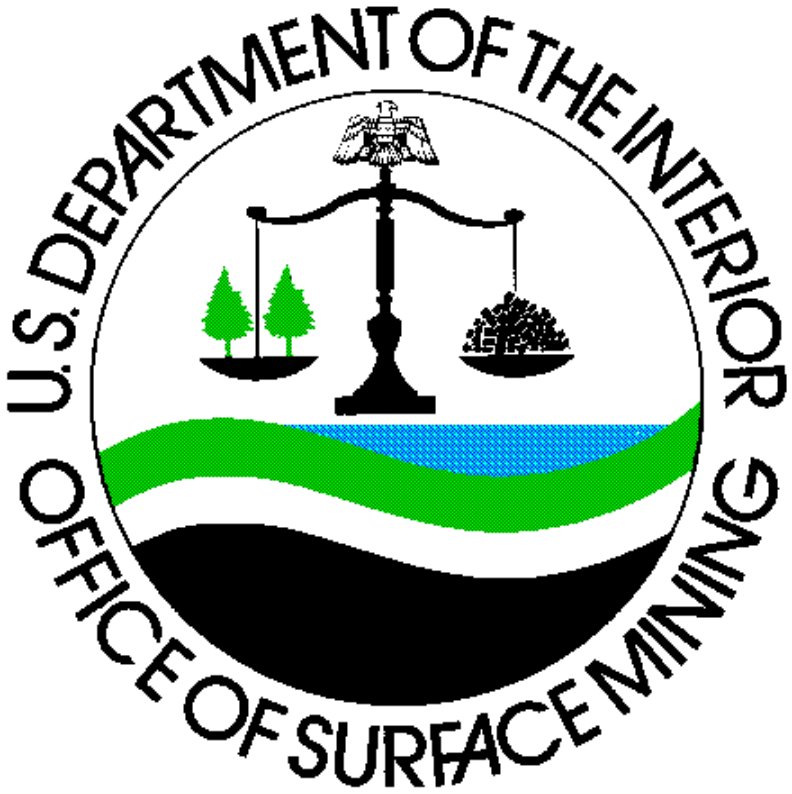
2010 National Priority Review – Adequacy of Bonding in the Approved Pennsylvania Program



U.S. Office of Surface Mining
Pittsburgh Field Division
December 2010

Table of Contents

Appendices

National Priority Review – Bond Adequacy Study

EXECUTIVE SUMMARY

The Office of Surface Mining Reclamation and Enforcement (OSM) required its field offices to conduct a national oversight review of the states' procedures for estimating reclamation costs for establishing bonds on coal mining permits. This review required; an analysis of each states' process for calculating and updating bonds; that the OSM Bonding Handbook be utilized to act as a barometer for evaluation of total bond required under state program; and an assessment of recently reclaimed forfeiture sites to determine adequacy of reclamation in relation to forfeited funds available. This report provides the details of those evaluation techniques and resultant findings of the Pennsylvania full cost bonding program.

The results of this limited study indicate that the Pennsylvania Full Cost Bonding Program does not provide sufficient funds to complete the reclamation specified by the permit on the forfeited and reclaimed permits reviewed. OSM is concerned that current program guidance in how bonds are calculated, may be resulting in less than adequate bonds on some permits.

Since 2001, OSM has reviewed the Pennsylvania Department of Environmental Protection (PADEP) full cost bonding program procedures, and PADEP efforts to develop and maintain Bond Rate Guidelines commensurate with reclamation cost associated with Abandoned Mine Reclamation contracts. OSM oversight inspection data of mine sites subsequent to full cost bonding conversion have consistently documented that PADEP inspection and permit review staff routinely update bonds at each mine site to keep pace with changing site conditions. This review found that PADEP is implementing full cost bonding in compliance with the Pennsylvania approved bonding program. Mining plans are being fully evaluated and appropriate bond rates are utilized in the initial bond determination, and sufficient program control measures are in place to assure bonds posted fully address all program requirements. However, when the OSM Handbook was utilized, the preliminary results show bond amounts were greater than the bond prescribed under Pennsylvania program in every permit except one. The range was from -1% less than to 49% greater than the PA bonds. The small sample of sites reviewed under this study may have contributed to this disparity. It should be noted that the OSM handbook approached reclamation cost estimates from an engineering perspective and PADEP utilizes actual mine land reclamation contract costs, which frustrate direct straight line comparisons. PADEP has identified several other factors regarding reclamation cost estimates which they believe have also contributed to differences noted in this report.

Review of the reclaimed forfeiture sites provide mixed results in that land reclamation on the three reclaimed sites did not fully match the approved reclamation plan in the permit due, in part, to lack of funds available to achieve reclamation required in the permit. Minor to significant modifications were made to each of the reclamation plans contained in the forfeited permits in order to complete reclamation with the funds available. In one case additional state funds were needed to complete reclamation. It should be noted that in all cases the reclaimed sites land reclamation was found to be in compliance with approved program requirements, even though

permit requirements were not met. PADEP identified untreated post mining discharges in two of the three forfeiture sites, as noted in the permit files and verified by OSM inspection staff. However, neither permit operator was required to post a water treatment bond or establish a trust fund to address those concerns. PADEP avers that identification of the discharges occurred subsequent to bankruptcy declarations, preventing the acquisition of treatment bonds or establishment of treatment trust funds. In that case, program adjustments need to be made to promote timely identification of discharges prior to bond forfeiture declaration.

This report identifies bonding program issues which are contributing to insufficient funds being available to complete the permit reclamation plan. The particular items identified which may be causing the final bond to be less than needed are; the bond calculations do not include a factor for spoil swell which needs to redistributed at time of reclamation; the manner in which spoil volume is calculated does not address actual pit size, but rather is limited to the coal foot print; inclusion of a 15% bond increase rule prior to requiring additional bond; and waiver of annual bond reviews for certain permits. These and possibly other bond calculation items need to be fully assessed and if determined necessary, bond program adjustments need to be made to assure sufficient funds are available to complete permit reclamation requirements on a case by case basis. OSM is committed to working with PADEP to address bond program issues which need addressed to assure sufficient funds are available to complete reclamation to the permit specifications. Other items affecting final reclamation include lack of a prescribed process to have operators post water treatment bonds in timely manner. Finally, the reclamation modifications of forfeited sites is an issue identified in the report which will require additional study before the preliminary findings identified can be fully evaluated and a determination made regarding the efficacy of the approved program.

Acronyms used in this report

PADEP - Pennsylvania Department of Environmental Resources

OSM – Office of Surface Mining

PFD – Pittsburgh Field Division

ABR – Annual Bond Review

BRG – Bond Rate Guidelines

Study Background and Goals

OSM's Evaluation Year 2010 Work Plan and Performance Agreement with the Pennsylvania Department of Environmental Protection includes a study of Pennsylvania's bonding program. The specific purpose of the study was to document and evaluate the effectiveness of Pennsylvania's bonding program in assuring sufficient funds are available to complete the reclamation plan, should a permit be forfeited. This review is one of OSM's 2010 National Priority Review topics. The full work plan study is attached.

The study selected 6 active mining permits, all fully involved in coal extraction, or in one case, refuse disposal. One permit was selected for each of PADEP's District Mining Offices. The Districts are independently responsible for permitting and inspection of coal mine sites. Three analyses were performed on each permit as discussed below.

- Accuracy of the PADEP calculated bond amount. This included analysis of the initial bond calculation, and any Annual Bond Reviews, the Bond Rate Guidelines in effect at the time, and a review of the permit to determine the size of the operational area, and limitations on pit size and disturbance area.

- Mine site compliance with operational area map and permit requirements.

- Bond amount suggested through the use of OSM' Bonding Handbook.

In addition, the study included a review of surface mine permits forfeited since conversion to conventional bonding in 2001, to determine the status of reclamation, and adequacy of the forfeited bond.

Findings are discussed in the individual section reports.

Regulatory Framework

30 CFR § 800.14 Determination of bond amount, contains the bonding regulations most relevant to this study. They are:

(a) The amount of the bond required for each bonded area shall:
(1) Be determined by the regulatory authority;
(2) Depend upon the requirements of the approved permit and reclamation plan;
(3) Reflect the probable difficulty of reclamation, giving consideration to such factors as topography, geology, hydrology, and revegetation potential; and
(4) Be based on, but not limited to, the estimated cost submitted by the permit applicant.
(b) The amount of the bond shall be sufficient to assure the completion of the reclamation plan if the work has to be performed by the regulatory authority in the event of forfeiture, and in no case shall the total bond initially posted for the entire area under one permit by less than $10,000.

Pennsylvania bonding regulations relevant to this study are:

§ 86.145. Department responsibilities.

(a) The Department will prescribe and furnish the forms for filing bonds.

(b) The Department will prescribe terms and conditions for bonds and insurance.

(c) The Department will establish bonding amount rate guidelines based on the estimated cost to the Department for completing the reclamation requirements of the permittee under the law,

the regulations and the conditions of the permit considering the factors listed in § 86.149(b) (relating to determination of bond amount). The guidelines shall be reviewed and, if necessary, revised by the Department annually to reflect the current cost of reclamation to the Department. The Department may consider fees, fines or other sources of money paid by the permittee and dedicated for reclamation of defaulted permit areas in determining bonding guidelines.

(c) The Department will determine the amount of the bond required for the permit areas, including adjustments to the initial amount from time to time as land acreages in the permit area are revised, costs to the Department of reclamation change or when other relevant conditions change according to the minimum requirements of § 86.149.

§ 86.149. Determination of bond amount.

(a) The standard applied by the Department in determining the amount of bond will be the estimated cost to the Department if it had to complete the reclamation, restoration and abatement work required under the acts, regulations there under and the conditions of the permit. The Department may establish bonding rate guidelines which utilize the factors in § 86.145(c) (relating to Department responsibilities).

(b) This amount will be based on, but not limited to, the following:

(1) The estimated costs submitted by the permittee in accordance with § 87.68, § 88.96, § 88.492, § 89.71 or § 90.33.

(2) Reclamation costs for surface mines related to the specific size and geometry of the proposed mining operation, the topography and geology of the permit area, the potential for water pollution or hydrologic disturbances, the availability of topsoil and the proposed land use.

(3) The costs related to distinct differences in mining methods and reclamation standards for bituminous surface mines, anthracite surface mines and underground mines.

(4) The cost of relocating or reconstructing roads or streams within the permit area.

(5) The cost of sealing shafts or other mine openings, removal of buildings, facilities or other equipment, constructing, operating and maintaining treatment facilities and correcting surface subsidence.

(6) The additional estimated costs to the Department which may arise from applicable public contracting requirements or the need to bring personnel and equipment to the permit area after its abandonment by the permittee to perform reclamation, restoration and abatement work.

(7) The amount of fees, fines or other payments made to the Department and dedicated by the Department for reclamation, restoration and abatement of defaulted permit areas.

(8) Additional estimated costs necessary, expedient and incident to the satisfactory completion of the requirements of the acts, regulations there under and the conditions of the permit.

(9) An additional amount based on factors of cost changes during the preceding 5 years for the types of activities associated with the reclamation to be performed.

(10) Other cost information as required from the permittee or otherwise available to the Department.

§ 86.150. Minimum amount.

(a) The minimum amount of bond for bituminous coal mining activities and anthracite and bituminous coal refuse disposal operations shall be $10,000 for the entire permit area, including additional acreage permit revisions thereto.

(d) The minimum amount of bond for anthracite coal mining activities—except anthracite coal refuse disposal operations—is $5,000 for the entire permit area, including additional acreage permit revisions.

Pennsylvania Bonding Program Background and Description

From 1982 until 2001, Pennsylvania employed a bifurcated bonding system. Surface coal mines, coal refuse reprocessing operations and coal preparation plants were covered by an Alternative Bonding System (ABS), and underground coal mines and coal refuse disposal operations were covered by a conventional bonding system. On August 4, 2001, Pennsylvania terminated the ABS and implemented a conventional bonding system for surface mines, coal refuse reprocessing operations, and coal preparation plants. All permit applications received on or after August 5, 2001, were required to be bonded under the conventional bonding system. Operators with active mine sites permitted under the ABS were required to either fully bond the operation or reclaim the site by June 30, 2002. This study only addresses surface mine and refuse disposal permits which are conventionally bonded.

Pennsylvania's bonding program for land reclamation of coal mines is presented in Technical Guidance Document Number 563-2504-001, effective November 25, 2006. A copy is attached. Under Pennsylvania's conventional bonding program, there are two types of calculations that determine the amount of bond required for a permit.

Every year, the Department computes and publishes the BRG. These guidelines cover a variety of mining and reclamation activities including backfilling, grading, revegetation, tree planting, ditch excavation and removal, pond removal, Stage 3 maintenance bond, and other activities for which the Department would be responsible should the permit forfeit. BRG are based on unit costs for competitively bid contracts for abandoned mine land reclamation under the jurisdiction of the Bureau of Abandoned Mine Reclamation. For most categories, the most recent 3 or 4 year average is used to calculate the guidelines. In the event a unit cost necessary to calculate a reclamation bond, is not in the BRG, any additional cost information will be used. If needed, the rate will be set from a standard reference like *Means Building Construction Cost Data*, or *Walker's Building Estimator's Reference Book*. The most recent BRG is applied to new permit applications, and annual reviews use the most current BRG available to determine if additional bonds are needed. The Department may review the adequacy of bonds on existing permits based

on the BRG, at any time. The Department conducts these reviews annually, at mid-term review, and at permit renewal.

The BRG is applied to the actual permit. The Technical Guidance contains a Bond Calculation Worksheet, which is prepared by the permit applicant, or technical consultant. This Work sheet incorporates and applies the BRG to the permit.

Pennsylvania's bonding program essentially defines two areas within the permit boundary. They are the Mining Area, on which mining is authorized, and the Operational Area which contains the maximum number of acres allowed to be disturbed and other mine limits authorized at any one time. The permit application must describe the maximum volume of open pit(s), the size of the pit and spoil area, the area needed for support activities, the maximum acreage to be disturbed at any point in time, the revegetation requirements, and other activities detailed in the Bond Calculation Sheet. This constitutes the operational area, which is delineated in Exhibit 9, known as the Operations Map. The operational area is defined by PADEP in Part C of the Authorization to Mine in the permit issuance. This Authorization to Mine remains the official designation of the operational area until and if a succeeding ABR, re-defines the limits of mining.

This Operational Area can then move within the Mining Area without further approval, as long as the pit dimensions and volume, and the total disturbed acreage do not exceed the defined limits. When the operator demonstrates that a reclaimed area is planted, growing and stable, that acreage can be dropped from the Operational Area, and new acreage can be added. However, a Stage 3 maintenance bond is retained for all revegetated areas until released. Therefore, the bond and operational area "floats" over the entire authorized mining area as mining progresses. The bond must be adjusted up if the operator wants to increase the approved volumes and dimensions, increase the operational area, or if a new BRG requires an adjustment. The bond can be adjusted down if the operational area shrinks or the reclamation plan changes. When the final pit in the mining plan has been backfilled and graded, Stage 1 bond release can begin, with up to 60% release upon completion of Stage 1 reclamation. Additional amounts can be released when the permit has reached Stage 2. However, sufficient amounts of bond must be retained for re-establishment of vegetation and reconstructing drainage structures until Stage 3 has been achieved.

Acreage which has achieved Stage 2 reclamation standards, and is taken out of the operational area, still retains a stage 3 bond until released. Therefore, there is the possibility that the bond retained on this acreage that is "left behind", will eat away at the operational area bond until there is insufficient bond remaining should the permit forfeit with open pits. PADEP reports that as long as Stage 1 bond remains, there should be sufficient funds for replanting failed stage 3 areas. This is because stage 3 bond is just several hundred dollars/acre. However, PADEP monitors this situation through the ABRs and mid-term reviews and would require upward adjustments if needed.

Pennsylvania requires an ABR based on the anniversary date of permit issuance. A report is prepared by the mining company, and reviewed by PADEP. The report includes documentation of land owner notification of reclamation completed in the prior year; an updated operational

area map, including planted areas; and a comparison of current reclamation liability versus bonded liability. The reclamation liability is calculated using the current BRG. The new ABR becomes the new operational area. In accordance with Technical Guidance 563-2504-001 Conventional Bonding for Land Reclamation – Coal, the ABR can be waived if the operational bond liability has been calculated within the last 90 days, or if there has been no mining activity within the past year. The guidance also provides that, if the increase in liability is less than 15%, a bond increase is not required. However, the 15% provision is not valid if there is an expansion of the operational area, permit revisions requiring bond increases, or at permit renewal. The 15% provision is currently under review by PADEP because of situations where its use can cause a permit to be under bonded. These include permits with very high bond amounts and reclamation liability, and permits that are inactive for several years, while the BRG increase.

Bond adjustments can occur if there are changes in the operational area, if there are barrier reductions which affect the cost of reclamation, if there are revisions to the approved operational or reclamation plan such as leaving a road, pond or other structure as part of the post mining land use, moving into higher or lower cover, or a change in the post mining land use.

Permit approval requires a finding that there is "…no presumptive evidence of pollution to the waters of the Commonwealth…" Consequently, post-mining pollutional discharges of mine drainage are not anticipated in the reclamation plan, and no bond is required at permit approval. Should there be a post mining pollutional discharge, the operator is required to treat to the required permit effluent limits, and PADEP will order the permittee to post bond, or, as an alternative, a trust, in the amount sufficient to guarantee treatment of the discharge in perpetuity. A fully funded trust fund may be posted using a legally enforceable Consent Order and Agreement. A trust may be funded over time according to a schedule set in the CO&A. Continued operator treatment of the discharge is required while the trust fund is established, funded, and reaches a self sustaining financial operational level. PADEP oversees the trust funds, and can adjust the payment schedule as needed to assure long term treatment of the discharge.

PADEP provided these additional observations on the evolution of its Conventional Bonding program:

● The Conventional Bonding program for coal was established in 2001. Enhancements to the program since then include a revision to the guidance document that was finalized in 2006, and a second revision that was proposed in 2009 and is currently under review. In addition a revised Bond Calculation Worksheet was issued in 2009.

● Another improvement in the program relates to timing in how the Bond Rate Guidelines are calculated and applied. PADEP recognized that the time gap between when the AML contract data was collected and when the Bond Rate Guidelines became effective resulted in the omission of the most recent AML contracts from the calculation. Changing the effective date of the Bond Rate Guidelines from January 1 to April 1 allowed PADEP to use AML reclamation contract data from the prior calendar year. Previously, there was a one year time lag.

● Another concept that is important to note is that development of the Bond Rate Guidelines and changes to the Technical Guidance have been done in the consultation with the Mining Reclamation Advisory Board (MRAB). This led to establishment of a bonding workgroup,

which is considering several issues regarding the bonding program. This consultation with MRAB has helped immeasurably with industry "buy in" that is needed to make the program work, and helped resolve issues without litigation.

OSM's Handbook for Calculation of Reclamation Bond Amounts

On April 5, 2000, OSM issued TSR – 1, a revision of the 1987 Bond Calculation Handbook. The Handbook establishes a technically sound, consistent methodology to calculate the amount of performance bond required for surface coal mining operations under SMCRA when OSM is the regulatory authority. Several other Federal agencies, numerous companies in the coal industry, coal producing states, and states with non-coal mining use the Handbook as the basis for bond cost estimating. The Handbook relies on standard engineering cost-estimating procedures and guides to develop site specific costs for each reclamation activity.

There are four major sources of information needed to calculate OSM bond amounts:

1. The reclamation and operation plans in the permit or permit application.
2. Equipment productivity and performance guidebooks.
3. Construction cost reference manuals.
4. Contract and cost data from State and Federal abandoned mine land and bond forfeiture reclamation programs; the Tennessee Valley Authority; the NRCS; Bureau of Indian Affairs, Tribal and Federal forestry and wildlife agencies; the Cooperative Extension Service; and the Department of Labor for wage rates. These sources may provide local costs for tasks or materials. These alternative sources of information were not used for Pennsylvania bond calculations.

There are five major steps in the OSM bond calculation process.

1. Determine the point of maximum reclamation cost liability.
2. Estimate direct reclamation costs such as earthmoving, revegetation, and the removal and demolition of structures not to be retained as part of the post mining land use.
3. Adjust direct costs for inflation.
4. Estimate indirect reclamation costs, including contactor and equipment mobilization and demobilization charges, contingency allowances, redesign expenses, profit and overhead, and contract management fees.
5. Calculate the total bond amount.

These steps are supported by 18 Worksheets covering determination of worst case reclamation scenario, structure demolition, material handling, earthwork, equipment use, revegetation and other summaries and calculations.

Permits Selected for Review

These permits represent the six District Offices where permits are issued and monitored. Each District Office was consulted and recommended a permit which was fully involved in coal mining.

Pottsville

Mountaintop Coal Mining, Inc.
J & A Mine
Permit 54960101
Issued 01/08/1997 Exp. 01/08/2012
Schuylkill County, Barry Twp.
Permitted acres – 246.4
Authorized acres – 30.0
Bond - $110,916.00

California

McVille Mining Co.
Refuse Disposal Area 2
Permit 03060701
Issued 04/30/2007 Exp. 04/30/2012
Armstrong County, South Buffalo Twp.
Permitted acres – 120.3
Bond - $1,032,049.00

Cambria

TLH Coal Co.
Smith Mine
Permit 32060103
Issued 01/16/2007 Exp. 01/16/2012
Indiana County, East Mahoning Twp.
Permitted acres – 101.0
AML UDG acres – 2.0
Authorized Acres – 65.4
Bond - $302,316

Greensburg

State Industries Inc.
Mine 35
Permit 03060101
Issued 10/13/2006 Exp. 10/13/2011
Armstrong County, South Buffalo Twp.
Permitted acres – 175.9
Authorized acres – 75.4

Bond - $520,400.00

Knox

Amfire Mining Co., LLC
Amfire 35 Mine
Permit 24990101
Issued 01/13/2000 Exp. 01/13/2013
Elk County, Horton Twp.
Permitted acres – 568.9
AML Surface acres – 98.0
AML UDG acres – 19.4
Authorized acres – 456.4
Bond - $1,260,600.00

Moshannon

Strishock Coal Co.
Huey Mine
Permit 17860135
Issued 05/11/1990 Exp. 05/11/2010
Clearfield County, Union Twp.
Permitted acres – 361.4
Authorized acres – 339.6
Bond - $1,446,275.00

Sectional Reports

PADEP Bond Calculations and Permit Inspections

This Section summarizes OSM's verification of PADEP bond amounts - based on the most current Part C Authorization to Mine, and supporting bond calculation forms and any ABR adjustments; the applicable BRG and the operational area and permit limits (pit volume and disturbed acreage). Each of the six permits selected for this review was reviewed in the District Office to verify correct use of the BRG, and application to bond calculations. Each permit was also inspected to determine if the actual mine was in conformance with the permit limits for the operational area. OSM used the most current ABR in conducting the evaluation. This document is often expressed in a revised Part C Authorization to Mine. If no ABR was available because it was waived, or because the permit was recently renewed, OSM used the operational area as defined in the approved Part C Authorization to Mine. The ABR documents the operational area, and the limits of mining for the permit. Copies of all six inspection reports are attached. The tables show a comparison between the current approved PADEP bond for each activity, and OSM's bond amount determination based on BRG, and actual mine operations at the time of the inspection. It is important to note when reviewing the information below, that PADEP's bond calculations are based on the maximum authorized mining limits, while OSM's bond calculations are based on the extent of mining at the time of the inspection. OSM verified whether PADEP's calculations were correct and in accordance with the bond rate guidelines, and

also determined whether sufficient bond was being held to reclaim the site should it be forfeited on the date of the inspection. PADEP's bond calculations relative to the OSM Handbook calculations are in the next section.

The following contains a summary of findings for each permit.

Pottsville

Mountaintop Coal Mining, Inc.
Mountaintop Mine
Permit 54960101
Issued 01/08/1997 Exp. 01/08/2012
Schuylkill County, Barry Twp.
Permitted acres – 246.4
Operational Area – 37.4 acres
Bond - $110,916.00

This permit was inspected by PFD Staff on March 18, 2010. The permit's operational area plan allows for 47,000 cubic yards of material to be mined from a maximum of three pits. At the time of inspection, an estimated 49,000 cubic yards of material had been removed from 2 pits. Irregularities in the pit size could account for this difference, which is not judged to be a significant deviation. Nonetheless, PADEP instructed the operator to reduce the size of the pits. The inspection found that all the disturbed acres were under the limitations established in the operational area of the permit. A Bonding Information Form was completed which documented that the maximum disturbed area allowed in the operational area (20.4 acres), was actually 16 acres; the maximum disturbed area of designated forestland (37.4 acres), was 33 acres and the maximum disturbed support acres allowed (2.3 acres), was actually 1 acre. The ABR is up to date, and the current BRG were used in the bond review dated March 16, 2010. OSM conducted a bond calculation during the inspection, using the pit dimensions observed and current BRG. The work shed was not considered in the reclamation plan or bond. PADEP will review and adjust the bond as necessary. OSM added $4,320 to its bond estimate, for removal of the shed. However, it was determined that adequate bond exists to fully reclaim the permit should it be forfeited on the day of the inspection.

PADEP conducted an ABR of the site in January 2010, using the 2009 BRG. It is noted that PADEP used $100/acre for E&S control. The BRG use 5%. This makes a minimal difference in the bond calculation. PADEP was asked to review the use of a *per acre* guideline, and commented that using a *per acre* guideline was more appropriate in the Anthracite region.

OSM notes that the last Part C Authorization to Mine was prepared by the Pottsville Office on March 13, 2008. The 2010 ABR has been completed, and there have been several changes in the limits of mining, including the maximum authorized cubic yards, and the area allowed to be disturbed. The Pottsville Office should update the Part C Authorization to Mine, to be consistent with the 2010 ABR.

The following table compares PADEP and OSM calculations, based on the inspection, for the Mountaintop Mine. OSM units and costs are calculated using the 2009 BRG as applied to actual

site conditions. PADEP units and costs are calculated using the operational area and BRG. The PFD inspection confirmed that adequate bond is being held on this permit, in accordance with the Pennsylvania full cost bonding program.

	PADEP Units	*PADEP Bond*	*Rate*	*OSM Units*	*OSM Calc.*
Backfilling (cu. yds.)	47,000	$44,650.00	0.95	49,119	$46,663.00
Selective Grading (ac.)	16.9	21,125.00	1250	11.1	13,875.00
Revegetation (ac.)	20.4	32,640.00	1600	15.1	24,160.00
Trees (ac.)	37.4	2,244.00	60	32.1	1,926.00
Shed	0	0.00		1	4,320.00
Subtotal		$100,659.00			$90,944.00
E&S (acre)	37.4acres-$100/acre	3,740.00	$100/acre	32.1 acres	3,210.00
Mob/Demob (%)	4%	4,026.00		4%	3,637.00
TOTAL		$108,425.00			$97,791.00
Bond Amount Held		$110,916.00			$110,916.00
Excess (shortage) between calculation and bond amount		$2,491.00			$13,125.00

California

McVille Mining Co.; Refuse Disposal Area 2
Permit 03060701 - Issued 04/30/2007 - Exp. 04/30/2012
Armstrong County, South Buffalo Twp.
Permitted acres – 120.3
Operational area 77.3 acres.
Total Bond Amount - $1,032,049
Land Reclamation Bond - $704,143
Water Reclamation Bond - $277,530
Slurry Disposal Bond - $50,376 (future)

This permit was inspected by PFD staff on March 3, 2010. The PFD Bonding Information Form was prepared for the inspection. It documented that the maximum disturbance limitations established in the operational area are being met.

Of the total 120.3 acres permitted, 67.1 acres will be affected by coal refuse disposal, and 53.2 acres will be for support areas. The current **operational area** defined in the permit is 77.3 acres. This is for Stages IA, I, and II. Of the 77.3 acres, 62.3 acres will be disturbed, top soiled to a depth of 1 foot, and revegetated. 15 acres are designated as support. Within the 62.3 acres, 44.3 acres will also be capped with a geo-textile liner. In discussions with PADEP, it was determined that the liner will be covered with one foot of protective material, which will have to be trucked to the site. Then one foot of suitable topsoil material will be placed over the protective cover. PADEP acknowledged that the protective material is not included in the bond calculation, at this

time. PADEP advises that the cost of the material will be added at the next bond adjustment, which will come at permit renewal in 2012. PADEP estimates that the additional cost to place the material would be $60,000.00. However, trucking and screening costs being incurred by the operator, are not known and cannot be estimated. Therefore, the true cost to bond the addition of this protective material could be substantially higher. PFD recommends California Office require a bond adjustment, at this time, in accordance with 86.152.

The California Office of PADEP advised that the bond was calculated using 2006 Bond Rate Guidelines, which were in effect when the permit was approved. The bond will be recalculated when the permit is renewed in 2012. Where bond rate guidelines are not sufficient to determine bond for a particular activity, the California Office uses other sources of information, and its own experience in determining bond rates for refuse disposal areas. PFD used the 2009 Bond Rate Guidelines in its comparison. This three year difference resulted in a $42,613 higher bond amount for the direct reclamation costs using the OSM bond calculations. PFD's total land reclamation bond estimate is $51,015 higher than the amount of land reclamation bond being held. This represents 7% of the total land reclamation bond, and is not determined to be a significant variation. PFD found the mine site to be in compliance with the approved operational area limits.

It is noted that Module 19 of the permit file contains an AMDTreat calculation for treatment of the discharge from the refuse material while the disposal site is active. The calculation is for $27,753 in annual treatment costs, or $277,530 for ten years of treatment. The permit is designed for zero discharge after completion because the pile will be lined under and on top of the material. However, while active, a discharge is expected, and treatment facilities are required. PADEP required a water treatment bond of $277,530 for this permit. This bond was posted, and is part of the total bond being held for this permit. The total bond posted for this permit is $1,032,049.

The following table reflects PADEP and PFD calculations for the McVille Coal Refuse Disposal Area #2 using the operational area as described in the initial Module 19 of the permit.

	PADEP Units	***PADEP Bond***	***Rate***	***OSM Units***	***OSM Calc.***
Top Soil Handling (cu. yds.)	100,511	$65,332.00	.65vs.95 BRG	100,511	$95,485.00
Selective Grading (ac.)	62.3	80,990.00	1300 vs. 1250BRG	62.3	77,875.00
Revegetation (ac.)	62.3	84,105.00	1350vs 1600BRG	62.3	99,680.00
Trees (ac.)	29	2,610.00	.15*	29	2,610.00
Pond Removal (ea.)	4	15,200.00	3800	4	15,200.00
Capping Material (ac.)	44.3	428,824.00	2.00/sqyd	44.3	428,824.00
Pond Removal	0	0.00	3800	2	7,600.00
Subtotal		$677,061.00			$727,274.00
E&S Temp. Controls		0.00		5%	0.00
Mob/Demob (%)		27,082.00		4%	27,884.00

TOTAL		$704,143.00			$755,158.00
Bond Amount Held (land only)		$704,143.00			$704,143.00
Excess (shortage) between calculation and bond amount		$ 0.00			($51,015.00)

Cambria

TLH Coal Co.
Smith Mine
Permit 32060103
Issued 01/16/2007 Exp. 01/16/2012
Indiana County, East Mahoning Twp.
Permitted acres – 101.0
AML UDG acres – 2.0
Authorized Acres – 65.4
Bond - $288,944

This permit was inspected by PFD on March 4, 2010, and again on April 26, 2010, to re-measure the pit dimensions. A heavy snow pack on March 4, hindered accurate pit measurements. A review of the permit file documented approval of an ABR by the Cambria District Office on February 26, 2010. This submission by the permittee, consisted of a new operational area map, and new pit sizes and volumes. PFD verified that the bond calculations conform to the guidelines. The PFD inspection results were compared with the 2010 ABR to determine the current reclamation liability and the adequacy of the current bond to accomplish reclamation. The Pennsylvania BRG for 2009 was used to verify the various costs associated with the planned reclamation.

Using the 2009 BRG, the total bond calculated for the ABR was $13,372 greater than the amount of bond being held. $302,316 is needed versus $288,944 held. However, since the difference is 4.6%, or less than the 15% limit allowed before a bond adjustment is mandated, no additional bond was required. PADEP pointed out that under the new 2010 BRG, the amount of bond being held would exceed the amount required. This is because the AML contracts issued in 2009 showed a decrease in unit reclamation costs for grading from $.95 cubic yard, to $.85 cubic yard. Pit measurements on the day of OSM's inspection determined that, for the two pits allowed, there was a total of 124,000 cubic yards of open pits. Whereas, the just approved amended operation plan allows 142,592 cubic yards to be open. The PFD inspection confirmed that adequate bond is being held on this permit, in accordance with the Pennsylvania full cost bonding program.

	PADEP Units	***PADEP Bond***	***Rate***	***OSM Units***	***OSM Calc.***
Backfilling (cu. yds.)	142592	$135,463.00	0.95	124000	$117,800.00
Top Soil Handling (cu. yds.)	32	49,045.00	0.95	33.4	$51,191.00
Top Soil Handling (cu. yds.)	8	15,488.00	1.20	0	0.00
Selective Grading (ac.)	3.2	4,000.00	1250	3.2	4,000.00

Revegetation (ac.)	45.4	72,640.00	1600	45.4	72,640.00
Trees (ac.)	26	2,652.00	.15*	26	2,652.00
Pond Removal (ea.)	3	11,400.00	3800	3	11,400.00
Subtotal		$290,688.00			$259,683.00
E&S Temporary Controls		0.00			0.00
Mob/Demob (%)	4%	11,628.00		4%	10,387.00
TOTAL		$302,316.00			$270,070.00
Bond Amount Held		$288,944.00			$288,944.00
Excess (shortage) between calculation and bond amount		($13,372.00)			$18,874.00

Greensburg

State Industries Inc.
Mine 35
Permit 03060101
Issued 10/13/2006 Exp. 10/13/2011
Armstrong County, South Buffalo Twp.
Permitted acres – 175.9
Authorized acres – 75.4
Bond - $520,400.00

This permit was inspected by PFD on March 3, 2010, and again on April 21, 2010. Heavy snow pack on March 3 hindered pit measurements. The file review determined that the most recent ABR was conducted in October 2009. PFD verified that the bond calculations conform to the guidelines. The bond needed at that time was $402,299. The amount of bond being held on the permit is $520,400 or $118,101 more than needed. PFD field measurements determined the pit volume to be 240,740 cubic yards. The operational area plan is approved for a maximum of 244,444 cubic yards. PFD found mining operations to be in compliance with the approved operation plan, that adequate bond is being held on this permit, in accordance with the Pennsylvania full cost bonding program.

	PADEP Units	***PADEP Bond***	***Rate***	***OSM Units***	***OSM Calc.***
Backfilling (cu. yds.)	244444	$232,222.00	0.95	240740	$228,703.00
Top Soil Handling (cu. yds.)	71793	68,204.00	0.95	71793	68,204.00
Selective Grading (ac.)	0	0.00		0	0.00
Revegetation (ac.)	44.5	71,200.00	1600	44.5	71,200.00
Pond Removal (ea.)	4	15,200.00	3800	4	15,200.00
Subtotal		$386,826.00			$383,307.00
Post mining E&S (ac. or %)		0.00		5%	0.00
Mob/Demob (%)		15,473.00		4%	15,332.00

TOTAL		$402,299.00			$398,639.00
Bond Amount Held		$520,400.00			$520,400.00
Excess (shortage) between calculation and bond amount		$118,101.00			$121,761.00

Knox

Amfire Mining Co., LLC
Amfire 35 Mine
Permit 24990101
Issued 01/13/2000 Exp. 01/13/2013
Elk County, Horton Twp.
Permitted acres – 568.9
AML Surface acres – 98.0
AML UDG acres – 19.4
Authorized acres – 456.4
Bond - $1,260,600.00

This permit was inspected by PFD on March 2, 2010. The file review determined that no ABR was conducted in 2009, because the permit was re-issued on December 24, 2009. PFD verified that the bond calculations conform to the guidelines. There are 3 pits approved with two benches each. The inspection observed two pits with one bench in one pit and 2 benches in the other. A total pit volume of 941,667 cubic yards is authorized in the approved operational area, for three pits. Actual measurements of the two pits determined that a combined 154,038 cubic yards of volume was open in the pits. Therefore, the pit volumes were well under the authorized limits. The number of ponds authorized is 6 and there were 6 ponds. Acres authorized to be disturbed is 103, and PFD observed 94 acres disturbed. There was no operational area limits exceeded on the permit. The PFD inspection confirmed that adequate bond is being held on this permit, in accordance with the Pennsylvania full cost bonding program. The amount of bond needed, as calculated by OSM, was based on the actual extent of mining on the date of the inspection, whereas, the PADEP bond amount was calculated based on the maximum authorized disturbance. That difference in methods of calculation led to OSM's determination that the permit is currently over bonded by $750,360.00.

The following table reflects PADEP and PFD calculations for the 35 Mine. Note that the Mobilization/Demobilization bond is capped at $40,000. The bond amount is rounded to the nearest $100.00.

	PADEP Units	***PADEP Bond***	***Rate***	***OSM Units***	***OSM Calc.***
Backfilling (cu. yds.)	941667	$868,933.00	.95	154038	$146,336.00
Top Soil Handling (cu. yds.)	141974	134,875.00	.95	141974	134,875.00
Selective Grading (ac.)	15	18,711.00	1250	20.6	25,750.00
Revegetation (ac.)	103	164,800.00	1600	94	150,400.00

Trees (ac.)	680/ac	10,506.00	.15	680/ac	10,506.00
Pond Removal (ea.)	6	22,800.00	3800	6	22,800.00
Subtotal		$1,220,625.00			$490,667.00
Mob/Demob (%)	4%	40,000.00		4%	19,627.00
TOTAL		$1,260,625.00			$510,294.00
Bond Amount Held		$1,260,600.00			$1,260,600.0
Excess (shortage) between calculation and bond amount		($ 25.00)			$750,306.00

Moshannon

Strishock Coal Co.
Huey Mine
Permit 17860135
Issued 05/11/1990 Exp. 05/11/2010
Clearfield County, Union Twp.
Permitted acres – 361.4
Authorized acres – 339.6
Bond - $1,446,275.00

This permit was inspected by PFD on March 23, 2010. This analysis is based on the ABR, approved on August 3, 2009, identified as Authorization to Mine – 1229-17860135AR-22, and containing back up information received on July 10, 2009. The required bond amount needed for this permit is $1,169,400. The amount of bond being held is $1,446,275. Therefore, according to PADEP, the permit is over bonded by $276,875. PFD's inspection determined that there are two pits open, with a total volume of 206,600 cubic yards. The operation plan allows three pits with a total volume of 621,203 cubic yards. Therefore, the permit is well within its maximum limits. There was no operational area limits exceeded on the permit. The PFD inspection confirmed that adequate bond is being held on this permit, in accordance with the Pennsylvania full cost bonding program.

The 2009 BRG was used by PADEP for the bond calculations. OSM verified that the bond calculations conform to the guidelines. It is noted that $1.20/cubic yard is used because the push is greater than 500 feet. Based on the current mining activity, OSM calculates the permit reclamation liability to be $653,802. This difference is primarily because the number and size of the pits is far under the maximum limits allowed in the permit operational area. PADEP calculates the bond amount based on the maximum disturbance authorized by the permit. The purpose of OSM's calculation was to determine if sufficient bond was being held to reclaim the permit on the day of the inspection. According to PADEP, operator is aware the permit is over bonded, and chooses to maintain the current bond amount at this time.

The following table reflects PADEP and PFD calculations for the Huey Mine.

	PADEP Units	*PADEP Bond*	*Rate*	*OSM Units*	*OSM Calc.*
Backfilling (cu. yds.)	621203	$745,444.00	1.20	206600	$247,920.00
Top Soil Handling (cu. yds.)	155848	187,018.00	1.20	156332	187,598.00
Selective Grading (ac.)	16.9	21,125.00	1250	16.9	21,125.00
Revegetation (ac.)	96.6	154,560.00	1600	96.6	154,560.00
Trees (ac.)	96.6	9,853.00	.15*	96.6	9,853.00
Pond Removal (ea.)	3	11,400.00	3800	2	7,600.00
Subtotal		$1,129,400.00			$628,656.00
Post mining E&S (ac. or %)		0.00		5%	0.00
Mob/Demob (%)		40,000.00		4%	25,146.00
TOTAL		$1,169,400.00			$653,802.00
Bond Amount Held		$1,446,275.00			$1,446,275.00
Excess (shortage) between calculation and bond amount		$276,875.00			$792,473.00

OSM Bonding Calculation Handbook.

Copies of all OSM Handbook calculations are attached. This section summarizes the major points and differences in the calculations. The Handbook calculation starts with describing tasks that would be needed to complete site reclamation, and basic assumptions regarding the permit. What follows are a series of worksheets to calculate earthwork quantity, equipment use, revegetation costs and other incidental considerations. A summary sheet concludes the analysis.

PADEP reviewed the OSM Bonding Handbook calculations and provided the following comments:

● On their face, the differences between these OSM Bonding Handbook estimates and the Pennsylvania Conventional Bonding calculations are substantial. However, direct comparison of the resulting bond estimates is complicated by a number of factors.

● When comparing the two bond estimating methods, the primary contrast that is evident is the level of precision in the quantity estimates and cost data. On one hand, the Pennsylvania Conventional Bonding approach uses Pennsylvania specific contracting data for costs, based on actual contract costs, where the OSM Bonding Handbook method uses estimates for costs based on the Caterpillar Performance Handbook and the Custom Cost Evaluator.

● Another contrast is in the approach to estimating quantities. The OSM Bonding Handbook is an engineering cost analysis, based on a precise, prescribed process, while the PA conventional Bonding approach is focused on simple, enforceable factors including pit dimensions and spoil volume.

● The OSM Bonding Handbook calculations show a range in earthmoving costs from $0.36 per yard (for the TLH site) up to $2.06 per yard (for the Mountaintop site). These amounts are not in the range of the costs that PA has incurred for earthmoving under contracts for reclamation. The amount for the Mountaintop site seems to be the inflated as a result of the use of an excessive earthmoving distance (500 feet) and site grade factor (0.80). These figures do not reflect the site conditions. In addition, a cursory review of the Custom Cost Evaluator suggests that operator (labor) costs may be included in the Ownership and Operating Costs provided there. In addition, it appears that the labor costs used exceed Pennsylvania prevailing wages for equipment operators.

● Another area where the methods diverge is with respect to handling material that is hauled. The OSM Bonding Handbook estimates include double handling of the material at the dump area. (For example, for the Strishock site, the calculation includes grading all of the hauled/dumped spoil.) It is PADEP's experience that all of the hauled/dumped material does not require rehandling at the dump area. There is some grading needed, but it is not the entire quantity.

