coal mine operators with Government Financed Construction Contracts (GFCC)

Funding for activities associated with remining can be considered in two areas: on the permit and off the permit under an AML contract. The first area on the permit would involve assistance to mine operators in preparing applications that involve remining areas for improvements to either the land or water or both. As part of SMCRA, OSMRE at one time provided funds to small operators for preparation of mine permits. This provision was eliminated in the 1990’s. Pennsylvania instituted the Remining Operator’s Assistance Program in 1996 using State funding, which was discontinued in 2003, due to lack of funding. However, the remining program during its history involved 45 operations and reclaimed 2,107 acres of land. Ohio may want to consider legislative changes to provide this type of assistance to mine operators for permitting of remining operations. DMRM comment: (Are there any operators that remain that would qualify as “small” operators? I think this is no longer an incentive as most of our operators we contract with are large.

Off the permit: Numerous AML features exist adjacent to coal permitted areas. The DMRM has entered into contracts with mine operators to reclaim AML sites under a no cost and cost contracts. In reviewing Ohio’s contract history with mine operators from the period of 1982-2009, there have been 22 cost contracts entered into with mine operators to reclaim eligible AML sites for a total cost of 1.6 million. This amount reclaimed 382 acres at an average cost of $5,900 per acre. The Division entered into 95 no cost contracts during this same period reclaiming 1,132 acres valued at approximately $8,000/acre for a total value of over 9 million dollars. Since 2000 there has been a precipitous drop in the number of mine operators contracts executed for both no cost and cost contracts compared to the prior two decades. For example, for no cost contracts there was a 75% reduction in contracts and 85% reduction in acres reclaimed under this mechanism compared to the prior decade. For cost contracts there was an 85% reduction in contracts and 90% reduction in acres reclaimed compared to the prior decade. Some reasons for these reductions include a reduction in overall AML funding, lack of coordination and understanding of the AML grant and contract process by the parties involved, and other permitting issues such as OEPA Stormwater, and 404/401. DMRM comment: This isn’t true; our AML program has been in communications upfront with operators on at least 4 different potential AML enhancement projects, Piney Fork – Oxford, Burger Gob Pile – Hendershot/Big Run Resources, Rambo – Oxford, and Mulga Run just in the last 6 months. We have had multiple meetings and communications with these operators on how the process works and what our expectations are through the process. AML Funding- in FY 2009 - 2017 AML federal funding will be increasing substantially.
The Division may set aside up to 30% of their AML grant funds for the AMD set aside account, which essentially becomes state funds once transferred. These funds could be used to expand direct negotiated contracts with mine operators to abate AMD. **DMRM comment:** Funds within the AMD account must be expended following the requirements of our AMD project development process, as discussed in Ben’s attached comments. Additionally, our funding setup and budgeting allows for us to insert a project into our grant (PH&S projects) or fund it through our AMD program if it meets our priority requirements. The decision on which projects are funded needs to ultimately lie with the AML program so we can continue to report and answer to the OSM and the public regarding our completion of high priority (PH&S and AMD projects).

As requested by the RTF for background information, see below funding projection from OSM. These are of course subject to revision based on OSMs funding formulas and budgeting.

**Table 5-5** Federal Non-Emergency Program Funding

<table>
<thead>
<tr>
<th>FEDERAL NON-EMERGENCY PROGRAM FUNDING</th>
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<tbody>
<tr>
<td>Hypothetical Distribution for Fiscal Year ( $ millions )</td>
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<tbody>
<tr>
<td></td>
<td>$4.9</td>
<td>$8.1</td>
<td>$8.3</td>
<td>$12.1</td>
<td>$12.6</td>
<td>$16.4</td>
<td>$18.6</td>
<td>$17.2</td>
<td>$13.8</td>
<td>$13.8</td>
<td>$15.7</td>
<td>$21.6</td>
<td>$17.0</td>
<td>$17.0</td>
<td>$17.0</td>
<td>$17.0</td>
<td>$17.0</td>
<td>$17.0</td>
<td>$267.1</td>
</tr>
</tbody>
</table>

4-25
6. RECOMMENDATIONS FROM THE SUB GROUPS

6.1 Design Assistance

The Division provides design assistance through consultants hired under an annual standing contract using State AML funds to complete stormwater pollution prevention plans for mine operators entering into no cost reclamation projects. Alternatively, the Division could provide design assistance utilizing existing in-house staff to complete the storm water plans or contract directly with the mine operator’s consultant. The amount of money allocated for this purpose would be determined by the Chief on annual basis and would come from the unreclaimed lands fund. No legislation or rules are needed to implement this recommendation. Status - Under consideration by the Chief