● Another fundamental difference in the two approaches relates to the material handling required as a result of swell. PFD's draft report on Approximate Original Contour (AOC), indicates that swell is on the order of 30% and that "most of the spoil swell volume is left where it was originally placed." These concepts are not reflected in the OSM Bonding Handbook estimates.

● While the comparison of the two bonding estimating methods is provocative and provides some useful discussion points, it is not useful to compare the bottom lines.

● PADEP has formed a bonding work group to address the issues that have come up (e.g. annual bond review work load and the 15% waiver) as a result of the continuing evolution of the conventional bonding program. The contrasts between PA's Conventional Bonding approach and the OSM Bonding Handbook estimates will be helpful to the work group as the conventional bonding program continues to evolve.

PFD's Observations on the OSM Bonding Handbook and Calculations are as follows:

There are significant differences in the methods used by PADEP and the OSM Handbook in calculating the costs to reclaim. The primary difference is that PADEP calculates pit volume, and the costs to fill the pits and regrade the site, using what the OSM Handbook calls Bank Cubic Yards (BCY), or undisturbed material in the ground. The Handbook calculates material to be moved as Loose Cubic Yards (LCY), by taking the BCY and applying a swell factor, which in the Pennsylvania calculations, was between .66 and .70 for spoil. This translates to either a 51.5% or 43% increase in the volume of spoil material to be moved. Another difference is that the Handbook uses a series of equipment types, and sizes, and reclamation activity worksheets to calculate the cost per hour for operation costs and operator salary, and the total number of hours needed to complete the activity. PADEP uses the BRG, which are recalculated annually. The guidelines are based on recent year's AML reclamation contracts. The grading bond rate unit

measure calculates the cost to move a cubic yard of material over 500 feet and under 500 feet. This bond rate guideline factors in equipment use and operator time. It also considers the competitive market and resets the guidelines up or down.

The OSM Bonding Handbook also anticipates a certain revegetation failure rate, and the need for replanting a certain number of acres. The PA Bond Rate Guideline establishes a per acre revegetation and tree planting cost, based on recent year's AML reclamation contracts, and does not anticipate failure. Revegetation bonds are part of the reclamation contract. There is a one year revegetation success warranty period in each contract.

The Handbook also adds Indirect Costs including Contingencies (3%), Engineering Redesign Fee (3%) and Project Management Fee (5.8%), which are not part of Pennsylvania's BRG. Mobilization/Demobilization (3%), and Contractor Profit/Overhead (16%) are also Indirect Costs in the Handbook, and accounted for in Pennsylvania's BRG. Mobilization and Demobilization costs are added as a percentage (4%) in the BRG, and contractor profit is included in all the direct cost BRG because the rates are based on AML reclamation contracts. However, PADEP does not anticipate any project redesign costs since the contract would be to complete the reclamation plan, and does not include a comparable project management fee. Bond forfeiture reclamation project oversight is a responsibility of the permit inspector.

The OSM Handbook calculations include two estimates. One without inflation and one with an inflation factor of 1.137%. Because PADEP recalculates the bond every year based on updated BRG, this report will focus on the non-inflated estimate. However, the McVille Refuse Disposal permit is not recalculated every year. Therefore, the inflated estimate will be used.

These highly different approaches to calculating bond requirements, makes it difficult to compare the PADEP and OSM bond amounts in all except the common calculations. For the most part, the OSM Handbook calculation used the latest Part C Authorization to Mine. Whereas, PADEP and PFD used the most recent ABR, which may have not updated in the Part C Authorization to Mine. This discrepancy is noted in the recommendations.

The following table provides a summary.

Name	PA Bond	OSM Handbook
McVille	$704,143	$1,155,515
TLH	$288,944	$285,576
State Industries	$520,400	$536,794
Amfire	$1,260,600	$2,198,322
Strishock	$1,446,275	$1,691,776
Mountaintop	$110,916	$218,493

In every permit except for TLH Smith Mine, OSM's Handbook calculations exceeded the PADEP bond. The percent difference from the OSM Handbook calculation is 3% on State Industries; 15% on Strishock; 39% on McVille (inflation adjusted); 43% on Amfire; and 49% on Mountaintop. The percent difference from the OSM Handbook calculation is -1% on the TLH Smith Mine. These differences cannot be fully explained in the following analyses.

Pottsville

Mountaintop Coal Mining, Inc.
Mountaintop Mine
Permit 54960101
Issued 01/08/1997 Exp. 01/08/2012
Schuylkill County, Barry Twp.
Permitted acres – 246.4
Operational Area – 37.4 acres
PADEP Bond - $110,916.00

OSM Bond Handbook $218,493

OSM calculated the Handbook bond using the 2008 Part C Authorization to Mine and the associated 2008 bond calculations. To be consistent, PFD also used the 2008 calculations although the 2010 ABR has changed the pit sizes and dimensions and BRG. **Loose** Cubic yards of material needed to fill the pits were calculated by the OSM Handbook. This calculation was based on the authorized pit volume of 32,711 bank cubic yards, which was converted to 46,730 loose cubic yards. The conversion from Bank Cubic yards to Loose cubic yards required application of a conversion factor which increased (swell) the volume by 30%. The loose volume was 14,019 cubic yards more that what PADEP used in calculating volume. Just using this additional amount of spoil would increase the grading costs by $13,318 under PADEP's BRG. Initial revegetation costs were very different between PADEP's calculations and the Handbook calculation. PADEP calculated $44,400 for revegetation, and the Handbook calculation was $16,800. The Handbook includes reseeding and tree planting, allowing for partial failure; engineering redesign; and project management fees which would not have been factored into the PADEP calculation. This added another $13,524 to the total Handbook calculation. The total bond calculated using the Handbook is $107,577, or 49% greater than the bond being held for the permit.

Activity	**PADEP Bond**	**OSM Handbook**
Backfilling/Regrading	$24,537	$115,498
Selective Grading	24,320	Included above
Revegetation	44,400	16,800
Trees	Included above	1,170
Failure revegetation	NA	1,797
Pond Removal	NA	NA
Alkaline Addition	NA	NA
Structure/Facility removal	NA	13,064
Temporary E&S	3,000	5,000
Contingency	NA	4,599.86
Mob/Demob	3,802	4,599.86
Engineering/Redesign	NA	4,599.86
Contractor Profit	NA	42,932.04
Project Management Fee	NA	8,433.08

Total	$101,855*	$218,493

*Bond Amount currently being held is $110,916

California

McVille Mining Co.
Refuse Disposal Area 2
Permit 03060701
Issued 04/30/2007 Exp. 04/30/2012
Armstrong County, South Buffalo Twp.
Permitted acres – 120.3
Land Reclamation Bond - $704,143
Water Reclamation Bond - $277,530
Slurry Disposal Bond - $50,376 (future)

OSM Bond Handbook $1,155,515

The OSM Bond Handbook calculation uses the Authorization to Mine issued on April 30, 2007. That Authorization described the entire permit area; 120.3 acres, of which 67.1 acres are to be affected by coal refuse disposal and 53.2 acres are planned to be affected by support activities. However, Module 19 in the approved permit, limits mining to Stage IA, I and II, consisting of 77.3 acres, with 62.3 acres to be covered with topsoil and planted and 15 acres support. 44.3 acres of refuse disposal are included in the 62.3 acres. This area will be covered with a synthetic cap and one foot of topsoil. PADEP bond calculations are based on these current mining limits. The OSM Handbook also assumes that only the top of the refuse pile (25.5 acres) will be capped with a synthetic cap, and the out slopes will be covered by a clay cap and one foot of topsoil. **PADEP advises that the entire 44.3 acres will be capped with a synthetic liner and covered with a foot of protective material and a foot of topsoil.** As discussed earlier, the protective cover is not currently bonded. Other significant differences in the two methods of calculation include sludge removal which is $13,198 of the total backfilling and regarding costs, and the number of ponds that will need removed in the event of forfeiture.

Activity	**PADEP Bond**	**OSM Handbook**
Backfilling/Regrading	$65,332.00	$376,226
Selective grading	80,990.00	Included above
Revegetation	84,105.00	69,171
Trees	2,610	Included above
Failure revegetation	NA	17,293
Pond removal/mulch	15,200	30,075
Capping Material	428,824.00	246,840
Structure/Facility removal	NA	5,000
Inflation factor 1.137	NA	102,001
Subtotal		**846,531**
Mob/Demob	27,082.44	25,395.93
Contingency	NA	25,395.93
Engineering/Redesign	NA	25,395.93

Contractor Profit	NA	194,702.12
Project Management Fee	NA	38,093.89
Total	$704,143.00	$1,155,515

Cambria

TLH Coal Co.
Smith Mine
Permit 32060103
Issued 01/16/2007 Exp. 01/16/2012
Indiana County, East Mahoning Twp.
Permitted acres – 101.0
AML UDG acres – 2.0
Operational Area – 65.4 acres
PADEP Bond - $288,944 – Original Bond Amount

OSM Handbook Bond – $285,576

The OSM Handbook calculation uses the limits of mining as contained in the Part C Authorization to Mine 1333-32060103-02 issued on January 14, 2009. To be consistent, the PADEP calculations from that same Authorization are used for comparison. Although the total bond required by each method is remarkably similar, it is noted that the OSM Handbook uses Loose Cubic Yards (182,011) for the volume calculations, whereas the PADEP calculation uses Bank Cubic Yards (127,407). The Handbook calculation uses a swell of 43%. Nonetheless OSM's Handbook calculation for backfilling and grading is $79,774 and PADEP calculation is $135,778 using $.95/cubic yard for push. Inclusion of the other items in the Handbook calculation, which are not factored into PADEP BRG such as engineering redesign, and project management fees, in effect, make OSM's calculation even less than PADEP's calculation. The permit requires 134 tons of alkaline material (limestone) to be on site at all times, and it was present at the time of inspection. However, the Handbook calculation includes $8,460 for lime addition. The Handbook includes a standard cost for structure/facility removal for trash and derelict equipment. At the time of inspection, there was only working equipment on site, and no trash present. It is unclear why this permit is the only one in which OSM's Handbook calculation was less than the PADEP calculation.

Activity	**PADEP Bond**	**OSM Handbook**
Backfilling/Regrading	$135,778	$79,774
Top Soil Handling	56,579	Included above
Selective Grading	1,600	Included above
Revegetation	69,462	$72,640
Trees	2,652	2,652
Failure revegetation	NA	18,823
Pond Removal/lime addition	11,760	23,460

Alkaline Addition	NA	Included above
Structure/Facility removal	NA	7,072
Mob/Demob	11,113	6,133
Contingency	NA	6,133
Engineering/Redesign	NA	6,133
Contractor Profit	NA	52,127
Project Management Fee	NA	10,629
Total	$288,944	$285,573

Greensburg

State Industries Inc.
Mine 35
Permit 03060101
Issued 10/13/2006 Exp. 10/13/2011
Armstrong County, South Buffalo Twp.
Permitted acres – 175.9
Authorized acres – 75.4
PADEP Bond - $520,400

OSM Handbook Bond - $536,794

The OSM Handbook calculations use the 2008 Authorization to Mine and accompanying bond calculations. That is the last time the Authorization to Mine was updated, even though a 2009 ABR was approved on October 16, 2009. In 2008, there were 2 pits authorized, with a total volume of 332,500 cubic yards. In 2009, there is one pit authorized with a total volume of 244,444 cubic yards. For consistency in comparison, the 2008 calculations are used for PADEP's bond. The Handbook uses 43% swell to convert 332,500 bank cubic yards to 475,000 loose cubic yards. The total calculated PADEP bond for the permit was $382,211 in 2008. This is 29% less than the OSM Handbook calculated amount. However, because the site was over bonded by $138,189, the difference shrinks to 3%.

Activity	**PADEP Bond**	**OSM Handbook**
Backfilling/Regrading	$191,840	$218,624
Top Soil Handling	70,156	Included above
Selective grading		
Revegetation	90,315	99,840
Trees		
Failure revegetation	NA	24,960
Pond Removal	15,200	35,000
Structure/Facility removal	NA	5,000
Mob/Demob	14,700	11,503
Contingency	NA	11,503
Engineering/Redesign	NA	11,503
Contractor Profit	NA	99,690

Project Management Fee	NA	19,171
Total	$382,211*	$536,794

*Actual Bond on site is $520,400

Knox

Amfire Mining Co., LLC
Amfire 35 Mine
Permit 24990101
Issued 01/13/2000 Exp. 01/13/2013
Elk County, Horton Twp.
Permitted acres – 568.9
AML Surface acres – 98.0
AML UDG acres – 19.4
Authorized acres – 456.4
PADEP Bond - $1,260,600.00

OSM Handbook Bond - $2,198,322

Both PADEP and the OSM Handbook use the December 2009 Authorization to Mine number 11536-24990101-CB-04 and accompanying bond worksheets as the basis for the bond calculation. Both calculations start with 914,667 bank cubic yards of material. The Handbook converts that to 1,306,667 loose cubic yards using 43% swell. The revegetation costs are the same, except for the reseeding factored into the Handbook calculation. Where the costs diverge significantly is in the indirect costs. The Handbook includes costs to remove 6 sediment ponds and 8 treatment ponds. PADEP includes 6 sediment ponds and 3 acres of treatment ponds.

Activity	**PADEP Bond**	**OSM Handbook**
Backfilling/Regrading	$868,933.00	$1,279,937
Top Soil Handling	134,875.00	Included above
Selective grading	18,875.00	Included above
Revegetation	164,800.00	164,800
Trees	10,506	Included above
Failure revegetation	NA	41,200
Pond Removal	22,800.00	70,000
Lime/fertilizer/mulch		54,082
Structure/Facility removal	NA	22,600
Mob/Demob	$40,000.00	48,978
Contingency	NA	48,978
Engineering/Redesign	NA	48,978
Contractor Profit	NA	351,013
Project Management Fee	NA	67,754
Total	$1,260,625.00	$2,198,322

Moshannon

Strishock Coal Co.
Huey Mine

Permit 17860135
Issued 05/11/1990 Exp. 05/11/2010
Clearfield County, Union Twp.
Permitted acres – 361.4
Authorized acres – 339.6
PADEP Bond - $1,446,275.00

OSM Handbook Bond – $1,691,776

Both the PADEP and OSM Handbook use the Part C Authorization to Mine 1229-17860135AR-22 as the basis for calculations. Both start with 3 pits with a total volume of 621,203 bank cubic yards of material to be moved. The Handbook uses 53% swell to calculate loose cubic yards as 948,403 cubic yards. All other costs are comparable except for backfilling and grading. However, as with the other permits, the indirect costs significantly increase the OSM Handbook amount. By PADEP bond calculations, this permit is over bonded by $276,875.

Activity	**PADEP Bond**	**OSM Handbook**
Backfilling/Regrading	$745,444.00	$993,676
Top Soil Handling	187,018.00	Included above
Selective grading	21,125.00	Included above
Revegetation	154,560.00	164,896
Trees	9,853.00	9,853
Failure revegetation	NA	43,687
Pond Removal	11,400.00	15,000
Alkaline/lime/fertilizer		16,891
Structure/Facility removal	NA	5,000
Mob/Demob	$40,000.00	37,470
Contingency	NA	37,470
Engineering/Redesign	NA	37,470
Contractor Profit	NA	274,780
Project Management Fee	NA	55,581
Total	$1,169,400.00*	$1,691,776

*Actual bond is $1,446,275

Status and Analysis of PADEP's Bond Forfeiture Reclamation Program

PADEP's District Mining Offices (excluding California, which permits underground mines and refuse disposal areas) are responsible for the program resolution of bond forfeited sites. The preferred resolution is to have another company assume the permit and complete the mining and reclamation plan. Surety companies holding the bonds are also encouraged to complete site reclamation. Forfeited permits can also be reclaimed under Pennsylvania Act 181 provisions which allow the landowners, licensed mining companies, conservation districts, and other governmental entities to complete reclamation for the bond amount, or the District Office engineer's reclamation estimate, whichever is less.

Prior to 2001, all surface mining permits were covered under an alternative bonding program, in which operators were required to post a permit specific bond and pay a per acre fee into a supplemental fund. If a permit was forfeited, the bond would be forfeited, and any additional funds needed to complete the reclamation plan would be provided from the bond pool. Since 2001, all new surface mine permits have been subject to conventional (full cost) bonding requirements and permits in existence had to convert to conventional bonding based on the status of the mining plan.

Since 2001 PADEP has forfeited 12 permits bonded under the conventional bonding system. Three were forfeited in 2004; 3 in 2005; 2 in 2008 and 4 in 2009. An additional 6 permits were forfeited under the alternative bonding system in this time period and are not considered in this analysis. These ABS permits were not required to convert to conventional bonding because they were in Stage II and III. Of the 12 forfeited under conventional bonding, 6 have been resolved and 6 are still pending. Of the bond forfeited permits with resolution pending, bonds have been collected on four of the permits, two forfeiture actions are under appeal, and one permit has not started the collection phase. Of these six, reclamation is required on 4 and PADEP has determined that no reclamation is required on 2 permits. Two permits requiring reclamation were forfeited in August 2008, and collected in February 2009, and two were forfeited in November 2009, and are under appeal. Although the specific reclamation status of the two permits forfeited in 2008 was not determined, it is noted that they are approaching two years from forfeiture. The passage of time may be diminishing the reclamation value of the bond.

Further analysis of information provided by PADEP, shows that the 6 forfeited permits in 2004/2005 are resolved. Three permits were transferred; two were reclaimed by sureties; and, one was reclaimed through a PADEP contract. For a permit to be transferred to another operator, the successor operator is required to assume liability for reclamation, water pollution, planting and all other responsibilities under the law, rules and regulations and terms and conditions of the permit. The successor operator must be in compliance with the law, rules and regulations and terms and conditions of all the mining permits currently being held; provide appropriate bonding; and submit an application with proof of publication. The successor operator must assume, from the date of the original permit issuance, all of the current permittee's liability.

The three reclaimed permits are discussed below. It is worth noting that in two of the three projects, several years passed between forfeiture and reclamation. During this time period there were significant increases in the Bond Rate Guidelines, causing a diminution in the reclamation value of the forfeited bond.

One conventionally bonded and forfeited permit has been reclaimed through a PADEP contract.

Permit Number 32990106 – Gary C. Walls Company
Forfeited Bond Amount $51,783

This permit was forfeited on August 31, 2004. At forfeiture, the 15 acre site required extensive backfilling, grading and re-vegetation, including tree planting. PADEP awarded a reclamation

contract after attempts to arrange for surety reclamation or a landowner or other governmental agency Act 181 contract. The final cost of reclamation was $136,050. Therefore, there was insufficient bond to fully reclaim the permit in accordance with the reclamation plan. The funding shortfall was made up through other bond forfeiture and Land Reclamation Financial Guarantee funds. PADEP reports the high reclamation costs were in part due to the presence of large boulders in the spoil, which had not been properly blasted or crushed into more manageable sizes. PADEP notes that as a result of this issue, guidance was issued for inspectors to be on the lookout for instances where large, blocky sandstone could cause bonding adequacy issues. This site was visited by OSM in 2007, in the final stages of bond forfeiture reclamation. At that time, trees needed to be planted, and there were some erosion issues that were being addressed by the contractor. The two sediment ponds were being retained with landowner concurrence.

Two forfeited permits have been reclaimed by sureties. OSM conducted an inspection on both sites and our findings are discussed below.

Permit Number 11980103 – Laurel Land Development, McFadden #2
Bond Amount - $168,609
Bond Amount - $69,300.00 collection waived – Rockwood Surety
Bond Amount - $99,309.00 Forfeited.
$19,389 – Conversion Assistance
$79,920 – Remining Financial Guarantees.

On June 10, 2003, PADEP notified Laurel Land Development of its intent to forfeit the bond. Among the numerous violations cited were failure to backfill and grade concurrently with mining, failure to construct and maintain treatment facilities, and removal of equipment from the permit without PADEP approval. Laurel Land Development filed for bankruptcy on September 24, 2003. On July 11, 2005, PADEP entered into a Consent Order and Agreement (CO&A) with Rockwood Casualty Insurance Company to reclaim the permit in lieu of bond collection. A CO&A was executed for the project. The CO&A identified 10 acres that needed regrading. There was one non-compliant discharge identified at the time of forfeiture, which was degrading an unnamed tributary to the South Branch of Blacklick Creek, as documented by stream monitoring point 12A The CO&A required removal of one sediment pond, and modification and retention of two other ponds, with the landowner approval. These ponds were retained as wildlife habitat. Ten acres were to be regraded and vegetated in accordance with a reclamation plan included with the CO&A. The CO&A did not address the non-compliant discharge. Land reclamation was completed by the surety without the need for any of the financial guarantees.

On April 27, 2010, PFD inspected the reclamation site. PFD found that the site had been reclaimed in accordance with the permit reclamation plan and the requirements of the CO&A. Vegetation is thick; deciduous and coniferous trees are growing, and the two ponds are providing the desired wildlife habitat. Discharge DE was not flowing, although there was evidence of recent flow. OSM recommends that the Cambria Office determine the current status of the discharge, identified in permit violations and the CO&A. If it is still active, it should be sampled and a plan for treatment should be implemented. Consideration should be given to the use of the financial guarantees for any water treatment necessary.

Permit Number 17980101 – Ed Hanslovan Coal Co. Inc. Tower North #2 Mine
Bond Amount – $363,000.00 forfeited
$317,700 – Conversion Assistance
$45,300 – Rockwood Surety – collection waived upon completion of project.

This permit was forfeited on July 1, 2005. Forfeited bonds consisted of a surety bond in the amount of $45,300 and $317,700 in Conversion Assistance Financial Guarantee Bonds issued by Pennsylvania. The Department executed a Consent Order and Agreement with Rockwood Casualty Insurance Company on July 25, 2007 for Rockwood to reclaim the site. PADEP notes that Hanslovan filed for bankruptcy in May, 2001 and that the bankruptcy was finalized in June 2002. A notice of intent to forfeit bonds was issued in October 2003. In the intervening years, several companies were interested in acquiring the permit through transfer, and PADEP chose to forestall reclamation pending the outcome of these opportunities to achieve reclamation at no cost to the Commonwealth. Rockwood executed a reclamation contract on September 24, 2009, and the contract is presently underway. PADEP advises that the permit was adequately bonded at the time Hanslovan declared bankruptcy. However, the passage of eight years from 2001 to 2009 severely eroded the reclamation value of the bond. This underscores the importance of moving conventionally bonded permits from forfeiture to reclamation as quickly as possible since there is no supplemental bond assistance available to make up bond shortfalls.

On September 24, 2009, Rockwood Casualty Insurance Company signed a contract with Cherep's Excavating for $330,000 to reclaim the forfeited permit. Rockwood's contribution to the contract is $41,184, and PADEP contribution is $288,816. The contributions were agreed to by PADEP based on the percentage each party contributed to the total bond amount – 87% from PADEP and 13% from Rockwood. There are internal memos from PADEP which supports the use of a percentage contribution when two surety parties (PADEP and Rockwood) are involved in the forfeiture. PADEP is also paying for engineering fees in the amount of $12,000, for a total project cost of $342,000. This percentage contribution arrangement leaves $21,000 unspent from the forfeited bonds. As documented below, the reclamation plan has been significantly modified to conform with the amount of bond.

PADEP forfeited the permit in response to outstanding violations including, but not limited to: failure to complete reclamation of the mine site, failure to backfill and re-grade all affected areas, failure to maintain erosion and sediment controls, failure to pay outstanding civil penalties, failure to comply with an order of the Department, and failure to maintain liability insurance. As part of the CO&A, Rockwood, with input from the Department, was to submit a reclamation plan to the Department by July 31st, 2007. A scope of work was included in the original CO&A as Exhibit B. Work included: backfilling the open pit (to approximate original contour), replacing topsoil or best available material, re-vegetating approximately 20 acres, best management practice of adding alkaline material interspersed throughout the backfill, and after one year of successful re-vegetation sedimentation pond A and associated collection ditches are to be removed.

Following receipt and review of four bids on November 12, 2007, PADEP determined the bid costs exceeded the funding available. PADEP modified the scope of the project to reduce

reclamation costs and obtain a contractor using available funds. The contract was issued on September 24, 2009, and project completion is due by June 30th, 2010.

PFD inspected the project on April 28, 2010, and found that the reclamation project was underway. Two post-mining discharges (MP-S2 and MP-RS) were located. These discharges occurred after the permit was converted to conventional bond, and thus, they are not eligible for assistance as an Alternative Bonding System (ABS) legacy site. PADEP advises that the discharges began after Hanslovan had declared bankruptcy in 2002, and the pit had remained open for an extended period of time. PADEP sampled the discharges in the 2003-2004 timeframe. At the time of PFD's inspection, both discharges were flowing at an estimated .5 gpm and were entering an unnamed tributary of Curry Run.

It is OSM's conclusion that the forfeited bond was insufficient to complete the reclamation plan of the original permit, and as a result, significant modifications have been made.

PADEP advises that there are cost benefits realized when a surety is responsible for completion of the reclamation plan, and it is advantageous for PADEP to offer incentives for the surety to reclaim the forfeited permit. In this case, PADEP's approved percentage sharing approach saved Rockwood $4,116. PADEP explains that, had this been a state issued contract, additional costs, including the requirement to pay prevailing wages, would have pushed the total contract over the bond amount, and less reclamation would have resulted.

OSM is concerned by the two discharges currently present at the site. PADEP advised that alkaline material is being delivered and spread on the site, at no cost. The material is coming from an adjacent permit with excess alkaline material. PADEP anticipates that, after backfilling and re-vegetation of the site, these pollutional discharges will be eliminated. If the discharges are not eliminated, long term treatment options will need to be evaluated.

Both these surety reclamation permits have state financial guarantees as part of the bond. PADEP advises that conversion assistance guarantees and remining financial guarantees can be used for treatment of post mining pollutional discharges. Conversion assistance is limited to the amount initially dedicated to the permit. However, if the permit is bonded with remining financial guarantees, additional funds may be expended from the Remining Financial Assurance Fund to complete reclamation, including water treatment. In the Hanslovan site, there is $16,884 in Conversion Assistance available for water treatment. For Laurel Land Development, the entire $99,309 in conversion assistance and remining financial guarantees is available and, if needed, additional funds from the Remining Financial Assurance Fund are available for water treatment. PFD recommends that PADEP evaluate the identified discharges and implement treatment as appropriate, using all available financial resources.

Summary and Findings

1. **Is there a clear understanding by the regulatory authority and OSM as to the methodology that the state is using to calculate required bond amounts?**

Yes, there is a clear understanding by PADEP and OSM, and the consultants/operators, of the methodology used in determining bond amounts. OSM evaluates bond adequacy in every complete oversight inspection, and documents this review on a Bonding Information Form. That said, with so many people involved in bond calculations and reviews, there naturally exist some differences in interpretation with individual inspectors, and specific permits regarding proper application of the BRG to the permit. Inconsistency in applying the bonding requirements is addressed in the District Offices through meetings, supervision, and training. Overall, OSM has found through its oversight inspections, that PADEP maintains bonds on permits, in accordance with its bonding program.

The following is a summary of the methodology and process that PADEP District Offices use to calculate and review bond amounts. There may be some minor variations among the six District Offices.

The bonding information submitted with the initial surface mine permit application is reviewed by the lead reviewer (hydrogeologist) assigned to the surface mine permit review. At that point there is nothing to evaluate in the field. Therefore, the review is based on the consistency of the applicant's bonding calculations with the current BRG, the proposed components of the operational area and any other pertinent information in the permit application. Bonding information and amounts, permit limits for number of pits, dimensions, disturbed acres etc. are spelled out in the Authorization to Mine and special conditions of the permit. This becomes the operational area, which is supported with Module 9, Operations Map. After permit approval, the ABR updates the bonding calculations and, if needed, the operational area and map.

At ABR time the District Office conducts both a field review and an office review of the site bonding conditions. District Office permits clerks run reports each month of the anniversary dates of permit issuance, and sends out standard notification letters to companies whose annual review is coming due. The District Offices also include permit conditions telling the company when the ABR is due, but reminder letters help trigger a company's submission. When the ABR submission comes in, a copy is sent to the mine inspector with a short questionnaire. This questionnaire guides her/him through a process which verifies whether the operator's annual review calculations are consistent with field conditions. The ABR submission is also assigned to a permit staff member. This person is usually the hydrogeologist who reviewed the permit. When the mine inspector comments are received back in the office, the permit reviewer checks the company's calculations and also evaluates whether changes in the BRG over the past year necessitate an increase in the bond amount. The reviewer also determines if the inspector noted any inconsistencies between the bond calculations and field conditions. If there is a need for additional bond, whether due to changing BRG's or field conditions exceeding permitted conditions, then the reviewer sends a review letter telling the company that they must submit a new bond increment and the additional bond.

Under the Bonding Technical Guidance, companies can request a waiver of the annual review. Most of those occur on sites that have not been started or that are waiting for Stage III bond release. Other circumstances that may justify a waiver is if the company recently did or has

in process a transaction such as a completion report or bonding increment that effectively meets the requirements for an annual review.

Some operator's fail to send in the annual review in a timely manner. The District Offices run reports each month to see who is late with their submission and pass that list on to compliance specialists. They send out notices of violation to compel compliance.

Use of the BRG requires the operators/consultants to make numerous, detailed calculations, based on the proposed and actual operational area and activities and facilities incorporated. PADEP staff must review the calculations versus field conditions, based on an ever changing operational area and areas planted and awaiting Stage II and III bond release. Some mine sites are relatively simple, with a small operational area foot print. However, many permits cover hundreds of acres, with a large and complicated operational area, including multiple pits and coal seams, large volumes of material to store and re-grade, and extensive E&S measures. As the mine site complexity increases, calculation of the required bond also becomes more complex.

2. **Are there any outstanding required program amendments or 30 CFR Part 732 notifications related to bonding?**

Yes, there are four required amendments related to Pennsylvania's bonding program. They are found at 938.16(h), (m), (n), and (o). 938.16 (h) required Pennsylvania to demonstrate that revenues generated by the collection of the reclamation fee…will assure that the Surface Mining Conservation and Reclamation Fund can be operated in a manner that will meet the requirements of 30 CFR 800.11(e). In response, on August 4, 2001, Pennsylvania terminated the alternative bonding system, and implemented a conventional bonding system for surface mines, coal refuse reprocessing operations, and coal preparation plants. All permit applications received on or after August 5, 2001, were required to be bonded under the conventional bonding system. On August 1, 2008, Pennsylvania submitted a program amendment designed to address required amendment (h) and a related 732 letter. The amendment addresses remaining land reclamation obligations from the forfeited ABS permits, applies conventional bonding requirements to permits which develop post mining discharges, and establishes funding mechanisms for the long term treatment of post mining discharges. The reclamation fee provisions are being retained as a mechanism to help assure continued long term treatment of discharges associated ABS forfeited permits. Actual fees assessed per acre may increase or decrease as the financial needs for operating ABS forfeited treatment systems changes. The proposed amendment was approved on August 10, 2010. Required amendment (h) was revised to require Pennsylvania to ensure that its program provides suitable, enforceable funding mechanisms that are sufficient to guarantee coverage of the full cost of land reclamation at all sites originally permitted and bonded under the ABS. Required amendments (m), (n), and (o) all have to do with the valuation of collateral bonds. OSM and PADEP have been in continuing talks regarding pathways to resolve these three amendments.

3. **Has OSM or PADEP received any citizen complaints related to bond adequacy in the past 3 years? If so, what was the ultimate outcome of those complaints?**

OSM occasionally receives a bond release complaint regarding some activity that has not been completed, i.e. erosion control, revegetation, removal of miscellaneous items, water supply replacement. However, OSM does not receive complaints regarding the adequacy of an individual bond. PADEP receives around 500 citizen complaints per year. They do not have a bond release category in the data base, but report the complaints are not about bond adequacy. PADEP reports that during permit review, they may receive comments regarding permit bonding, and at bond release, they get occasional comments from property owners who mistakenly think the released bonds will come to them.

4. **Has PADEP revised its bond calculation methodology since the last comprehensive OSM review?**

From 1982 until 2001, Pennsylvania employed a bifurcated bonding system. Surface coal mines, coal refuse reprocessing operations and coal preparation plants were covered by an Alternative Bonding System (ABS), and underground coal mines and coal refuse disposal operations were covered by a conventional bonding system. On August 4, 2001, Pennsylvania terminated the ABS and implemented a conventional bonding system for surface mines, coal refuse reprocessing operations, and coal preparation plants.

OSM has not performed a comprehensive review of PADEP's conventional bonding program since the ABS was terminated. However, every oversight complete inspection which OSM conducts, includes an analysis of the adequacy of the bond from the standpoint of conformance with the program, and adherence of the operational area with permit requirements. OSM does not prepare an alternative bonding calculation. OSM has conducted a REG-8 review of public participation in the bond release program.

Bond Calculation:

5. **Has the bond calculation considered all features and structures in the approved plan, including whether roads and impoundments will be permanent?**

The bond is calculated to consider all activities in the defined operational area, permit limitations as described in the Authorization to Mine, and mine features and facilities as depicted on the operations map in the approved permit. BRG are developed to be inclusive of all mining activities and facilities. PADEP's Bond Calculation Worksheet is comprehensive and inclusive of all activities and facilities associated with a surface mine. A copy of the 2009 Bond Rate Guideline and the Bond Calculation Worksheet is attached. With the one exception noted below, OSM found no evidence, based on inspections of the six permits, that there were any activities, features or facilities not considered in the bond. There was one work building that was found unbonded for removal. PADEP is addressing this issue with the operator. Roads are not bonded separately, but are included in the selective grading bond rate guideline. Pond removal is required unless a letter of request is signed by the landowner. This decision is usually made at the conclusion of mining, and thus all sediment control structures and ponds are bonded. Retention of ponds becomes a bond release issue.

Issues that have come up regarding Pennsylvania's bonding program include the possible waiver of increased bond if the additional amount is less than 15% of the total; calculating pit volume only to the top of the coal seam (563-2504-001 Conventional Bonding for Land Reclamation - Coal, Appendix C, Backfilling), and restricting calculated volume to the coal footprint, without consideration of the side slopes in the pits; and waiver of the ABR if there was no activity in the past year, even if bond rates have changed. PADEP's lack of consideration of a "swell factor" in determining the volume of material that would have to be moved upon forfeiture, is also a concern of PFD. All of these factors can possibly lead to an inadequately bonded permit.

6. Does the calculation include the costs of mobilization, demobilization, engineering redesign, and contractor profit and overhead?

Pennsylvania's BRG include 4% of direct cost for Mobilization/Demobilization up to $40,000. This cost was included in all calculations. Contractor profit, and contract contingencies are incorporated in the BRG by virtue of PADEP basing the guidelines on the previous year's AML reclamation contracts. The BRG do not consider failure of revegetation, redesign and engineering fees, or project management fees. The contractor is expected to take the permit reclamation plan and complete the job without additional design assistance. PADEP provides contract oversight, using in house staff. The permit inspector is usually assigned contract oversight. The contractor is held to the same revegetation standard as the forfeited operator. Under a contract issued by the Department, final contract warranty bonds would not be released until the revegetation standard had been met.

7. Are the revegetation costs in the bond calculation consistent with the approved revegetation plan?

The operational area description contains limits for maximum acres that can be disturbed, and need seeding and the maximum number of acres designated as forest land, that can be unplanted. The number of trees required per acre is identified in the operational area description of the permit. The costs for revegetating these acres are determined by application of BRG, which set the cost per acre to revegetate, and the average cost per tree. Our review documented that the bond rate guideline was correctly applied to the permits, to determine the amount of bond to be held, and that mining operations were within the maximum permit limits for revegetation.

8. What type of financial assurance is provided for any post mining pollutional discharges, and how is the amount of that assurance calculated?

The Pennsylvania Surface Mining Act, the Clean Streams Law, the Coal Refuse Act, and their implementing regulations require all sites to be adequately bonded and the bond is conditioned that the permittee/operator shall faithfully perform all requirements of the law, including reclamation. Pennsylvania courts have held that reclamation includes treatment of post-mining discharges. The permittee is liable for, and is required to continue, the treatment of the post-mining discharge for as long as the discharge exists. The law also requires that the bond amount be sufficient for the Department to complete the reclamation in the event the permittee does not. When a post-mining pollutional discharge occurs, the permittee is required by applicable laws to:

1. Provide immediate interim treatment;
2. Take measures that are necessary and available to abate the discharge.
3. Make provisions for the sound future treatment of the discharge, if the abatement measures are not successful.

Provisions for sound future treatment of the discharge include the design, approval and construction of a treatment facility and providing the financial assurance necessary to provide for the cost of treatment in perpetuity. The necessary financial assurance can be a bond (surety or collateral) that will be adjusted every 5 years, or a trust fund. To satisfy the legal bonding requirements, the permittee must provide for the cost of treating any pollutional post-mining discharge for as long as the discharge may exist. Many discharges will exist for a very long time, if not perpetually. Treatment costs include the annual operation and maintenance costs of a treatment facility and the costs to replace the treatment system or components as needed. When a post-mining pollutional discharge occurs, the Department has the obligation and authority to require an amount of bond necessary to complete reclamation, restoration and any abatement work. This obligation and authority stems, in part, from 25 Pa. Code § 86.152. If additional bond is needed, the Department requests the permittee to provide additional bond. The bond amount needed for post-mining discharges will be calculated based on the cost to the Department to treat the discharge in perpetuity. AMDTreat is used to help estimate long term treatment costs.

When a bond is used to guarantee long term treatment of a post-mining discharge, the bond amount is based on the cost to the Department to continue treatment in the case where a permittee ceases treatment. The bond amount is the amount required to provide money to pay for the treatment in perpetuity. When a bond is forfeited and collected, the money is deposited in the Surface Mining Conservation and Reclamation Fund, the Clean Water Fund or the Coal Refuse Disposal Control Fund. In accordance with law, the State Treasurer manages these funds. They typically generate a very conservative rate of return. Consequently, the amount of a bond is greater than what would be needed in a trust where the fund is invested on the open market and thus would typically generate a greater rate of return.

Because a bond has a fixed value, and the costs are expected to increase at the rate of inflation, in order to provide financial assurance through the term of the permit (five years) and to account for the time it takes to complete the bond forfeiture process (about a year), the bond amount is determined by doing the treatment trust calculations with the state treasury rate of return and projecting forward to the sixth year after permit issuance. The required bond amount is the projected trust value in year six. At the end of the permit term a new bond value for the renewal period will be calculated and additional bond may be required. Bonds are not, however, the ideal financial instrument for ensuring the long-term treatment of a post-mining pollutional discharge. Bonds are finite in nature and inherently unable to keep up with inflation. Every five years, when the permit is renewed, the permittee must provide additional bond to keep pace with inflation. Finally, due to the uncertain term and the fact it is highly unlikely the bond will ever be released, many permittees will be unable to purchase the necessary surety bonds to meet their legal obligations.

As an alternative to bonds, Section 4(d.2) of the Surface Mining Act authorizes the Department to establish alternative financial assurance mechanisms that meet the purposes and objectives of the bonding program. One alternative financial assurance mechanism established by the Department is a trust fund. Those permittees unable or unwilling to provide a surety or collateral bond can establish and fund a trust with a third-party trustee to manage investments and dispense funds. The main

purpose of the trust fund is to generate sufficient income to cover the cost of treatment into the future. The Department is the irrevocable beneficiary of the trust. The trust is to be established using the Department forms containing the terms and conditions established by the Department. The trust is implemented through a negotiated Consent Order and Agreement and a companion Trust Agreement. The Consent Order and Agreement is entered into under the authority of the Surface Mining Act, The Clean Streams Law and the Commonwealth Attorneys Act. Once the trust is in place and fully funded, the permittee can be reimbursed from the trust for the yearly cost of treatment.

If the permittee is not able to fully fund the trust immediately, PADEP may allow a reasonable period for the permittee to fully fund the trust, and the Consent Order and Agreement will accordingly set forth a required payment schedule to which the permittee must adhere.

In the event the permittee defaults on its legal obligations to treat the discharge, the trust funds will be used to treat the mine discharge. The trustee will make disbursements at the direction of the Department.

When a treatment trust fund is established, PADEP must determine how much money needs to be invested to produce the income to pay for the costs for treatment.
Four factors determine the value of a trust fund to provide for the costs associated with treating post-mining discharges. These are:

The annual operation and maintenance costs,
The initial capital costs and the recapitalization costs,
Inflation
The rate of return on the invested funds.

AMDTreat is used to determine the cost of constructing and maintaining a treatment system.

Each year the costs associated with treating the discharge and the value of the trust are analyzed to determine if the objective of the trust is being met. This is a financial review that includes a detailed accounting of costs. If it is determined that the trust value is insufficient or excessive, appropriate adjustments are made to the trust. The details of the financial requirements of the trust are somewhat complex. They are specifically described in the Consent Order and Agreement and Trust Agreement.

An annual meeting with the Department, Trustee and permittee is required by the Consent Order and Agreement to review the performance of the treatment system, and evaluate the trust amount. The treatment system evaluation should take any unusual climatic conditions into account. If the costs for treatment change by more than 10%, since the creation, or last modification, of the trust, then the trust amount should be recalculated.

9. How does the bond amount compare with that calculated using the OSM Bonding Handbook?

There are significant differences in the methods used by PADEP and OSM in calculating the costs to reclaim. Please see the discussion beginning on Page 17. These differences complicate and diminish the value of direct permit comparisons. The primary difference is that PADEP calculates pit volume, and the costs to fill the pits and regrade the site, using what the OSM Handbook calls Bank Cubic Yards (BCY), or undisturbed material in the ground. The Handbook

calculates material to be moved as Loose Cubic Yards (LCY), by taking the BCY and applying a swell factor, which in the Pennsylvania calculations, was either .67 or .74 for spoil. This translates to either a 49% or 35% increase in the volume of spoil material to be moved. Another difference is that the Handbook uses a series of equipment types, and sizes, and reclamation activity worksheets to calculate the cost per hour for operation costs and operator salary, and the total number of hours needed to complete the activity. PADEP uses BRG, which are recalculated annually. The guidelines are based on the past year's AML reclamation contracts. The grading bond rate guideline calculates the cost to move a cubic yard of material over 500 feet and under 500 feet. This bond rate guideline factors in equipment use and operator time. It also considers the competitive market, which changes from year to year, and resets the guideline up or down.

The OSM Bonding Handbook also anticipates a certain revegetation failure rate, and the need for replanting a certain number of acres. The PA Bond Rate Guideline establishes a per acre revegetation and tree planting cost, based on prior year AML reclamation contracts, and does not anticipate failure. However, bond forfeiture reclamation contracts require a success rate, or ground coverage requirement that must be met before release of the warranty bond. The Handbook adds Indirect Costs including Contingencies (3%), Engineering Redesign Fee (3%) and Project Management Fee (5.8%), which are not part of Pennsylvania's BRG. Mobilization/Demobilization (3%), and Contractor Profit/Overhead (16%) are also Indirect Costs in the Handbook, and accounted for in Pennsylvania's BRG. Mobilization and Demobilization costs are added as a percentage (4%) in the BRG, and contractor profit is included in all the direct cost BRG because the rates are based on AML reclamation contracts. However, PADEP does not anticipate any project redesign costs since the contract would be to complete the reclamation plan, and does not include a comparable project management fee. PADEP advises that minor changes in project design can be addressed with in-house engineers. Bond forfeiture reclamation project oversight is a responsibility of the permit inspector.

However, even considering these structural differences in the bond calculating methods, there are still significant differences in the calculated bond amounts. There are several indications of where significant differences could arise between PADEP and OSM bond calculations. PADEP's use of the ABR to redefine the operational area, permit limitations and the required bond, can lead to different assumptions in bond calculations. It is important that changes approved in the ABR be incorporated in a revised Part C Authorization to Mine. Revisions to a Part C Authorization to Mine, are consecutively numbered.

Another source of differing bond calculation assumptions between OSM and PADEP is that the number of mine pits and dimensions approved in the Authorization to Mine and/or ABRs are not always adhered to at the mine site. Often the mine is not at the full development allowed in the permit, Individual mine pits were found to exceed the permit limits. However, OSM was advised that in those cases, total pit volume becomes a more important measuring tool., As long as the total cubic yards open does not exceed the total allowed, pit sizes are not as relevant.

Another source of differing bond calculation assumptions is the information in Module 10.2 in the application. This module seems to be tied to 87.141, and reflects the contemporaneous reclamation standard or no more than 1500 horizontal feet of pit length or 300 of pit width can be open at one time without approval from the Department. The module can be an applicant's

request for a waiver if needed. However, PADEP advises that Module 10.2 does not express the approved mine limits, as reflected in the Authorization to Mine, or the ABR.

Other sources of differences between OSM's Bond Handbook calculations and PADEP's calculations include PADEP's calculation of volume based on material in the pit. The Handbook requires a consideration of the swell factor in calculating volume of material to move. In the Pennsylvania calculations, either a 35% or 49% swell factor was applied. PADEP also calculates bond using the footprint of the coal, and not the surface area of the pit. PADEP also allows waiver of bond adjustment if the increased amount calculated in the ABR, is less than 15% of the total amount of bond.

10. Is the reclamation of bond forfeiture sites being done in conformance with the approved reclamation plan for the site? Are differences due to the inadequacy of the bond, or as a result of other decisions?

As discussed above, PADEP has had 12 permits forfeited under the conventional bonding system, which was implemented in 2001. Six of those forfeitures have been resolved, with three transferred to another mining company; two reclaimed by sureties, and one reclaimed by Departmental contract. So, there are not many examples with which to draw conclusions. The one site reclaimed by PADEP under a state contract, experienced problems with the size of materials and overran the remaining bond amount by $84,267. Funds from other state sources were used to make up the difference. OSM visited the site in 2007, and found the reclamation job about finished. The required trees had not been planted, and there were some rill and gully repairs to be made. The sediment ponds are being retained at land owner request, or the reclamation costs would have been higher. Overall, the site was reclaimed in accordance with the reclamation plan.

OSM inspected the two bond forfeited permits reclaimed by the bond holding sureties. In both cases, OSM found deviations from the reclamation plan, which were authorized by PADEP under the accompanying Consent Order and Agreement. At one site, two sediment ponds were modified and retained for wildlife habitat, and reclamation did not address a discharge, which, in part, were cited in the forfeiture and listed in the CO&A. PADEP should evaluate the discharge and take appropriate action. At the other site, which is currently being reclaimed under a surety contract, PADEP made modifications in the reclamation plan, including deviations in approximate original contour, to lower the reclamation costs to be in line with the available bond. There are two discharges on this permit. Alkaline material is being added to the backfill, and PADEP believes this will abate the acid in the discharges. However, if the pollutional discharges are not eliminated, PADEP should evaluate the site to consider what further actions should be taken.

11. Is PADEP properly calculating bond amounts to ensure proper site reclamation?

Program Observations:

OSM reviewed permits in all six District Offices. We conclude that PADEP has developed and implemented a comprehensive conventional bonding program. BRG have been developed which address all aspects of a mine site. The BRG are reviewed and adjusted every year based on recently constructed Pennsylvania AML reclamation contracts. Technical Guidance Document 563-2504-001 – Conventional Bonding for Land Reclamation – Coal, was finalized in 2006, and is available on PADEP's web site. A Bond Calculation Worksheet is also available. Except as noted below, District Offices follow the BRG in making and verifying bond calculations. Except for inactive permits, and when bond liability has been calculated within the last 90 days, PADEP requires mine operators to submit an ABR. This review updates the mining operational area limits including pits numbers, sizes and volumes, applies the most current Bond Rate Guideline, and adjusts the bond amounts as needed. PADEP inspection staff field verifies the information and calculations in the ABR to assure its accuracy. Inspections monitor conformance with the Authorization to Mine including the Operational Area mining limits. OSM's inspections found the BRG were correctly applied and that mine site conditions were within the limits approved in the current Authorization to Mine.

OSM notes that, especially in times of escalating construction costs, the reclamation value of the forfeited bond can be quickly diminished, leading to modifications in the reclamation plan. OSM understands PADEP's interest in transferring reclamation responsibility to a new permittee, thereby saving bond. However, given the limitations on the bond amount under conventional bonding, this practice should be used for those cases with the highest chance of success. Permits should progress from forfeiture to reclamation as quickly as possible, to improve the chances that the forfeited bond will be sufficient to complete the reclamation plan.

OSM also found that PADEP's bonding program may not adequately consider all costs of reclamation including swell factor, distribution of spoil to achieve approximate original contour, and larger pit volumes than calculated. On two of the three reclaimed forfeitures, there are post mining pollutional discharges that may need perpetual treatment. No treatment bonds were posted on either site. However, PADEP advises that the discharges began after both operators had declared bankruptcy, therefore nullifying any option to secure additional bond. PADEP's policy to exempt an operator from filing an ABR if the site was inactive, can lead to inadequate bond if BRG are adjusted up in the intervening period. PADEP's policy to waive adjustment if the calculated increase is less than 15% of the total bond, can also lead to inadequate bond.

OSM noted that often pit dimensions do not conform with limits defined in Part C – Authorization to Mine, and operational area descriptions. However, total pit volumes were under the maximum allowable.

Program Recommendations

- PADEP should aggressively pursue water treatment bonds or trust agreements on operations that develop post mining pollutional discharges.

● PADEP should discontinue bond adjustment waivers when the upward adjustment is less than 15% of the total bond.

● PADEP should discontinue waiving the ABR when a permit has been inactive over the past year.

● PADEP should revise Part C Authorization to Mine every time the ABR changes the operational area or bond amount.

● PADEP should incorporate a "swell factor" in its calculations of volume of material to be moved to backfill the pit and final grade the permit.

● PADEP should use the surface area of the pit, in addition to, or in place of the footprint of the coal, in calculating pit volumes and review its policy of allowing coal and other product minerals to be deducted from volume calculations.

● PADEP should maximize use of financial guarantees for treatment of post mining pollutional discharges.

OSM Actions

In light of the findings listed above, PFD will increase oversight of bond forfeited permits by conducting a permit file review and inspection of the six forfeited permits identified in this study which have not been resolved, and the three permit forfeitures which were transferred. PFD will also initiate an oversight objective to review each future bond forfeited permit as it is declared. These reviews will determine the status of the permit at forfeiture; the amount of bond available, and the adequacy of bond as determined by PADEP BRG and the OSM Handbook.

PFD will also inspect each forfeited permit at forfeiture, and when the forfeiture has been resolved either through reclamation, or transfer. A report will be prepared addressing the reasons for forfeiture, actions taken to complete reclamation in accordance with the permit, deviations from the permit reclamation plan, the presence of any post mining discharges and how they will be abated.

PFD oversight inspections currently identify any discharges with potential post mining off-site impacts. Inspections will note any actions taken by PADEP to require bonds or trusts for perpetual treatment of these discharges, and PFD will consult with PADEP regarding these discharges.

Appendix A. Bonding Technical Guidance

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Mining and Reclamation

DOCUMENT ID: 563-2504-001

TITLE: Conventional Bonding for Land Reclamation - Coal

EFFECTIVE DATE: November 25, 2006

AUTHORITY: Surface Mining Conservation and Reclamation Act
Coal Refuse Disposal Control Act

POLICY:
The Department will require coal mining activities to be bonded in an amount that covers the Department's cost to complete the site's reclamation plan.

PURPOSE:
This guidance describes the regulatory and statutory requirements for determining bond amounts. It also establishes bond rates and the process for determining the bond for land reclamation.

APPLICABILITY: This guidance applies to all anthracite and bituminous coal mining permits.

DISCLAIMER:
The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements.

The policies and procedures herein are not an adjudication or a regulation. There is no intent on the part of the Department to give these rules that weight or deference. This document establishes the framework, within which the Department will exercise its administrative discretion in the future. The Department reserves the discretion to deviate from this policy statement if circumstances warrant.

PAGE LENGTH: 30

LOCATION: Vol. 12, Tab 60

TABLE OF CONTENTS

Title Page

DEFINITIONS

ABS – the alternate bonding system.

AML – abandoned mine lands.

BAMR – the Bureau of Abandoned Mine Reclamation. This bureau of the Department of Environmental Protection bids and contracts the reclamation of abandoned mine lands and pre-primacy forfeited mine sites.

Bond Rate Guidelines (BRG) – the costs for given unit operations in land reclamation as published by the Department in the *Pennsylvania Bulletin* and used as the basis for determining bond amounts under the conventional bonding system.

CRDCA – the Coal Refuse Disposal Control Act. This is the Pennsylvania statute covering the disposal of coal refuse. (52 P.S. §§ 30.51-30.66)

CSL – the Clean Streams Law. (35 P.S. §§ 691.1-691.1001)

Department – Pennsylvania Department of Environmental Protection.

Financial guarantee – an alternative financial assurance mechanism, issued in a sum-certain amount and backed by the Department, to be used as a bond for the purposes and objectives of the bonding program.

Land reclamation – in the context of the conventional bonding system, land reclamation is the suite of activities needed to accomplish reclamation, e.g., backfilling, grading and planting, under the approved reclamation plan. It also includes the demolition of structures and sealing of boreholes and mine openings. It does not include the abatement or treatment of post mining discharges that occur during or after the permit term or activities necessary to address the impacts to land or water (including loss, diminution, or degradation of water supplies) resulting from mine subsidence.

Mining area – in the context of the conventional bonding system, this is the portion of the permit area on which mining and reclamation activities are authorized.

Multiple bench – this term applies to operations wherein the cross section looks like a set of steps, as opposed to operations with one highwall. This term does not apply to those operations with a highwall that has been developed with a "safety bench."

Operational area – in the context of the conventional bonding system, the Operational Area is the maximum portion of the permitted area that the permittee is authorized to disturb at any specific time. The Operational Area is described in the permittee's mining and reclamation plans. The Operational Area must include all of the land affected by mining activities that is not planted, growing and stabilized. The various sub-units of the Operational Area are used with the Bond Rate Guidelines to calculate the sum of the permittee's liability for mining and reclamation

activities. The sum of the permittee's liability for mining and reclamation activities determines the amount of the bond. The Operational area may float (move) throughout the approved Mining Area within the Surface Mining Permit (SMP).

OSM – the United States Department of the Interior, Office of Surface Mining, Reclamation and Enforcement. It is the federal agency designated to implement the provisions of the federal Surface Mining Control and Reclamation Act of 1977.

Permit – a permit for coal mining activities issued under the following Pennsylvania statutes: the Surface Mining Conservation and Reclamation Act, the Coal Refuse Disposal Control Act and the Clean Streams Law.

SMCRA – the Surface Mining Conservation and Reclamation Act. This is the Pennsylvania statute covering the surface activities of coal mines. It covers both anthracite and bituminous mines. (P.S. 52 §§ 1396.1-1396.31)

Unit costs – in the context of the conventional bonding system, these are the costs for the individual unit operations that make up land reclamation and are based on the actual costs incurred by the Department to complete reclamation or based on other appropriate sources. Examples of unit operations are grading, topsoil replacement, and planting.

BACKGROUND

For almost 60 years Pennsylvania law has regulated surface mining, and has required some degree of land reclamation. For most of the same period it has also required bonds, in changing amounts and formats, to ensure the required land reclamation. The current requirements for both land reclamation and bonding are found in the *Surface Mining Conservation and Reclamation Act* (SMCRA) (52 P.S. §§ 1396.1-1396.31), the *Coal Refuse Disposal Control Act* (CRDCA) (52 P.S. §§ 30.51-30.66) and the *Clean Streams Law* (CSL) (35 P.S. §§ 691.1-691.1001). These acts require a bond to be filed prior to commencement of mining, and to be conditioned *"that the permittee shall faithfully perform all of the requirements" of SMCRA, the CSL and other applicable statutes.* (SMCRA § 4(d); CRDCA § 6(a); CSL § 315(b)). One of these requirements is to ensure the implementation of the restoration measures assuring there will be no polluting discharges after mining ceases. The land reclamation ensures there will not be pollution from erosion. The permit will not be issued if there is evidence there will be a post mining discharge.

The conventional bonding system is based on the mine operator's description of the maximum amount of reclamation needed during the term of the permit. The proposed dimensions of the mining activity are combined with bond rate guidelines to calculate the total bond. The Department developed bond rate guidelines using actual bid costs submitted for abandoned mine lands and forfeited mine sites reclamation contracts and other appropriate sources. Revised guidelines will be published in the *Pennsylvania Bulletin* annually.

This Technical Guidance Document has been revised. A more complete history is included in Appendix B.

PROCEDURES

I. GENERAL

Terms and conditions of bonds are unchanged by the implementation of this guidance. The minimum amount of bond remains $10,000 for bituminous mines and $5,000 for anthracite mines.

The bonding system covers permits for surface coal mining, coal refuse reprocessing, coal refuse disposal, underground coal mining and coal preparation plants. It does not include bonding for replacement of water supplies under SMCRA when the operator chooses to bond, rather than provide, proof of insurance coverage. It does not include bonding to address impacts to land or water resulting from mine subsidence under the Bituminous Mine Subsidence and Land Conservation Act.

II. SETTING BOND RATE GUIDELINES

A. Discussion

Pennsylvania's mining laws, SMCRA, CRDCA and CSL, provide the basis for conventional bonding. The conventional bonding system incorporates the bonding obligations of those acts and the regulations and considers the following:

The bond amount is the cost to the Commonwealth for hiring a contractor to complete the permitted reclamation plan to regulatory standards. It reflects the Commonwealth's maximum responsibilities under the approved operation and reclamation plan for land reclamation.

Permit approval requires a finding that there is "…*no presumptive evidence of pollution to the waters of the Commonwealth…*" (25 Pa Code § 86.37(a)(3)). Consequently, post-mining pollutional discharges of mine drainage are not anticipated in the reclamation plan. The calculation of the initial bond amount for a coal mining permit does not include costs for the treatment of mine drainage or anything not anticipated in the approved permit and reclamation plan.

The operation and reclamation plans in the coal mining permit application describe how the operator will mine and reclaim the site. The Department relies upon the operator's plans, plus site-specific special conditions, when calculating the total bond. The Department will consider, but not necessarily rely upon, cost estimates provided by the applicant.

Many factors contribute to the design of a mine site. This guidance and the Bond Rate Guidelines (BRG) do not attempt to anticipate all the possible scenarios. Department personnel are expected to handle each case by giving as much deference as possible to the operator's plans. If the methods of mining or operation change, standards of reclamation change, or the cost of reclamation, restoration or abatement work increases, the Department will require the permittee to recalculate the bond.

Under the conventional bonding system the applicant will predict the maximum extent of the disturbed areas based on site conditions and the operation and reclamation plans in the permit application. Regulatory requirements for plans and minimum performance standards are found in 25 Pa. Code Chapters 86-90. The total bond is calculated using the unit costs for the various operations necessary to complete the reclamation plan.

Conventional bonding requires two distinct kinds of calculations. First is the calculation of the costs for the different unit operations typically needed to complete land reclamation. These are called the Bond Rate Guidelines (BRG). Second is the application of the BRG to the operator's proposed mining activities to arrive at the bond amount.

B. General Methodology

The Department has set the BRG using unit costs developed from contracts to reclaim abandoned mine land and forfeited sites. The unit cost for a specified unit operation was obtained by averaging the three lowest unit costs for that unit operation from each contract awarded in the last three years.

In the event that a given unit operation was not adequately represented in the preceding three years, then any additional cost information available was used. If enough data was still not available, the rate was set from a standard reference like "*Means Building Construction Cost Data.*" Occasionally, specific unit costs may be adjusted using information provided by BAMR and other stakeholders.

The Department will establish the BRG annually, as required by 25 Pa. Code § 86.145, and will publish the BRG each year in the Pennsylvania Bulletin.

C. Additional Considerations

Not all unit operations included in the BAMR database are included in the BRG. For example, the "Clearing and Grubbing" unit operation is not normally applicable to reclamation of bond forfeiture sites. Other unit operations listed in the database were combined to streamline the BRG.

Several unit operations deserve special explanation. Two of these involve grading for the purpose of backfilling and replacing topsoil. Typically, costs for grading are based on the volume of material in cubic yards to be moved and consider, among other factors, the type of equipment to be used and the distance that material must be moved. The distance is easily determined from the operations map by measuring from the outside limit of spoil to the highwall.

The lower unit cost for grading listed in the BRG was based on the presumption that the spoil is pushed into the excavation. The higher unit cost for grading was based on the need to load and haul the spoil. The break point between these two is 500 feet, which is roughly the maximum distance spoil is typically pushed with a large dozer.

Another unit operation that involves grading is called selective grading. This unit operation is used for removing, or grading out, ditches, roads, storage areas and other features that have the earthen material within or adjacent to the feature.

The other unit operation needing an explanation is the cost per stem for tree planting. Since most site reforestation by BAMR on primacy forfeitures has been done under an agreement with the Department of Conservation and Natural Resources, Bureau of Forestry, the unit cost for tree planting is based on pricing information from the DCNR Penn Nursery.

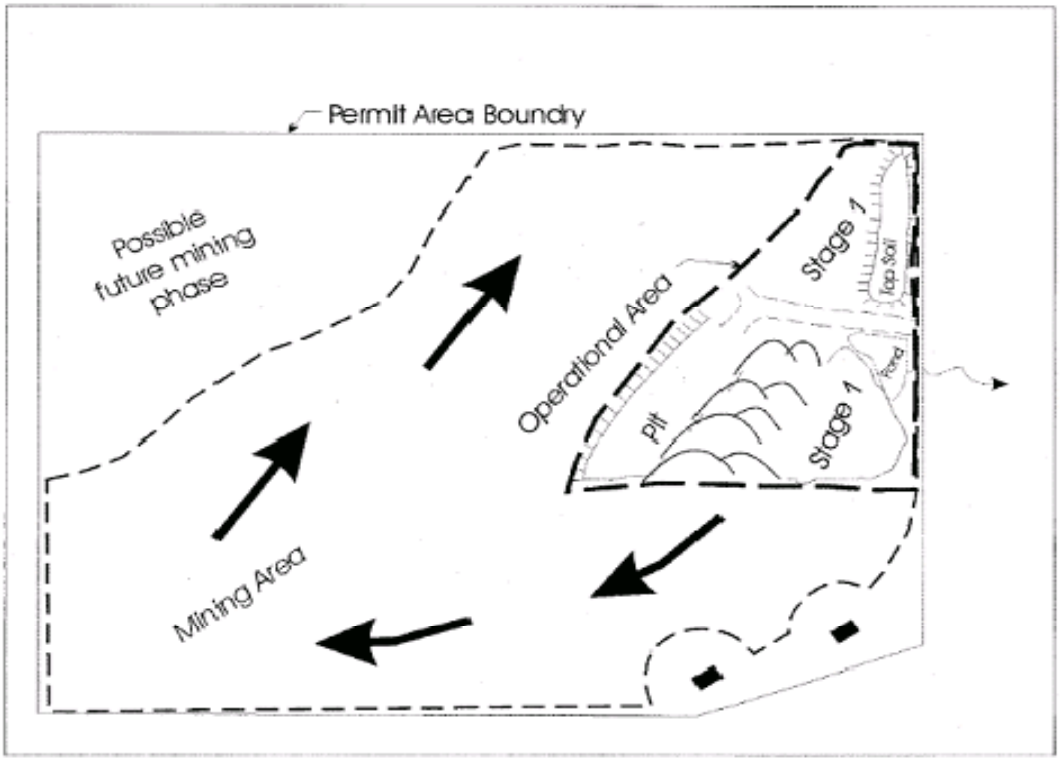
III. CALCULATING SITE-SPECIFIC BOND AMOUNTS

A. Operational Area Concept

The conventional bonding system utilizes the concept of an operational area that involves bonding a pit or extraction area at one rate to cover the grading and revegetation obligations. The area reclaimed to Stage 2 standards is bonded at another lower rate to cover the Stage 3 maintenance period. Under this concept, the location of the pit moves within the Mining Area. The concept diminishes the importance of delineating the exact location on the permit where mining activities are occurring at a given point in time.

Using this approach for the conventional bonding system, the operator delineates the total area to be bonded and affected by surface mining activities on the operations map (Exhibit 9 in the permit application). This is called the Mining Area. The operator must describe the size and characteristics of the mining activities that comprise the Operational Area such as the maximum volume of open pit(s), the size of the pit and spoil area, the area needed for support activities, the areas in the process of being reclaimed, and the revegetation requirements. These factors are used to calculate the bond. Once an operator has posted the appropriate bond, which covers the Operational Area, then the Operational Area (mining activities) can move throughout the Mining Area. The approved dimensions (e.g. volume, area) of the Operational Area components will appear as special conditions in the permit. Figure 1 illustrates the relationships of the Operational Area, Mining Area and permit area.

Phased mining on permits is allowed. To phase an operation, the operator shows the phases on the operations map (Exhibit 9). The bond for the initial phase is calculated based upon the Operational Area within that phase only. The Mining Area becomes the initial phase. Consequently, the Operational Area (mining activities) must remain within that phase of the permit. Activating additional phases, i.e., increasing the Mining Area, requires the bond to be recalculated.



Permit area boundary: Frequently based on property lines.

Mining area: Area on which mining is authorized.

Operational area: Area affected by mining, support and reclamation activities, including area reclaimed to Stage 1 standards. Reclaimed area that is planted, growing, and stable is not included in the operational area.

FIGURE 1

The operator need only post the bond to cover the removal and reclamation of the ponds and features that are temporary. Ponds, roads and other approved features that will remain after mining and reclamation will not need to be included in the bond calculation. The unit costs for sediment control features will be addressed in the annual BRG.

B. Bond Calculation Procedures

The amount of the site-specific conventional bond depends to a great extent on how the operator chooses to mine the site. The operator's mining plan determines the maximum possible liability on the site during the permit term. The operator identifies the volumes, area, and other measures of the unit operations in the operation and reclamation plans including the maximum disturbed area not planted. The Department calculates the bond amount by applying the current BRG.

The total bond for the site is the sum of the costs for the component unit operations and any indirect costs. The formula for calculating the bond amount is:

Total Site Bond = Direct Costs + Indirect Costs

Direct Costs equal the sum of all the different unit operations times the appropriate unit cost listed in the BRG.

Indirect Costs are a percentage of the direct costs. Two types of indirect cost are considered in the conventional bonding system. They are mobilization/demobilization of equipment and the installation of erosion and sediment controls.

Mobilization/demobilization costs apply to every site. The cost for erosion and sediment control is not applicable in every situation and is calculated only when the reclamation plan calls for construction of temporary erosion and sediment control structures.

Conventional bonding requires bond for several kinds of activities previously not bonded. Bonds to complete stream, public road, and utility relocations may be required. Likewise, the costs to the Commonwealth to complete wetland mitigation or removal and demolition of structures, such as electric substations, need to be included in the bond amount.

Part of the Department's job is to make sure the operation and reclamation plans in the application can be feasibly accomplished as required by 25 Pa. Code § 86.37(a)(2). The Department will compare the information submitted by the operator with the other plans and data in the application modules. If the data on the *Bond Calculation Worksheet* conflicts with the application data or other information available to the Department, the Department will discuss the discrepancy with the operator. If unresolved, then the Department will apply the factors or dimensions that it considers appropriate and request bond.

In the event that an applicant declines to specify a volume and/or acreage, the Department will assume a regulatory maximum. For instance, if the applicant does not specify a pit size the bond will be based upon the regulatory maximum of 1,500 feet by 300 feet (457.2 meters by 91.4 meters) for the highest overburden on the mining area.

In any event, the Department will include a draft copy of the special conditions with the request for bond.

If a permittee disagrees with the District Office staff about the amount of bond needed for a permit, the dispute resolution process detailed in Appendix A will be used.

IV. STAGE 2 TO 3 MAINTENANCE BOND

When the permit area is eligible for Stage 2 release, a calculation for the maintenance bond needs to be done. This calculation is done using three components:

- Mobilization of the equipment that would be needed if corrective planting is required.
- A per acre bond rate for fixing vegetation or erosion failures.
- Reclamation for any remaining structures that are not approved to remain (most commonly sediment ponds).

Bond rate guidelines have been established for the equipment mobilization, the per acre rate and the manner of calculating the cost to reclaim any remaining structures. There are three categories for the per acre rate that have been calculated. The per acre bond rate will vary with the approved post mining land use. Most permit area post mining land uses (except cropland/pastureland/land occasionally cut for hay) will use the standard rate. Two rates for cropland areas are included in the bond rate guidelines. These are for areas that need to be seeded from year to year (e.g., row crops) and for areas that would not need to be totally replanted (e.g., pasture or land occasionally cut for hay).

At Stage 2 bond release the cost for the reclamation of remaining temporary structures, such as sediment ponds, must be calculated using a specific calculation. Up until the point where the permit is eligible for Stage 2 release, the BRG for pond reclamation is a flat rate. However, the bond needed for the reclamation of a sediment pond, if it remains at Stage 2 release, is calculated using the bond rate guideline for earth moving for the volume of the embankment plus the cost for revegetating the area affected by the pond removal. Similarly, the cost for removing the collection ditches also must be calculated and added to the bond amount.

V. BONDING SPECIAL FEATURES

A. Structures Not Needing Bonds

Under the conventional bonding system some facilities do not need to be considered in determining the bond amount. For instance, if the application includes releases to allow ponds or haul roads to remain as part of the post mining land use, then no bond is needed for their reclamation. Several scenarios are possible which can eliminate the need to bond certain activities:

- The activity is completed prior to mining. For example, the permanent relocation of utility lines; or the construction of mitigation wetlands prior to disturbing the existing wetland.
- The activity is bonded for reclamation by other agencies. An example would be the mining out and reconstruction of a public road. If the agency with control of the road requires a bond for replacing or reconstructing the road then duplication of bonding by the Department is unnecessary.
- Buildings and structures for which the applicant provides the Department with an agreement or instrument allowing the structure to remain as part of the approved post mining land use.

B. Coal Ash Placement

A number of permits involve coal ash placement for reclaiming abandoned pits, i.e., the beneficial use of coal ash as fill material. These permits are typically found in the anthracite area. The purpose of the bond for coal ash placement is to cover and vegetate any coal ash that has been placed in the abandoned pit. The bond is not intended to cover the complete filling of the abandoned pit.

If coal ash placement has been approved under a permit, the operation and reclamation plans will identify the source and type of material to be used as the cover and growing medium and the plan for revegetation. Therefore, the bond amount is determined by the size of the placement area, in acres, the unit cost for select grading to shape the coal ash that has been placed, the unit cost for grading to cover the area with soil or other material identified in the reclamation plan and the unit cost for revegetation.

If a permit includes coal ash placement in an active pit, i.e., a pit the operator is responsible for reclaiming, the bond should be based on achieving the approved reclamation plan and the assumption that there is no coal ash on-site and that backfilling will involve only spoil.

C. Coal Refuse Reprocessing

The objective of the bond on refuse reprocessing operations is to stabilize and vegetate the operational area, i.e., the area affected by the reprocessing activities. For these sites, the bond is determined by applying the unit cost for select grading to reduce working faces and other areas affected by the operator, the unit cost for grading to cover the area with the soil or other material identified in the reclamation plan and the appropriate unit cost for revegetation. Reclamation of areas not affected by the operation is not the responsibility of the operator, even if those areas are on the permit area.

D. Water Supply Replacement Bonds

Section 3.1(c) of SMCRA requires mine operators to provide insurance to cover damage to public and private water supplies that the Department determines may be affected by the mining activities. This requirement applies only to surface coalmines and the surface facilities of underground coalmines, coal preparation plants, and coal refuse disposal operations. It is not applicable to damage to water supplies from underground mine workings or mine subsidence. A mine operator may use insurance coverage or a water supply replacement bond to provide financial assurance that water supplies affected by surface mining activities can be replaced. Technical Guidance Document 562-2500-702, *Insurance Requirements and Water Supply Replacement Assurance,* describes the policy and procedures for implementing this requirement. The water supply replacement bond is a separate bond instrument. It is not included in the conventional bonding system and is not subject to staged bond releases and public notice.

E. Bonding Of Bituminous Underground Mines And Coal Preparation Facilities.

Reclamation liability for bituminous underground mines and coal preparation facilities has been and will continue to be calculated at the time of major permitting actions rather than on an annual basis as described in Section V. The scope of reclamation work at these sites seldom changes between permit issuance and permit renewal. Any increase in the area of surface disturbance requires a permit revision and recalculation of the reclamation liability. These periodic calculations and corresponding bond adjustments are sufficient to address changes in reclamation liability as they occur over the life of the permit.

F. Remining Financial Guarantees Bond Program

The Department has developed a number of programs to address the environmental problems associated with abandoned mine lands (AML). For the Department, the most cost-effective program is remining. In remining, a mine operator re-affects and reclaims abandoned mine lands in order to extract the remaining coal.

The Department has developed several incentives to encourage remining. One of these is the Remining Financial Guarantees Program. This program allows the Department to provide remining operators with financial guarantees to satisfy part of their bonding obligation. The amount of a remining financial guarantee is based on the size of the remining area.

Early in the permit application process an operator may apply to the Department for participation in the Remining Financial Guarantees Program. The Department would be responsible to make an AML eligibility determination of the remining area, and calculate the Department's cost of reclaiming the AML site using the bond rate guidelines. The conventional bond for the permit will be calculated. The Department will issue a remining financial guarantee as part of the requisite bond in an amount equal to the cost of reclaiming the AML portion of the permit up to the operator and permit limits established in the Remining Financial Guarantee Program. The operator will provide a bond for the difference between the state-issued guarantee and the full conventional bond calculation for the permit.

VI. REPORTING AND RECALCULATION OF BOND AMOUNTS

A. Annual Review

The Annual Review submitted by the permittee and reviewed by the Department is the mechanism that the permittee uses to document the reclamation progress accomplished on the permit as well as to document that the reclamation liability is equal to or below the cost for the Department to complete reclamation on the site (bond amount). The permittee's submittal documents the notification to individual property owners about reclamation standards Stage 1, 2, and 3 achieved on their properties within the permit area. The permittee also uses this mechanism to document which areas have been planted so the "5-year clock" can start on future Stage 3 achievements.

An Annual Review submittal needs to include the following:

- Documentation of landowner notification of reclamation completed on property.
- Map indicating areas planted in last year (and when) and location of various units of the operational area.
- Comparison of current reclamation liability vs. bonded liability

On each anniversary of permit issuance, and continuing until the entire site is planted, growing and stabilized, the operator will identify the current reclamation liability, and provide copies of landowner notification of reclamation completed in the last year. Annual Review calculations will be based upon the current BRG when the Annual Review is filed.

Any request for an exemption from the Annual Review must be in writing, and received by the District Office by the anniversary date of permit issuance. If the Surface Mine Conservation Inspector (SMCI) concurs, then approval will be noted in either a letter to the operator or in an inspection report. An exemption waiver can be requested and granted for parts or all of the Annual Review submittal.

Examples of when an operator may request an exemption from the Annual Review reporting of operational liability include, but are not limited to:

- When operational liability has been calculated within the last 90 days
- When there have been no mining activities within the last year

Because the conventional bonding system will generally eliminate incremental bond releases, the operator must provide a written notice to the owners at the anniversary of the permit issuance of properties on which Stage 1 or 2 reclamation was achieved in the preceding 12 months. The operator must provide the District Mining Office with a copy of this notice. The notice must inform the landowners of the reclamation and explain that they should contact the appropriate District Mining Office if they wish the Department to make a formal determination on the adequacy of the reclamation and have the right to appeal that determination.

Rather than including inflation in the bond amount calculation, the Department will regularly evaluate the cost of reclamation. At each Annual Review the bond will have to be adjusted if there is a greater than 15% increase in the cost of reclamation liability. The Department will also evaluate reclaimed areas to determine if those areas meet the Approximate Original Contour (AOC), Stage 1 and 2 standards.

When the permittee expands the operational area in conjunction with an Annual Review it is considered a permit revision and the 15% leeway does not apply.

If, at the expiration of the permit term, the operator chooses to renew a permit for additional mining or to continue mining, the bond amount will be recalculated using the current BRG when the renewal application is filed. The 15% leeway does not apply to renewals. The additional bond must be submitted and approved prior to renewal. The Department will evaluate reclaimed

areas to determine if they meet AOC, Stage 1 and 2 standards. (Note: This provision includes renewal at 3 years for permits on which mining activities have not started.)

When revisions (those that require recalculation to the operational liability) are submitted with the Annual Review the 15% leeway does not apply.

B. Permit Revisions/ Bond Adjustments

Revisions that require recalculation of the operational liability or that affect the operation or reclamation plans can require a recalculation of the bond amount at current rates. Except for the addition of boreholes associated with underground mines, coal preparation plants and coal refuse disposal operations, the additional bond, if needed, shall be posted and approved prior to approval of the revision. Bonds for additional boreholes associated with underground mines, coal preparation plants and coal refuse disposal operations will be requested at permit renewal.

Bonds must be adjusted up or may be adjusted down if there are changes to the operational area or the reclamation plan. Bond adjustments involving land no longer proposed for disturbance or for revising the cost estimate for land reclamation are not considered bond releases subject to the provisions of 25 Pa. Code §§ 86.170-175. Some reasons for adjusting bond amounts are:

- Moving onto a new phase of mining where conditions can affect the cost of reclamation or adding area to the unreclaimed area. These are adjustments to the operational area.
- Barrier reductions that affect the cost of reclamation.
- Revisions to the approved operation or reclamation plan such as:
    - Leaving a road, pond, or other structure as part of the post mining land use.
    - Moving into higher or lower cover.
    - Changing the post mining land use.

A change in the mining area does not necessarily require an adjustment in the amount of bond.

VII. BOND RELEASE

25 Pa. Code § 86.175(b) establishes the schedule for bond release. The amount of bond released may not exceed 60% of the total bond amount on the permit area, or designated phase of a permit area, upon completion of Stage 1 reclamation and approval by the Department.

Under the conventional bonding system, bond release can begin when the final pit is reclaimed to Stage 1 standards. At this time the operator may also request an adjustment of the bond down to the appropriate amount that was needed for the final pit at its maximum reclamation obligation and the other site conditions. The adjusted bond amount becomes the total amount of the bond from which the 60% is calculated. Bond adjustment and Stage 1 bond release may occur at the same time. Additionally, the permittee may at this or any other time request final release of liability on any areas on the permit that meet Stage 3 standards.

Upon completion of Stage 2 reclamation, the Department may release an additional amount of bond while retaining an amount of bond sufficient to cover the cost of reestablishing vegetation and reconstructing drainage structures if completed by a third party**.**

The Department will release the final portion of the bond on the permit area or designated phase of a permit area after the standards for Stage 3 reclamation have been attained.

VIII. MONITORING AND COMPLIANCE

Effective monitoring of an operation requires the SMCI to compare the operational liability used to calculate the bond with the conditions found on the site of the various components of the operational area used to calculate the bond. If the SMCI believes the operational liability exceeds the bond, the SMCI should direct the operator to verify the operational liability

In cases where the actual liability exceeds the amount of bond, the operator is issued an NOV or compliance order for violating permit conditions. Severely exceeding the dimensions, i.e., the liability is 15% or more than the bond, is a basis for cessation of additional overburden/coal removal, or coal refuse disposal until either additional bond is posted or reclamation has reduced the liability.

IX. RECLAMATION FEES

The Department proposed and the Environmental Quality Board approved as proposed rulemaking a regulation change to eliminate the reclamation fee. The Department will discontinue collection of the $100/acre reclamation fee when the regulation change becomes effective.

The reclamation fee is to be based upon the maximum size of the operational area as described in the approved operation and reclamation plans. For permits with remining financial guarantees, the reclamation fee will be reduced based on the amount of remining area included in the mining area. For example, if the operational area is 10 acres and the remining area on the entire permit is 6 acres, then the reclamation fee due is $400. If the remining area is greater than the operational area, then no reclamation fee is due. If the permittee changes the operation and reclamation plan and the operational area is increased, then a reclamation fee will be required for the additional area. A Permittee is obligated to complete reclamation of the abandoned mine land area that has been used to justify using Remining Financial Guarantees.

APPENDIX A

Dispute Resolution

When a dispute arises on the amount of bond calculated for the site, the operator may request a review of the calculation by the Permits Chief or the District Mining Manager. If following this review the dispute is not resolved, the operator can request that the Department establish an informal, three-person review board comprised of one Permit Chief or District Mining Manager from any of the other District Mining Offices, the Director of the Bureau of District Mining Operations or his designee, and the Director of the Bureau of Mining and Reclamation or his designee.

Both the operator and the District Mining Office shall present their positions to the informal review board. The decision of this board is not binding on the operator. If, following the informal review board's decision, the dispute remains, the operator can choose to either provide the bond and appeal the permit issuance to the Environmental Hearing Board, or refuse to provide the bond and appeal the permit denial to the Environmental Hearing Board.

Failure of an operator to invoke the dispute resolution process does not affect the operator's right to challenge the bond amount in an appeal to the Environmental Hearing Board.

APPENDIX B

History of Pennsylvania's Bonding Program for Coal Mining

For almost 60 years Pennsylvania's law has regulated surface mining and has required some degree of land reclamation. For most of the same period it has also required bonds, in changing amounts and formats, to ensure the required land reclamation. The requirements, at the time that Pennsylvania changed to a conventional bonding system for both land reclamation and bonding, were found in the *Surface Mining Conservation and Reclamation Act* (SMCRA) (52 P.S. §§ 1396.1-1396.31), the *Coal Refuse Disposal Control Act* (CRDCA) (52 P.S. §§ 30.51-30.66) and the Clean Streams Law (CSL) (35 P.S. §§ 691.1-691.1001). These acts required a bond to be filed prior to commencement of mining, and to be conditioned *"that the permittee shall faithfully perform all of the requirements" of SMCRA, the CSL and other applicable statutes.* (SMCRA § 4(d); CRDCA § 6(a); CSL § 315(b)). One of these requirements was to ensure the implementation of restoration measures assuring there would be no polluting discharges after mining ceased. The land reclamation ensures there will not be pollution from erosion. The permit would not be issued if there is evidence there would be a post mining discharge.

SMCRA and CRDCA provided for two different bonding methods. In the first method, now called conventional bonding, the amount of the bond is the total cost to the Commonwealth to complete the approved reclamation plan. In the second bonding method, the amount of the bond was an amount established for an alternate bonding program. This alternate program must achieve the objectives and purpose of SMCRA, CRDCA and CSL.

Beginning in 1981, Pennsylvania used an alternate bonding system (ABS) for surface mine permits. The details of this program were established in an August 1, 1981, letter from Secretary Clifford Jones to all surface mine operators. It required a $3,000 per acre bond for actual mining areas and another $1,000 per acre bond for support activities, such as sediment controls, topsoil storage, ditches, and haul roads. Higher rates were imposed when the maximum thickness of rock overlying the coal exceeded certain depths (e.g., when the cover was between 85 feet and 115 feet thick, the rate was $4,000 per acre). When reclamation activities were completed these bonds were released. In addition, there was a statewide bond pool funded through the collection of a non-refundable, non-releasable reclamation fee. If forfeiture occurs, the money in the bond pool was to be used to supplement the per-acre bonds to cover the Department's cost to reclaim the site. In 1981 the reclamation fee was set at $50 per acre. The fee was increased to $100 per acre on August 7, 1993.

On July 30, 1981, before Pennsylvania achieved primacy, the ABS was challenged. The Pennsylvania Federation of Sportsmen's Clubs, the Sierra Club, Trout Unlimited, the Audubon Society, the Loyalsock Watershed Association, Wyona Coleman, and Paul Jurovcik petitioned Commonwealth Court for a Review in the Nature of a Complaint in Equity and Preliminary Injunction. On April 27, 1988, the suit was settled when the parties entered into a court-approved consent decree.

On October 1, 1991, OSM notified Pennsylvania that it believed the ABS was not as effective as the federal requirement. Pennsylvania has worked with OSM regarding their concerns over the

ABS. However, on May 31, 1995, OSM again wrote the Commonwealth about concerns for the ABS. Throughout these discussions, conventional bonding was recognized as an option available to Pennsylvania. In October 1999 the Pennsylvania Federation of Sportsmen's Clubs, the Pennsylvania Chapter Sierra Club, Pennsylvania Trout, Inc., Tri-State Citizens Mining Network and Mountain Watershed Association, Inc. filed suit in Federal District Court against both the Department and OSM. Among other things, the suit alleged the ABS did not meet the objectives and purpose of federal SMCRA.

The ABS had many shortcomings. There was a lack of parity between different categories of mining operations. Consequently, in the event of forfeiture, the contributions to the bond pool by some operators were not proportionate with contributions from others. For example, in the late 1990s, the Commonwealth's cost to reclaim a coal refuse disposal site, originally bonded at $1,000 per acre, averaged more than $20,000 per acre. Conversely, a surface mine, originally bonded at $3,000 per acre, may have cost the Commonwealth less than $7,000 per acre to reclaim.

Parity was also lacking within categories of mining. Operations with large open pit areas were much more expensive to reclaim than the average mine site. However, both paid the same reclamation fee and both used the same per acre bond rates.

Operators who do not intend to stay in business found it cheaper to forfeit bonds than to complete the reclamation required by law. Approximately 10% of the surface mining permits issued to Pennsylvania's industry resulted in forfeiture.

Additionally, OSM changed its interpretation of federal requirements. It dictated that ABS bond pools must cover the entire costs for treating water on forfeiture sites in perpetuity, without limitation. Continuation of the current ABS in the long term plus a decline in the number of active operators and increasing annual costs for treating water on forfeited sites meant fewer and fewer operators would have paid higher and higher fees into the bond pool. Eventually this cycle would have bankrupted the ABS.