6.2 Tax Credits

The Division should consider amending “ORC Section 1513.171 Tax Credit for reclamation outside of permit area” to include reclamation of lands affected by past mining practices prior to August 3rd, 1977 in addition to lands which the performance security was forfeited. This credit would pertain to the reclamation forfeiture fund. Certain limitations on the amount of tax credits that would be issued per year and under what level the fund must reach before tax credits would be issued need to be further discussed. This incentive would provide a monetary equivalent for reclamation to the operator for work performed nearby their permit under a no cost contract. This recommendation would require a legislative amendment and an OSMRE program amendment. DMRM comment: This is not an option at this time due to the fund not being solvent per our actuarial study

6.3 Strategic Planning

The Division include in its strategic planning process a goal that promotes remining for reclamation of eligible AML areas by mine operators and reports the results annually. Action steps to achieve this goal should be identified. DMRM comment: These have already been implemented. See strategic plan items below.)

GOAL I. Implement EXECUTIVE ORDER 2011-01K~ Establishing A Common Sense Initiative
OBJECTIVE A
Improving systems, communication and processes to advance jobs creation.

Strategy 1: Meet with the construction and mining industries to identify ways DMRM can develop and implement an outreach program that informs Ohio-based companies about abandoned mine land (AML) contracting opportunities (Target Date: April, 2011)

Accomplishments

The Remining Task Force Committee has incorporated this strategy & will be finalizing procedures, incentives, and recommendations for submittal to the steering committee prior to implementation

Partnerships

OBJECTIVE C
Communicate AML reclamation initiatives to public leaders, non-profit organizations and industry.

Strategy 2: Support partnerships with industry to encourage re-mining as part of the reclamation process. (Target Date: Ongoing)

Accomplishments

Evaluated two sites in Jackson County but did not recommend either site as relative to meeting AMD Program Priorities

Challenges
Marrying distinct program priorities to sites proposed by operators is difficult. This may mean there will be a limited number of opportunities for the AMD Program to cooperate.
6.4 Federal AML set aside for Remining Projects

In order to abate AMD problems on a more global scale that may or may not be located in an approved AMDAT area, on an annual basis the Division set aside a certain dollar amount in the AMD set aside account, for unnamed remining projects with coal operators to be determined on a case by case basis. (Note: Specific remining projects/direct contracts with mine operators may be also be funded under Federal health and safety grant process administered by the Division.) At the time a project is identified the Division’s staff will review the proposed project and make the final decision about the eligibility and scope of the project. The scope of the funding may include engineering costs only for approved projects and/or construction costs. Once the Division has approved the project the appropriate AMLIS updates will be forwarded to the OSMRE. (note: in the case of Federal Grant projects, following review and approval of the project by OSMRE an authorization to proceed (ATP) will be issued by the agency), followed by the Division’s contracting process with the mine operator. AMD set aside projects do not require a NTP from OSMRE.

The Chief of the Division will review and determine the set aside amount on an annual basis based on the interest and success of the set aside program. No legislation or rules are necessary to implement this program as this authority exists within the Division’s current legislative authority to direct contract with mine operators under both section 1513.37 and 1513.27.

DMRM comment: Projects can be incorporated into our grant or funding if priority is there.
DMRM comment: The Division implements clear guidance to the mine operators and the staff about opportunities that may exist at AML sites nearby mine operator’s existing or proposed mining operations at the earliest possible time in order to include projects with merit into the existing AML grant process in a timely manner.

This is also being addressed by the Remining Coordinator via the revised PD for negotiated mine operator contracts.

6.5 Revise Ohio’s surface mine application and highlight aspects of the operations that proposed remining operations

Status: DMRM staff worked with RTF sub group members to revise and update the DMRM application. These changes have been incorporated into the electronic surface mine application initiative (see DMRM website for the revised electronic surface mine application).
6.6 Create and fill a Remining Coordinator position within the DMRM

The task force co-chairman believed the DMRM has not focused enough resources in the remining program area, and no one specific person had responsibility in this area. Over the years, DMRM attempted to incorporate this program area into existing staff’s responsibilities. This caused a fragmented approach to implementation of the remining program and a lack of understanding of the program aspects and full implementation of remining incentives for the mining industry. Outreach to the mining industry was psoriatic and ineffective. A recommendation was made by the RTF to post full time remining coordinator position in the Division. **Status:** The DMRM accepted this recommendation and posted a Remining Coordinator position in 2012. Cheryl Socotch, a hydrologist working in the permitting section with extensive experience in the AML program accepted this position in June of 2012. Unfortunately Cheryl passed away in 2014. The position of Remining Coordinator has not been filled as of the end of 2015. However, existing DMR staff are working to continue the remining dialogue and advance Ohio’s remining program.