In October 1999 Pennsylvania announced its decision to implement a conventional bonding system. The change represented the first major overhaul of the bonding mechanism in 17 years. The conventional bonding system was developed using principles from the OSM *Handbook for Calculation of Reclamation Bond Amounts* and from a 1989 DEP study called *Alternate Bonding - Final Report of the BMR Bond Work Group*.

The conventional bonding system is based on the mine operator's description of the maximum amount of reclamation needed during the term of the permit. The proposed dimensions of the mining activity are combined with bond rate guidelines to calculate the total bond. The Department developed bond rate guidelines using actual bid costs submitted for abandoned mine lands and forfeited mine sites reclamation contracts and other appropriate sources. Revised guidelines are published annually in the *Pennsylvania Bulletin*.

IMPLEMENTATION SCHEDULE

A. New Permits

The Department applied conventional bonding for land reclamation to applications for coal mining permits and permit revisions received after the original effective date of this guidance, August 4, 2001. The Department calculated the bond under the ABS for those applications under review on the original effective date of this guidance. Those applications were handled as existing permits as described in the next section, and they were eligible for conversion assistance.

B. Existing Permits

Permits bonded under the ABS needed to upgrade to the conventional bonding system. Since operators of active mines made decisions based, in part, on the ABS, the Department gave them time to provide bonds under the conventional bonding system. Each District Mining Office established the implementation schedule for the permits it covered. The District Mining Offices continued to accept requests for bond increments under the ABS until the permit was converted to the conventional bonding system.

The Department notified holders of existing permits of their obligation to post bond amounts determined under conventional bonding. The notice gave a date by which the revised bond had to be submitted and included worksheets for calculating the conventional bond. The Department established site-specific dates for bond submittal that allowed operators sufficient time to comply. If the bond under the conventional bonding system was significantly higher than the existing bond and the permit was not eligible for conversion assistance, the operator could negotiate a consent order and agreement that established a schedule for reduction of the existing reclamation liability, posting additional bond or both.

The Department evaluated sites that have been regraded and reclaimed, sites renewed for reclamation only, and sites with completed coal removal to determine if bond adjustment was necessary. The Department notified those operators who had to adjust their bonds.

During the period between the notification and the date on which a given permit was to adjust to an amount based on conventional bonding, the operator could consult with the appropriate District Mining Office regarding the amount of bond or potential revisions to the approved operation and reclamation plans.

Operators of existing permits did not have to wait until notified to adjust their bonds. If the existing bond was greater than the bond calculated under the conventional bonding system, the operator could request a bond adjustment. This adjustment of bond was not a bond release and was not subject to the regulatory requirements for bond release.

OPERATOR ASSISTANCE PROGRAMS

The Department developed programs to assist mine operators in complying with the change to the conventional bonding system. These programs were available through the District Mining Offices. The Conversion Assistance Program was available to operators with existing permits at the time that the Department directed the change to the conventional bonding system. This program provided a financial guarantee to cover the increase in bond required by converting to conventional bonding.

The Remining Financial Guarantees Bond Program provided a financial guarantee to cover the bond required by the conventional bonding system for remining portions of a permit. This program is intended to encourage remining on new permits. The Remining Financial Guarantees program was modified and expanded to continue to be an incentive for remining under the conventional bonding system. The Office of Surface Mining Reclamation and Enforcement (OSM) agreed that OSM funds for the AML "10% set-aside" program could be used to supplement remining financial guarantees on forfeited permits that are located in qualifying watersheds. Financial guarantees under these programs could not be used to cover an operator's obligations for treating post mining polluting discharges. If a post mining discharge developed on a participating site, the operator was required to post another financial mechanism to guarantee long-term treatment.

A. Conversion Assistance Program

The Department issued land reclamation financial guarantees to current permit holders in a sum-certain amount equal to the increase in bonds dictated by the conversion from the existing ABS to the conventional bonding system. The objective of this program was to provide assistance to current permit holders who had difficulty providing additional land reclamation bonds for their current permits. The Conversion Assistance Program had the following conditions:

- The application for permit or permit revision was accepted for review by the Department before August 4, 2001.
- Permits for which the Department had determined there was an obligation for treating a post mining discharge do not qualify for assistance under the Conversion Assistance Program unless the permittee and Department had a binding agreement to establish financial provisions for post mining treatment costs. Subchapter F and G permits were eligible.
- The Conversion Assistance Program land reclamation financial guarantee was to be an additional bond on the permit.
- The Conversion Assistance Program land reclamation financial guarantee is the first bond released from the permit, and the permittee had to demonstrate that any surety, financial institution or person with an interest in any collateral bond consents to the release of the land reclamation financial guarantee before all other bonds.
- The permittee submitted a request to the Department to be considered for participation.
- The permittee paid a fee of 1.5% per year of the amount of the financial guarantee annually.

The District Mining Office determined the amount of additional bond, and notified the permittee. The notification also included a Bond Transmittal Form and a letter requesting the additional bond and information on the conversion assistance program, including the amount of the annual fee. Upon receiving the information the permittee requested conversion assistance. The request indicated the projected life of the mine and included the fee, and written documentation that the surety, financial institution and any other person who had an interest in the existing bonds on the permit had consented to the release of the land reclamation financial guarantee before all other bonds on the permit.

The Conversion Assistance Program was established because of concerns about the ability of many mine operators to convert existing permits to conventional bonding. These operators had already made financial and operational commitments based on their bonding capacity and the ABS. Likewise, the surety providers made decisions to provide bonds on existing permits based on the risk they were willing to take at that time. For operations where the conventional bond calculation was significantly greater than the bond posted under the ABS, operators would not have been able to comply with the mandatory bond adjustment. Those operators would have been faced with the uncertainty of a negotiated settlement with the Department regarding bonding and reclamation liability, or risk being forced out of business. The choice for the surety industry would be to provide more bonds than their risk assessment dictates, or risk forfeiture of the existing bond. The risk to the Department would be that forfeiture of existing inadequate bonds would further increase the deficit of the current ABS fund.

Funding for the Conversion Assistance Program was as follows:

- $5.5 million deposited into the current ABS fund to make the fund solvent for all outstanding forfeiture reclamation projects currently on the books.
- An additional $7 million financed the Conversion Assistance Program and covered up to $70,000,000 in bond exposure.

These amounts were based on the historic rate of bond forfeitures, the amount of for feited bonds that had been collected , the cost o f reclam ation to the Departm ent, and the number of sites operated under the ABS.

APPENDIX C

Bond Calculation Worksheet

(Instructions in italics)

GRADING

Backfilling

$$\left[\frac{\text{pit length (ft) X width (ft) X depth (ft)}}{27\ \text{ft}^3/\text{c.y.}}\right] \text{ X Unit Cost = \$}$$

Pit length and width may be measured at the coals to be mined. If mining multiple seams, calculate the volume by benches. Use higher unit cost if spoil 500 ft or more from any pit.
Can adjust depth to exclude coal and other product minerals.
Use separate calculations for additional pits.
If using other methods to determine volumes, attach calculations.

Review Guide

Confirm distance to spoil dump(s).

Are pit dimensions compatible with equipment list?
Use drill hole data to confirm mineral volume (only if excluded from total).

Topsoil Handling

$$\left[\frac{\text{(acres needing topsoil X 43,560 ft}^2/\text{acre) X soil thickness (ft)}}{27\ \text{ft}^3/\text{c.y.}}\right] \text{ X Unit Cost = \$}$$

Include all soil horizons.
Amount is total of the maximum area where topsoil needs spread during permit term.
Use higher unit cost for grading if stockpiles are 500 ft or more from any pit.

Review Guide
Verify volumes by checking calculations and soil survey information.
Maximum area may occur during winter months when re-distribution isn't possible.

Selective Grading

Roads: $\left[\frac{\text{length (ft) X width (ft)}}{43{,}560\ \text{ft}^2/\text{acre}}\right]$ X Unit Cost = \$

Other Facilities: area (acres) X Unit Cost = \$

Use for grading out roads, ponds, stockpile and storage areas, erosion and sediment controls and other support areas.
Be sure to include in revegetation calculations.
Use selective grading unit cost.

REVEGETATION

Revegetation With Topsoil On-Site

area (acres) X unit cost = $

Area is maximum area needing planted at any given time during the permit term.	Review Guide
Assumes 3-tons/acre lime, 400-lbs./acre 10-10-10 fertilizer, 50-lbs./acre grass and legume seed mix, and 3-tons/acre mulch application.	Compare area to topsoil placement calculations.
Use unit cost for revegetation only when seeding soil materials	Can require a specific breakdown if plans in application are significantly different.

Revegetation Without Topsoil On-Site

Seed Bed Preparation: area (acres) X Unit Cost	=	$
Ag. Lime: area (acres) X (tons/acre) X Unit Cost	=	$
Nitrogen: area (acres) X (pound/acre) X Unit Cost	=	$
Phosphate: area (acres) X (pound/acre) X Unit Cost	=	$
Potash: area (acres) X (pound/acre) X Unit Cost	=	$
Seed: area (acres) X (pound/acre) X Unit Cost	=	$
Mulching: area (acres) X Unit Cost	=	$
To tal	=	$

Area is maximum area needing planted at any given time during the permit term.	Review Guide
Application rates based upon root zone material testing.	Compare area to topsoil placement calculations.
Use specified unit costs when seeding non-soil materials.	Verify sampling plan appropriate for site and samples properly composited.

Reforestation

area to plant (acres) X (trees/acre) X Unit Cost = $

CHANNEL CONSTRUCTION

Use for stream relocations and for permanent ditches to remain as part of the postmining land use.

Excavation

$$\left[\frac{\text{cross section area (ft}^2\text{) X length (ft)}}{27\ \text{ft}^3\text{/c.y.}}\right] \text{ X Unit Cost = \$}$$

Channel Lining

Jute matting: $\left[\frac{\text{perimeter of channel (ft) X length (ft)}}{9\ \text{ft}^2\text{/sq.y.}}\right]$ X Unit Cost = \$

High Velocity Erosion Control: $\left[\frac{\text{perimeter of channel (ft) X length (ft)}}{9\ \text{ft}^2\text{/sq.y.}}\right]$ X Unit Cost = \$

Channel With Rock Lining

R3 Rock Lining (less than 6 inches): $\left[\frac{\text{perimeter of top of rock lining (ft) X length (ft)}}{9\ \text{ft}^2\text{/sq.y.}}\right]$ X Unit Cost = \$

R4 Rock Lining (less than 12 inches): $\left[\frac{\text{perimeter of top of rock lining (ft) X length (ft)}}{9\ \text{ft}^2\text{/sq.y.}}\right]$ X Unit Cost = \$

R5 Rock Lining (less than 18 inches): $\left[\frac{\text{perimeter of top rock lining (ft) X length (ft)}}{9\ \text{ft}^2\text{/sq.y.}}\right]$ X Unit Cost = \$

Geotextile: $\left[\frac{\text{perimeter of ditch (ft) X length (ft)}}{9\ \text{ft}^2\text{/sq.y.}}\right]$ X Unit Cost = \$

Polyvinyl Chloride Lining (PVC): $\left[\frac{\text{perimeter of cross section of PVC liner (ft) X length (ft)}}{9\ \text{ft}^2\text{/sq.y.}}\right]$ X Unit Cost = \$

SUBSURFACE DRAINS

Length of drainage (ft) X Unit Cost = \$

For each channel there will be channel excavation and a type of channel lining. Types of channel lining include jute matting, high velocity erosion control, R3 rock lining, R4 rock lining, and R5 rock lining. Rock lining requires geotextile underneath the rock and this unit cost should be added to the rock lining cost. Also, if rock lining passes over fill material, a PVC liner must be installed over the fill area. The total quantities for channels include the sum of each channel excavation, type of lining, and use of PVC liner. A typical channel is a trapezoidal channel that is normally a 2-foot bottom with side slopes that are 2:1. The excavated material is used on the down slope.

Channel Construction Subtotal

Ditch Excavation		$
Channel Lining (Jute)		$
Channel Lining (High Velocity)		$
Channel With Rock Lining: R3		$
R4		$
R5		$
Geo	textile	$
PVC Lining		$
Subsurface Drains		$_____
Subtotal =		$

POND REMOVAL

Ponds

Number of Ponds X Unit Cost = $

Rate includes removal of associated ditches.
Do not include ponds which are part of the post-mining land use and for which the landowner has signed a release.

OTHER ACTIVITIES

For required reclamation activities not shown above, such as wetland construction or reconstruction:

Determine the unit operations needed to accomplish the activity, the dimensions of the activity, materials and their amounts and multiply by an appropriate unit cost. Attach calculation sheets.

If no unit cost is available attach an independent, detailed estimate for performing the task. (Examples: Cost of alkaline addition materials, importation of soil cover material.)

SUBTOTAL

Backfilling $	
Topsoil Handling	$
Selective Grading	$
Revegetation With Topsoil	$
Revegetation Without Topsoil	$
Reforestation $	
Channel Construction Subtotal	$
Pond Removal	$
Other Activities $_____	
Subtotal =	$

INSTALLATION OF TEMPORARY EROSION & SEDIMENT CONTROLS

Subtotal ($) X Unit Cost = $

Calculate only when reclamation plan calls for temporary erosion & sediment controls after backfilling and grading. See BRG.

MOBILIZATION/DEMOBILIZATION

Subtotal ($) X Unit Cost = $

Required element of the bond amount.

.

TOTAL BOND

Subtotal	**$_____**
+ Installation or upgrade E&S Controls	**$_____**
+ Mobilization/demobilization	**$_____**
+ Subtotal from Appendix C	**$_____**
Total =	**$**

Attach all worksheets and calculation pages used in determining bond amounts.

Attach Appendix C, "Bond Calculation Worksheet for Demolition of Structures and Mine Seals" if applicable.

Contact your Lead Permit Reviewer for assistance in completing this form.

APPENDIX D

Bond Calculation Worksheet for Demolition of Structures and Mine Seals

(Instructions in italics)

DEMOLITION OF STRUCTURES

Structure: volume (ft^3) X Unit Cost ($/$ft^3$) = $

Determine volume of each structure to be removed in cubic feet based on external dimensions. Use appropriate item and cost from an industry-standard cost estimation publication.
Include reference and page number with calculations.

Review Guide Confirm structures to be removed and calculations are appropriate for type of structure and cost.

SEALING MINE OPENINGS

Boreholes

Vertical Linear Feet (ft) of Borehole X $ /ft = $

Use solid concrete seals.
Use appropriate diameter, concrete purchase and placement costs from an industry-standard cost estimation publication.
Include reference and page number with calculation.

Review Guide
Verify length and check calculations.

Confirm calculation made is appropriate for type of structure and cost.

Shafts

Non-hydraulic shaft seal - Inert fill to surface, mound and fence:

Unit Cost + (vol. of fill X cost estimate) + Fencing = $

Calculate for each shaft.

Use appropriate unit cost from BRG. Use appropriate earth purchase and placement costs from an industry-standard cost estimation publication. Remember to include costs for fencing.
Fill must be inert and non-combustible.
Include reference and page number with calculation.

Review Guide Verify and check calculations.
Confirm calculation made is appropriate for type of shaft.

Hydraulic shaft seal with bulkhead; Backfill to surface, mound and fence:

Unit Cost + (vol. of fill X cost estimate) + Fencing = $

Use unit cost from BRG.

Review Guide

Use appropriate earth purchase and placement costs from an industry-standard cost estimation publication. Remember to include costs for fencing.	Verify and check calculations.
Include reference and page number with calculation.	Confirm calculation made is appropriate for type of structure and cost.

Drifts and Slopes

Non-Hydraulic Seal; Backfill to surface, mound, and fence:

Unit Cost + (vol. of fill X cost estimate) + Fencing = $

Hydraulic seal; Backfill to surface, mound, and fence:

Unit Cost + (vol. of fill X cost estimate) + Fencing = $

Use unit cost from BRG. Use earth purchase and placement costs from an industry-standard cost estimation publication. Remember to include costs for fencing.	Review Guide Verify and check calculations.
Include reference and page number with calculation.	Confirm calculation made is appropriate for type of structure and cost.

Other Activities

For miscellaneous items such as Railroad Track and Tie removal, Piping, Conveyors, Macadam, Guide Rails, Electrical Transformers, Above or Underground Storage Tank Removal, and Disposal of Contaminated Soil, or for required reclamation activities not shown above:

Determine the dimensions of the activity and multiply by the appropriate costs from an industry-standard cost estimate publication. Attach calculation sheets.

If no BRG is available attach three independent estimates for performing the task. (Examples: Cost of alkaline addition materials, importation of soil covers material.)

SUBTOTAL

Demolition $	
Sealing mine openings	$
Other $	
Subtotal =	$

Add subtotal from this worksheet to Bond Calculation Worksheet for total bond amount.

Attach additional Worksheets and calculation pages as needed.

Contact your Lead Permit Reviewer for assistance in completing this form.

Do NOT submit bond until District Office has provided a 'Bond Submittal' form.

Appendix B. Bond Rate Guidelines

In general, the bond rate for a given unit operation is the weighted average of the three lowest total bids for each contract. However, grading costs were calculated using the number of bids at a cost per cubic yard frequency distribution and a weighted total number of yards at a cost per cubic yard frequency distribution, in combination with the averages and a cost trend analysis.

In the event that a unit operation necessary to calculate a reclamation bond is not listed in Tables 1 or 2, then any additional cost information available will be used. If enough data is still not available, the rate will be set from a standard reference like "*Means Building Construction Cost Data*" or "*Walker's Building Estimator's Reference Book.*"

The fees associated with the Land Maintenance Bond Program are presented in Table 3. There has been no change in these rates for 2009.

The bond rate guidelines are available electronically at http://www.dep.state.pa.us/dep/deputate/minres/bmr/programs/bonding.htm. For background information and supporting documentation regarding bonding rate guidelines, contact the Bureau of Mining and Reclamation, Division of Monitoring and Compliance, P. O. Box 8461, Harrisburg, PA 17105-8461, (717) 787-5103.

Mine Sealing Costs

The mine sealing bond rate guidelines are presented in Table 2. Review of the contract data for mine sealing projects reveals that they are designed and bid on a volume and material basis. The Department has evaluated these bond rate guidelines resulting in updated mine sealing bond rate guidelines for 2009. The Department also developed bond rate guidelines for sealing boreholes.

Effective Date

The bond rate guidelines in this notice become effective April 1, 2009.

TABLE 1

Standard Bond Rate Guidelines For Year 2009

Unit Operation	Unit Measure	Unit Costs ($)
Mobilization/Demobilization	**Job**	**4% of direct costs or $40,000, whichever is less**
Grading (< 500-foot push)	Cubic Yard	0.95
Grading (>= 500-foot push/haul)	Cubic Yard	1.20
Selective Grading	Acre	1,250.00
Revegetation	Acre	1,600.00

Tree Planting	Tree	0.15
Ditch Excavation	Cubic Yard	5.25
Jute Matting	Square Yard	3.25
High Velocity Erosion Control	Square Yard	3.50
R3 Rock Lining	Square Yard	25.00
R4 Rock Lining	Square Yard	22.00
R5 Rock Lining	Square Yard	21.00
Geotextile/Filter Fabric	Square Yard	2.00
PVC Lining[1]	Square Yard	11.00
Subsurface Drain	Lineal Foot	18.50
Erosion and Sedimentation Control (Temporary Installation)	Job	Lump sum (5% of direct costs for site)
Pond Removal Active Phase[2]	Pond	3,800.00
Stage 3 Maintenance Bond Noncropland Areas (Land Uses Where Crop Yields Are Not Required)	Acre	100.00
Stage 3 Maintenance Bond Cropland (Not Row Crops) Pastureland Or Land Occasional Cut For Hay (Excludes Seed Cost)	Acre	550.00
Stage 3 Maintenance Bond Cropland Area-Row Crops (includes seed cost)	Acre	800.00
Stage 3 Mobilization	Job	2,500.00

---

[1] Typically used for lining of ponds or ditches crossing fill material.

[2] Unit cost not from BAMR bids; includes dewatering, grading, topsoil placement and revegetation.

Unit Operation	**Unit Measure**	**Unit Costs ($)**
Mobilization/Demobilization	**Job**	**4% of direct costs or $40,000, whichever is less**
Pond Removal-Stage[3]	Cubic Yards (Embankment volume) Plus Topsoiling and	Use < 500 grading for pond embankment volume plus Topsoiling and Revegetation cost for the area disturbed

	Revegetation Cost	
Ditch Removal-Stage[3]	Lineal Foot	0.75
Equipment Tire Removal and Disposal	Tire	300.00
Structure Demolition	Costs will be calculated using costs listed in the construction industry's latest annual cost publications, such as *Means Building Construction Cost Data.*	

TABLE 2

Mine Sealing Bond Rate Guidelines For Year 2009

Sealing Bituminous Underground Mine Drift and Slope Openings

Unit Operation	Unit Measure	Unit Costs ($)
Concrete Work	Cubic yard	128.00
Masonry Work	Square foot	11.00
Fill Material and Earthwork[3]	Cubic yard	23.00
Security Fencing	Lineal foot	29.00
Mobilization Cost	Job	5% of Total Amount
Sealing Bituminous Underground Mine Shaft Openings		
Concrete Material	Cubic Yard	96.00
Aggregate Material	Cubic Yard	27.00
Fill material and Earthwork[3]	Cubic Yard	4.00
Security Fencing	Lineal Foot	29.00
Mobilization Cost	Job	5% of Total Amount
Sealing Boreholes at Bituminous Underground Mines		
Dimension	Minimum Cost Per Hole ($)	Unit Cost ($) Per Lineal Foot
12 Inch or Less Diameter	1,500	5.50
Larger Than 12 Inch Diameter	2,000	5.50

---

[3] Mine sealing costs are minimum costs. Additional costs per mine seal will be assessed based on specific design criteria, such as the thickness of the seal and the volume of backfill material required, using appropriate material, equipment, and labor costs from BAMR bid abstracts or from an industry-standard cost estimation publications, such as, *Means Estimating Handbook* or *Walker's Building Estimator's Reference Book.*

TABLE 3

Land Maintenance Financial Guarantee Fees For Year 2009

NOTICES

Bond Rate Guidelines for the Calculation of Land Reclamation Bonds on Coal Mining Operations

[40 Pa.B. 752]
[Saturday, February 6, 2010]

The Department of Environmental Protection (Department) announces the 2010 bond rate guidelines for anthracite and bituminous coal mining operations. These rates become effective April 1, 2010. The authority for bonding coal mining operations is found under the Clean Streams Law, (35 P.S. §§ 691.1—691.1001), the Surface Mining Conservation and Reclamation Act, (52 P.S. §§ 1396.1—1396.19a), the Coal Refuse Disposal Control Act (52 P.S. §§ 30.51—30.66) and 25 Pa. Code Chapter 86, Subchapter F (relating to bonding and insurance requirements). The unit costs listed in these guidelines will be used in calculating the land reclamation bonds for surface coal mining operations including, surface mines, coal refuse disposal sites, coal refuse reprocessing sites, coal processing facilities and the surface facilities of underground mining operations. The procedures for calculating land reclamation bonds are described in technical guidance 563-2504-001, "Conventional Bonding for Land Reclamation—Coal," which is available on the Department's web site at the following link: http://www.elibrary. dep.state.pa.us/dsweb/Get/Document-48226/563-2504-001.pdf.

The Department may review the adequacy of bonds on existing permits based on the bond rate guidelines at any time. The Department will conduct these reviews before issuing permit renewals. The Department may conduct similar reviews at the mid-term of a permit and before approving a permit revision.

These bond rate guidelines do not apply to bonds assuring replacement of water supplies under subsection 3.1(c) of the Surface Mining Conservation and Reclamation Act (52 P.S. § 1396.3a(c)) or to bonds ensuring compliance with the requirements of the Bituminous Mine Subsidence and Land Conservation Act (52 P.S. §§ 1406.1—1410d).

General Methodology

The Department developed the bond rate guidelines for 2010 from the unit costs for competitively bid contracts for mine reclamation. Contract bid data is available for various unit operations needed to complete reclamation of a mine site for the years 1998-2009. For most categories, a 3-year (2007-2009) average was used to calculate the guidelines. Some categories required another approach due to limited data. For example, there were no contracts in 2007 or 2009 that included selective grading. Therefore, a 4-year average was

used for the 2009 selective grading bond rate.

In general, the bond rate for a given unit operation is the weighted average of the three lowest total bids for each contract. However, grading costs were calculated using the number of bids at a cost per cubic yard frequency distribution and a weighted total number of yards at a cost per cubic yard frequency distribution, in combination with the averages and a cost trend analysis.

In the event that a unit operation necessary to calculate a reclamation bond is not listed in Tables 1 or 2, then any additional cost information available will be used. If enough data is still not available, the rate will be set from a standard reference like "*Means Building Construction Cost Data*" or "*Walker's Building Estimator's Reference Book.*"

The fees associated with the Land Maintenance Bond Program are presented in Table 3. There has been no change in these rates for 2010.

The bond rate guidelines are available electronically at http://www.dep.state.pa.us/dep/deputate/minres/bmr/programs/bonding.htm. For background information and supporting documentation regarding bonding rate guidelines, contact the Bureau of Mining and Reclamation, Division of Monitoring and Compliance, P. O. Box 8461, Harrisburg, PA 17105-8461, (717) 787-5103.

Mine Sealing Costs

The mine sealing bond rate guidelines are presented in Table 2. Mine sealing and borehole sealing bond rate guidelines remain the same for 2010.

Effective Date

The bond rate guidelines in this notice become effective April 1, 2010.

TABLE 1

Standard Bond Rate Guidelines For Year 2010

Unit Operation	Unit Measure	Unit Costs ($)
Mobilization/Demobilization	**Job**	**4% of direct costs or $40,000 whichever is less**
Grading (<500-foot push)	Cubic Yard	0.85
Grading (>=500-foot push/haul)	Cubic Yard	1.10
Selective Grading	Acre	1,150.00
Revegetation	Acre	1,615.00
Tree Planting	Tree	0.15

Ditch Excavation	Cubic Yard	4.55
Jute Matting	Square Yard	3.30
High Velocity Erosion Control	Square Yard	3.00
R3 Rock Lining	Square Yard	26.00
R4 Rock Lining	Square Yard	20.00
R5 Rock Lining	Square Yard	19.00
Geotextile/Filter Fabric	Square Yard	1.70
RVC Lining[1]	Square Yard	12.00
Subsurface Drain	Lineal Foot	17.00
Erosion and Sedimentation Control (Temporary Installation)	Job	Lump sum (5% of direct costs for site)
Pond Removal Active Phase[2]	Pond	3,800.00
Stage 3 Maintenance Bond Non-Cropland Areas (Land Uses Where Crop Yields Are Not Required)	Acre	100.00
Stage 3 Maintenance Bond Cropland (Not Row Crops) Pastureland Or Land Occasional Cut For Hay (Excludes Seed Cost)	Acre	600.00
Stage 3 Maintenance Bond Cropland Area-Row Crops (includes seed cost)	Acre	800.00
Stage 3 Mobilization	Job	2,500.00
Pond Removal-Stage 3	Cubic Yards (Embankment Volume) Plus Topsoiling and Revegetation Cost	Use <500 Grading For Pond Embankment Volume Plus Topsoiling and Revegetation Cost For The Area Disturbed
Ditch Removal-Stage 3	Lineal Foot	0.75
Equipment Tire Removal and Disposal	Tire	300.00
Structure Demolition	Costs Will Be Calculated Using Costs Listed In The Construction Industry's Latest Annual Cost Publications, Such As *Means Building Construction Cost Data.*	

TABLE 2

Mine Sealing Bond Rate Guidelines For Year 2010

Sealing Bituminous Underground Mine Drift and Slope Openings

Unit Operation	*Unit Measure*	*Unit Costs ($)*
Concrete Work	Cubic yard	128.00
Masonry Work	Square foot	11.00
Fill Material and Earthwork[3]	Cubic yard	23.00
Security Fencing	Lineal foot	29.00
Mobilization Cost	Job	5% of Total Amount
Sealing Bituminous Underground Mine Shaft Openings		
Concrete Material	Cubic Yard	96.00
Aggregate Material	Cubic Yard	27.00
Fill material and Earthwork[3]	Cubic Yard	4.00
Security Fencing	Lineal Foot	29.00
Mobilization Cost	Job	5% of Total Amount
Sealing Boreholes at Bituminous Underground Mines		
Dimension	*Minimum Cost Per Hole ($)*	*Unit Cost ($) Per Lineal Foot*
12 Inch or Less Diameter	1,500	5.50
Larger Than 12 Inch Diameter	2,000	5.50

[1] Typically used for lining of ponds or ditches crossing fill material.

[2] Unit cost not from BAMR bids; includes dewatering, grading, topsoil placement and revegation.

[3] Mine sealing costs are minimum costs. Additional costs per mine seal will be assessed based on specific design criteria, such as the thickness of the seal and the volume of backfill material required, using appropriate material, equipment, and labor costs from BAMR bid abstracts or from an industry-standard cost estimation publications, for example, *Means Estimating Handbook* or *Walker's Building Estimator's Reference Book.*

TABLE 3

Land Maintenance Financial Guarantee Fees For Year 2009

Fee Category	Fee ($)
Publication	$1,000
Administrative	$300

JOHN HANGER,
Secretary

[Pa.B. Doc. No. 10-229. Filed for public inspection February 5, 2010, 9:00 a.m.]

webmaster@PaBulletin.com

Appendix C. Bond Calculation Worksheet

5600-FM-MR0466 Rev. 7/2009

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING AND RECLAMATION

Bond Calculation Worksheet

Date: _____

SECTION A. APPLICANT INFORMATION

Applicant Name: _____

Mine Name: _____

Permit No: _____

Application Contact:

_____ Last Name _____ First Name _____ MI

_____ Title

SECTION B. GRADING

B1.) BACKFILLING

Pit # 1

[_____ pit length (ft.) X _____ width(ft.) X _____ depth(ft.) / 27 ft.^{3}/cy] (X) _____ Unit Cost = $_____

Pit # 2 (if applicable)

[_____ pit length (ft.) X _____ width(ft.) X _____ depth(ft.) / 27 ft.^{3}/cy] (X) _____ Unit Cost = $_____

Pit # 3 (if applicable)

[_____ pit length (ft.) X _____ width(ft.) X _____ depth(ft.) / 27 ft.^{3}/cy] (X) _____ Unit Cost = $_____

_____

[_____ length (ft.) X _____ width(ft.) X _____ depth(ft.) / 27 ft.^{3}/cy] (X) _____ Unit Cost = $_____

_____

[_____ length (ft.) X _____ width(ft.) X _____ depth(ft.) / 27 ft.^{3}/cy] (X) _____ Unit Cost = $_____

_____

[_____ length (ft.) X _____ width(ft.) X _____ depth(ft.) / 27 ft.^{3}/cy] (X) _____ Unit Cost = $_____

_____

[_____ length (ft.) X _____ width(ft.) X _____ depth(ft.) / 27 ft.^{3}/cy] (X) _____ Unit Cost = $_____

Notes:

- When calculating the bond amount for backfilling, estimate the volume of the void created by the entire mining operation, i.e. the maximum volume of open pit(s), (accounting for ramps, roads, benches, shot benches, the upgrade slope of the low wall side), as well as all areas needed for support activities. The bond amounts for these activities should be calculated using the formulas above. If additional space is needed attached calculations to this form and label B.1 Backfilling.
- Pit length and width may be measured at the coals to be mined. If mining multiple seams, calculate the volume by benches. Use higher unit cost if spoil is located 500 ft or more from any pit.
- The depth can be adjusted to exclude coal and other product minerals.
- Use separate calculations for additional pits.
- If using other methods to determine volumes, attach calculations.

B2.) TOPSOIL HANDLING

[(_____ acres requiring topsoil (X) 43,560 ft^2/acre) _____ soil thickness (ft.) / 27 ft.^{3}/cy] (X)

_____ Unit Cost = $_____

Notes:

- Include all soil horizons.
- Amount is total maximum area where topsoil needs spread during permit term.
- Use higher unit cost for grading if stockpiles are 500 ft. or more from any pit.
- Verify volumes by checking calculations and soil survey information.
- Maximum area may occur during winter months when re-distribution is not possible.

B3.) PRIME FARM LAND

[(_____ acres requiring topsoil (X) 43,560 ft^2/acre) (X) _____ soil thickness (ft.) / 27 ft.^{3}/cy] (X)

_____ Unit Cost = $_____

Notes:

- Include all soil horizons.
- Amount is total maximum area where topsoil needs spread during permit term.
- Use higher unit cost for grading if stockpiles are 500 ft. or more from any pit.
- Verify volumes by checking calculations and soil survey information.
- Maximum area may occur during winter months when re-distribution is not possible.

B4.) SELECTIVE GRADING

a.) Roads:

$$\left[\frac{\text{\_\_\_\_ length (ft.) (X) \_\_\_\_ width (ft)}}{43{,}560\ \text{ft.}^2/\text{acre}}\right] \quad (x) \quad \text{\_\_\_\_ Unit Cost =} \quad \$\text{\_\_\_\_\_}$$

b.) Other Facilities:

____ area (acres) (x) ____ Unit Cost = $_____

Notes:

- Use for grading out roads, ponds, stockpile and storage areas, and other support areas.
- Use for the grading out of treatment ponds and any erosion and sedimentation not associated with sediment ponds.
- Be sure to include the revegetation calculations in Section C of this form.
- Use selective grading unit cost.

SECTION B5.) GRADING: SUBTOTALS

B1:	Backfilling:	$_____
B2:	Topsoil Handling:	$_____
B3:	Prime Farm Land:	$_____
B4:	Selective Grading: (Roads)	$_____
	Selective Grading: (Other Facilities)	$_____
	Subtotal:	$_____

SECTION C. REVEGETATION

C1.) REVEGETATION WITH TOPSOIL ON-SITE

____ area (acres) (x) ____ unit cost = $____

Notes:

- Area is maximum area needing planted at any given time during the permit term.
- Assumes 3-tons/acre lime, 400-lb/acre 10-10-10 fertilizer, 50-lb/acre grass and legume seed mix, and 3-tons/acre mulch application.
- Use unit cost for revegetation only when seeding soil materials.
- Compare area to topsoil placement calculations.
- Can require a specific breakdown if plans in application are significantly different.

C2.) REVEGETATION WITHOUT TOPSOIL ON-SITE

Seed Bed Preparation:	_____ area (acres) (x)	_____ area (acres) (x)	_____ Unit Cost =	$_____
Ag. Lime:	_____ area (acres) (x)	_____ (tons/acre) (x)	_____ Unit Cost =	$_____
Nitrogen:	_____ area (acres) (x)	_____ (pound/acre) (x)	_____ Unit Cost =	$_____
Phosphate:	_____ area (acres) (x)	_____ (pound/acre) (x)	_____ Unit Cost =	$_____
Potash:	_____ area (acres) (x)	_____ (pound/acre) (x)	_____ Unit Cost =	$_____
Seed:	_____ area (acres) (x)	_____ (pound/acre) (x)	_____ Unit Cost =	$_____
Mulching:	_____ area (acres) (x)		_____ Unit Cost =	$_____
			Subtotal:	$_____

Notes:

- Area is maximum area needing planted at any given time during the permit term.
- Application rates based upon root zone material testing.
- Use specified unit costs when seeding non-soil materials.
- Compare area to topsoil placement calculations.
- Verify that the sampling plan appropriate for site and that samples are properly composited.

C3.) REFORESTATION

_____ area to plant (acres) (x) _____ (trees/acre) (x) _____ Unit Cost = $_____

C4.) REVEGETATION TOTALS

C1: Revegetation With Topsoil Onsite:	$_____
C2: Revegetation Without Topsoil Onsite – Seed Bed Preparation:	$_____
C3: Reforestation:	$_____
Subtotal:	$_____

SECTION D. CHANNEL CONSTRUCTION

Use for stream relocations and for permanent ditches to remain as part of the post-mining land use.

D1.) EXCAVATION

$$\frac{\text{\_\_\_\_\_ cross section area (ft}^2\text{) (X) \_\_\_\_\_ length (ft.)}}{27\ \text{ft.}^3\text{/cy}}$$ (X) _____ Unit Cost = $_____

D2.) CHANNEL LINING

Jute Matting:

[_____ perimeter of channel (ft.) (X) _____ length (ft) / 9 ft.^{2}/sy] (X) _____ Unit Cost = $_____

High Velocity Erosion Control:

[_____ perimeter of channel (ft.) (X) _____ length (ft) / 9 ft.^{2}/sy] (X) _____ Unit Cost = $_____

D3.) CHANNEL WITH ROCK LINING

R3 Rock Lining (less than 6 inches):

[_____ perimeter of top rock lining (ft.) (X) _____ length (ft) / 9 ft.^{2}/sy] (X) _____ Unit Cost = $_____

R4 Rock Lining (less than 12 inches):

[_____ perimeter of top rock lining (ft.) (X) _____ length (ft) / 9 ft.^{2}/sy] (X) _____ Unit Cost = $_____

R5 Rock Lining (less than 18 inches):

[_____ perimeter of top of rock lining (ft.) (X) _____ length (ft) / 9 ft.^{2}/sy] (X) _____ Unit Cost = $_____

Geotextile:

[_____ perimeter of ditch (ft.) (X) _____ length (ft) / 9 ft.^{2}/sy] (X) _____ Unit Cost = $_____

Polyvinyl Chloride (PVC) Lining:

[_____ perimeter of cross section of PVC liner (ft.) (X) _____ length (ft) / 9 ft.^{2}/sy] (X) _____ Unit Cost = $_____

D4.) SUBSURFACE DRAINS

_____ length of drainage (ft.) (x) _____ Unit Cost = $_____

Notes:

- For each channel, there will be channel excavation and a type of channel lining.
- Types of channel lining include jute matting, high velocity erosion control, R3 rock lining, R4 rock lining, and R5 rock lining.
- Rock lining requires geotextile underneath the rock and this unit cost should be added to the rock lining cost.
- If rock lining passes over fill material, a PVC liner must be installed over the fill area.
- The total quantities for channels include the sum of each channel excavation, type of lining, and use of PVC liner.
- A typical channel is a trapezoidal channel, which is normally a 2-foot bottom with side slopes that are 2:1.
- The excavated material is used on the down slope.

D5.) CHANNEL CONSTRUCTION: TOTALS

D1: Ditch Excavation: $_____

D2: Channel Lining: $_____

Jute Matting: $_____

High Velocity: $_____

D3: Channel with Rock Lining: $_____

R3: (less than 6 inches): $_____

R4: (less than 12 inches): $_____

R5: (less than 18 inches): $_____

Geotextile: $_____

PVC Lining: $_____

D4: Subsurface Drains: $_____

Subtotal: $_____

SECTION E. POND REMOVAL

E1.) POND REMOVAL ACTIVE STAGE PHASE 2

_____ number of ponds (x) _____ Unit Cost = $_____

Notes:

- Rate includes removal of associated ditches.
- Do not include ponds which are part of the post-mining land use and for which the landowner has signed a release.

E2.) POND REMOVAL – STAGE 3

A.) Topsoil Handling (Pond Removal – Stage 3)

$$\left[\frac{(\text{\_\_\_\_\_ acres requiring topsoil (X) } 43{,}560\ \text{ft}^2/\text{acre}) \text{ (X) \_\_\_\_\_ soil thickness (ft.)}}{27\ \text{ft.}^3/\text{cy}}\right] \text{ (X)}$$

_____ Unit Cost = $_____

B.) Revegetation with Topsoil On-Site (Pond Removal – Stage 3)

_____ area (acres) (x) _____ Unit Cost = $_____

C.) Backfilling of the Pond Breastwork (Pond Removal – Stage 3)

$$\left[\frac{\text{\_\_\_\_\_ pit length (ft.) X \_\_\_\_\_ width(ft.) X \_\_\_\_\_ depth(ft.)}}{27\ \text{ft.}^3/\text{cy}}\right] \text{ (X)}$$

_____ Unit Cost = $_____

D.) Revegetation without Topsoil On-Site (Pond Removal – Stage 3)

Seed Bed Preparation:	_____ area (acres) (x)	_____ area (acres) (x)	_____ Unit Cost =	$_____
Ag. Lime:	_____ area (acres) (x)	_____ (tons/acre) (x)	_____ Unit Cost =	$_____
Nitrogen:	_____ area (acres) (x)	_____ (pound/acre) (x)	_____ Unit Cost =	$_____
Phosphate:	_____ area (acres) (x)	_____ (pound/acre) (x)	_____ Unit Cost =	$_____
Potash:	_____ area (acres) (x)	_____ (pound/acre) (x)	_____ Unit Cost =	$_____
Seed:	_____ area (acres) (x)	_____ (pound/acre) (x)	_____ Unit Cost =	$_____
Mulching:	_____ area (acres) (x)		_____ Unit Cost =	$_____

Subtotal: $_____

A. Top Soil Handling $_____

B: Revegetation with Topsoil On-Site $_____

C: Backfilling of the Pond Breastwork $_____

D: Revegetation without Topsoil On-Site $_____

Subtotal: $_____

Notes:

Top Soil Handling:

- Amount is the total maximum area of the maximum area where topsoil needs spread during permit term.
- Use lower unit cost for grading if stockpiles are less than 500 feet from any pit.
- Use higher unit cost for grading if stockpiles are 500 feet or more from any pit.
- Verify volumes by checking calculation and soil survey information.

Revegetation with Topsoil On-Site:

- Area is maximum area needing planted at any given time during the permit term.
- Assumes 3-tons/acre lime, 400-lb/acre 10-10-10 fertilizer, 50-lb/acre grass and legume seed mi(x), and 3-tons/acre mulch application.
- Use unit cost for revegetation only when seeding soil materials.
- Compare area to topsoil placement calculations.
- Can require a specific breakdown if plans in application are significantly different.

Revegetation without Topsoil On-Site:

- Area is maximum area needing planted at any given time during the permit term.
- Application rates based upon root zone material testing.
- Use specified unit costs when seeding non-soil materials.
- Compare area to topsoil placement calculations.
- Verify sampling plan appropriate for site and that samples are properly composited.

E3.) POND REMOVAL: TOTALS

E1: Pond Removal Active Stage Phase 2: $_____

E2: Pond Removal – Stage 3: $_____

Subtotal: $_____

SECTION F. MAINTENANCE BOND CALCULATIONS		
F1.) STAGE 3: MAINTENANCE BOND NON-CROPLAND AREAS – (LAND USES WHERE CROP YIELDS ARE NOT REQUIRED)		
_____ (acres) (x)	_____ Unit Cost =	$_____
F2.) STAGE 3: MAINTENANCE BOND CROPLAND AREAS – NON ROW CROPS PASTURELAND OR LAND OCCASIONALLY CUT FOR HAY (EXCLUDES SEED COST)		
_____ (acres) (x)	_____ Unit Cost =	$_____
F3.) STAGE 3: MAINTENANCE BOND CROPLAND AREAS – ROW CROPS (INCLUDES SEED COST)		
_____ (acres) (x)	_____ Unit Cost =	$_____
F4.) STAGE 3: MOBILIZATION		
Per Project	_____ Unit Cost =	$_____
F5.) STAGE 3 – DITCH REMOVAL		
_____ (ft.) (x)	_____ Unit Cost =	$_____
F6.) STRUCTURE DEMOLITION (see notes)		
Actual Cost		$_____
F7.) MAINTENANCE BOND CALCULATIONS TOTALS		
F1: Stage 3: Maintenance Bond Non-Cropland Areas – Crop yields are not required		$_____
F2: Stage 3: Maintenance Bond Cropland Areas – Non row crops		$_____
F3: Stage 3: Maintenance Bond Cropland Areas – Row crops		$_____
F4: Stage 3: Mobilization		$_____
F5: Ditch Removal—Stage 3		$_____
F6: Structure Demolition		$_____
	Subtotal:	$_____

Notes:

- Structure Demolition Costs will be calculated using costs listed in the construction industry's latest annual cost publications, such as *Means Building Construction Cost Data.*

SECTION G. OTHER ACTIVITIES

For required reclamation activities not shown above, such as wetland construction or reconstruction, etc.:

Notes:

- Determine the unit operations needed to accomplish the activity, the dimensions of the activity, materials and their amounts and multiply by an appropriate unit cost.
- Attach calculation sheets.
- If no unit cost is available, attach an independent, detailed estimate for performing the task.
- Examples: Cost of alkaline addition materials; importation of soil cover material.
- Provide a description of the miscellaneous item(s) and the unit cost below.

_____	(x)	_____ Unit Cost	$_____
_____	(x)	_____ Unit Cost	$_____
_____	(x)	_____ Unit Cost	$_____
_____	(x)	_____ Unit Cost	$_____
_____	(x)	_____ Unit Cost	$_____
		Total:	$_____

SECTION H. SUBTOTAL OF SECTIONS B - G

Grading Subtotal (Section B5)	$_____
Revegetation Subtotal (Section C4)	$_____
Channel Construction Subtotal (Section D5)	$_____
Pond Removal (Section E3):	$_____
Maintenance Bond Calculations (Section F7)	$_____
Other Activities (Section G)	$_____
Section H: Subtotal:	$_____

SECTION I. INSTALLATION OF TEMPORARY EROSION & SEDIMENT CONTROLS

_____ Subtotal (Section H) (x) _____ Unit Cost = $_____

Note:

- Calculate only when reclamation plan calls for temporary erosion & sediment controls after backfilling and grading. See current Bond Rate Guidelines.

SECTION J. MOBILIZATION/DEMOBILIZATION

_____ Subtotal of Section H (x) _____ Unit Cost = $_____

Note:

- Required element of the bond amount.

SECTION K. TOTAL BOND

Subtotal (Section H):	$_____
Installation or upgrade E & S Controls (Section I):	$_____
Mobilization/demobilization (Section J):	$_____
Subtotal from Form 5600-FM-MR0467	$_____
Total:	$_____

Notes:

- Attach all worksheets and calculation pages used in determining bond amounts.
- Attach Form 5600-FM-MR0467, "Bond Calculation Worksheet for Demolition of Structures and Mine Seals" if applicable.
- Contact your Lead Permit Reviewer for assistance in completing this form.

Appendix D. Permit File Bond Information

Pottsville

Mountaintop Coal Mining, Inc.
J & A Mine
Permit 54960101
Issued 01/08/1997 Exp. 01/08/2012
Schuylkill County, Barry Twp.
Permitted acres – 246.4
Authorized acres – 30.0

5600-FM-MR0310 Rev. 3/2002

PART C
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AUTHORIZATION TO MINE
PERMIT NO. 6820-54960101-09

PERMITTEE NAME AND ADDRESS: Mountaintop Coal Mining, Inc.
PO Box 183
Elysburg, PA 17824-0183

ISSUANCE DATE: March 13, 2008
REISSUANCE DATE(S):
EXPIRATION DATE: January 7, 2012

NAME OF OPERATION: J & A Mine

LOCATION OF OPERATION:
MUNICIPALITY: Barry and Foster Townships COUNTY: Schuylkill

TYPE OF OPERATION

☒ ANTHRACITE ☐ BITUMINOUS

- ☒ Surface Mine
- ☐ Auger Mine
- ☐ Other

- ☐ Surface Mine (coal refuse reprocessing)
- ☒ Coal Refuse Disposal
- ☐ Coal Preparation/Processing Facility

A. Permittee is hereby authorized to conduct coal mining activities on lands of Schuylkill County Airport Authority, John and Joan Harman, Albert Helen Shadle and Schuylkill County Commissioners situated in Barry and Foster Townships, Schuylkill County. Surface owners' consent is attested to by inclusion of a properly executed Consent of Landowner form submitted in support of this approval.

B. Coal mining activities are limited to the area designated on the Exhibit 9 map January 2008, submitted in support of the request for this Mining Authorization. The maximum area authorized for mining at any time is 30.0 acres. This operational area is allowed to float within the 81.7 acres designated for mining area.

C. A total bond amount of $101,855 is required for the approved mining area, described in the Bond Calculation Worksheet dated January 17, 2008.

D. The permittee is authorized to conduct mining activities as described in Modules 9 and 10 of the mining application and the Bond Calculation Worksheet dated January 17, 2008.

E. Bond Description

- ☒ Original/Existing Bond $110,914 ☐ Additional Bond with this Authorization
- ☒ Collateral Bond dated October 18, 2001 in Amount of $25,500.00 supported by First Union Bank CD #247401231648353.
- ☒ Conversion bond in the amount of $27,906.00 LFRG No. 4810-26-CFG.
- ☒ Remining Financial Guarantee in the amount of $57,510 under 4810-47-FG.
- ☐ Additional Remarks:

F. The approved erosion and sediment control facility related to the area to be mined in accordance with this authorization must be constructed in accordance with the approved plan, certified by a professional engineer or land surveyor, and the certification submitted to the Department prior to the commencement of other coal mining activities in this area.

G. The attached sheet contains seven (7) conditions relating to this authorization.

By: Thomas Callaghan, P.G.

Title: District Mining Manager
For the Department of Environmental Protection

cc: Licensing & Bonding
Ryan Flynn, SMCI
I & I Engineering, Inc.
File
Mountain2

ADDITIONAL SPECIAL CONDITIONS AND/OR REQUIREMENTS:

1. The limits of mining and/or support area(s) approved by this permit are to be field marked and shall remain marked for the duration of mining and reclamation activity.

2. This Authorization to Mine, Permit No. 6820-54960101-09, is hereby issued in accordance with the Department's Technical Guidance Document ID 563-2504-001 "Conventional Bonding for Land Reclamation – Coal".

3. This Authorization to Mine replaces and supercedes all previously issued Authorizations.

4. A maximum of 30.0 acres , with a total financial reclamation responsibility of $101,855 is authorized to be affected at any time, as outlined below:

Backfilling (32,711 cu. yds.)	$24,537
15.2 ac Selective Grading	24,320
30.0 ac Revegetation & Trees	44,400
E&S controls	3,000
Mob/Demob	3,802
Total	**$101,855**

5. The permittee shall verify the dimensions of the various components of the authorized operational area and the adequacy of the current bond every year. This information shall be submitted no later than January 7, and continue at yearly intervals until the entire site meets Stage 2 land reclamation standards. This verification shall include, at a minimum:

   A. An updated Exhibit 9, Operations Map, an aerial photograph, or other descriptive, available documentation, showing the mining area, current location and dimensions of the operational area, and areas reclaimed in the past twelve months to "approximate original contour" (AOC), and Stage 1 and Stage 2 standards. The Operations map must be sealed by a Professional Engineer or Professional Land Surveyor. However, updates to the map that just show areas completed to Stage 1 or 2 standards do not require a new seal applied.

   B. With regard to the areas reclaimed to Stage 1 and Stage 2 standards mentioned above, the permittee must provide annual written notice to the owners of the properties on which Stage 1 or Stage 2 reclamation was completed in the preceding twelve months. The permittee must provide the Pottsville District Mining Office with a copy of each notice. This notice must inform the landowner of the reclamation and explain that they should contact the Pottsville District Mining Office if they wish the Department to make a formal determination on the adequacy of the reclamation and that they have the right to appeal said determination.

   C. A comparison of the current conventional bond calculation with one describing the existing liability.

      Note: In cases where the operational area dimensions are obviously less than the dimensions used in the current conventional bond calculation and the current Exhibit 9, Operations Map adequately describes the site conditions, or where no mining or reclamation has been done in the past year, the permittee can request exemption from this reporting requirement. This request must be in writing and must be received by the date stated above for annual verification. A valid reason for the exemption must be provided.

6. The permittee has been approved to participate in the Financial Guarantees Program under Section 4.12 of the Surface Mining Conservation and Reclamation Act and 25 PA Code 86.281 of the Department's Rules and Regulations. The total amount of Financial Guarantees approved under 4810-47-FCG is $57,510 for the 14.4 acres as shown on the plans accompany Authorization to Mine No. 6820-54960101-08. Per the Financial Guarantee, the permittee shall submit an annual premium payment of $575.10 due each year on or before the anniversary date of January 7.

   Also, please be aware of the following:

   A) An operator may not substitute Financial Guarantees for existing collateral or surety bonds.

B) Financial Guarantees cannot be used to cover the reclamation obligation on another section of the permit area.

C) Financial Guarantees cannot be rolled over to other portions of the permit.

D) Payments are not refundable and will be deposited into the Remining Financial Assurance Fund.

E) The amount of the Financial Guarantee obligation will be reduced or released in accordance with 86.170 – 86.172 (relating to scope; procedures for seeking release of bond; and criteria for release of bond).

F) The obligation covered by the Financial Guarantees Program bond will be reduced or released prior to any other bond on the permit.

G) The portion of the bond reduced or released may not be used to cover the reclamation obligation on another section of the permit area.

H) The annual premium payment may be adjusted annually to reflect any increase, decrease, or release.

*This Financial Guarantee replaced previous Financial Guarantees No. 4810-06-FG & No. 4810-11-FG.

7. The permittee was approve to participate in the Conversion Assistance Program. A "Land Reclamation Financial Guarantee" for $27,906 as applied for on April 9, 2002 is included as bond on this permit. Per this agreement, the permittee shall submit an annual fee of $418.58 due each year on or before the anniversary date of January 7.

   Please be aware of the following:

   A) The LRFG is non-transferable to subsequent permittees.

   B) The amount of the LRFG cannot be increased.

   C) The amount of the LRFG, and associated annual fee, may be reduced as the total financial reclamation liability on this site decreases.

   D) Once reduced, the amount of the LRFG cannot be increased.

   E) No bonds shall be released for this site until the LRFG has been terminated and the total financial reclamation liability is less than the total bond amount held by the Department.

   F) The annual fee is non-refundable.

   G) The LRFG may be terminated by:

      1) Reduction of the total financial reclamation liability on this site to equal or be exceeded by the total bond amount held by the Department;

      2) Replacement of the LRFG with sufficient bonding such that the total bond amount meets or exceeds the total financial reclamation responsibility; or

      3) Failure by the permittee to pay the annual fee within 30 days after the anniversary date of the permit. In the event the permittee fails to make timely payment of the annual fee, the permittee must immediately provide the appropriate bond or the Department will take the necessary enforcement actions, including cessation of operations, for failure to maintain adequate bond.

MOUNTAINTOP COAL MINING, INC.
SMP NO. 54960101
2008 ANNUAL BOND REVIEW
ATTACHMENT 2
BOND CALCULATION WORKSHEETS

PHASE/MINING AREA 1 = 24.0 ACRES
OPERATIONAL AREA 1 = 9.8 ACRES

GRADING

Mining to be backfilled, regraded and revegetated:

- PIT 2

Pit 2 has been backfilled to the required reclamation grade $0.00

SELECT GRADING

Mining to be regraded and revegetated:

1.3 acres x $1,600.00/acre = $2,080.00

Support to be regraded and revegetated:

1.3 acres x $1,600.00/acre = $2,080.00

REVEGETATION

Mining to be regraded and revegetated:

1.3 acres x $1,540.00/acre = $2,002.00

Support to be regraded and revegetated:

1.3 acres x $1,540.00/acre = $2,002.00

Mining to be revegetated:

7.2 acres x $1,540.00/acre = $11,088.00

PHASE/MINING AREA 2 = 5.0 ACRES
OPERATIONAL AREA 2 = 1.4 ACRES

REVEGETATION

Mining to be revegetated:

1.4 acres x $1,540.00/acre = $2,156.00

PHASE/MINING AREA 3 = 13.8 ACRES
OPERATIONAL AREA 3 = 5.7 ACRES

GRADING

Mining to be backfilled and revegetated:

- PIT 1

  Using Exhibit 9.2, Section D-D and
  Sectional Area x Pit Length = Backfill Volume

  4,332 sq.ft. x 100 ft. = 433,200 cu.ft.
  433,200 cu.ft. ÷ 27 cu.ft./cu.yd. = 16,044.44 cu.yds.
  16,044.44 cu.yds. x $0.75 cu.yd. = $12,033.33

SELECT GRADING

Mining to be regraded and revegetated:

2.8 acres x $1,600.00/acre = $4,480.00

Support to be regraded and revegetated:

1.0 acres x $1,600.00/acre = $1,600.00

REVEGETATION

Mining to be backfilled and revegetated:

0.4 acres x $1,540.00/acre = $616.00

REVEGETATION (Continued)

Mining to be regraded and revegetated:

2.8 acres x $1,540.00/acre = $4,312.00

Mining to be revegetated:

1.5 acres x $1,540.00/acre = $2,310.00

Support to be regraded and revegetated:

1.0 acres x $1,540.00/acre = $1,540.00

PHASE/MINING AREA 4 – 6.1 ACRES
OPERATIONAL AREA 4 – 1.4 ACRES

GRADING

Mining to be backfilled and revegetated:

- PIT 3

Pit 3 has been backfilled to the required reclamation grade $0.00

REVEGETATION

Mining to be revegetated:

1.4 acres x $1,540.00/acre = $2,156.00

PHASE/MINING AREA 5 – 12.8 ACRES
OPERATIONAL AREA 5 – 6.7 ACRES

GRADING

Mining to be backfilled and revegetated:

- PIT 4

Pit 4 has been backfilled to the required reclamation grade $0.00

SELECT GRADING

Mining to be regraded and revegetated:

4.1 acres x $1,600.00/acre = $6,560.00

REVEGETATION

Mining to be regraded and revegetated:

4.1 acres x $1,540.00/acre = $6,314.00

Mining to be revegetated:

2.6 acres x $1,540.00/acre = $4,004.00

PHASE/MINING AREA 6 = 20.0 ACRES
OPERATIONAL AREA 6 = 5.0 ACRES

Mining to be backfilled and revegetated:

- PIT 5

  Using Exhibit 9.2, Section G-G and
  Sectional Area x Pit Length = Backfill Volume

  4,550 sq.ft. x 100 ft. = 450,000 cu.ft.
  450,000 cu.ft. ÷ 27 cu.ft./cu.yd. = 16,666.67 cu.yds.
  16,666.67 cu.yds. x $0.75 cu.yd. = $12,500.00

SELECT GRADING

Mining to be regraded and revegetated:

4.7 acres x $1,600.00/acre = $7,520.00

REVEGETATION

Mining to be backfilled and revegetated:

0.3 acres x $1,540.00/acre = $462.00

REVEGETATION: (Continued)

Mining to be regraded and revegetated:

4.7 acres x $1,540.00/acre =	$7,238.00
SUB TOTAL =	**$95,053.33**
Temporary E&S controls/site maintenance (30.0 acres) @ $100/acre =	$3,000.00
Mobilization/demobilization @ 4% =	$3,802.13
NEW BOND AMOUNT =	**$101,855.46**
Existing Bond Amount =	$110,913.79
EXCESS BOND AMOUNT =	**$9,058.33**

NOTES:

1. The new bond amount calculated for this site is $101,855.46, and the existing bond amount is $110,913.79. Therefore, approval of this application will create an excess bond in the amount of $9,058.33. The operator is not requesting a bond adjustment for this amount. However, it should be noted that a reclamation fee in the amount of $500.00 for the 5.0 acres of newly bonded area will be required. The operator will submit this amount upon request.

2. This application is for the 2008 Annual Bond Review. The changes to the bonded area consist of the following:

   Phase/Mining Area 1

   - 30,877 cu.yds. backfilling completed for Pit No. 2.
   - 0.5 acres mining to be backfilled and revegetated downgraded to mining to be revegetated (Pit 1).
   - 6.2 acres mining to be regraded and revegetated downgraded to mining to be revegetated.

   Phase/Mining Area 2

   - 1.4 acres mining to be regraded and revegetated deleted as unaffected.

NOTES: (Continued)

- 1.4 acres mining to be regraded and revegetated downgraded to mining to be revegetated.
- 1.2 acres mining to be revegetated downgraded to mining completed.

Phase/Mining Area 3

- 8,022.44 cu.yds. backfilling added for additional development of Pit 1.
- 0.2 acres new mining to be backfilled and revegetated (for additional development of Pit 1).
- 1.0 acres new mining to be regraded and revegetated.
- 1.4 acres mining to be regraded and revegetated downgraded to mining completed.
- 1.5 acres mining to be regraded and revegetated downgraded to mining to be revegetated.
- 2.1 acres new future mining area

Phase/Mining Area 4

- 8,022 cu.yds. backfilling completed for Pit 3.
- 0.2 acres mining to be backfilled and revegetated downgraded to mining to be revegetated (Pit 3).
- 1.2 acres mining to be regraded and revegetated downgraded to mining to be revegetated.

Phase/Mining Area 5

- 17,707 cu.yds backfilling completed for Pit 4.
- 0.3 acres mining to be backfilled and revegetated downgraded to mining to be revegetated (Pit 4)
- 2.3 acres mining to be regraded and revegetated downgraded to mining to be revegetated.

NOTES: (Continued)

Phase/Mining Area 6

- 16,666.67 cu.yds. backfilling added for development of Pit 5.
- 0.3 acres new mining to be backfilled and revegetated (Pit 5).
- 4.7 acres new mining to be regraded and revegetated.
- 15.0 acres new future mining area.

3. This operation is classified as a remining operation, which includes reclamation of abandoned mineland, daylighting of abandoned deep mine workings and backfilling and reclamation of on site abandoned pits. In this regard, Mountaintop Coal Mining, Inc. has been previously approved to qualify under the Financial Guarantees Program. The area bonded under Financial Guarantee No. 4810-47-FG, has been previously determined as follows:

   The area bonded under Financial Guarantee No. 4810-47-FG has been previously determined as follows:

   - Determine total amount of bond for Phase/Operational Areas 1 through 5 (Submitted previously):

     Total Bond Amount = $110,913.79

   - Determine per acre bond rate for Phase/Operational Areas 1 through 5:

     $110,913.79 ÷ 27.8 = $3,989.70

   - Determine bond amount supplied by Financial Guarantees Program:

     Amount supplied by Financial Guarantees Program = Total Bond Amount (From Above) – Bond Provided by Applicant:

     FGP Bond Amount = $110,913.79 -$53,406.00 = $57,507.79

   - Determine acreage bonded by Financial Guarantees Program:

     $57,507.79 ÷ $3,989.70 = 14.4 acres

4. Backfill for pit areas is located within 500 feet of pit areas.

NOTES: (Continued)

5. Revegetation cost for all areas includes planting 400 trees per acre.

6. The existing haulroads will remain for postmining use at the request of the landowner. The Landowner Authorization Letter was submitted previously.

POTTSVILLE DISTRICT MINING OFFICE
5 West Laurel Boulevard
Pottsville, PA 17901
(570) 621-3118

54960101 AR 2010

ANNUAL BOND REVIEW CHECKLIST

Permittee MOUNTAINTOP COAL MINING, INC. **Year** 2010

Permit No. 54960101 **Operation Name** MOUNTAINTOP STRIPPING

Township BARRY AND FOSTER **County** SCHUYLKILL

Please designate if the following items are included in this Annual Bond Review:

☒ 1. Application Processing Checksheet
☒ 2. Annual Bond Calculation Summary Sheet, as required
☒ 3. Complete calculations attached to the Summary Sheet, as required
☐ 4. Verification of current mining area, as required (Designate what is submitted.)
  ☐ Operations map
  ☐ Aerial photograph
  ☒ Other documentation (describe) NO CHANGE IN OPERATIONAL AREA SINCE SUBMISSION OF LAST OPERATIONS MAP
☒ 5. Total of three (3) copies of the application, as required.
☐ 6. Bond Adjustment is requested with this Annual Review. (Check here if not applicable. ☒)
☐ 7. Annual Review includes Stage 1 or 2 reclamation over the past 12 months. Map must be included that shows these areas. (Check here if not applicable. ☒)
☐ 8. Planting report included for areas that were planted over the past 12 months. (Check here if not applicable ☒)
☐ 9. Financial Guarantee payment is enclosed (CFG or FG). Check should be made out to Commonwealth of Pennsylvania. (Check here if not applicable. ☒) – **(PAYMENTS PREVIOUSLY SUBMITTED)**
☐ 10. The calculations and plans are certified by a registered professional engineer, or registered professional land surveyor, as appropriate. Complete the form below.
☐ 11. Copy of letter(s) to landowner(s) are enclosed. (Check here if not applicable. ☒)

(Needed for revised map and/or calculations)

Registered Professional Engineer or Registered Professional Land Surveyor

I, _____ do hereby certify to the best of my knowledge, information and belief, that these plans have been prepared in accordance with accepted practice of (engineering / land surveying and engineering land surveys), are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I further certify that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____

Address _____ Seal

_____

Telephone No. _____

5600-FM-MR0436 Rev. 6/2004

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING AND RECLAMATION

CONVENTIONAL BONDING FOR LAND RECLAMATION
ANNUAL BOND CALCULATION SUMMARY

Permittee: MOUNTAINTOP COAL MINING, INC.	Year: 2010	Permit No.: 54960101
Municipality: BARRY AND FOSTER TOWNSHIPS		County: SCHUYLKILL

Operation	Approved Quantity/Bond Obligation	Existing Quantity/ Bond Obligation	Difference (approved – existing)
Backfilling	$42,300.01	$44,650.00	($2,349.99)
Topsoil / Cover Material	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
Revegetation	$33,456.00	$34,884.00	($1,428.00)
Trees	INCLUDED W/REV.	INCLUDED W/REV.	INCLUDED W/REV.
Selective Grading	$27,040.00	$21,125.00	$5,915.00
Ponds	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
Mobilization/Demobilization	$4,111.84	$4,026.36	$85.48
Temporary E&S	$3,740.00	$3,740.00	$0.00
Demolition of Structures	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
Sealing of Mine Openings	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
Stage 3 Maintenance	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
Other Items (EXCESS BOND)	$265.94	$2,488.43	($2,222.49)
Total Reclamation Cost	$110,913.79	$110,913.79	$0.00
Additional Bond Needed	----	----	NO
Bond Adjustment Requested	----	----	NO

Progress Report

Since the most recent annual review (or site activation, if this is the first annual review) please report the number of acres in the following categories:

Newly Disturbed 0 Stage 1 Reclaimed 0 Stage 2 Reclaimed 0

Stage 3 Reclaimed 0 Abandoned Mine Land Reclaimed to Stage 2 Standard 0

Abandoned Mine Land Reclaimed to Stage 2 Standard as a result of Remining Financial Guarantees 0

Submitted with this form:

- ☐ Map/Photo – **NOT APPLICABLE**
- ☐ Landowner Letters – **NOT APPLICABLE**
- ☐ Planting Report (if any area was reclaimed to Stage 2 or Stage 3 standards) – **NOT APPLICABLE**

Signature | SUPERINTENDENT (Title) | 1-19-10 (Date)

TIMOTHY C. VOUGHT

The details of the calculations must be attached.

MOUNTAINTOP COAL MINING, INC.
SMP NO. 54960101
2010 ANNUAL BOND REVIEW
ATTACHMENT 1
BOND CALCULATION CHECKLIST

YES	1.	Have you outlined the Mining Area on the Module 9 map? **SEE EXHIBIT 9.1 (PREVIOUSLY SUBMITTED)**
YES	2.	Have you provided the $100.00/acre reclamation fee for the Mining Area? **RECLAMATION FEE PREVIOUSLY SUBMITTED**
YES	3.	Have you included mobilization costs in the bond calculation? **SEE ATTACHMENT 2**
YES	4.	Have you identified the pit dimensions and included a bond calculation at the appropriate per yard rate? **SEE EXHIBITS 9.1 AND 9.2 (BOTH PREVIOUSLY SUBMITTED) AND ATTACHMENT 2**
N/A	5.	Do you have remote spoil storage areas to be bonded? **NO REMOTE SPOIL STORAGE PROPOSED**
YES	6.	Have you identified the size of the preparation area for the next cut and included bond for it? **SEE EXHIBIT 9.1 (PREVIOUSLY SUBMITTED) AND ATTACHMENT 2**
YES	7.	Have you determined the dimensions of the maximum area of spoil piles plus rough-graded area, and calculated a bond amount for it? **SEE EXHIBIT 9.1 (PREVIOUSLY SUBMITTED) AND ATTACHMENT 2**
N/A	8.	Have you identified the maximum number of sediment ponds that will be in place at any one time and provided either a bond calculation or permanent structure approval for each? **SEDIMENT TRAPS AND SUMPS ONLY**
YES	9.	Have you provided a bond calculation or a permanent structure proposal for the haulroad? **SEE ATTACHMENT 2**
YES	10.	Have you calculated the areas of your various other support activities such as topsoil storage, equipment storage areas, stockpile areas, etc. and provided a bond calculation for them? **SEE EXHIBIT 9.1 (PREVIOUSLY SUBMITTED) AND ATTACHMENT 2**
YES	11.	Have you provided a bond calculation for areas to receive tree plantings? **SEE ATTACHMENT 2**
YES	12.	Will you be using temporary E & S controls, and if so, have you provided a calculation for installing the permanent controls? **SEE ATTACHMENT 2**
N/A	13.	Does the mining plan include alkaline addition, and if so, have you provided a calculation for one pit's worth of alkaline addition? **NO ALKALINE ADDITION PROPOSED**
N/A	14.	Have you included calculations for any other components that must be completed for site reclamation such as: stream, road and utility relocations; wetland reconstruction; construction of permanents channels; coal ash utilization, etc.? **NONE PROPOSED**

Note: Be sure to include adequate information with your submission to explain the rationale behind your bond calculations.

MOUNTAINTOP COAL MINING, INC.
SMP NO. 54960101
2010 ANNUAL BOND REVIEW
ATTACHMENT 2
BOND CALCULATION WORKSHEETS

PHASE/MINING AREA 1 = 24.0± ACRES
OPERATIONAL AREA 1 = 9.8± ACRES

GRADING

Mining to be backfilled, regraded and revegetated:

- PIT 2

Pit 2 has been backfilled to the required reclamation grade	$0.00

SELECT GRADING

Support to be regraded and revegetated:

1.3 acres x $1,250.00/acre =	$1,625.00

REVEGETATION

Support to be regraded and revegetated:

1.3 acres x $1,660.00/acre =	$2,158.00

Mining to be revegetated:

0.5 acres x $1,660.00/acre =	$830.00

Mining to be revegetated (trees only):

8.0 acres x $60.00/acre =	$480.00

PHASE/MINING AREA 2 = 5.0± ACRES
OPERATIONAL AREA 2 = 1.4± ACRES

REVEGETATION

Mining to be revegetated (trees only):

1.4 acres x $60.00/acre = $84.00

PHASE/MINING AREA 3 = 15.6± ACRES
OPERATIONAL AREA 3 = 8.2± ACRES

GRADING

Mining to be backfilled and revegetated:

- PIT 1

  Using Exhibit 9.2, Section D-D and
  Sectional Area x Pit Length = Backfill Volume

  4,600 sq.ft. x 100 ft. = 460,000 cu.ft.
  460,000 cu.ft. ÷ 27 cu.ft./cu.yd. = 17,037.04 cu.yds.
  17,037.04 cu.yds. x $0.95/cu.yd. = $16,185.19

SELECT GRADING

Mining to be regraded and revegetated:

5.3 acres x $1,250.00/acre = $6,625.00

Support to be regraded and revegetated:

1.0 acres x $1,250.00/acre = $1,250.00

REVEGETATION

- PIT 1

Mining to be backfilled and revegetated:

0.4 acres x $1,660.00/acre = $664.00

REVEGETATION (Continued)

Mining to be regraded and revegetated:

5.3 acres x $1,660.00/acre = $8,798.00

Mining to be revegetated (trees only):

1.5 acres x $60.00/acre = $90.00

Support to be regraded and revegetated:

1.0 acres x $1,660.00/acre = $1,660.00

PHASE/MINING AREA 4 = 6.1± ACRES
OPERATIONAL AREA 4 = 1.4± ACRES

GRADING

Mining to be backfilled and revegetated:

- PIT 3

Pit 3 has been backfilled to the required reclamation grade $0.00

REVEGETATION

Mining to be revegetated (trees only):

1.4 acres x $60.00/acre = $84.00

PHASE/MINING AREA 5 = 12.8± ACRES
OPERATIONAL AREA 5 = 6.7± ACRES

GRADING

Mining to be backfilled and revegetated:

- PIT 4

Pit 4 has been backfilled to the required reclamation grade $0.00

REVEGETATION

Mining to be revegetated:

2.0 acres x $1,660.00/acre = $3,320.00

Mining to be revegetated (trees only):

4.7 acres x $60.00/acre = $282.00

PHASE/MINING AREA 6 = 20.0± ACRES
OPERATIONAL AREA 6 = 9.9± ACRES

Mining to be backfilled and revegetated:

- PIT 5

  Using Exhibit 9.2, Section G-G and
  Sectional Area x Pit Length = Backfill Volume

  4,550 sq.ft. x 100 ft. = 450,000 cu.ft.
  450,000 cu.ft. ÷ 27 cu.ft./cu.yd. = 16,851.85 cu.yds.
  16,851.85 cu.yds. x $0.95/cu.yd. = $16,009.26

29962

- Using Exhibit 9.2, Section H-H and
  Sectional Area x Pit Length = Backfill Volume

  3,540 sq.ft. x 100 ft. = 354,000 cu.ft.
  354,000 cu.ft. ÷ 26 cu.ft./cu.yd. = 13,111.11 cu.yds.
  13,111.11 cu.yds. x $0.95/cu.yd. = $12,455.55

SELECT GRADING

Mining to be regraded and revegetated:

9.3 acres x $1,250.00/acre = $11,625.00

REVEGETATION

Mining to be backfilled and revegetated:

0.6 acres x $1,660.00/acre = $996.00

REVEGETATION: (Continued)

Mining to be regraded and revegetated:

9.3 acres x $1,660.00/acre =	$15,438.00
SUB TOTAL =	**$100,659.00**
Temporary E&S controls/site maintenance (37.4 acres) @ $100/acre =	$3,740.00
Mobilization/demobilization @ 4% =	$4,026.36
NEW BOND AMOUNT =	**$108,425.36**
Existing Bond Amount =	$110,913.79
EXCESS BOND AMOUNT =	**$2,488.43**

NOTES:

1. The new bond amount calculated for this site is $108,425.36, and the existing bond amount is $110,913.79. Therefore, approval of this application will create an excess bond in the amount of $2,488.43. The operator is not requesting a bond adjustment for this amount.

2. This application is for the 2010 Annual Bond Review. As there are no changes to the mining or operational areas under this application, Exhibit 9.1, Operations Map, has not been included. In addition, there are no new areas that have been disturbed or reclaimed. As a result, all categories in the mining progress report have been reported as zero (0). Finally, as no new reclamation has been completed at this site, a landowner letter for reclamation completed within the previous year has not been included with this submission.

3. This operation is classified as a remining operation, which includes reclamation of abandoned mineland, daylighting of abandoned deep mine workings and backfilling and reclamation of on site abandoned pits. In this regard, Mountaintop Coal Mining, Inc. has been previously approved to qualify under the Financial Guarantees Program. The area bonded under Financial Guarantee No. 4810-47-FG, has been previously determined as follows:

   The area bonded under Financial Guarantee No. 4810-47-FG has been previously determined as follows:

- Determine total amount of bond for Phase/Operational Areas 1 through 5 (Submitted previously):

  Total Bond Amount = $110,913.79

- Determine per acre bond rate for Phase/Operational Areas 1 through 5:

  $110,913.79 ÷ 27.8 = $3,989.70

- Determine bond amount supplied by Financial Guarantees Program:

  Amount supplied by Financial Guarantees Program = Total Bond Amount (From Above) – Bond Provided by Applicant:

  FGP Bond Amount = $110,913.79 -$53,406.00 = $57,507.79

- Determine acreage bonded by Financial Guarantees Program:

  $57,507.79 ÷ $3,989.70 = 14.4 acres

4. Backfill for pit areas is located within 500 feet of pit areas.

5. Revegetation cost for all areas includes planting 400 trees per acre.

6. The existing haulroads will remain for postmining use at the request of the landowner. The Landowner Authorization Letter was submitted previously.

California

McVille Mining Co.
Refuse Disposal Area 2
Permit 03060701
Issued 04/30/2007 Exp. 04/30/2012
Armstrong County, South Buffalo Twp.
Permitted acres – 120.3

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COAL REFUSE DISPOSAL PERMIT NO. 03060701

Permittee: McVille Mining Company
One Glade Park East
RD #8, Box 46
Kittanning, PA 16201

Issuance Date April 30 ,2007
Expiration Date April 20, 2012
Renewal Date NA
Revision Date

Name of Operation McVille Coal Refuse Disposal Area #2
Municipality South Buffalo Township County Armstrong

1. This permit is hereby issued in accordance with the provisions of the Coal Refuse Disposal Control Act, 52 P.S. §30.51 et seq., Act of September 24, 1968 [P.L. 1040, No. 318], as amended, and The Clean Streams Law, 35 P.S. §691.1 et seq., Act of June 22, 1937 [P.L. 1987, No. 394], as amended, and the regulations promulgated pursuant to these Acts. This permit is also issued in accordance with the following statutes and regulations promulgated pursuant to these statutes as marked:

   [ ] Surface Mining Conservation and Reclamation Act, 53 P.S. §1396.1 et seq., Act of May 31, 1945 [P.L. 1198, No. 418], as amended.

   [X] Dam Safety and Encroachments Act, 32 P.S. §693.1 et seq., Act of November 26, 1978 [P.L. 1375, No. 325], as amended.

   [X] Air Pollution Control Act, 35 P.S. §4001 et seq., Act of January 8, 1960 [1959 P.L. 2119, No. 787], as amended.

   [ ] Solid Waste Management Act, 35 P.S. §6018.101 et seq., Act of July 7, 1980 [P.L. 380, No. 97].

2. This permit is for 120.3 acres, of which 67.1 acres are planned to be affected by coal refuse disposal and 53.2 acres are planned to be affected by support activities. Permittee may conduct coal refuse disposal activities only on that area of the permit outlined on the authorization to conduct coal refuse disposal activities and the accompanying maps contained in Part C of this permit. Initial authority to conduct mining activities is granted for an area of 67.1 acres described in Part C of the permit. Additional authority to conduct mining activities may be granted by written approval of the Department and attached to Part C of this permit. Permittee is prohibited from conducting mining activities on that portion of the permit area which has not been authorized for mining by the Department, in writing, and shown on the bond approval and coal refuse disposal mining authorization map(s) contained in Part C of this permit.

3. Permittee is also granted authority to discharge from facilities located 2,500 feet north of Clinton, PA and east of LR-03005 to the following receiving waters: unnamed tributary to Allegheny River. This authority is subject to the effluent limitation, monitoring requirements, operating conditions, and area restrictions set forth in the permit application and Parts A, B, and C of this permit.

4. Permittee is hereby authorized to conduct coal mining activities, including the construction and operation of Industrial Waste Treatment facilities and erosion and sediment control facilities, pursuant to, and in accordance with, the terms and conditions of this permit for the areas where the Authorization to Conduct Coal Refuse Disposal Activities has been granted. Any modifications to wastewater treatment facilities, including erosion and sediment control facilities, necessary to meet the terms and conditions of this permit require written approval.

5. The permittee shall conduct all coal mining activities as described in the approved permit application and all supporting documents. The terms and conditions of this permit shall supersede any conflicting provisions of the permit application and supporting documents or revisions to the permit application.

6. The permittee's failure to comply with the laws of the Commonwealth, including the Department's regulations regarding coal mining activities, or failure to comply with the terms and conditions of this permit, may result in an enforcement action; in permit termination, suspension, revocation and reissuance, or modification; or in denial of a permit renewal application.

7. Application for renewal of this permit, or notification of intent to cease discharging by the expiration date, must be submitted to the Department at least 180 days prior to the above expiration date (unless permission has been granted by the Department for submission at a later date) using the appropriate application forms. In the event that a timely and complete application for renewal has been submitted and the Department is unable, through no fault of the permittee, to reissue the permit before the above expiration date or to take other appropriate action before the above expiration date, the terms and conditions of this permit will be automatically continued and will remain fully effective and enforceable pending the grant or denial of the application for permit renewal.

8. As a condition of this permit and of the permittee's authority to conduct the activities authorized by this permit, the permittee hereby authorizes and consents to allow authorized employees or agents of the Department, without advance notice or a search warrant, upon presentation of appropriate credentials, and without delay, to have access of and to inspect all areas on which coal mining activities are being or will be conducted. This authorization and consent shall include consent to collect samples of waste or water, to take photographs, to perform measurements, surveys, and other tests, to inspect any monitoring equipment, to inspect the methods of operation, and to inspect and/or copy documents required by the Department to be maintained.

9. No coal mining activities may be commenced under this permit unless the activities are in compliance with all applicable ordinances enacted pursuant to the Municipalities Planning Code, the Act of July 31, 1968, (P.L. 805, No. 247), as amended, 53 P.S. §10001 et seq.

10. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights.

11. Nothing herein contained shall be construed to be an intent on the part of the Department to approve any act made or to be made by the permittee inconsistent with the permittee's lawful powers or with existing laws of the Commonwealth regulating coal mining activities and the practice of professional engineering. This permit shall not be construed to sanction any act otherwise forbidden by federal or state law or regulation, or by local ordinance, nor to preempt any duty to obtain state or local assent required by law for the coal mining activity.

12. The permit shall be void three (3) years from the date of issuance unless the permittee has commenced coal mining activities under this permit prior to that time.

13. Initiation of coal mining activities under this permit constitutes an acceptance of all terms and conditions of the permit.

14. Permittee shall take all possible steps to prevent any adverse impact to the environment or public health and safety resulting from noncompliance with any term or condition of the permit including:

    [i] any accelerated or additional monitoring necessary to determine the nature and extent of noncompliance and the results of the noncompliance; and

    [ii] providing warning, as soon as possible after learning of such noncompliance, to any person whose health and safety is in imminent danger due to the noncompliance.

15. Permittee shall conduct the activities in accordance with any measures specified in the permit as necessary to prevent environmental harm or harm to the health or safety of the public.

PART C

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AUTHORIZATION TO CONDUCT COAL REFUSE DISPOSAL ACTIVITIES

COAL REFUSE DISPOSAL PERMIT NO. 03060701

Permittee: McVille Mining Company
One Glade Park East
RD #8, Box 46
Kittanning, PA 16201

Issuance Date April 30, 2007
Expiration Date April 30, 2012
Renewal Date NA
Revision Date

Name of Operation McVille Refuse Disposal Area #2
Municipality South Buffalo Township County Armstrong

A. Permittee is hereby authorized to conduct coal refuse disposal activities on lands of Shawmut Development Corporation, situated in South Buffalo Township, Armstrong County.

B. The attached map, (see revision No. 6), defines your permit boundaries and area(s) upon which coal refuse disposal activities have been authorized by Part "C" of this permit. This map is to be used as a base map to document any future change(s) in the bonding status for this permit area.

C. The approved erosion and sediment control plan related to the area to be affected in accordance with this authorization must be constructed in accordance with the approved plan, certified by a professional engineer, and the engineering certification submitted to the Department and approved prior to the commencement of other coal mining activities in this area.

D. Bond Description

[X] Original Bond [ ] Additional Bond [ ] Replacement Bond [ ] Transfer Bond

[X] Surety Bond No. 104811413 dated 3/20/07
in amount of $981,673
with (as surety) Travelers Casualty and Surety Company of America

[ ] Collateral Bond dated
in amount of
supported by

[ ] Additional Remarks

E. The following special conditions are specifically related to this bonding increment.

By: _____

Title: District Mining Manager

PART C

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AUTHORIZATION TO CONDUCT COAL REFUSE DISPOSAL ACTIVITIES

COAL REFUSE DISPOSAL PERMIT NO. 03060701

Permittee: McVille Mining Company
One Glade Park East
RD #8, Box 46
Kittanning, PA 16201

Issuance Date April 30, 2007
Expiration Date April 30, 2012
Renewal Date NA
Revision Date _____

Name of Operation McVille Refuse Disposal Area #2
Municipality South Buffalo Township County Armstrong

A. Permittee is hereby authorized to conduct coal refuse disposal activities on lands of Shawmut Development Corporation, situated in South Buffalo Township, Armstrong County.

should refer to approved Exhibit 9.1 map - MTB

B. The attached map, ~~(see revision No. 6)~~, defines your permit boundaries and area(s) upon which coal refuse disposal activities have been authorized by Part "C" of this permit. This map is to be used as a base map to document any future change(s) in the bonding status for this permit area.

C. The approved erosion and sediment control plan related to the area to be affected in accordance with this authorization must be constructed in accordance with the approved plan, certified by a professional engineer, and the engineering certification submitted to the Department and approved prior to the commencement of other coal mining activities in this area.