6.7 Participate in field reviews of proposed remining projects and GFCC areas nearby active and proposed surface mine operations

**Oxford Mining’s Rambo Site- Status:** Members of the RTF met in the field to review the proposed Rambo project by Oxford Mining in Perry County, Ohio. DMRM met with the company and RTF members on several occasions and reviewed the potential of the area under a GFCC at no cost to the state. Since the DMRM has had limited experience in this program area, and limited resources to pursue a GFCC contract in a timely manner the proposed project area did not move forward. Subsequently, Oxford Mining obtained a modified NPDES non numeric BMP permit at this site and is currently actively remining the area under their approved permit.

6.8 Conduct outreach activities

OSU researchers prepared abstracts and presentations for three separate entities as follows:

1. **National Association of State Land Reclamationist (NASLR)**
   A presentation by Robert Baker, and OSU student Nate Mauger was made in September of 2011 at the NASLR meeting held in Glade Springs WV

2. **Ohio Mineland Partnership (OMP)**
A presentation by Robert Baker, OSU researcher, and OSU student Nate Mauger was made in October of 2011 at the OMP annual meeting titled “Coal Remining: Review of Duck Creek Watershed and Remining’s Role in Mitigating Impacts from Pre-law Legacy Mining in Oho, 1st interim update” (see figure 6-1).

Figure 6-1 Nate Mauger, OSU student presenting at OMP meeting

3. National Association of Abandoned Mine Land Programs (NAAMLP)
   A presentation was made by Robert Baker at the 2014 annual meeting of the NAAMLP titled “Coal Remining: Review of Duck Creek Watershed and Remining’s Role in Mitigating Impacts from Pre-law Legacy Mining in Oho, 2nd interim update.”
7. CONCLUSIONS AND RECOMMENDATIONS

As a result of the activities conducted by OSU researchers and DMRM staff, Ohio’s Remining Program has advanced significantly during the Phase I, Part II effort. Lines of communications were opened, comments were provided to the respective agencies working in this field, PDs were updated or developed, and appropriate forms and applications were updated to support and enhance remining activities. Ohio’s RTF members also provided a key role in advancing the issues and discussions put before them. A full time Remining Coordinator position has been established within the DMRM, however currently the position has not been backfilled since Cheryl’s passing. There is, however, more work that needs to be done. The DMRM has reconvened meetings of the Remining Task Force in 2015, and the group meets on a bi-monthly basis. The O.R.C. 1513 defines remining as, “….conducting coal mining and reclamation operations which affect previously mined areas.” A more appropriate working definition used by the Remining Task Force expanded the definition to; “Remining is a secondary recovery operation of coal reserves by an active mine operator that will re-affect and reclaim previously mined lands in the permitted area, or achieve reclamation outside the permit limits under a state administered contract with the mine operator that results in improvements to water quality or land use, and/or the elimination of hazards to the public’s health and safety.” In order to achieve this definition we recommend the following:

1. Continue to support the OSU proposal for a Phase II remining study as logical follow up to the Phase I study both Part I, and Part II. Funding for the Phase II work is uncertain at this time.
2. Assemble the Remining Task Force on a regular basis to keep the lines of communication open between the various agencies, DMRM staff, and the coal industry or alternatively, make “Remining” a standing topic for the coal workgroup meetings conducted by the DMRM staff on a regular basis.
3. Demonstrate innovative remining projects, such as AML enhancement projects with mine operators; annually utilize and budget AML funds consistently and programmatically for this purpose.
4. Continue to work with the various agencies involved in permitting and academia to build support for remining activities and to recognize that “Remining is Mitigation.” This is an important concept that needs concrete approaches to be flushed out and adopted by the regulatory authorities. (see section 5.2 Comments by the RTF members on other Agencies Rules/Guidelines –ACOE)
5. Coordinate permitting and AML staff involvement to incorporate remining incentives and opportunities into the application process and identify potential reclamation projects adjacent to permitted areas that could be reclaimed using AML funds.
6. Provide education and training to the DMRM staff and other agencies involved that outlines the benefits and incentives available within the Remining Program.
REFERENCES

(GeoFacts No. 14, ODNR, Division of Geological Survey).

“Effectiveness of Pennsylvania’s Remining Program in abating abandoned mine drainage: Water Quality Impacts”, 2002
APPENDIX A. REMINING TASK FORCE LIST OF MEETING DATES AND ATTENDEES
APPENDIX B. ACOE PROPOSED REISSUANCE OF THE NATIONWIDE 49 PERMIT