D. Bond Description

[X] Original Bond [ ] Additional Bond [ ] Replacement Bond [ ] Transfer Bond

[X] Surety Bond No. 104811413 dated 3/20/07
in amount of $981,673
with (as surety) Travelers Casualty and Surety Company of America

[ ] Collateral Bond dated
in amount of
supported by

[ ] Additional Remarks

E. The following special conditions are specifically related to this bonding increment.

By: _____

Title: District Mining Manager

5600-FM-MR0018 Rev. 5/2002

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING AND RECLAMATION

BOND SUBMITTAL FORM

A APPLICANT: McVille Mining Company
PHONE: 724-545-6222 LICENSE NO: 4303
TOTAL ACRES: 120.3 surface acres, 67.1 acres for refuse, 53.2 support acres
ORIGINAL ISSUANCE DATE: April 30, 2007
PERMIT NUMBER: 03060701
FACILITY NAME: McVille Coal Refuse Disposal Area No. 2
TWP.: South Buffalo COUNTY: Armstrong

B PURPOSE
- ☐ SURFACE COAL MINE
- ☐ NON COAL SURFACE MINE
- ☐ UNDERGROUND COAL MINE
- X COAL REFUSE DISPOSAL
- ☐ COAL PREPARATION PLANT
- ☐ NON COAL UNDERGROUND MINE
- ☐ WATER LOSS
- ☐ APPEAL/CIVIL PENALTY

C BOND CALCULATION

UNDG. MINE CLOSURE	$	WATER LOSS	$
DEMOLITION	$	APPEAL C.P.	$
POST TRMT COST	$	SUBSIDENCE	$
RECLAMATION COST	$ 50,376		

RATES BREAKDOWN

____	ACRES AT $ ____	PER ACRE = $	____
____	ACRES AT $ ____	PER ACRE = $	____
____	ACRES AT $ ____	PER ACRE = $	____
____	ACRES AT $ ____	PER ACRE = $	____
____	ACRES AT $ ____	PER ACRE = $	____
____	AT $ ____	PER = $	____
____	AT $ ____	PER = $	____
____	AT $ ____	PER = $	____
____	AT $ ____	PER = $	____
____	AT $ ____	PER = $	____
____	ACRES ____	SUBTOTAL $	____

D TYPE
- ☐ ORIGINAL
- X ADDITIONAL
- ☐ REPLACEMENT
- ☐ TRANSFER
- ☐ REVISION
- ☐ ROLLOVER
- ☐ CHANGE IN PERMIT ACREAGE
- ☐ PRE-EXISTING LIABILITY
- ☐ CONVERSION ASSISTANCE
- ☐ LAND RECLAMATION MAINTENANCE
- ☐ FINANCIAL GUARANTEE

California DISTRICT
Randolph Manack REVIEWER
August 18, 2009 DATE

E BOND REQUIRED: $ 1,032,049 ON DEPOSIT: $ 981,673 AMOUNT DUE: $ 50,376

F ENCLOSED IS/ARE THE FOLLOWING BONDS (S) FOR THE APPLICANT OF THE PERMIT IDENTIFIED ABOVE:

a) SURETY BOND NO. | SURETY COMPANY | BOND DATE | AMOUNT ($)
1036863 | Lexon Insurance Company | 8-21-09 | $ 50,376.00

b) COLLATERAL DESCRIPTION | NAME OF BANK/GOVT ISSUER | COLLATERAL DATE | AMOUNT ($)

c) Other (Includes Financial Guarantee/Conversion Assistance/Land Reclamation Maintenance) Description | AMOUNT ($)

Total: $ 50,376.00

	(DATE)	(INITIAL)		(DATE)	(INITIAL)
LICENSING AND BONDING SENT TO APPLICANT	9-4-09	KG	SENT TO LEGAL	9-8-09	KG
COMMENT:					
RECEIVED FROM APPLICANT			APPROPVED BY LEGAL	9-22-09	AS
			C.O. NOTIFIED BOND ACCEPTED	9-22-09	KG

BOND ACCEPTED Allyson Hubler SEP 22 2009
NAME DATE

Module 19: Reclamation Schedule and Cost Information

19.1 Structure Demolition

Complete Form 19.1 to identify and describe: each structure which will be constructed or used under this permit; its intended fate upon completion of operations; and the demolition costs. Demolition costs may be taken from Table 19A or based on actual contractor's demolition cost estimates for the structure in question. If contractor's estimates are used, at least 2 estimates (signed by the contractor on company letterhead) must be obtained and included with this module.

(Note that Form 19.1 is intended to show a running tally of all structures which are or ever were included under the permit. New structures proposed under permit revisions should be added to the list. Demolished structures should be retained on the list along with their actual dates of demolition.)

Not applicable.

19.2 Site Reclamation

Complete Form 19.2 to identify each surface activity site which will be developed or used under this permit, its anticipated date of reclamation, and the estimated cost to reclaim it to the proposed postmining land use. Use Table 19C to calculate surface reclamation costs.

See attached Form 19.2 and conventional bonding worksheets. The bonding is to allow the reclamation of the first three (3) Phases of the operation, the remaining phases will be bonding in a later bonding increment prior to construction of the remainder of the structure.

19.3 Sealing Mine Openings and Ventilation Holes

Complete Form 19.3 to identify each mine opening and ventilation hole which will be developed or used under this permit, the type of seal to be used, the anticipated date of sealing and the estimated cost of sealing. Sealing costs may be taken from Table 19B or based on actual contractor's cost estimates for sealing the opening or ventilation hole in question. If contractor's estimates are used, at least 2 estimates (signed by the contractor on company letterhead) must be obtained and included with this module.

(Note that Form 19.3 is intended to show a running tally of all openings and ventilation holes which are or ever were included under the permit. New openings and ventilation holes proposed under permit revisions should be added to the list. Sealed openings and ventilation holes should be retained on the list along with their actual dates of sealing.)

Not applicable

19.4 Mine Drainage Treatment

Provide the following information for the mine drainage treatment facilities which presently serve or are proposed to serve this operation.

a) The design capacity of the treatment facilities.

b) The current costs of operation and maintenance on an annual basis.

c) The date of construction or last major renovation.

d) The capital cost of the facility in current dollars.

(Note that these figures will not be factored into the required bond amount unless the Department determines that there is a potential for a postmining discharge which must be treated or managed. The regulations require that mine designs be planned to prevent such discharges from occurring.)

No permanent water treatment from the refuse pile is projected. The coal refuse material is to be encapsulated with synthetic liner material. Runoff and/or groundwater discharges from the refuse pile are not anticipated to require treatment. Please see attached appendix for 10-year period of non-capped refuse runoff treatment costs.

Table 19A
Default Values For Calculating Structure Demolition Costs

Wooden structures	$.35 per ft^3 of useable volume*
Building with minimal internal supports and no fixed machinery	$.35 per ft^3 of useable volume*
All other buildings and tipple structures	$.70 per ft^3 of useable volume*
Belts and conveyors	$1.00 per lineal ft.

*Useable volume = floor area x ceiling (or rafter) height

Table 19B
Default Values for Calculating Sealing Costs

Opening	Type of Seal		Reclamation Cost
Boreholes	Solid Concrete	I.D. 12" or less I.D. more than 12"	$1,500 $2,000
Shaft (not intended to be sealed water-tight)	50' of inert fill random fill to surface, mounded	d* is 100' or less d* is 100' to 200' d* is 200' to 300' d* exceeds 300'	$9,000 $14,000 $19,000 $24,000
Shaft (intended to be sealed water-tight)	Concrete bulk-head/plug and backfilled material	d* is 100' or less d* is 100' to 200' d* is 200' to 300' d* exceeds 300'	$16,000 $21,000 $27,000 $35,000
Drift or slope	Single bulkhead, water-tight, no hydraulic heal		$5,000
	Solid concrete plug, water-tight, hydraulic head on seal		$9,000
	Remotely placed water-tight seal		$10,000
	Air seal, permits discharge of mine water		$5,000

d* means the total depth of the shaft.

Table 19C
Reclamation Costs

Permit Application Type	Reclamation Cost/Ac
Coal Refuse Disposal	$1000
Coal Preparation Plant	$3000
Bituminous Underground Mine	$3000

FORM 19.1 Structure Demolition

Structure	Construction Material	Dimensions (l-w-h) (ft)	Volume (ft3)	Construction Date*	Demolition Date*	Postmining Use (if Applicable)	Demolition Cost
No Structures are	*Proposed on site.*						

* Indicate (P) for proposed, (A) for actual.

FORM 19.2 Surface Area Reclamation

Site	Acreage	Date Opened*	Date Reclaimed*	Estimated Cost of Reclamation
Refuse Site (Stages IA, I and II)	*77.3*	*2005 P*	*2015 P*	*$707,990.00*

* Indicate (P) for proposed, (A) for actual.

FORM 19.2 Surface Area Reclamation

Site	Acreage	Date Opened*	Date Reclaimed*	Estimated Cost of Reclamation
Refuse Site (Stages IA, I and II)	*77.3*	*2005 P*	*2015 P*	*$707,990.00*

* Indicate (P) for proposed, (A) for actual.

Topsoil Handling

Area 1		
Acres	62.3	
Thickness	1	
Volume	2713788	ft^3
Volume	100510.667	yd^3
Cost	$65,332	
Area 2 Prime farmland		
Acres	0	
Thickness	4	
Volume	0	ft^3
Volume	0	yd^3
Cost	$0	
Area 3		
Acres	0	
Thickness	1	
Volume	0	ft^3
Volume	0	yd^3
Cost	$0	
Total Cost Topsoil		$65,332

Revegetation

Operation Area		Acres
1		0
2		0
3		0
Topsoil Area		62.3
Support Area		0
Roads		0
Ponds		0
Stockpiles		0
Storage Areas		0
E&S		0
Other Support		0
	Total	62.3
Total Revegetation Cost		$84,105

Pond Removal

Number	4	
Cost	$3,800	per pond
Total Removal Cost		$15,200

Tree Planting		
Acres	*29*	
trees per acre	*600*	
cost/tree	*0.15*	
Cost of Tree Planting		*$2,610*
Capping Material		
Acres	*44.3*	
Yd²	*214412*	
Cost of Liner		*$428,824.00*

Backfilling	*$0*
Selective Grading	*$80,990*
Topsoil Handling	*$65,332*
Revegetation	*$84,105*
Tree Planting	*$2,610*
Pond Removal	*$15,200*
Capping Material	*$428,824.00*
Subtotal	*$677,061*
Mobilization/Demobilization	*$27,082*
Total Bond Required	*$704,143*

Current Bond	*$0*
Bond Required	***$704,143***

Appendix Module 19 Treatment Cost:

The following calculations were made using existing flows and estimates for runoff for the proposed refuse pile. Two flows were used to determine a water quality that would require treatment. The first is the flow from the leachate drains from the refuse pile itself. The flow was estimated at 10 gpm and the water quality was approximated using the existing flow from the existing refuse pile as an example for possible water quality from the pile contents. The second flow was estimated at 100 gpm and would represent the runoff from the surface of the pile. The surface runoff would be much less degraded in quality as the water would not have as much contact with the refuse material. See the attached AMD Treat Mass Balance Calculator showing the results of the combined discharges to create a water quality that would require treatment.

This water quality was inserted into the AMD Treat Program and the following costs were calculated to generate an annual cost for the treatment of the water:

1.) Sampling costs
2.) Labor Costs
3.) Maintenance costs
4.) Pumping Costs
5.) Chemical Costs
6.) Sludge Removal

The following pages show the AMD Treat reports of all the above listed costs.

The total annual cost calculated from the program was $27,753.00.

A ten-year period of these annual costs would then be $277,530.00.

Please see additional pages.

6500-PM-MR0324 Rev. 4/2001

Printed on 02/19/2007

Company Name McVille Mining Company

Project Refuse Disposal Area #2 Treatm

Site Name Refuse Disposal Area #2

AMD TREAT

AMD TREAT MAIN FORM

Costs	
Passive Treatment	
Vertical Flow Pond	0
Anoxic Limestone Drain	0
Anaerobic Wetlands	0
Aerobic Wetlands	0
Manganese Removal Bed	0
Oxic Limestone Channel	0
Passive Subtotal:	0
Active Treatment	
Caustic	0
Hydrated Lime	0
Pebble Quick Lime	0
Ammonia	0
Soda Ash	0
Active Subtotal:	0
Ancillary Cost	
Primary Retention Pond	0
Secondary Pond	0
Roads	0
Land Access	0
Ditching	0
Engineering Cost	0
Other Cost (Capital Cost)	0
Ancillary Subtotal:	0
Total Capital Cost:	0
Annual Costs	
Sampling	3,472
Labor	18,200
Maintenance	2,000
Pumping	399
Chemical Cost	1,237
Sludge Removal	2,446
Other Cost (Annual Cost)	0
Total Annual Cost:	27,753

Water Quality

Calculated Acidity	0.00	mg/L
Alkalinity	0.00	mg/L

( ) Calculate Net Acidity (Acid-Alkalinity)

(•) Enter Net Acidity manually

Net Acidity (Hot Acidity)	50.00	mg/L
Design Flow	1000.00	gpm
Average Flow	110.00	gpm
Total Iron	27.27	mg/L
Aluminum	7.27	mg/L
Manganese	7.27	mg/L
pH	4.00	su
Ferric Iron	0.00	mg/L
Ferrous Iron	0.00	mg/L
Sulfate	0.00	mg/L
Filtered Fe	0.00	mg/L
Filtered Al	0.00	mg/L
Filtered Mn	0.00	mg/L
Specific Conductivity	1600.00	uS/cm
Total Dissolved Solids	0.00	mg/L
Dissolved Oxygen	0.00	mg/L

5500-PM-MR0324 Rev. 4/2001

Printed on 02/19/2007

Company Name McVille Mining Company

Project Refuse Disposal Area #2 Trealm

Site Name Refuse Disposal Area #2

AMD TREAT

MASS BALANCE CALCULATOR

The Mass Balance Calculator is used to determine the final flow and concentration (loading) for a chemical specie(s) after two discharges are combined.

Equation Used: Q3 C3 = Q1 C1 + Q2 C2

Where:

Q = Flow Rate (gpm)

C = Concentration of Chemical Specie(s) (mg/L)

	Discharge 1	+ Discharge 2	= Combined Discharge
Flow Rate	100.00 gpm	10.00 gpm	110.00 gpm
Iron Concentration	20.00 mg/L	100.00 mg/L	27.27 mg/L
	2.40347648 lbs/day	1.20173823 lbs/day	3.60521469 lbs/day
	8,772.6 lbs/year	4,386.3 lbs/year	13,159.0 lbs/year
Aluminum Concentration	6.00 mg/L	20.00 mg/L	7.27 mg/L
	0.72104293 lbs/day	0.24034764 lbs/day	0.96139058 lbs/day
	2,631.8 lbs/year	877.2 lbs/year	3,509.0 lbs/year
Manganese Concentration	3.00 mg/L	50.00 mg/L	7.27 mg/L
	0.36052146 lbs/day	0.60086911 lbs/day	0.96139058 lbs/day
	1,315.8 lbs/year	2,193.1 lbs/year	3,509.0 lbs/year
Acidity Concentration	35.00 mg/L	200.00 mg/L	50.00 mg/L
	4.20606380 lbs/day	2.40347648 lbs/day	6.60956026 lbs/day
	15,352.2 lbs/year	8,772.6 lbs/year	24,124.8 lbs/year

5500-PM-MR0324 Rev. 4/2001

Company Name McVille Mining Company
Project Refuse Disposal Area #2 Treatm
Site Name Refuse Disposal Area #2

Printed on 02/19/2007

AMD TREAT

SAMPLING

(•) Estimate Sampling Cost

1. Unit Labor Cost	35.00	$/hr
2. Collection Time per Sample	0.33	hours/sample
3. Travel Time	1.00	hr
4. Sample Frequency	2.00	samples/mo
5. Lab Cost Per Sample	25.00	$/sample
6. Number of Sample Points	3	points

( ) Enter Established Annual Sampling Cost

7. Actual Annual Sampling Cost		$

Sampling Sub-Totals

8. Yearly Sample Analysis Cost	1,800	$
9. Yearly Travel Cost	840	$
10. Yearly Collection Cost	832	$
11. Sampling Cost	3,472	$

5600-PM-MR0324 Rev. 4/2001

Company Name McVille Mining Company
Project Refuse Disposal Area #2 Trealm
Site Name Refuse Disposal Area #2

Printed on 02/19/2007

AMD TREAT

LABOR

◉ Estimate Sampling Cost		
1. Site Visits per Week	5.00	
2. Site Labor and Travel Time per Visit	2.00	hours
3. Unit Labor Cost	35	$/hour
○ Enter Established Annual Sampling Cost		
4. Actual Annual Labor Cost		$

5. Total Cost	18,200	$

5500-PM-MR0324 Rev. 4/2001

Printed on 02/19/2007

Company Name McVille Mining Company
Project Refuse Disposal Area #2 Treatm
Site Name Refuse Disposal Area #2

AMD TREAT

MAINTANENCE

○ Estimate Maintenance Cost

1. Percent of Active Cost [ ] %
2. Percent of Passive Cost [ ] %

◉ Enter Established Annual Maintenance Cost

3. Annual Maintenance Cost [2,000] $

Maintenance Sub-Totals

4. Total Active Cost [0] $
5. Total Passive Cost [0] $

6. Total Maintenance Cost [2,000] $

5600-PM-MR0324 Rev. 4/2001

Company Name McVille Mining Company
Project Refuse Disposal Area #2 Treatm
Site Name Refuse Disposal Area #2

Printed on 02/19/2007

AMD TREAT

PUMPING

(•) Estimate Pumping Cost

1. Pump Rate	110.00	gal/min
2. Total Pump Head	10.00	feet
3. Electricity Cost	0.08	$/kwhour
4. Hours Per Day	24.00	hours
5. Days Per Year	365	days
6. Pump Efficiency	75.00	%
7. Motor Efficiency	85.00	%

( ) Enter Established Annual Pumping Cost

8. Actual Annual Pumping Cost		$

9. Total Pumping Cost	399	$

5500-PM-MR0324 Rev. 4/2001

Printed on 02/19/2007

Company Name McVille Mining Company
Project Refuse Disposal Area #2 Treatm
Site Name Refuse Disposal Area #2

AMD TREAT

SLUDGE REMOVAL

1. Select One — Selection for Method of Removing Sludge

- (•) Sludge Removal by $ per Gallon
  - 2. Sludge Removal Unit Cost: 0.05 $/gal
- ( ) Sludge Removal by Vacuum Truck
  - 3. Vacuum Truck Unit Cost: $/hr
  - 4. Mobilization Cost: $
  - 5. Hours to be Used: hr
- ( ) Sludge Removal by Mechanical Excavation
  - 6. Mechanical Excavation Unit Rate: $/hr
  - 7. Mobilization Cost: $
  - 8. Hours to be Used: hr
- ( ) Sludge Removal by Lagoon Cleaner
  - 9. Lagoon Cleaning Unit Rate: $/hr
  - 10. Mobilization Cost: $
  - 11. Hours to be Used: hr
- ( ) Actual Sludge Removal Cost
  - 12. Actual Sludge Removal Cost: $

13. Off Site Disposal Cost: 0.00 $

14. Iron Concentration	27.27	mg/L
15. Manganese Concentration	7.27	mg/L
16. Aluminum Concentration	7.27	mg/L
17. Total Miscellaneous Concentration	0.00	mg/L
18. Percent Solids	5.00	%
19. Sludge Density	8.33	lbs/gal

☐ 20 Titration?

21. Gal. of Sludge per Gal of Water Treated: gal

22. Estimated Sludge Volume: 242 yd3/yr

Cost for Sludge Removal Types

23. Removal by $ per Gallon	2,445	$
24. Removal by Vacuum Truck	0	$
25. Removal by Mechanical Excavation	0	$
26. Removal by Lagoon Cleaner	0	$
27. Actual Sludge Removal Cost	0	$

28. Currently Selected Removal Cost Plus Off Site Disposal Cost: 2,445 $

Company Name McVille Mining Company

Project Refuse Disposal Area #2 Treatm

Site Name Refuse Disposal Area #2

Printed on 02/19/2007

AMD TREAT

CHEMICAL COST

A. Hydrated Lime ?

☐ 1 Titration?

2. Hydrated Lime Titration Amount ____ lbs of hydrated lime / gal of H2O

3. Hydrated Lime Purity ____ %

4. Hydrated Lime Efficiency ____ %

5. Hydrated Lime Unit Cost ____ $/lb

B. Pebble Quick Lime ?

☐ 6. Titration?

7. Pebble Lime Titration Amount ____ lbs of Pebble Lime / gal of H2O

8. Pebble Lime Purity ____ %

9. Pebble Lime Efficiency ____ %

○ Delivered in Bags

10. Pebble Lime Bag Unit Cost ____ $/lb

○ Bulk Delivery

11. Pebble Lime Bulk Unit Cost ____ $/lb

C. Caustic Soda ?

☐ 12. Titration?

13. Caustic Titration Amount ____ gal of caustic / gal H2O

14. Caustic Purity ____ purity of 20% caustic solution

15. Caustic Efficiency ____ %

○ Non-Bulk Delivery

16. Caustic Non-Bulk Unit Cost ____ $/gal

○ Bulk Delivery

17. Caustic Bulk Unit Cost ____ $/gal

D. Limestone ?

18. Limestone Purity ____ %

19. Limestone Efficiency ____ %

20 Limestone Unit Cost ____ $/ton

E. Anhydrous Ammonia ?

☐ 21. Titration?

22. Ammonia Titration Amount ____ lbs of ammonia / gal H2O

23. Ammonia Purity ____ %

24. Ammonia Efficiency ____ %

○ Non-Bulk Delivery

25. Ammonia Non-Bulk Unit Cost ____ $/lb

○ Bulk Delivery

26. Ammonia Bulk Unit Cost ____ $/lb

F. Soda Ash ?

☒ 27. Titration?

28 Soda Ash Titration Amount ____ lbs of soda ash / gal of H2O

29. Soda Ash Purity ____ %

30. Soda Ash Efficiency ____ %

31 Soda Ash Unit Cost ____ $/lb

Chemical Cost Sub-Totals			Annual Amount of Chemicals Consumed	
32. Total Hydrated Lime Cost	1,237	$	20,618	lbs
33. Total Pebble Lime Cost	0	$	0	lbs
34. Total Caustic Soda Cost	4,912	$	9,824	gals
35. Total Limestone Cost	0	$	0	tons
36. Total Anhydrous Ammonia Cost	0	$	0	lbs
37. Total Soda Ash Cost	0	$	0	lbs

38. Selected Chemical: HYDRATED LIME

Annual Chemical Cost 1,237 $

RECEIVED
MAR 0 5 2007
Dept. of Environmental Protection
Cal/Ispia Field Inl Office

Cambria

TLH Coal Co.
Smith Mine
Permit 32060103
Issued 01/16/2007 Exp. 01/16/2012
Indiana County, East Mahoning Twp.
Permitted acres – 101.0
AML UDG acres – 2.0
Authorized Acres – 65.4

Pennsylvania Department of Environmental Protection

Bureau of District Mining Operations
286 Industrial Park Road
Ebensburg, PA 15931-4119
February 26, 2010

Cambria Office 814-472-1900

T.L.H. Coal Company
4401 Pollock Road
Marion Center, PA 15759

Re: "Smith Mine"
Conventional Bond Annual Review 2010
SMP No. 32060103
East Mahoning Township, Indiana County

Ladies and Gentlemen:

The Cambria District Office reviewed the conventional bonding annual submission for the above-referenced permit and has determined that you have met the requirements of the conventional bonding program.

If you have any questions, please contact me at the above number.

Sincerely,

Michael Timcik, P.G.
Hydrogeologist

cc: Steve Bender, Mine Conservation Inspector
Beth Kern, Mining Permit and Compliance Specialist
Annual Review File
SMP No. 32060103
Minetech Engineers

'bk

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
District Mining Operations
February 3, 2010
814-472-1900

SUBJECT: Conventional Bond Annual Review
Operator: TLH Coal Co.
SMP No. 32060103
APS No. 712124
AUTH ID No. 821716
Township/County: East Mahoning/Indiana

~~TO:~~ Steve Bender, Mine Conservation Inspector

~~FROM:~~ Holly Calvetti
Clerk Typist III
Cambria Office

Please review the attached submission and return it with your comments to me by February 17. Thank you for your assistance.

		Yes	No
1.	Does the attached Module 9 map (or aerial photo) accurately depict existing site operational conditions?	[X]	[ ]
2.	Do any of the dimensions of the operational area in the field exceed any of the dimensions used in the attached calculations?	[ ]	[X]
3.	Does the attached map (or aerial photo) accurately depict areas that have been reclaimed?	[X]	[ ]
4.	Has Stage I or Stage II reclamation been completed in the past 12 months on any property for which a landowner notification letter is not attached?	[ ]	[X]
5.	Is the attached submission otherwise consistent with site conditions?	[X]	[ ]
6.	This is a re-mining site and the operator has committed to reclaim abandoned mine lands as part of the operation. Is the information on Annual Bond Calculation Summary regarding reclamation of abandoned mine lands within the past year accurate? If no, explain.	[X]	[ ]
7.	Has the annual impoundment certification been appropriately completed for each impoundment requiring certification (all sediment ponds and permanent treatment ponds)? If "no", then take appropriate action.	[X]	[ ]

Cambria Office FEB 10 2010

Additional Comments: Operator will Reduce Pit Size on Next Block and Seeding will be Done During the Spring 2010 Planting Season, which will Reduce Bond Obligation. (Existing Bond is less than 5% over Approved Bond) Recommend Approval.

S. Bender 2/11/10
Mine Conservation Inspector's Signature Date

Attachment

cc: Steve Bender, Mine Conservation Inspector
File

'hc

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
District Mining Operations
February 3, 2010
814-472-1900

SUBJECT: Conventional Bond Annual Review
TLH Coal Company
SMP No. 32060103
APS ID No. 712124
AUTH ID No. 821716
Township: East Mahoning
County: Indiana

TO: Mike Timcik, P.G.
Hydrogeologist
Cambria Office

FROM: Holly Calvetti
Clerk Typist III
Cambria Office

The above-referenced Conventional Bond Annual Review was received by this office and is ready to be reviewed. You will be a lead reviewer of this permit application. Please review the attached submission, provide your comments below, and send a review/approval letter by March 4.

		Yes	No
1.	Does the attached map (or aerial photo) accurately depict areas that have been reclaimed to Stage II standards?	[ ]	[ ]
2.	Has a Planting & Soil Test Report for areas revegetated within the past 12 months been submitted?	[ ]	[ ]
3.	Does the Stage II reclamation completed in the last 12 months meet the requirements of the permit?	[ ]	[ ]

Additional Comments:

If you have any questions, please do not hesitate to ask me.

Attachment

cc: Steve Bender, M.C.I.
File

'bk

Signature _____ Date _____

mcl

5600-FM-MR0436 Rev. 6/2004

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING AND RECLAMATION

CONVENTIONAL BONDING FOR LAND RECLAMATION
ANNUAL BOND CALCULATION SUMMARY

Permittee: TLH Coal Company	Year: 2010	Permit No.: 32060103 - Smith
Municipality: East Mahoning Township		County: Indiana

Operation	Approved Quantity/Bond Obligation	Existing Quantity/ Bond Obligation	Difference (approved – existing)
Backfilling **BI-02**	135,778	135,463	315
Topsoil / Cover Material	56,579	64,533	-7,954
Revegetation	69,462	72,640	-3,178
Trees	2,652	2,652	0
Selective Grading	1,600	4,000	-2,400
Ponds	11,760	11,400	360
Mobilization/Demobilization	11,113	11,628	-515
Temporary E&S			
Demolition of Structures			
Sealing of Mine Openings			
Stage 3 Maintenance			
Other Items			
Total Reclamation Cost	288,944	302,316	-13,372
Additional Bond Needed			No
Bond Adjustment Requested			No

Progress Report

Since the most recent annual review (or site activation, if this is the first annual review) please report the number of acres in the following categories:

Newly Disturbed 3.6 Stage 1 Reclaimed 5.3 Stage 2 Reclaimed 0

Stage 3 Reclaimed 0 Abandoned Mine Land Reclaimed to Stage 2 Standard 0

Abandoned Mine Land Reclaimed to Stage 2 Standard as a result of Remining Financial Guarantees 0

Cambria Office FEB 16 '10 9 09

Submitted with this form:

☒ Map/Photo

☐ Landowner Letters

☐ Planting Report (if any area was reclaimed to Stage 2 or Stage 3 standards)

Signature | Partner (Title) | Date

The details of the calculations must be attached.

Bond Calculation Worksheet
2010 Annual Review

Operator: TLH Coal Company
Permit No.: 32060103
Job Name: Smith Mine
Twp./County: East Mahoning /Indiana
SMP Acres: 101
Date: 01/12/10

OPERATIONAL AREA COMPONENTS:

Active Pit & Spoil Area

Mining is being done by the modified block cut method. The operator is currently mining the Upper Kittanning and Lower Freeport coal seams in two pits on the Phase II area. Currently Pit No. 1 is on the Lower Freeport seam only.

Pit No. 1/Phase II - Lower Freeport with UK pit backfilled to LF bench

Current Pit Length: 260 ft.
Current Pit Width: 210 ft.
Current Highwall: 50 ft.

101,111 cyds

Unit Cost: $0.95/yd^3 (Push < 500 ft)
$1.20/yd^3 (Push > 500 ft)

Backfilling Cost = $\frac{260 \text{ ft} \times 210 \text{ ft} \times 50 \text{ ft}}{27 \text{ ft}^3/\text{yd}^3}$ x $0.95 = **$ 96,056**

Pit No. 2/Phase II - Lower Freeport (Northern portion of Phase II)

Current Pit Length: 350 ft.
Current Pit Width: 80 ft.
Current Highwall: 40 ft.

41441 cyds

Unit Cost: $0.95/yd^3 (Push < 500 ft)
$1.20/yd^3 (Push > 500 ft)

Backfilling Cost = $\frac{350 \text{ ft} \times 80 \text{ ft} \times 40 \text{ ft}}{27 \text{ ft}^3/\text{yd}^3}$ x $0.95 = **$ 39,407**

TOTAL **$ 135,463**

Bond Calculation Worksheet - continued (2)
Operator: TLH Coal Company
Permit No.: 32060103
Job Name: Smith Mine
Twp./County: East Mahoning /Indiana
SMP Acres: 101
Date: 01/12/10

Area - Topsoil Spread

Dimensions will vary (Includes Topsoil Storage Piles) 5.4 Acres

Topsoil Handling

Area Required For Topsoil Placement:

Area Topsoil Required 40.0 Ac.

Soil Thickness: 1 ft.
Unit Cost: \$0.95/yd^3 (Push < 500 ft)
Unit Cost: \$1.20/yd^3 (Push > 500 ft)

$$\text{Topsoil Handling} = \frac{40.0 \text{ Acres} \times 43{,}560 \text{ ft}^2/\text{acre} \times 1 \text{ ft}}{27 \text{ ft}^3/\text{yd}^3} = 64{,}533 \text{ yd}^3$$

80% Of Topsoil Within 500' Of Placement: 64,533 x 0.80 x \$0.95 = \$ 49,045
20% Of Topsoil Beyond 500' Of Placement: 64,533 x 0.20 x \$1.20 = \$ 15,488

Subtotal = \$ 64,533

Selective Grading Area

Coal and sandstone stockpile area = 2.9 Ac.
Haul Road = 300' Long x 40' Wide = 0.3 Ac.

3.2 Acres X \$ 1,250/acre = **\$ 4,000**

Bond Calculation Worksheet - continued (3)
Operator: TLH Coal Company
Permit No.: 32060103
Job Name: Smith Mine
Twp./County: East Mahoning /Indiana
SMP Acres: 101
Date: 01/12/10

Revegetation

Area Requiring Planting:

Area With Topsoil	5.4 Ac.
Area Topsoil Required	36.8 Ac.
Select Grading	3.2 Ac.
	45.4 Ac.

Revegetation Cost = 45.4 Acres x $1,600/acre = **$ 72,640**

Reforestation Area

Area requiring tree planting: 26.0 Acres

Reforestation Cost = 26.0 acres x 680 trees/acre x $0.15/tree = **$ 2,652**

Ponds

Ponds SP-1, SP-2 and SP-3 are built and will have to be removed.

Number of Ponds to be removed: 3

Pond Removal Cost = Three Ponds x $3,800/Pond = **$ 11,400**

Other
The operator maintains a stockpile of alkaline addition material on site adequate for pits as calculated above.

Alkaline Addition Cost = **$ 0**

Bond Calculation Worksheet - continued (4)
Operator: TLH Coal Company
Permit No.: 32060103
Job Name: Smith Mine
Twp./County: East Mahoning /Indiana
SMP Acres: 101
Date: 01/12/10

Subtotal

Backfilling	$ 135,463
Topsoil Handling	$ 64,533
Selective Grading	$ 4,000
Revegetation With Topsoil	$ 72,640
Reforestation	$ 2,652
Pond Removal	$ 11,400
Other	$ 0
Subtotal =	**$ 290,688**

Mobilization/Demobilization

Subtotal x 4% = $ 290,688 x 0.04 = **$ 11,628**

Total Bond

Total Bond Required = Subtotal + Mob./Demob. = $ 290,688 + $ 11,628=		**$ 302,316**
Total Bond Currently on Deposit BI-02	=	**$ 288,944**
Required Bond (4.6% of total)	=	**$ 13,372**

5600-FM-MR0310 Rev. 2/2004

Dav. d

PART C
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AUTHORIZATION TO MINE
PERMIT NO. 1333-32060103-02 REVISED

REISSUANCE DATE January 14, 2009

PERMITTEE NAME T.L.H. Coal Company

BI# 02 ISSUANCE DATE January 8, 2009

AND ADDRESS 4401 Pollock Road

ORIGINAL ISSUANCE DATE January 16, 2007

Marion Center, PA 15759

EXPIRATION DATE January 16, 2012

NAME OF OPERATION "Smith Mine"

LOCATION OF OPERATION:
MUNICIPALITY East Mahoning Township

COUNTY Indiana

TYPE OF OPERATION ☐ ANTHRACITE ☒ BITUMINOUS

- ☒ Surface Mine
- ☒ Auger Mine
- ☒ Other Sandstone Removal and Processing
- ☐ Surface Mine (coal refuse reprocessing)
- ☐ Coal Refuse Disposal
- ☐ Coal Preparation/Processing Facility

A. Permittee is hereby authorized to conduct coal mining activities on lands of Kenneth M. Smith and David A. Spencer situated in East Mahoning Township, Indiana County. Surface owners' consent is attested to by inclusion of a properly executed Consent of Landowner form submitted in support of this approval.

B. Coal mining activities are limited to the area designated on the Exhibit 9 map dated September 2, 2008, submitted in support of the request for this Mining Authorization, which covers 65.4 acres.

C. A total bond amount of $288,944.00 is required for the approved mining area, described in the Bond Calculation Worksheet dated September 2, 2008.

D. The permittee is authorized to conduct mining activities as described in Modules 9 and 10 of the mining application and the Bond Calculation Worksheet dated September 2, 2008.

E. Bond Description

☒ Original Bond ☒ Additional Bond

☒ Surety Bond Nos. ISM-2300 & ISM-2629 in Amount of $288,944.00 with Rockwood Casualty Insurance Company as surety.

☐ Collateral Bond dated _____ in Amount of _____ supported by _____.

☐ Conversion bond in the amount of _____.

☐ Additional Remarks:

F. The approved erosion and sediment control facility related to the area to be mined in accordance with this authorization must be constructed in accordance with the approved plan, certified by a professional engineer or land surveyor, and the certification submitted to the Department prior to the commencement of other coal mining activities in this area.

G. The attached sheet contains sixteen (16) additional special conditions or requirements relating to this authorization.

'bk

By: Tim Kania

Tim Kania, P.G., Chief

Title: Technical Services Section

For the Department of Environmental Protection

cc: Steve Bender, M.C.I.
Minetech Engineers
Contracts, Procurement & Bonding Division
Rockwood Casualty Insurance Company
File

PART C

PERMIT NO. 1333-32060103-02

AUTHORIZATION TO MINE

1. In a letter dated January 16, the Department approved the following request from the permittee to exceed the standard pit dimensions found in 25 Pa. Code Chapter 87.141:

   - The total number of open pits at any time shall not exceed 2.

2. a. Pit #1 The open pit shall not exceed 52,889 cubic yards in volume.

   Note for reference: The bond calculations for this pit were based, in part, on a projection that the maximum pit length (measured at the base of the pit from end wall to end wall) would be 150 feet, the maximum pit width (measured at the base of the pit from the highwall to the inside toe of spoil or low wall) would be 80 feet, and the maximum highwall height would be 120 feet (measured from the base of the highwall to the top of the highest bench). The maximum pit dimensions may not necessarily all occur at the same time.

   A minimum of 100 percent of the spoil needed to fill the pit must be located no further than 500 feet from the base of the highwall measured horizontally.

   b. Pit #2 The open pit shall not exceed 73,481.5 cubic yards in volume.

   Note for reference: The bond calculations for this pit were based, in part, on a projection that the maximum pit length (measured at the base of the pit from end wall to end wall) would be 200 feet, the maximum pit width (measured at the base of the pit from the highwall to the inside toe of spoil or low wall) would be 80 feet, and the maximum highwall height would be 125 feet (measured from the base of the highwall to the top of the highest bench). The maximum pit dimensions may not necessarily all occur at the same time.

   A minimum of 0 percent of the spoil needed to fill the pit must be located no further than 500 feet from the base of the highwall measured horizontally.

   c. The maximum disturbed area requiring spreading of topsoil shall not exceed 33.4 acres at any time. A minimum of 50 percent of the topsoil must be located no further than 500 feet measured horizontally from the disturbed areas requiring topsoil spreading at all times.

   d. The maximum disturbed area requiring seeding shall not exceed 45.4 acres at any time.

   e. The maximum number of sediment ponds in place simultaneously for which the Department has not granted permanent structure approval shall not exceed 3.

   f. The total length of haulroad for which the Department has not granted permanent structure approval shall not exceed 0 feet, and the road width shall not exceed 0 feet.

   g. Excluding sediment ponds, treatment ponds, collection ditches and haulroads, the maximum total acres of support areas (topsoil storage areas, equipment storage areas, coal stockpile areas, etc.) shall not exceed 1.0 acres.

   h. The maximum number of disturbed acres designated for a post-mining land use of forestland that have not been planted in trees shall not exceed 26.0 acres at any time.

   i. On permits approved for multiple pits, volumes may be exchanged between pits for bonding purposes with prior approval of the district mine inspector. The per-yard bond rate for the voids in the respective pits must be considered before exchanging volumes between pits.

3. A supplemental 'C" for Kenneth M. Smith was recorded on June 27, 2006, in the recorder's office of Indiana County in Deed Book Volume 1595, Page 738, and is filed herein.

4. A supplemental 'C" for David A. Spencer was recorded on June 27, 2006, in the recorder's office of Indiana County in Deed Book Volume 1595, Page 735, and is filed herein.

5. A notarized release letter granting permission to mine within 300 feet of occupied dwellings on lands of David A. Spencer dated December 29, 2005, is filed herein.

6. The Department received an agreement letter, dated March 29, 2006, and filed in bonding increment 01, from T. W. Phillips Gas and Oil Company regarding TLH Coal Company's mining activities within the restricted area of T. W. Phillip's gas line.

7. The Department received an agreement letter, dated April 20, 2006, and filed in bonding increment 02, from Phillips Production Company regarding TLH Coal Company's mining activities within the restricted area of Phillips Production Company's gas wells and gas lines.

8. A notarized letter dated January 5, 2009, granting permission to mine, process and sell sandstone from the property of David A. Spencer is filed herein.

9. Use of filter fabric fence is conditionally approved on this permit and is subject to the following conditions:

   a) Filter fence is to be inspected regularly in the field, particularly after every significant rainfall, and needed repairs shall be made immediately. Fabric fence that has started to decompose shall be replaced.

   b) Sediment loads shall not exceed one-third the height of the fence and shall be promptly removed and disposed of in a proper manner.

   c) The filter fence for the areas approved must be installed on the mine site in the area to be affected before any soil removal begins.

   d) If the filter fence fails to function satisfactorily, all mining in the area tributary to the filter fence failure shall cease until a revised Erosion and Sedimentation Control Plan is submitted, approved, and constructed.

10. There will be no blasting on SMP No. 32060103 until Module 16 has been approved.

11. SMP No. 32060103 authorizes a variance, approved January 16, 2007, to the 100 foot stream barrier requirement of Section 4.5(i) of the Surface Mining Conservation and Reclamation Act to conduct the following surface mining activities within 100 feet of unnamed tributaries No.1 and No. 5 to Pine Run, East Mahoning Township, Indiana County:

    1. To continue to utilize and maintain an existing access road and an existing stream crossing leading into the site that crosses over unnamed tributaries No. 1 and No. 5, located approximately 2800 feet northeast of the intersection of T-853 and T-910.

    SMP No. 32060103 also authorizes a Chapter 105 encroachment permit to conduct the activities described in this condition.

    The permittee is hereby ordered to carry out the activities approved by this condition in accordance with the design plans specified in the approved Module 14 of SMP No. 32060103, and in such fashion so as to prevent adverse hydrologic and water quality impacts.

PART C

PERMIT NO. 1333-32060103-02

AUTHORIZATION TO MINE (continued)

12. The permittee must maintain a 134-ton stockpile of lime for use in alkaline addition on SMP No. 32060103, beginning prior to conducting any coal removal and continuing until backfilling of the final pit has begun.

13. Per 25 PA Code Chapter 86.168, public liability insurance coverage must be maintained in full force for the duration of the permittee's mining and reclamation operations on this SMP.

14. SMP No. 32060103 is hereby revised on January 8, 2009. The purpose of this revision is to increase the bonded operational area. All other Part 'B' and 'C' conditions, other modules, and the acreage of SMP 32060103 issued January 16, 2007, remain unchanged.

15. Bond Increment Number 32060103-01 is cancelled and replaced by Bond Increment Number 32060103-02. Surety bond on deposit for BI# 01 will remain in effect for BI# 02.

16. SMP No. 32060103 is hereby revised on January 14, 2009. The purpose of this revision is to add sandstone removal and processing to the permit. Processing operations shall be limited to a maximum 200 tons per day until such time as the GP-3 and GP-9 air quality permits have been issued. All other Part 'B' and 'C' conditions, other modules and the acreage of SMP No. 32060103 issued January 16, 2007, remain unchanged.

Bond Calculation Worksheet
BI-02

Operator: TLH Coal Company
Permit No.: 32060103
Job Name: Smith Mine
Twp./County: East Mahoning /Indiana
SMP Acres: 101
Date: 09/02/08

OPERATIONAL AREA COMPONENTS:

Active Pit & Spoil Area

Mining is being done by the modified block cut method with two pits. At Pit 1, the Upper Kittanning and Lower Freeport coal seams will be mined from the outcrop to a proposed final highwall of 120'. At Pit 2, the Upper Kittanning and Lower Freeport coals will be mined together to a proposed final highwall of 125'.

Pit No. 1/Phase II - Upper Kittanning & Lower Freeport

Maximum Required Pit Length: 150 ft.
Maximum Required Pit Width: 80 ft.
Maximum Highwall: 120 ft.
Average Cover Depth: 120' - 1' Topsoil = 119'

53333

Unit Cost: $0.90/yd^3 (Push < 500 ft)
$1.20/yd^3 (Push > 500 ft)

52,889 yds

Cost = $\frac{150 \text{ ft} \times 80 \text{ ft} \times 119 \text{ ft}}{27 \text{ ft}^3/\text{yd}^3} \times \$0.90 =$ **$ 47,600**

Pit No. 2/Phase II - Upper Kittanning & Lower Freeport

126,370 yds

Maximum Required Pit Length: 200 ft.
Maximum Required Pit Width: 80 ft.
Maximum Highwall: 125 ft. - Lower Freeport
Average Cover Depth: 125' - 1' Topsoil = 124'

74,074

Unit Cost: $0.90/yd^3 (Push < 500 ft)
$1.20/yd^3 (Push > 500 ft)

To open the pit, the first cut spoil will have to be trucked to the eastern area of Phase II.

Cost = $\frac{200 \text{ ft} \times 80 \text{ ft} \times 124 \text{ ft}}{27 \text{ ft}^3/\text{yd}^3} \times \$1.20 =$ **$ 88,178**

73,481 yds

TOTAL **$ 135,778**

Cambria Office SEP 5 '08 11:28

32060103 02

Bond Calculation Worksheet - continued (2)
Operator: TLH Coal Company
Permit No.: 32060103
Job Name: Smith Mine
Twp./County: East Mahoning /Indiana
SMP Acres: 101
Date: 09/02/08

Area - Topsoil Spread

Dimensions will vary (Includes Topsoil Storage Piles) 12.0 Acres

Topsoil Handling

Area Required For Topsoil Placement:

Area Topsoil Required 33.4 Ac.

Soil Thickness: 1 ft.
Unit Cost: \$0.90/yd^3 (Push < 500 ft)
Unit Cost: \$1.20/yd^3 (Push > 500 ft)

Topsoil Handling Cost = $\frac{33.4 \text{ Acres} \times 43{,}560 \text{ ft}^2/\text{acre} \times 1 \text{ ft}}{27 \text{ ft}^3/\text{yd}^3} = 53{,}885 \text{yd}^3$

50% Of Topsoil Beyond 500' Of Placement: 0.5 x 53,885 x \$1.20 = \$ 32,331
50% Of Topsoil Within 500' Of Placement: 0.5 x 53,885 x \$0.90 = \$ 24,248

TOTAL **\$ 56,579**

Selective Grading Area

1.0 Acre coal stockpile area 1.0 Acres X \$ 1,600/acre = **\$ 1,600**

Revegetation With Topsoil
Area Requiring Planting:

Area Topsoil Spread	12.0 Ac.
Area Topsoil Required	32.4 Ac.
Select Grading	1.0 Ac.
	45.4 Ac.

Revegetation Cost = 45.4 Acres x \$1,530/acre = **\$ 69,462**

Reforestation Area
Area requiring tree planting: 26.0 Acres (Total area of trees required within entire mining area)

Reforestation Cost = 26.0 acres x 680 trees/acre x \$0.15/tree = **\$ 2,652**

Bond Calculation Worksheet - continued (3)
Operator: TLH Coal Company
Permit No.: 32060103
Job Name: Smith Mine
Twp./County: East Mahoning /Indiana
SMP Acres: 101
Date: 09/02/08

Ponds

Ponds SP-1, SP-2 and SP-3 Have Been Constructed

Number of Ponds to be removed: 3

Pond Removal Cost = Three Ponds x $3,920/Pond = **$ 11,760**

Other

Alkaline Addition: 150 Tons/Acre Maximum

Pit No. 1 $\frac{150' \times 80'}{43{,}560\ ft^2/acre}$ = 0.28 Ac. X 150 Tons/Acre / 0.73 (Purity) = 58 Tons

Pit No. 2 $\frac{200' \times 80'}{43{,}560\ ft^2/acre}$ = 0.37 Ac. X 150 Tons/Acre / 0.73 (Purity) = 76 Tons

The operator will maintain a stockpile of alkaline addition material of 134 tons on site adequate for two pits as calculated above. Alkaline Addition Cost = **$ 0**

Subtotal

Backfilling	$ 135,778
Topsoil Handling	$ 56,579
Selective Grading	$ 1,600
Revegetation With Topsoil	$ 69,462
Reforestation	$ 2,652
Pond Removal	$ 11,760
Other	$ 0
Subtotal =	**$ 277,831**

Mobilization/Demobilization

Subtotal x 4% = $ 277,831 x 0.04 = **$ 11,113**

Total Bond

Total Bond Required = Subtotal + Mob./Demob. = $ 277,831 + $ 11,113 = **$ 288,944**
Surety Bond In Place = **$ 185,051**
Additional Bond Required = **$ 103,893**

Greensburg

State Industries Inc.
Mine 35
Permit 03060101
Issued 10/13/2006 Exp. 10/13/2011
Armstrong County, South Buffalo Twp.
Permitted acres – 175.9
Authorized acres – 75.4

PART C

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AUTHORIZATION TO MINE
PERMIT NO. 1249-03060101-03

PERMITTEE NAME AND ADDRESS: State Industries, Inc.; P.O. Box 1022; Kittanning, PA 16201
ISSUANCE DATE: November 13, 2008
REISSUANCE DATE(S):
EXPIRATION DATE: October 13, 2011
NAME OF OPERATION: Mine 35
LOCATION OF OPERATION:
MUNICIPALITY: South Buffalo
COUNTY: Armstrong

TYPE OF OPERATION ☐ ANTHRACITE ☒ BITUMINOUS

☒ Surface Mine
☐ Auger Mine
☐ Other _____

☐ Surface Mine (coal refuse reprocessing)
☐ Coal Refuse Disposal
☒ Coal Preparation/Processing Facility

A. Permittee is hereby authorized to conduct coal mining activities on lands of Theodore J. & Thomas C. Kijowski; Thomas C. & Theresa Kijowski; Theodore J. & Marilyn Kijowski; Keith & Elaine M. King; Howard A. & Susan M. Brown; Stanley J. & Donna J. Romanowski situated in South Buffalo Township, Armstrong County. Surface owners' consent is attested to by inclusion of properly executed Consent of Landowner form submitted in support of this approval.

B. Coal mining activities are limited to 175.9 acres mining area designated on the Exhibit 9 map dated November 14, 2006, submitted in support of the request for this Mining Authorization. The 75.4 acre operational area is the maximum area authorized for mining at any one time. The operational area is allowed to move within the mining area.

C. A total bond amount of $382,211.00 is required for the approved mining area, described in the Bond Calculation Worksheet dated November 14,2006.

D. The permittee is authorized to conduct mining activities as described in Modules 9 and 10 of the mining application and the Bond Calculation Worksheet dated November 14, 2006.

E. Bond Description

☐ Original Bond ☒ Additional Bond

☒ Surety Bond No. 104706428 in Amount of $520,400.00 with Travelers Casualty & Surety Company of America as surety.

☐ Collateral Bond dated _____, in amount of _____, supported by _____.

☐ Conversion Bond in Amount of _____.

☒ Additional Remarks: $138,189.00 excess bond submitted and approved.

F. The approved erosion and sediment control facility related to the area to be mined in accordance with this authorization must be constructed in accordance with the approved plan, certified by a professional engineer or land surveyor, and the certification submitted to the Department prior to the commencement of other coal mining activities in this area.

G. The attached sheet contains 8 (eight) additional special condition or requirement relating to this authorization.

By: _____
Thomas E. Kovalchuk, P.G.
Title: Chief, Permits & Technical Services
For the Department of Environmental Protection

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Greensburg District Office
October 16, 2009

SUBJECT: FIELD REVIEW FOR ANNUAL BOND REVIEW
Operator: State Industries, Inc.
SMP No.: 03060101-AR2009
Site Name: Mine 35
Township: South Buffalo
County: Armstrong
APS ID # 705057 E

TO: **David Livengood,** MCI

FROM: Catherine A. Hillman Cah
Clerk Typist III

We have received the company's annual bond verification. Please submit your comments to Martin Picklo within 15 days. If an exemption was requested and you agree, complete only the first section, sign at the bottom and return this memo.

Exemption Request

This can be granted if the mining area and operational area dimensions are obviously within the approved limits in the current Part C of their permit and no Stage I or stage II reclamation has been done since the last bond verification was submitted.

If requested, do you recommend approval of the exemption? YES_____ NO_____

Annual Bond Review

1. Is the mining area accurately shown on the Exhibit 9 map? YES X NO_____
2. Is the operational area adequate for the operator's mining method? YES X NO_____
3. Are the pit dimensions within the permitted conditions? YES X NO_____
   Pit Length 1200 Pit Width 100 Pit Depth 50
4. Are the spoil distances and backfill rates within the permitted conditions? YES X NO_____
5. Have all existing sediment ponds been bonded or have signed landowners releases?
   YES X NO_____
6. Is the unplanted acreage within the limit in the permit conditions? YES X NO_____
7. Has the operator completed any Stage I or II reclamation since the last bond verification?
   YES X NO_____
8. Based on your findings, does the current bond need to be reviewed for possible increases?
   YES_____ NO X

Comments:_____

Signature: Donna M Ann Review Date : 10/20/09

W.D. Mohney & Associates
544 Greentree Road
Kittanning, PA 16201

(724) 543-1023 FAX (724) 545-9594

October 14, 2009

Department of Environmental Protection
District Mining Operations
Armbrust Professional Center
8205 Route 819
Greensburg, PA 15601-8739
Attn: Martin Picklo

RE: State Industries, Inc.
SMP# 03060101
Mine 35
South Buffalo Township
Armstrong County
2009 Annual Bond Update

Dear Mr. Picklo:

Please find enclosed (1) one original and (3) three copies of the following information for the above referenced operation:

- Annual Bond Calculation Summary
- Conventional Bonding Calculation Worksheets
- Copy of Aerial Photograph showing pit and other info
- Landowner Letters
- Annual Impoundment Certification - B.2066

If you have any questions or comments, please call.

Sincerely,

Kenneth L. King
W.D. Mohney & Associates
Consultants to State Industries, Inc.

cc: State Industries, Inc.
File

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING AND RECLAMATION

CONVENTIONAL BONDING FOR LAND RECLAMATION – ANNUAL BOND CALCULATION SUMMARY

Permittee: State Industries, Inc.
Year: Annual Update 2009
Permit No.: 03060101
Municipality: South Buffalo Township
County: Armstrong

Operation	Approved Reclamation Bond obligation	Existing Calculated Bond Obligation	Difference (approved – existing)
Backfilling	$191,840.00	$232,222.00	-$40,382.00
Topsoil/Ash Cover	$70,156.00	$68,204.00	$1,952.00
Revegetation	$90,315.00	$71,200.00	$19,115.00
Trees	$0.00	$0.00	$0.00
Selective Grading	$0.00	$0.00	$0.00
Ponds	$15,200.00	$15,200.00	$0.00
Mobilization/Demobilization	$14,700.00	$15,473.00	-$773.00
Temporary E&S	$0.00	$0.00	$0.00
Demolition of Structures	$0.00	$0.00	$0.00
Sealing of Mine Openings	$0.00	$0.00	$0.00
Stage III Maintenance	$0.00	$0.00	$0.00
Other Items(Rounding)	$0.00	$0.00	$0.00
Excess Bond Submitted	$138,189.00	$0.00	$138,189.00
Total Reclamation Costs	$520,400.00	$402,299.00	$118,101.00
Additional Bond Needed	----------		$0.00
Bond Adjustment Requested	----------		$0.00
Area Reclaimed	Stage I 57.6 acres	Stage II 57.6 acres	Stage III ____ acres

RECEIVED
OCT 15 2009
DEP-GBG

Submitted with this form:
☒ Map/Photo
☒ Landowner Letters
☐ Planting Report

(If any area was reclaimed to Stage II or Stage III standards)

Signature | Geologist (Title) | October 13, 2009 (Date)

A description of the calculations must be attached

Operator: **State Industries, Inc.**
SMP: **03060101**
Mine: **Mine 35**
Site Location: **South Buffalo Township, Armstrong County**

Present Bond: $ 402,299

Full Cost Bonding Worksheet
New Application ☐
Bond Adjustment ☐
Annual Verification ☑
Completion Report ☐
Date: October 13, 2009
Proposed Bond: $ -

Backfilling (Grading Costs)
Pit length (ft) X Width (ft) X Depth (ft) / 27 = Cubic yards X $ / Cubic yard = $ cost

Bond Calculations (2009 Rates)

PIT 1	Spoil < 500'	Spoil > 500'
Pit length	1200	0
Pit width	100	0
Pit height		
Highwall	80	0
Low wall	30	0
Average	55	0
Cubic yards	244,444.4	-
Cost for spoil	$ 232,222	$ -
Total cost spoil backfill		$ 232,222

PIT 2	Spoil < 500'	Spoil > 500'
Pit length	0	0
Pit width	0	0
Pit height		
Highwall	0	0
Low wall	0	0
Average	0	0
Cubic yards	-	-
Cost for spoil	$ -	$ -
Total cost spoil backfill		$ -

PIT 3	Spoil < 500'	Spoil > 500'
Pit length	0	0
Pit width	0	0
Pit height		
Highwall	0	0
Low wall	0	0
Average	0	0
Cubic yards	-	-
Cost for spoil	$ -	$ -
Total cost spoil backfill		$ -

TOTAL BACKFILLING COSTS $ 232,222

Proposed Bond Calculations (2009 Rates)

PIT 1	Spoil < 500'	Spoil > 500'
Pit length	0	0
Pit width	0	0
Pit height		
Highwall	0	0
Low wall	0	0
Average	0	0
Cubic yards	-	-
Cost for spoil	$ -	$ -
Total cost spoil backfill		$ -

PIT 2	Spoil < 500'	Spoil > 500'
Pit length	0	0
Pit width	0	0
Pit height		
Highwall	0	0
Low wall	0	0
Average	0	0
Cubic yards	-	-
Cost for spoil	$ -	$ -
Total cost spoil backfill		$ -

PIT 3	Spoil < 500'	Spoil > 500'
Pit length	0	0
Pit width	0	0
Pit height		
Highwall	0	0
Low wall	0	0
Average	0	0
Cubic yards	-	-
Cost for spoil	$ -	$ -
Total cost spoil backfill		$ -

TOTAL BACKFILLING COSTS $ -

RECEIVED
OCT 15 2009
DEP-GBG

Operator: **State Industries, Inc.**
SMP: **03060101**
Mine: **Mine 35**
Site Location: **South Buffalo Township, Armstrong County**

Full Cost Bonding Worksheet
Date: October 13, 2009

Topsoil Handling
(acres needing topsoil X 43560 ft2/acre) X soil thickness (ft) / 27 ft3 = cubic yard

Bond Calculations (2009 Rates)

AREA 1	topsoil < 500'	topsoil > 500'
acres topsoil	44.5	0
topsoil thickness	1	1
Cubic yards	71,793.3	-
Cost for topsoil	$ 68,204	-
Total cost topsoil replacement	$ 68,204	

AREA 2	topsoil < 500'	topsoil > 500'
acres topsoil	0	
topsoil thickness	0	
Cubic yards	-	-
Cost for topsoil	$ -	-
Total cost topsoil replacement	$ -	
TOTAL TOPSOIL COSTS	$ 68,204	

Proposed Bond Calculations (2009 Rates)

AREA 1	topsoil < 500'	topsoil > 500'
acres topsoil	0	0
topsoil thickness	1	1
Cubic yards	-	-
Cost for topsoil	$ -	-
Total cost topsoil replacement	$ -	

AREA 2	topsoil < 500'	topsoil > 500'
acres topsoil	0	
topsoil thickness	1	
Cubic yards	-	-
Cost for topsoil	$ -	-
Total cost topsoil replacement	$ -	
TOTAL TOPSOIL COSTS	$ -	

Selective Grading

Roads: length X Width / 43560 ft2/acre X unit cost

	Road	Other
length (ft)	0	
Width (ft)	0	
Acres	0.0	0.0
Cost	$ -	$ -

Selective Grading

Roads: length X Width / 43560 ft2/acre X unit cost

	Road	Other
length (ft)	0	
Width (ft)	0	
Acres	0.0	0.0
Cost	$ -	$ -

Revegetation Costs

Area needing seeding (acres) X $ / acre = $cost

Maximum acreage needing planted		44.5
Cost per acre revegetation	$	1,600.00
Cost for revegetation	$	71,200
Maximum acreage of tree planting		0.0
No of trees required per acre		680
Cost per stem	$	0.15
Cost for Trees	$	-

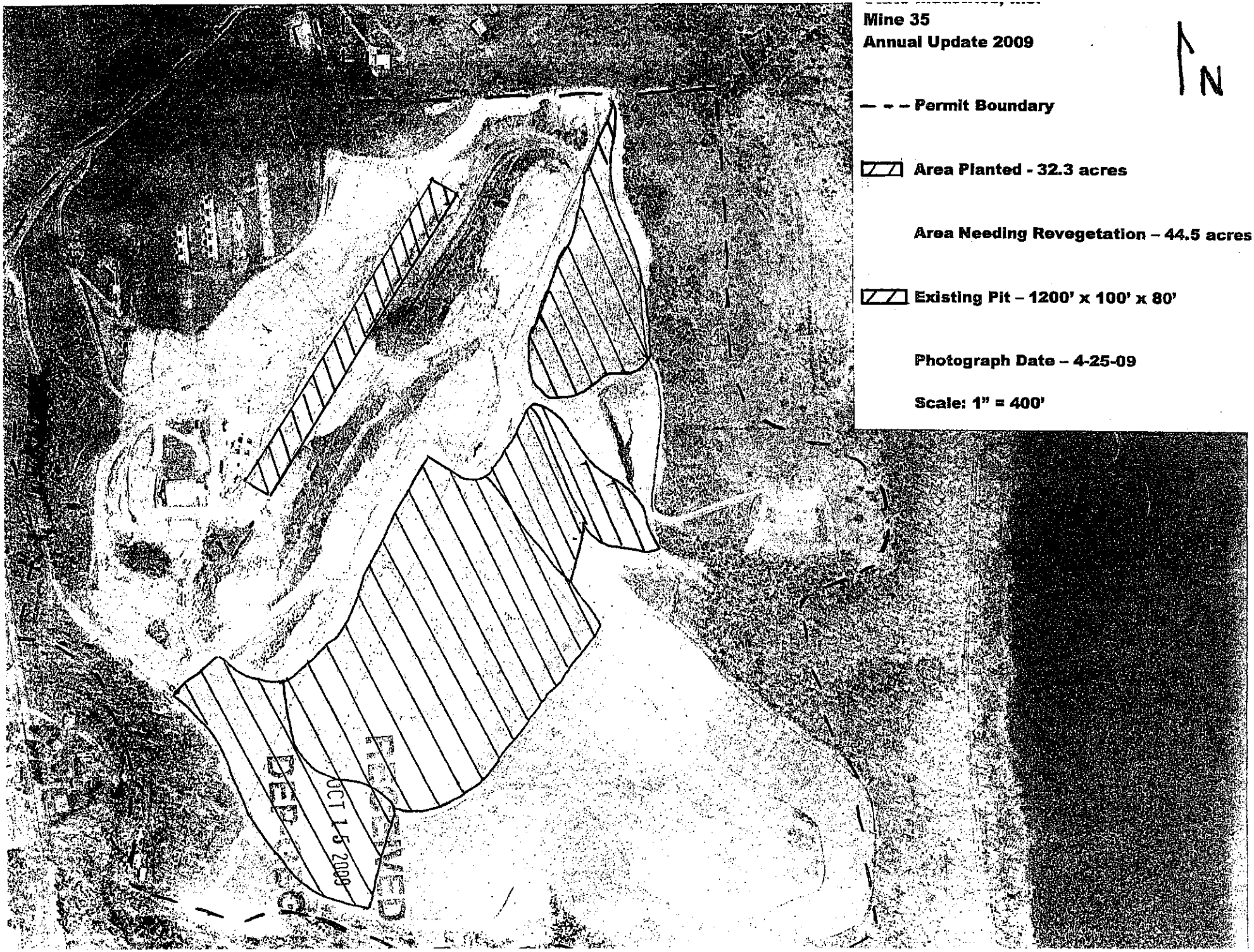
Area needing seeding (acres) X $ / acre = $cost

Maximum acreage needing planted		0
Cost per acre revegetation	$	1,210.00
Cost for revegetation	$	-
Maximum acreage of tree planting		0
No of trees required per acre		680
Cost per stem	$	0.15
Cost for Trees	$	-

Operator:	**State Industries, Inc.**
SMP:	**03060101**
Mine:	**Mine 35**
Site Location:	**South Buffalo Township, Armstrong County**

Full Cost Bonding Worksheet
Date: October 13, 2009

Bond Calculations (2009 Rates)			Proposed Bond Calculations (2009 Rates)		
Facilities Removal					
Number of Ponds X $ cost per pond = $ cost					
Number of sed ponds to be reclaimed		4	Number of ponds to be reclaimed		0
Cost per pond	$	3,800	Cost per pond	$	3,500
Cost of pond removal	$	15,200	Cost of pond removal	$	-
Number of treatponds to be reclaimed		0	Number of ponds to be reclaimed		0
Cost per pond	$	1,750	Cost per pond	$	-
Cost of pond removal	$	-	Cost of pond removal	$	-
Stage 3 Maintenance Bond					
Acres		0	Acres		0
Cost per acre	$	550	Cost per acre	$	500
Total Maintenance Bond	$	-	Total Maintenance Bond	$	-
Subtotal			Subtotal		
Backfilling	$	232,222	Backfilling	$	-
Topsoil handling	$	68,204	Topsoil handling	$	-
Selective Grading	$	-	Selective Grading	$	-
Revegetation w/ topsoil	$	71,200	Revegetation w/ topsoil	$	-
Revegetation w/out topsoil	$	-	Revegetation w/out topsoil		
Reforestation	$	-	Reforestation	$	-
Channel Construction	$	-	Channel Construction		
Pond Removal	$	15,200	Pond Removal	$	-
Other Activities	$	-	Other Activities		
Subtotal	$	386,826	Subtotal	$	-
Stage III Maintenance Bond	$	-	Stage III Maintenance Bond	$	-
Mobilization / Demobilization	$	15,473	Mobilization / Demobilization	$	-
Total Bond Amount	$	402,299	**Total Bond Amount**	$	-
Bond Currently Approved at Site		$520,400			


Mine 35
Annual Update 2009
N
Permit Boundary
Area Planted - 32.3 acres
Area Needing Revegetation – 44.5 acres
Existing Pit – 1200' x 100' x 80'
Photograph Date – 4-25-09
Scale: 1" = 400'
RECEIVED
OCT 15 2009
DEPT. OF

Knox

Amfire Mining Co., LLC
Amfire 35 Mine
Permit 24990101
Issued 01/13/2000 Exp. 01/13/2013
Elk County, Horton Twp.
Permitted acres – 568.9
AML Surface acres – 98.0
AML UDG acres – 19.4
Authorized acres – 456.4

PART C

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AUTHORIZATION TO MINE

PERMIT NO. 11536-24990101-CB-04

PERMITTEE NAME AND ADDRESS: AMFIRE Mining Company, LLC
One Energy Place, Suite 2800
Latrobe, PA 15650

ISSUANCE DATE: December 24, 2009
REISSUANCE DATE: N/A
RENEWAL DATE: N/A
EXPIRATION DATE: January 13, 2013

NAME OF OPERATION: Mine 35

LOCATION OF OPERATION:
MUNICIPALITY: Horton COUNTY: Elk

TYPE OF OPERATION ☐ ANTHRACITE ☒ BITUMINOUS

- ☒ Surface Mine
- ☒ Auger Mine
- ☐ Other _____
- ☐ Surface Mine (coal refuse reprocessing)
- ☐ Coal Refuse Disposal
- ☐ Coal Preparation/Processing Facility

A. Permittee is hereby authorized to conduct coal mining activities on lands of New Shawmut Timber Company, Frank Halvonik, Rosebud Coal Sales, Inc., George R. Tamburlin & Judith M. Bianco situated in Horton Township, Elk County. Surface owner's consent is attested to by inclusion of a properly executed Consent of Landowner form submitted in support of this approval.

B. Surface coal mining activities are limited to the area designated on the Exhibit 9 map dated 10-15-09, submitted in support of the request for this Mining Authorization, which covers 456.4 acres.

C. A total bond of $1,260,600 is required for the approved mining area, described in the bond calculation work sheet dated 10-15-09.

D. The permittee is authorized to conduct mining activities as described in Modules 9 and 10 of the mining application submitted on the conventional bond calculation work sheet dated 10-15-09.

E. Bond Description

☐ Original Bond ☒ Additional Bond

☒ Surety Bond No. 104965988, 105109430 & 105109462, 105352594 in amount of $349,700, $572,400, $193,700, & $113,300 with Travelers Casualty & Surety Company of America as surety.

☐ Collateral Bond dated _____ in amount of _____ supported by _____.

☐ Conversion bond in the amount of _____

☒ Additional Remarks: Bonding for this site is via the Commonwealth's Remining Financial Guarantee Program 4860-105-FG ($31,500).

E. The approved erosion and sed. ent control facility related to the area ... be mined in accordance with this authorization must be constructed in accordance with the approved plan, certified by a professional engineer or land surveyor, and the certification submitted to the Department prior to the commencement of other coal mining activities in this area.

F. The attached sheet contains Eight (8) additional special conditions or requirements relating to this authorization.

By: _____

Javed I. Mirza
District Mining Manager
Knox District Office
For the Department of Environmental Protection

rle

AMFIRE Mining Company, LLC Bonding Increment No. 11536-24990101-CB-04

1. Supplemental "C" for New Shawmut Mining Company recorded 7-18-88 at the Elk County Courthouse is filed herein.

2. Supplemental "C" for New Shawmut Mining Company - property 92 (now Rosebud Coal Sales, Inc.) recorded 4-16-04 at the Elk County Courthouse is filed herein.

3. Supplemental "C" for Frank Halvonik, Pauline Halvonik & Susan Welsh recorded 1-13-03 at the Elk County Courthouse is filed herein.

4. Supplemental "C" for George R. Tamburlin & Judith M. Bianco recorded 8-17-09 at the Elk County Courthouse is filed herein.

5. Premium payments of $315 will be made on an annual basis and must be received on or before the anniversary date of the Financial Guarantee issuance.

6. Premium payments will be made annually until the amount of bond is reduced or released in accordance with §§86.171 -- 86.172 (procedures for seeking release of bond and criteria for release of bond).

7. This bonding increment cancels and supersedes BI No. 11536-24990101-CB-03 to reflect increased mining area and 2009 bonding rates.

8. Conventional bond liability for the approved mining area was calculated based on the following operational area components:

   a. The maximum number of acres disturbed by mining activities and not planted and stabilized (operational area) will not exceed 103.0 acres and 12 sedimentation ponds.

   b. The maximum backfilling liability was calculated using bond liability rates for 2009 and based on 914,667 cubic yards of spoil located less than 500 feet from the pit. That volume of spoil is based on three pits with the following general dimensions:

      Pit No. 1
      Lower Freeport Bench:
      - 550 ft. x 180 ft. with an average highwall height of 37 feet across the width of the cut and a maximum highwall height of 65 feet.

      Upper Kittanning Bench:
      - 550 ft. x 180 ft. with an average highwall height of 45 feet across the width of the cut and a maximum highwall height of 85 feet.

      Pit No. 2
      Lower Freeport Bench:
      - 550 ft. x 180 ft. with an average highwall height of 37 feet across the width of the cut and a maximum highwall height of 65 feet.

Upper Kittanning Bench:

- 550 ft. x 180 ft. with an average highwall height of 45 feet across the width of the cut and a maximum highwall height of 85 feet.

Pit No. 3

Lower Freeport Bench:

- 500 ft. x 180 ft. with an average highwall height of 49 feet across the width of the cut and a maximum highwall height of 85 feet.

Upper Kittanning Bench:

- 500 ft. x 180 ft. with an average highwall height of 45 feet across the width of the cut and a maximum highwall height of 85 feet.

c. The maximum number of acres requiring topsoil and revegetation will not exceed 103.0 acres.

9. A variance is hereby granted to exceed the backfilling and grading limits required under Section 87.141(c)(2). This variance is approved based on the operation, reclamation plan, and equipment complement contained in Modules 10.1 and 10.2.

CONVENTIONAL BONDING QUESTIONNAIRE

Lewis W. Kidd

Company Name AMFIRE Mining Company, LLC **MCI Signature/Date** 10-19-09
Permit No: 24990101-CB-04 **Township:** Horton **County:** Elk

1. Does the attached Module 9 map accurately represent site conditions? Yes [✓] No [ ]

2. Does the proposed operational area match the operator's current mining method and provide adequate room for his operations? Yes [✓] No [ ]

3. For each pit, what is the current?: COAL REMOVAL AREA ONLY

   Pit length 540 Width 222 Highwall Height 30 Avg
   Pit length 585 Width 593 Highwall Height 50 Avg
   Pit length _____ Width _____ Highwall Height _____

   133,200
   642,417
   775617

   How was it measured (GPS, Rangefinder, Tape, etc.)?

4. Do backfilling calculations accurately show spoil subject to the current backfill rates? Yes [✓] No [ ]

5. Has the operator accurately calculated the topsoil handling cost? Yes [✓] No [ ]

6. Has the operator accurately calculated the planting cost? Yes [✓] No [ ]

7. Has the operator provided adequate bonding or landowner releases for the maximum number of sediment ponds? Yes [✓] No [ ]

8. What is the maximum number of pit water treatment facilities on-site? 4
   Is there adequate bond provided for treatment facilities? Yes [✓] No [ ]

9. Have the operator's calculations included other reclamation liabilities like alkaline addition, wetland construction, or stream reconstruction? Yes [ ] No [ ] N/A [✓]

10. Does this site have an area dedicated for: **selective grading** Yes [✓] No [ ] **coal stockpile** Yes [✓] No [ ]
    equipment storage Yes [✓] No [ ] **haul road** Yes [✓] No [ ]
    other support facilities not shown on map Yes [ ] No [✓]

11. Are all barrier areas within the designated mining area shown as no mining allowed or covered by waivers? Yes [✓] No [ ] N/A [ ]

12. If area on the Module 9 map is shown as Stage II Releasable/Qualified and has not been previously verified as such by the Forester, does it meet the Stage II requirements (contact the Forester for assistance in making this determination if necessary)? Yes [✓] No [ ] N/A [ ]

MINING

Comments:
Operator is increasing Operational area To cover The Former Tamburlin 24630101 permit area.
The Blast plan will need revised

CONVENTIO. AL BOND CALCULATION WC KSHEET

Company: AMFIRE Mining Company, LLC
SMP: 24990101

Township: Horton
County: Elk

Job Name: Mine No. 35
PROPOSED 10/2009

Backfilling	Length (ft)	Width (ft)	Depth (ft)	Unit Cost ($/cu yd)	Bond Amount $	
Pit #1 - LF Bench	550	180	37	0.95	$128,883	
Pit #1 - UK Bench	550	180	45	0.95	$156,750	
Pit #2 - LF Bench	550	180	37	0.95	$128,883	
Pit #2 - UK Bench	550	180	45	0.95	$156,750	
Pit #3 - LF Bench	500	180	49	0.95	$155,167	
Pit #3 - UK Bench	500	180	45	0.95	$142,500	
			Cu Yds	914,667		$868,933

Topsoil Handling	Acres	Soil thickness (ft)	Unit Cost ($/cu yd)	Bond Amount $	
Operational Area - Non-Prime Farmland Soils	88.0	1.0	0.95	$134,875	
Operational Area - Prime Farmland Soils	0.0	4.0	0.95	$0	
					$134,875

Selective Grading	Acres	Length (ft)	Width(ft)	Unit Cost ($/acre)	Bond Amount $	
Haul Roads	6.0	6,500	40	$1,250	$7,461	
Treatment Ponds	3.0			$1,250	$3,750	
Stockpile Area	2.4			$1,250	$3,000	
Equipment Staging Area	3.6			$1,250	$4,500	
E&S Controls	0.0			$1,250	$0	
Other Support Areas	0.0			$1,250	$0	
						$18,711

Revegetation	Acres		Unit Cost ($/acre)	Bond Amount $	
	103.0		$1,600	$164,800	$164,800

Reforestation (Trees/Ac)	Acres		Unit Cost ($/acre)	Bond Amount $	
680	103.0		$102	$10,506	$10,506

Sediment Ponds	Number		Unit Cost ($/pond)	Bond Amount $	
To be removed	6		$3,800	$22,800	$22,800

Ponds E, F, G, H, J, & K to remain postmining

Alkaline Addition	Acres	Tons/acre	Pit Multiply	Unit Cost ($/ton)	Bond Amount $	
	8.68	0	1	$10.50	$0	$0

Demolition of Structures	Volume (cu ft)		Unit Cost ($/cu ft)	Bond Amount $	
			$0.25	$0	$0

Other Costs	Bond Amount $	
Stream Relocation		
Road Relocation		
Utility relocation		
Wetland construction		
		$0

Mobilization/Demobilization	Subtotal		Bond Amount $	
	$1,220,625		$48,825	$40,000

Maintenance Bond	Acres	Unit Cost $	Bond Amount $	
pasture	0	$550	$0	
Forest/UNH	0	$100	$0	
Prime Farmland Soils/Cropland	0	$800	$0	
				$0

TOTAL BOND LIABILITY	$1,260,625
TOTAL BOND LIABILITY ROUNDED TO NEAREST $100	$1,260,600
AMOUNT OF BOND CURRENTLY ON DEPOSIT	$1,147,300
ADDITIONAL BOND REQUIRED	$113,300

Revised 3/09; 10/09

KNOX DISTRICT MINING OFFICE
PO Box 669
Knox, PA 16232-0669
814-797-1191

REQUEST FOR EXEMPTION FROM ANNUAL BOND REVIEW

Permittee Name: AMFIRE Mining Company, LLC

Permit Number: 24990101 Mine No. 35

Municipality: Horton Township

County: Elk

As the permittee, I hereby request an exemption for submittal of the calculations and verifications for annual review for the year 2010.

This request is justified because of the following (choose as applicable):

☐ There has been no change in the operational area as shown on the last operations map submitted in support of conventional bonding requirements.

☐ Mining is completed and the area is awaiting Stage II release.

☒ A permit revision that included bond review was submitted within 90 days of the anniversary date of my permit. (11536-24990101-CB-04 - issued Dec 24, 2009)

☐ Other (describe). _____

Signed,

X _____ 1/6/10
Signature Date

Edward J. Ratay, Jr.
Print Name Manager of the Northern Division

Company: AMFIRE Mining Company, LLC
Address: One Energy Place, Suite 2800
Latrobe, PA 15650
Telephone: (724) 537-5731

Conventional Bonding Annual Review Report

Operator AMFIRE Mining Company, LLC

SMP 24990101-AR-2010 **Job Name** AMFIRE 35 Mine

Exemption Request Approved Yes ✓ No ___

Annual Bond Review

1. Is the mining area accurately shown on the Exhibit 9 map? Yes ___ No ___
   Is the mining area adequate in size for the operator's mining method? Yes ___ No ___
2. Are the pit dimensions within the permitted/proposed conditions? Yes ___ No ___

Pit 1	*BONDED/PROP*	Length ___	Width ___	Depth ___	Cu. Yds. ___	
	EXISTING	Length ___	Width ___	Depth ___		Cu. Yds. ___
Pit 2	*BONDED/PROP*	Length ___	Width ___	Depth ___	Cu. Yds. ___	
	EXISTING	Length ___	Width ___	Depth ___		Cu. Yds. ___
Pit 3	*BONDED/PROP*	Length ___	Width ___	Depth ___	Cu. Yds. ___	
	EXISTING	Length ___	Width ___	Depth ___		Cu. Yds. ___

TOTAL BONDED/PROP Cu. Yds. ___

TOTAL EXISTING Cu. Yds. ___

3. Are the spoil distances and backfill rates within the permitted/proposed conditions? Yes ___ No ___
4. Have all existing sediment ponds and haul roads been bonded or are there signed landowner releases? Yes ___ No ___
5. Maximum acres that can be disturbed and not planted (operation's footprint excluding sediment basins). ___
6. Actual acres disturbed (operation's footprint excluding sediment basins). ___
7. Has Stage I or II reclamation been completed since the last annual review? Yes ✓ No ___
   a. If so, have landowners been notified? Yes ✓ No ___
8. Have you completed your GPS survey of the operations areas? Yes ___ No ___
   a. Map of GPS site survey attached? Yes ___ No ___
9. Unit costs used in conventional bonding calculations are within unit cost guidelines? Yes ✓ No ___
10. Further action necessary: Increased bonding? Yes ___ No ___ Enforcement action? Yes ___ No ___
11. Operation is in compliance with Conventional Bonding Program requirements? Yes ✓ No ___
12. Number of tanks on-site? 9
13. Annual pond certifications for pond Nos. E, F, G, H, I, L, M are included? Yes ✓ No ___

Comments: New bond issued 12-24-09 - 3 pits approved only 2 open at This Time

MCI Lewis H. Kiehl Date 1-25-10

Supervisor Merle C. Bonn Date 2-1-10

Moshannon

Strishock Coal Co.
Huey Mine
Permit 17860135
Issued 05/11/1990 Exp. 05/11/2010
Clearfield County, Union Twp.
Permitted acres – 361.4
Authorized acres – 339.6

PERMIT86
PART C

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AUTHORIZATION TO MINE
PERMIT NO. 1229-17860135AR-22

Permittee: Strishock Coal Company
220 Hillcrest Drive
DuBois, PA 15801

Name of Operation: Huey Mine
Type of Operation: Surface

Issuance Date: August 3, 2009
Expiration Date: May 11, 2010

Auth id: 781304

Townships: Union, Sandy, Brady

County: Clearfield

A. Permittee is hereby authorized to conduct coal mining activities on lands of Strishock Coal Company, Paul A. Bowers, George Bloom Estate, Howard Huey Estate, Chagrin Land Ltd. Partnership Estate, Duane A. Jacobs and Kay M. Jacobs situated in Union, Sandy, Brady Townships, Clearfield County. Surface owners consent is attested to by inclusion of a properly executed Consent of Landowner form submitted in support of this approval.

B. Coal mining activities are limited to the mining area designated on the Exhibit 9 map dated received July 10, 2009, submitted in support of the request for this Mining Authorization, which covers 339.6 acres.

C. A total bond of $1,169,400.00 is required for the approved mining area, described in the Bond Calculation worksheet dated received July 10, 2009.

D. The permittee is authorized to conduct mining activities as described in Module 9 of the mining application submitted on the conventional bond calculation worksheet dated received July 10, 2009.

E. Bond Description

☐ Original Bond ☐ Transfer ☐ Additional Bond ☐ Bond Conversion

■ See Special Condition No. 18

F. The approved erosion and sediment control facility related to the area to be mined in accordance with this authorization must be constructed in accordance with the approved plan, certified by a professional engineer or land surveyor, and the certification submitted to the Department prior to the commencement of other coal mining activities in this area.

G. The attached sheet contains eighteen (18) additional special conditions or requirements relating to this authorization.

BY: David Bisko
David Bisko, P. G.

Title: Chief, Permit & Technical Services
For the Department of Environmental Protection

cc: Division of Licensing and Bonding
Rockwood Casualty Insurance Company
Utica Mutual Insurance Company
Inspector James Parlavecchio
Permit File

DB/LDS/cav

10. Notarized release letter granting permission to mine within 300 feet of occupied dwellings on lands of Archie L. Beck dated September 23, 1986 is filed herein.

11. Notarized release letter granting permission to mine within 300 feet of occupied dwellings on lands of Paul H. Griffith dated September 23, 1986 is filed herein.

12. Notarized release letter granting permission to construct and maintain erosion and sedimentation control facilities within 300 feet of occupied dwellings owned by Howard R. Huey dated September 4, 1993 is filed herein.

13. Variance to affect within the 100-foot right-of-way of Consolidated Natural Gas Transmission Corporation's high-pressure gas pipelines TL-50 and TL-280 dated April 22, 1987 is filed herein.

14. Variance to affect within the 100-foot right-of -way of Consolidated Natural Gas Transmission Corporation's gas pipeline LN2438 dated March 8, 1989 is filed herein.

15. Release granting permission to affect within 125 feet, but no closer than 35 feet of gas well on the property of Howard Huey from Hanley and Bird Gas Company dated May 3, 1996 is filed herein.

16. Release granting permission to affect within 100 feet, but no closer than 25 feet of the relocated gas pipeline on the property of Howard Huey from Hanley and Bird Gas Company dated May 8, 1996 is filed herein.

17. Variance to affect within 100 foot right of way of T-379 beginning at a point locater approximately 3,200 feet northwest of the intersection of T-379 and T-899 and continuing northwest along the northern right of way of T-379 for approximately 500 feet to the end of the township road is filed herein.

18. This bond increment updates and replaces BI #1229-17860135AR-21. The following bonds are carried and apply to this permit:

    a. Surety Bond #SU1478074 dated August 15, 1991 in the amount of $265,475.00 with Utica Mutual Insurance Company as surety.

    b. Surety Bond #SU1635660 dated May 13, 1993 in the amount of $122,500.00 with Utica Mutual Insurance Company as surety.

    c. Surety Bond #ISM1476 dated January 24, 1996 in the amount of $3,300.00 with Rockwood Casualty Insurance Company as surety.

    d. Surety Bond #ISM1522 dated June 17, 1996 in the amount of $109,500.00 with Rockwood Casualty Insurance Company as surety.

    e. Surety Bond #ISM-1697 in the amount of $54,200.00 dated March 25, 1998 with Rockwood Casualty Insurance Company as surety.

f. Surety Bond No. ISM-1909 in amount of $65,400.00 dated June 1, 2001 with Rockwood Casualty Insurance Company as surety.

g. Financial Guarantee #4820-53-CFG dated July 2, 2002 in the amount of $825,900.00.

5600-FM-MR0312 Rev. 7/2002

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING AND RECLAMATION

Dept. Use Only
Date Received
No.
Bond No.
Filing For Amount

APPLICATION FOR AUTHORIZATION TO CONDUCT SURFACE COAL MINING ACTIVITIES

(☒ Bituminous Coal or ☐ Anthracite Coal)

(☐ New or ☒ Revision)

Instructions: Submit the original of this application and three copies. The affidavit must be properly signed and executed. Include proper bond endorsement documents for the type of bond being used.

Note: No portion of the permit area shall be affected by surface coal mining activities unless the operator has provided a bond to the Department and the Department has approved the bond and issued a written authorization to affect such area.

Applicant Strishock Coal Company
Address 220 Hillcrest Drive
DuBois, PA 15801
Telephone (814)375-1245

Surface Mining Permit No. 17860135
Operation Name Huey Mine
Municipality Brady, Union & Sandy Township
County Clearfield

Name of Landowner	Municipality	County	Acres to be Affected
Strishock Coal Company	Union Twp.	Clearfield	72.2
Paul A. Bowers	"	"	91.0
George Bloom Estate	"	"	62.3
Howard Huey Estate	"	"	30.3
Chagrin Land Ltd. Partnership	Brady, Union & Sandy Twps.	"	53.1
Duane A. Jacobs	Union Twp.	"	30.7

Dept of Environ Protection
Moshannon District Office
JUL 10 2009
RECEIVED

Consent of Landowner Form (check if applicable)

☐ The Consent of Landowner Form is attached and it has been recorded with the recorder of deeds.
☒ The Consent of Landowner Form was filed with Authorization No. 100214-17803096, 1229-17860135 and it has been recorded with the recorder of deeds.
☐ Not filing Consent of Landowner Form because lease was in existence prior to January 1, 1964 for Bituminous Coal and January 1, 1972 for Anthracite Coal. Operator must provide 1) a true and correct copy of the lease; 2) execute a Consent of Landowner Form as Leasee; and 3) provide a Chain of Title for the Lease. The lease, Consent of Landowner Form, and Chain of Title have been recorded with the recorder of deeds.

Map

Attach a copy of Exhibit 9, Operations Map indicating the proposed authorized area and any previously authorized area.

Additional Information/Revisions

1. Have you paid the reclamation fees as required by federal Surface Mining Control and Reclamation Act of 1977 (30 USC 1232)? Yes ☒ No ☐

2. Are you revising your erosion and sediment control plan? If yes, briefly describe the revisions and complete the appropriate modules and submit with this application. Yes ☐ No ☒

3. Are you modifying your approved blasting plan for this bonding increment? If yes, submit blasting plan with this request (use Module 16: Blasting Plan). Yes ☐ No ☒

4. Briefly describe any other proposed revisions to the surface mining permit. Include application modules and plans for the revision and professional certification where appropriate. If the revisions are subject to public notice or a stream or road variance is being requested, the proof of publication must be submitted to the Department prior to any mining authorization being granted. **See attached letter**

5600-FM-MR0312 Rev. 7/2002

Bond/Reclamation Fee

Type of Bond: ☒ Surety ☐ Collateral ☐ Credit ☐ Other (Specify) _____

Bond Amount $1,446,275.00 (Attach Bond Calculation Summary Form 5600-FM-MR0433)

Reclamation Fee. Total acres 102.8 @ $100 per acre $10,280.00
(attach a check payable to the Commonwealth of Pa. for the proper amount)

To be completed by the Department

Total Bond Required:	$ _____
Credit Available:	$ _____
Additional Bond Required:	$ _____

Affidavit

Commonwealth of Pennsylvania, County of Clarion I, Stephen A. Strishock being duly sworn, according to law, depose and say that I (~~am the applicant~~) (am an officer of the applicant) (~~have the authority to make this application~~) and that the plans, reports and documents submitted as part of the application are true and correct to the best of my knowledge and belief, I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment (cross out inapplicable portions in parenthesis).

Sworn and Subscribed to Before Me This

7th Day of July (month) 2009 (year)

Pamela J. Moore
Notary Public

Stephen A. Strishock
Signature of Applicant or Responsible Official

Stephen A. Strishock
Name (typed)

Partner
Title and Seal

220 Hillcrest Drive, DuBois, PA 15801
Address

NOTARIAL SEAL
Pamela J. Moore, Notary Public
Monroe Twp., Clarion County
My Commission Expires March 10, 2011

Dept of Environ Protection
Moshannon District Office
JUL 10 2009
RECEIVED

DEP Office Product

Strishock Coal Company | Township: Union | Job Name: Huey Mine

SMP: 17860135 | County: Clearfield | Bonding increment: 22

Unit Operation	Length (ft)	Width (ft)	Depth (ft)	DEP Unit Cost	Bond Amount $	Total Volume
Backfilling						621,203
Pit #1 Lower Kittanning	850	125	110	1.20	$519,444	432,870
Pit #2 Middle Kittanning	350	270	50	1.20	$210,000	175,000
Pit #3 Bench	200	90	20	1.20	$16,000	13,333
Pit #4 Upper Kittanning	0	0	0	1.20	$0	0
Pit #5 Bench above UK	0	0	0	1.20	$0	0
	0	0	0	0.90	$0	0
				Enter $.55 or $.80		$745,444

Topsoil Handling	Acres	Soil thickness (ft)	Unit Cost $	Bond Amount $	
Operation area	96.6	1.0	1.20	$187,018	
Prime Farmland Soils	0.0	4.0	0.90	$0	
Spoil area*	0.0		0.90	$0	
Topsoil area*	0.0		0.90	$0	
Support area*	0.0		0.90	$0	
Contemporaneous Topsoiling			0.00		
*outside operation area			Enter $.55 or $.80		$187,018

Selective Grading*	Acres	Length (ft)	Width(ft)	Unit Cost $	Bond Amount $	
Roads		0	0	$1,250	$0	
Area roads	3.2			$1,250	$4,000	
Ponds	0.0			$1,250	$0	
Stockpile	0.0			$1,250	$0	
Storage Area	0.0			$1,250	$0	
E&S	0.0			$1,250	$0	
work, topsoil, fuel	13.7			$1,250	$17,125	
*outside operation area						$21,125

	Acres	Topsoil Handling	Depth (ft)	Unit Cost $		
Topsoiling & Selective Grading	0.0	0.90	1	$1,250	$0	$0

Revegetation	Acres	Length (ft)	Width(ft)	Unit Cost $	Bond Amount $	
Operation area	96.6			$1,600	$154,560	
Spoil area	0.0			$1,600	$0	Total Revegetation Acres
Topsoil area	0.0			$1,600	$0	
Support area	0.0			$1,600	$0	
Roads	0.0	0	0	$1,600	$0	96.6
Ponds	0.0			$1,600	$0	
Stockpile	0.0			$1,600	$0	
Storage Area	0.0			$1,600	$0	
E&S	0.0			$1,600	$0	
Other Support	0.0			$1,600	$0	
Contemporaneous Topsoiling	0.0			$1,600	$0	
Reduction for biosolids					$0	$154,560

DEPT. OF ENVIRON. PROT.
MOSHANNON DIST. OFFICE
JUL 10 2009
RECEIVED

Reforestation (Trees/Ac)	Acres	Unit Cost $	Bond Amount $	
680	96.6	$102	$9,853	
600	0.0	$90	$0	
				$9,853

Ponds	Number	Unit Cost $	Bond Amount $	
	3	$3,800	$11,400	
This flat rate is used until Stage II bond release is requested.				$11,400

E&S controls	Unit Cost $	Bond Amount $	
		$0	$0

Alkaline Addition	Acres	Tons/acre	Pit Multiply	Unit Cost $	Bond Amount $	
	5.02	0.00	1	$5	$0	$0

Demolition of Structures	Volume (cu ft)	Unit Cost ($/cu ft)	Bond Amount $	
		need to calculate costs		$0

Other Costs		Unit Cost $	Bond Amount $	
Stream relocation				
Road relocation				
Utility relocation				
Wetland construction				
Equipment Tire Removal and Disposal	Number of Tires:	$300	$0	$0

Mobilization/Demobilization	Subtotal	Bond Amount $	
	$1,129,400	$45,176.00	
At Stage II request a flat $2,500.00 Mobilization/Demobilization is held for entire site.			$40,000

Maintenance Bond	Acres	Unit Cost $	Bond Amount $
Noncropland Areas (land uses where crop yields are not required)	0	$100	$0
Cropland-Pastureland-Land Occ. Cut for Hay (excludes seed cost)	0	$600	$0
Cropland Area- Row Crops (includes seed cost)	0	$800	$0
Site has _____ acres that will need $_____ in maintenance bond when Stage II release is requested.			$0

BOND REQUIRED $1,169,400
ON DEPOSIT as of ~~10-27-08~~ $1,446,275
AMOUNT DUE -$276,875

7/30/09

5600-FM-MR0436 Rev. 4/2006

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING AND RECLAMATION

CONVENTIONAL BONDING FOR LAND RECLAMATION
ANNUAL BOND CALCULATION SUMMARY

Permittee: Strishock Coal Company	Year: 2009	Permit No.: 17860135
Municipality: Brady, Union, & Sandy Townships		County: Clearfield

Operation	Approved Quantity / Bond Obligation	Existing Quantity / Bond Obligation	Difference (approved - existing)
Backfilling	$ 1,108,888.00	$ 745,444.00	$ 363,444.00
Topsoil / Cover Material	$ 135,520.00	$ 79,182.00	$ 56,338.00
Revegetation	$ 107,100.00	$ 108,000.00	$ (900.00)
Trees	$ 9,007.00	$ 9,853.00	$ (846.00)
Selective Grading	$ 30,080.00	$ 21,125.00	$ 8,955.00
Ponds	$ 15,680.00	$ 11,400.00	$ 4,280.00
Mobilization/Demobilization	$ 40,000.00	$ 39,000.00	$ 1,000.00
Temporary E & S			
Demolition of Structures			
Sealing of Mine Openings			
Stage 3 Maintenance			
Other Items			
Total Reclamation Cost	$ 1,446,275.00	$ 1,014,005.00	$ 432,270.00
Additional Bond Needed			
Bond Adjustment Requested			$ 432,270.00

Progress Report

Since the most recent annual review (or site activation, if this is the first annual review) please report the number of acres in the following categories:

Newly Disturbed 25.8 acres Stage 1 Reclaimed 32.7 acres Stage 2 Reclaimed 28.6 acres

Stage 3 Reclaimed _____ Abandoned Mine Land Reclaimed to Stage 2 Standard _____

Abandoned Mine Land Reclaimed to Stage 2 Standard as a result of Remining Financial Guarantees _____

Does any reclamation include prime farmland soils? ☑ No ☐ Yes

(Attach planting and soil test reports for cropland and pastureland, including any available crop yields)

Submitted with this form:

- ☑ Map/Photo
- ☑ Landowner Letters
- ☑ Planting Report (if any area was reclaimed to Stage 2 or Stage 3 standards)

Signature _____ Title _____ Date _____

6/12/09

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Moshannon District Office
June 1, 2009

SUBJECT: Field Review for Annual Bond Review
Strishock Coal Company
17860135-**21**, Huey Mine
Union-Sandy-Brady Township, Clearfield County

TO: SMCI James Parlavecchio **Needs Forester's Review**

FROM: David Bisko, P.G., Chief
Permit & Technical Services Section

We have received the company's annual bond verification. Please submit your comments to James McDonald by **7-1-09**. If an exemption was requested and you agree, complete only the first section, sign at the bottom and return. Please retain enclosed copy for your records.

Exemption Request

This can be granted if the mining area and operational area dimensions are obviously within the approved limits in the current Part C of their permit and no Stage I or stage II reclamation has been done since the last bond verification was submitted. If requested, do you recommend approval of the exemption? Yes ____ No ____

Annual Bond Review

1. Is the mining area accurately shown on the Exhibit 9 map and is the mining area adequate in size for the operator's mining method? If "No" please comment. Yes ____ No ____

_____

2. Are the pit dimensions within the permitted conditions? Yes ____ No ____

_____ Pit _____ L _____ W _____ H: _____ Bench _____ L _____ W _____ H

_____ Pit _____ L _____ W _____ H: _____ Bench _____ L _____ W _____ H

3. Are the spoil distances and backfill rates within the permitted conditions? Yes ____ No ____
4. Have all existing sediment ponds been bonded or have signed landowners releases? Yes ____ No ____
5. Is the unplanted acreage within the limit in the permit conditions? Yes ____ No ____
6. Are there any areas that have been planted since submittal of the last Annual Review? Yes ____ No ____
7. Has the operator completed any Stage I or II reclamation since the last bond verification? Yes ____ No ____
   If so, identify landowners _____
8. How many used equipment tires are on this site? _____
9. Have satisfactory certifications been submitted for all existing ponds? (if no, explain) Yes ____ No ____
10. Are all non-mobile tanks inventoried and have adequate containment? Yes ____ No ____ N/A ____

Comments: Mine area is planted, growing and stable. Areas shown on Ex 9. Tree planting is current with planting

Signature: _____ Review Date 7/27/09

cc: Terry L. Confer;, MCIS James McDonald , File

Total Bond Needed

06/24/09	Date of Calculation

Company	Strishock Coal Company
SMP#	17860135
Mine Name	Huey Mine
Township	Sandy, Brady, & Union Townships
County	Clearfield
Phase or BI#	CB-17

$745,444	Backfilling Costs
$91,186	Topsoil Handling Costs
$28,875	Selective Grading Costs
$117,920	Revegetation with Topsoil On-Site Cost
$0	Revegetation without Topsoil On-Site Cost
$10,486	Reforestation Cost

$0	Ditch Excavation Cost
$0	Channel lining Cost
$0	Channel with Rock Lining Cost
$0	Subsurface Drains Cost

$0	Channel Construction Cost Subtotal
$11,400	Pond(s) Removal Cost
$0	Other Activities Cost
$1,005,311	Subtotal Cost
$0	Installation or Upgrade E&S Controls
$40,000	Mobilization / Demobilization
$0	Stage III Maintenance Bond (if needed)
$1,045,311	Total Bond Liability
$1,446,275	Existing Bond
$400,964	Current Excess Bond

Dept of Environ Protection
Moshannon District Office
JUL 10 2009
RECEIVED

Bond Calculation Information

339.6 acres mining area

102.8 acres operational area as of May 7, 2009

17.4 acres for sediment ponds and collection ditches

19.9 acres of selective grading:
(topsoil, spoil, treatment, crusher & stockpile, work area, fuel area)

3.2 acres for haul roads through active mining area (4,700' x 30')

11.7 acres of haul road is existing and will remain permanently, therefore no reclamation bond is required

40.9 acres of topsoil handling, excluding sediment ponds (17.4), area planted (26.6),
existing roads to remain (11.7)

67.5 acres of revegetation, excluding sediment ponds (17.4), existing roads to remain (11.7)

102.8 acres of trees in operational area

Pit #1 - Lower Kittanning

Backfilling

850	pit length(ft)
125	pit Width(ft)
110	pit Depth(ft)
11687500	Cubic feet
432870	Cubic Yards
yes	Is Spoil 500 ft or more from any pit?
$519,444	Total Backfilling Cost

Pit length and width are measured at the coals to be mined. If mining multiple seams, calculate the volume by benches. Use higher unit cost if spoil is 500 ft or more from any pit.

Can adjust depth to exclude coal and other product materials.

Use separate calculations for additional pits.

Topsoil Handling

47.1	Acres needing topsoil
1	Soil Thickness (ft)
yes	Are Topsoil piles 500 ft or more from any area needing topsoiled?
$91,186	Total Topsoil Handling Costs

Include all soil horizons.

Amount is total of the maximum area where topsoil needs spread during permit term.

Use higher unit cost for grading if stockpiles are 500 ft or more from any pit.

Selective Grading

19.9	acres	work, topsoil, fuel
3.2	acres	roads (4,700' x 30')
$28,875	Total Selective Grading Costs	

Use for grading out roads, ponds, stockpile and storage areas, erosion and sediment controls and other support areas.

Be sure to include in revegetation calculations.

Use selective grading unit cost.

Pit #2 - Middle Kittanning

Backfilling

350	pit length(ft)
270	pit Width(ft)
50	pit Depth(ft)
4725000	Cubic feet
175000	Cubic Yards
yes	Is Spoil 500 ft or more from any pit?
$210,000	Total Backfilling Cost

Pit length and width are measured at the coals to be mined. If mining multiple seams, calculate the volume by benches. Use higher unit cost if spoil is 500 ft or more from any pit.

Can adjust depth to exclude coal and other product materials.

Use separate calculations for additional pits.

Topsoil Handling

	Acres needing topsoil
1	Soil Thickness (ft)
no	Are Topsoil piles 500 ft or more from any area needing topsoiled?
$0	Total Topsoil Handling Costs

Include all soil horizons.

Amount is total of the maximum area where topsoil needs spread during permit term.

Use higher unit cost for grading if stockpiles are 500 ft or more from any pit.

Selective Grading

	acres
	acres
$0	Total Selective Grading Costs

Use for grading out roads, ponds, stockpile and storage areas, erosion and sediment controls and other support areas.

Be sure to include in revegetation calculations.

Use selective grading unit cost.

Pit #3 - bench

Backfilling

200	pit length(ft)
90	pit Width(ft)
20	pit Depth(ft)
360000	Cubic feet
13333	Cubic Yards
yes	Is Spoil 500 ft or more from any pit?
$16,000	**Total Backfilling Cost**

Pit length and width are measured at the coals to be mined. If mining multiple seams, calculate the volume by benches. Use higher unit cost if spoil is 500 ft or more from any pit.

Can adjust depth to exclude coal and other product materials.

Use separate calculations for additional pits.

Topsoil Handling

	Acres needing topsoil
1	Soil Thickness (ft)
no	Are Topsoil piles 500 ft or more from any area needing topsoiled?
$0	**Total Topsoil Handling Costs**

Include all soil horizons.

Amount is total of the maximum area where topsoil needs spread during permit term.

Use higher unit cost for grading if stockpiles are 500 ft or more from any pit.

Selective Grading

	acres
	acres
$0	**Total Selective Grading Costs**

Use for grading out roads, ponds, stockpile and storage areas, erosion and sediment controls and other support areas.

Be sure to include in revegetation calculations.

Use selective grading unit cost.

Pit #4

Backfilling

	pit length(ft)
	pit Width(ft) (average)
	pit Depth(ft)
0	Cubic feet
0	Cubic Yards
yes	Is Spoil 500 ft or more from any pit?
$0	**Total Backfilling Cost**

Pit length and width are measured at the coals to be mined. If mining multiple seams, calculate the volume by benches. Use higher unit cost if spoil is 500 ft or more from any pit.

Can adjust depth to exclude coal and other product materials.

Use separate calculations for additional pits.

Topsoil Handling

0	Acres needing topsoil
0	Soil Thickness (ft)
no	Are Topsoil piles 500 ft or more from any area needing topsoiled?
$0	**Total Topsoil Handling Costs**

Include all soil horizons.

Amount is total of the maximum area where topsoil needs spread during permit term.

Use higher unit cost for grading if stockpiles are 500 ft or more from any pit.

Selective Grading

0	acres	spoil
0	acres	roads
$0	**Total Selective Grading Costs**	

Use for grading out roads, ponds, stockpile and storage areas, erosion and sediment controls and other support areas.

Be sure to include in revegetation calculations.

Use selective grading unit cost.

Revegetation With Topsoil On-Site

73.7	Area to revegetate (acres)
$117,920	**Total cost to revegetate with topsoil on site**

Area is maximum area needing planted at any given time during the permit term.

Assumes 3-tons/acre lime, 400-lbs./acre 10-10-10 fertilizer, 50-lbs./acre grass and legume seed mix, and 3-tons/acre mulch application.

Use unit cost for revegetation only when seeding soil materials.

Revegetation Without Topsoil On-Site

	Area to prepare and plant (acres)
	Seed Bed Preparation cost
	Ag. Lime Req. (tons/acre)
	Ag. Lime cost
	Nitogen Req. (lbs./acre)
	Nitrogen cost
	Phosphate Req. (lbs./acre)
	Phosphate cost
	Potash Req. (lbs./acre)
	Potash cost
	Seed type#1 Req. (lbs./acre)
	Seed type#2 Req. (lbs./acre)
	Seed cost
	Mulching cost
$0	**Total Cost for revegetation without topsoil**

Area is maximum area needing planted at any given time during the permit term.

Application rates based upon root zone material testing.

Use specified unit costs when seeding non-soil materials.

Reforestation

102.8	Area to plant (acres)
680	Trees Req. per acre
$10,486	**Total Reforestation Cost**

Pond Removal

3	# of Sediment Ponds to be Removed
$11,400.00	**Total Cost for removing Sediment Ponds**

Rate includes removal of associated ditches.

Do not include ponds which are part of the post-mining land use and for which the landowner has signed a release.

Other Activities

For required reclamation activities not shown above, such as wetland construction or reconstruction:

Determine the unit operations needed to accomplish the activity, the dimensions of the activity, materials, and their amounts and multiply by an appropriate unit cost. Attach calculation sheets.

If no unit cost is available attach an independent, detailed estimate for performing the task. (Examples: Cost of alkaline addition materials, importation of soil cover material.)

Alkaline Addition

0	Tons of Alkaline Addition Material
0	Cost per ton of Alkaline Addition Material including Trucking and Application Costs
0	**Total Cost of Alkaline Addition**

Importation of Soil Cover Material

0	Length of Area (ft.) needing Soil Cover
0	Width of Area (ft.) needing Soil Cover
0	Depth (ft.) of Soil Cover
0	Total Cubic Yards needed
	Cost per cubic yard
0	**Total Cost of Importation of Soil Cover Material**

Stream Relocation

	Total Cost of Stream Relocation

Wetland Mitigation

	Total Cost of Wetland Mitigation

0	**Total Cost of Other Activities**

Installation of Temporary Erosion & Sediment Controls

no	Is Installation or Upgrade Needed?

$1,005,311	Subtotal	(subtotal from "Total Bond Needed" sheet)
$0	Total Costs	

Calculate only when reclamation plan calls for temporary erosion & sediment controls after backfilling and grading. See BRG.

Mobilization / Demobilization

$1,005,311	Subtotal	(subtotal from "Total Bond Needed" sheet)
$40,000	Total Costs	

Stage III Maintenance Bond

	Portion of Mining Area (acres) for which the Stage III Maintenance Bond is needed
$0	Total Costs

Conventional Bonding for Land Reclamation - Coal

APPENDIX A

Bond Rate Guidelines For Year 2009

Unit Costs ($)	Unit Measure	Unit Operation	
4% of direct costs or $40,000, whichever is less	job	Mobilization/demobilization	
$0.95	cubic yard	Grading (<500-foot push)	
$1.20	cubic yard	Grading (>500-foot push)	
$1,250.00	acre	Selective Grading	includes seed bed preparation, lime, fertilizer, seed and mulch. This unit operation is used on sites that conserve and replace existing soils.
$1,600.00	acre	Revegetation	
$107.00	acre	Seed bed preparation	
$25.69	ton	Agricultural Lime	
$0.58	pound	Nitrogen	
$0.42	pound	Phosphate	
$0.32	pound	Potash	
$2.22	pound	Seed Type 1	Seed Type 1 does not include Crown Vetch. Seed Type 2 used on steep slope reas, includes Crown Vetch. Both used at application rate of 50 lbs/acre.
$4.31	pound	Seed Type 2	
$250.00	acre	Mulching	Three (3) tons per acre application rate
$0.15	tree	Tree Planting	
$5.25	cubic yard	Ditch Excavation	
$3.25	square yard	Jute Matting	
$3.50	square yard	High Velocity Erosion Control	
$25.00	square yard	R3 Rock Lining	
$22.00	square yard	R4 Rock Lining	
$21.00	square yard	R5 Rock Lining	
$2.00	square yard	Geotextile/Filter Fabric	
$11.00	square yard	PVC Lining	Typically used for lining of ponds or ditches crossing fill material
$18.50	lineal foot	Subsurface Drain	
$3,800.00	pond	Pond Removal	Unit costs not from BAMR bids, includes dewatering, grading, topsoil placement and revegetation.
Lump Sum (5% of direct cost for site)	job	Erosion and Sedimentation Control (Temporary Installation)	
$100.00	acre	Stage 3 Maintenance Bond	
Mine sealing costs are minimum costs. Additional costs per mine seal will be assessed based on specific design criteria, such as the thickness of the seal and the volume of backfill material required, using appropriate material, equipment, and labor costs from BAMR bid abstracts or from an industry-standard cost estimation publications, e.g., *Means Estimating Handbook* or *Walker's Estimator's Reference Book*.		Structure Demolition	Costs for structure demolition will be calculated using costs listed in the construction industry's latest annual cost publications, such as the *Means Building Construction Cost Data* publication.
$1,400.00	shaft	Mine Sealing Non-hydraulic shaft seal - inert fill	shaft (10 ft. or less diameter)
$3,000.00	shaft		shaft (11 to 15 ft. diameter)
$4,500.00	shaft		shaft (16 to 20 ft. diameter)
$8,000.00	shaft		shaft (21 to 25 ft. diameter)
$7,600.00	shaft	Mine Sealing Hydraulic shaft seal w/ bulkhead	shaft (10 ft. or less diameter)
$9,200.00	shaft		shaft (11 to 15 ft. diameter)
$10,700.00	shaft		shaft (16 to 20 ft. diameter)
$14,200.00	shaft		shaft (21 to 25 ft. diameter)
$3,900.00	drift / slope	Mine Sealing Non-hydraulic drift / slope seal	
$6,200.00	drift / slope	Mine Sealing Hydraulic drift / slope seal w/ bulkhead	

Appendix E. OSM Permit Inspection Reports

Pottsville

Mountaintop Coal Mining, Inc.
J & A Mine
Permit 54960101
Issued 01/08/1997 Exp. 01/08/2012
Schuylkill County, Barry Twp.
Permitted acres – 246.4
Authorized acres – 30.0

U. S. DEPT. OF THE INTERIOR
OFFICE OF SURFACE MINING
Mine Site Evaluation
State Program

1. Permittee/Person: MOUNTAINTOP COAL MINING, INC
2. Address: PO BOX 183
3. City: Elysburg
4. State: PA
5. Zip Code: 17824
6. Phone Number: (570) 695-2690
7. Operator Name, if Different than Permittee:
8. Mine Name: MT TOP STRIP

9. Permit Number: 54960101
10. Permit Type: PP
11. Field Visit Date: 03/18/2010 (mm - dd - yyyy)
12. Purpose: OPS
13. SRA Present: Y
14. Permit Status: A
15. Site Status: AP
16. Facility Type: A
17. OSM Office #: 120
18. CCID #:
19. Land Code: S
20. M.S.H.A ID #:
21. State Abrev.: PA
22. County Name: SCHUYLKI
23. AVS Permittee Entity ID Number:
24. State Office:

25. Hours

1.0	a. Permit Review
2.0	b. Site Visit Time
2.4	c. Travel Time
3.4	d. Report Writing

26. Signature Block

Signature:

ERIC BRUMMER ID # 149

Printed Name:

Date: 03/25/2010

27. Reviewing Official:

Signature:

Review Date: / / (mm - dd - yyyy)

Is Supplemental MSE Page Used Y/N: Y

Permit Type — Item 10 IP = Interim Program, PP = Permanent Program , NP = No Permit

Purpose Type Codes Item 12

Oxx.... Oversight
Axx.... Assistance
RFx.... Reclamation Fees
Fxx..... Federal Actions
CCR....Citizen Complaint Referral (non site visit)
CC..... Citizen Complaint (initial site visit)
CCF....Citizen Complaint Follow-up

Joint Inspection — Item 13 A joint inspection is when a state inspector accompanies an OSM inspector any time during the review of the mine site.

Permit Status — Item 14

A.... Active: Coal mining and reclamation activities occurring or permitted but not yet disturbed.
IN.... Inactive (Permanent Program Permit): Phase II completed or Temporary Cessation of Operations. (Interim Program Permit) Coal mining completed and reclamation activities initiated.
BR... Bond Release: Reclamation completed and State Regulatory Authority (RA) has released all of the bond (Phase III Release.)
AB.... Abandoned: All surface and underground coal mining activities have ceased and operator has left the site without completing reclamation as defined in 30 CFR 840.11(g)
AB1.. Bond Forfeiture: Bond forfeiture officially in process or completed, and. reclamation in progress or not yet commenced.
AB2.. Partially Reclaimed Forfeiture: Forfeited site where all bonds have been used to reclaim site, but site not reclaimed to Program standards.
AB3.. Reclaimed Forfeiture: Forfeited site that has been reclaimed to Program standards.
NA....Not Applicable: When site is unpermitted.

Site Status Codes — Item 15

ND...No Disturbance: No coal mining and reclamation operations have been started.
EX...Coal Exploration: Coal exploration operations have started and where coal mining operations have not begun.
AP.. Active Coal Producing: Coal surface mining activities are occurring.
AN.. Active Non-Producing: Active non-producing facility such as tipple or preparation plant.
NM.. No Mining: The Permit Status is active, site is not in Temporary Cessation, no surface coal mining activity, and site not regraded.
MC.. Mining Complete: No mining activity on site, site regraded and awaiting phase bond release.
TC.. Temporary Cessation: The RA has granted cessation of mining pursuant to 30 CFR 816/ 817.131(b).
P1... Phase I Release: At least Phase I bond release granted for entire permitted area. For interim permits, partial bond release.
P2.. Phase II Release: At least Phase II bond release for the entire permitted area.
P3.. Phase III Release: Reclamation completed and the RA has released all bond.
NS.. Non-Site Visit: Status of site not determined.
FP.. Forfeiture Pending: The RA is pursuing actions to revoke the permit, collect the performance bond(s), and/or reclamation of forfeited site is in progress.
FR.. Forfeited and Reclaimed: Forfeiture reclamation completed.
FO.. Abandoned Site: Abandoned site that is permitted but there is no bond.
WC. Wildcat: Coal mining and reclamation operations have or are taking place and the activity is not covered by the required permits from the RA.

Facility Type Codes — Item 16

A... Surface
B... Underground
C... Preparation Plant
D...Ancillary (Haulroad, Conveyor, and/or Rails)
E... Refuse and/or Impoundment
F... Loading Facility and/or Tipple
G...Stockpiles
H...Exploration Permits
I... Notice of Intent to Explore
J... Exempt 16 and 2/3
K...Government Financed Construction Exemption
L.. Remining site permitted under 30 CFR785.25

Small Business Regulatory Enforcement Fairness Act (SBREFA)
Your Comments Are Important

The Small Business and Agriculture Regulatory Enforcement Ombudsman and 10 Regional Fairness Boards were established to receive comments from small businesses about Federal agency enforcement actions. The Ombudsman will annually evaluate the enforcement activities and rate each agency's responsiveness to small business. If you are a small business (a business with 500 or fewer employees including those of affiliates) and wish to comment on the enforcement or compliance activities of OSM, call 1-888-REG-FAIR (1-888-734-3247).

U. S. DEPT. OF THE INTERIOR
OFFICE OF SURFACE MINING

Mine Site Evaluation

State Program Continuation Page

Permittee/Person: MOUNTAINTOP COAL | Permit Number: 54960101 | Field Visit Date: 03/18/2010

28. Performance Standard Categories

Codes: 1=Compliance, 2=Noncompliance, 3=Not Planned, 4=Not Started, 5=Noncompliance Identified Elsewhere, 6=Previously Cited

A. Administrative
1. ___ Mining within Valid Permit
2. ___ Mining within Bonded Area
3. ___ Terms & Conditions of Permit
4. ___ Liability Insurance
5. ___ Ownership and Control
6. ___ Temporary Cessation
7. ___ AML Rec. Fees -- Non-Respondent
8. ___ AML Rec. Fees -- Failure to Pay

B. Hydrologic Balance
1. ___ Drainage Control
2. ___ Inspections & Certifications
3. ___ Siltation Structures
4. ___ Discharge Structures
5. ___ Diversions
6. ___ Effluent Limits
7. ___ Ground Water Monitoring
8. ___ Surface Water Monitoring
9. ___ Drainage -- Acid-Toxic Materials
10. ___ Impoundments
11. ___ Stream Buffer Zones

C. Topsoil & Subsoil
1. ___ Removal
2. ___ Substitute Materials
3. ___ Storage and Protection
4. ___ Redistribution

D. Backfilling & Grading
1. ___ Exposed Openings
2. ___ Contemporaneous Reclamation
3. ___ Approximate Original Contour
4. ___ Highwall Elimination
5. ___ Steep Slopes (includes downslope)
6. ___ Handling of Acid & Toxic Materials
7. ___ Stabilization (rills and gullies)

E. Excess Spoil Disposal
1. ___ Placement
2. ___ Drainage Control
3. ___ Surface Stabilization
4. ___ Inspections & Certifications

F. Coal Mine Waste (Refuse Piles/Impoundments)
1. ___ Drainage Control
2. ___ Surface Stabilization
3. ___ Placement
4. ___ Inspections and Certifications
5. ___ Impounding Structures

G. Use Of Explosives
1. ___ Blaster Certification
2. ___ Distance Prohibitions
3. ___ Blast Survey/Schedule
4. ___ Warnings & Records
5. ___ Control of Adverse Effects

H. ___ Subsidence Control Plan

I. Roads
1. ___ Road Construction
2. ___ Certification
3. ___ Drainage
4. ___ Surfacing and Maintenance
5. ___ Reclamation

J. Signs & Markers
1. ___ Signs
2. ___ Markers

K. ___ Distance Prohibitions

L. Revegetation
1. ___ Vegetative Cover
2. ___ Timing

M. ___ Postmining Land Use

N. Other

General Performance Catagory		
A	1	1) Bond Evaluation
		2)
		3)

Performance Standard Catagories 30 CFR Counterpart

A. Administrative.....
1. Valid Permit.....773.11
2. Mining within Bonded Area.....773.11
3. Terms & Conditions of Permit.....773.17
4. Liability Insurance.....800.60
5. Ownership and Control.....778.13
6. Temporary Cessation.....842.11(e) & 816/817.131
7. AML Rec. Fees -- Non-Respondant.....870.15(b)
8. AML Rec. Fees -- Failure to Pay.....870.15(a)

B. Hydrologic Balance.....(816/817.41-57)
1. Drainage Control.....45
2. Inspections & Certifications.....49(a)(10)
3. Siltation Structures.....46
4. Discharge Structures.....47
5. Diversions.....43
6. Effluent Limits.....42
7. Ground Water Monitoring.....41(c)
8. Surface Water Monitoring.....41(e)
9. Drainage--Acid - Toxic Materials.....41(f)
10. Impoundments.....49
11. Stream Buffer Zones.....57

C. Topsoil & Subsoil.....(816/817.22)
1. Removal.....22(a)
2. Substitute Materials.....22(c)
3. Storage and Protection.....22(c)
4. Redistribution.....22(d)

D. Backfilling & Grading.....(816/817.95-107)
1. Exposed Openings.....816/817.13, 14, 15, & 823.11 & 21
2. Contemporaneous Reclamation.....100
3. Approximate Original Contour.....102(a)(1)
4. Highwall Elimination.....102(a)(2)
5. Steep Slopes (includes downslope).....107
6. Handling of Acid & Toxic Materials.....102(c)
7. Stabilization (rills and gullies).....95(b)

E. Excess Spoil Disposal.....(816/817.71-74)
1. Placement.....71(e)
2. Drainage Control.....71(f)
3. Surface Stabilization.....71(g)
4. Inspections & Certifications.....71(h)

F. Coal Mine Waste (Refuse Piles/Impoundments).....(816/817.81-84)
1. Drainage Control.....83(a)
2. Surface Stabilization.....83(b)
3. Placement.....83(c)
4. Inspections and Certifications.....83(d)
5. Impounding Structures.....84

G. Use of Explosives.....(816/817.61-68)
1. Blaster Certification.....61(c)
2. Distance Prohibitions.....61(d)
3. Blast Survey/Schedule.....62-64
4. Warnings & Records.....66 & 68
5. Control of Adverse Effects.....67

H. Subsidence Control Plan.....(817.121-122)

I. Roads.....(816/817.150-151)
1. Road Construction.....150(c)
2. Certification.....151(a)
3. Drainage.....150(b)-151(d)
4. Surfacing and Maintenance.....150(e)-151(d)
5. Reclamation.....150(f)

J. Signs & Markers.....(816/817.11)
1. Signs.....11(a),(b),&(c)
2. Markers.....11(a),(b),(d),(e),&(f)

K. Distance Prohibitions.....(761.11)

L. Revegetation.....(816/817.111-116)
1. Vegetative Cover.....111 & 116
2. Timing.....113

M. Postmining Land Use.....(816/817.133)

Inspector Number: 149

Inspection Date: 03/18/10

Permittee: Mountaintop Coal Mining, Inc.

Subject: Bond Review

This permit was selected in response to an OSM 2010 National Priority Oversight Evaluation Review. The purpose of the review is to evaluate how states are complying with the state program counterparts to 30 CFR 800.14 & 15(d), which govern the determination of required bond amounts. The review was conducted by the following Eric Brummer OSM Reclamation Specialist; Joan Hopler, OSM Program Analyst; Mike Menghini, DEP Environmental Group Manager; and Ryan Flynn, DEP SMCI.

At time of inspection mining activities were active on the phase 3 and 6 areas. Per permit cubic yardage calculations, the phase three area was calculated based on one pit and phase six based on two pits. The yardages were combined with a total permitted reclamation liability for 47,000 cubic yards. At time of inspection, two pits existed and were measured with a ranger finder. Pit 1 on the phase three area, was observed to be irregular in length, width and depth. The pit was divided into four sections and thus measured. The southernmost side and bottom of the pit were very irregular due to spoil cast via the dragline being placed partial on the adjacent surface area and recast back into the pit. In addition, the northernmost sides of the pit were offset from one another and in one location a section of solid overburden protruded into the pit. A drill being approximately fifteen feet down was present on top of the overburden drilling blast holes. Pit 5 on the phase six area, was also observed to be irregular in length, width and depth. Due to the irregularity, the pit was divided into three sections and thus measured. Again, the southernmost side and bottom of the pit were very irregular due to spoil cast via the dragline being placed partial on the adjacent surface area and recast back into the pit. In addition, on the northernmost side the pit sides were offset from one another. As aforementioned, bonding is posted for the placement/backfilling of 47,000 cu. yds. Per field measurements, approximately 49,000 cu yds was calculated. Other reclamation activities reviewed included the following:

1) Select grading 16.9 acs. bonded with the review ascertaining approximately 11 acs. affected to date. A portion of the 11 acs is presently flat and thus requires no grading.

2) Revegetation 20.4 acs. bonded that includes mining and support areas with the review ascertaining a total of approximately 16 acs requiring revegetation.

3) Trees 37.4 acs bonded with the review noting 16 acs will require trees in addition to 17 acs already planted in grasses and legumes that need trees/additional trees to meet the per/ac requirement for forestland.

4) Structures – a pole building exists on site with no demolition bond or letter from the landowner allowing the structure to remain. The building measuring approximately 36' X 40'X 20'.

The permittee presently has bonding posted in the amount of $110,916.00. In calculating the present reclamation liability for existing site conditions and removal of the pole building, it was determined that approximately $100,000 in bonding is needed. Thus, adequate bonding is posted. Operable backfilling equipment on site consisted of two Manitowac 4600 draglines, a D8/9 dozer and loader.

DEP will address the finding pertaining to the pole building and directed the permittee to begin backfilling to reduce cu yds.

Bonding Information Form

As part of each "Oversight Complete Inspection," the following bonding information should be collected by OSM Reclamation Specialists.

The "bonding calculation sheet" and Part C from SMPs can be used in order to obtain the required bonding information. The State's current "Bond Rate Guidelines" and "Technical Guidance" can be viewed at the following website: http://www.dep.state.pa.us/dep/deputate/minres/bmr/programs/bonding.htm

IS THE PERMITTEE IN *COMPLIANCE* WITH THE FOLLOWING CONDITIONS:					
	Y	**N**	**NA**	**Allowed**	**Actual**
Pit size (cubic yards [yds^3])		X		**47000**	**49000**
Max number of pits (#)	X			**3**	**2**
Max number of ponds (#)			X		
Length of "bonded" haul road (feet)			X		
Max disturbed area requiring spreading of topsoil (acres)			X		
Max disturbed area requiring revegetation/seeding (acres)	X			**20.4**	**16**
Max disturbed area of designated forestland (acres)	X			**37.4**	**33**
Max disturbed support area (acres) (also included in the rev. acreage)	X			**2.3**	**1**
Date of last annual review? If permit was issued during current calendar year please list issuance date.	**3/16/2010**				
Are the bond rates current for this fiscal year?	**Yes**				
Has annual exemption been granted for current calendar year? NA for permits issued during current calendar year.	**No**				
What was the date of the last bond calculation/adjustment? If permit was issued during current calendar year please list issuance date.	**3/16/2010**				
Overall, is there adequate bond on the permit? Please explain any of the above conditions that are not in compliance.	**Yes – Pits measured in sections due to irregularities in length, width and depth. Thus yardage calculation maybe in slight error. Answered no in accordance with figures obtained.**				

Explain if overall Bond amount is inadequate and/or if bond calculations are incorrect.

Bonding was found to be adequate for reclamation liabilities present. A pole building structure exists on site with no specific demolition amount listed. Due to operations not being at the maximum approved limits, the present excess bond covers the cost for demolition with some additional excess bond remaining.

California

McVille Mining Co.
Refuse Disposal Area 2
Permit 03060701
Issued 04/30/2007 Exp. 04/30/2012
Armstrong County, South Buffalo Twp.
Permitted acres – 120.3

U.S. DEPT. OF INTERIOR

OFFICE OF SURFACE MINING

INSPECTION NARRATIVE: McVille Mining, Co.; McVille Coal Refuse Disposal Area #2

Inspector Number: 019

Inspection Date: March 3, 2010

Mine Site: McVille Mining Co.; McVille Coal Refuse Disposal Area #2

Weather: At approximately 3:00 p.m., the weather was clear and in the mid 30s

Latitude: N 40° 43' 14"

Longitude: W -79° 35' 57"

Permit: 03060701

Subject: Partial Inspection for Bond Calculation Study

This inspection was conducted by OSM Reclamation Specialist Kathleen G. Sheehan jointly with DEP inspector David Livengood, from the Greensburg DEP office. Stephanie Self, OSM Engineer was also present as this site was selected by DEP to be part of the OSM Bond Calculation Study.

Site History:

This permit was issued, by the DEP California Office, on April 30, 2007, along with NPDES Permit #PA0235661 to operate the refuse disposal area on 120.3 acres. The receiving stream for the permitted discharges is an unnamed tributary to the Allegheny River, classified as a cold water fishery.

Current Status:

The site is a side hill embankment that has an estimated life of 10 years at the current rate of refuse production. All refuse is hauled to the site and intermixed with coal ash that is also transported to the site. The piles are leveled and spread daily with a bulldozer into lifts with a maximum thickness of two feet. Of the permitted acres, 67.1 are to be affected by coal refuse disposal and 53.2 acres are utilized for support activities.

Two separate Compliance Orders were issued for:

- Failure to construct/operate/maintain treatment facilities necessary to ensure that effluent limitations are maintained and to prevent water pollution in violation of 25 Pa. Code § 90.101(c) and (e).

Compaction Testing:
On October 26, 2009, compacting testing was performed onsite utilizing a Troxler Nuclear Testing Gauge. Three compaction tests were performed at various locations in the refuse area and the corrected results were: 106.1%; 102.8; and 105.9%. This exceeds the permit requirement that compaction achieve a minimum of 90% of the dry density.

Beneficial Use:

Only coal ash from the American Refining Group may be placed onsite. According to the MCI, there has been no change in the quality of the coal ash and all coal ash is received from the permitted facility.

Special Conditions:

This permit is within the range of the Indiana bat, a species that is on the Federal endangered species list. Therefore, timber cutting activities may only take place between Octoberl and March 31, annually, during which time the bats are hibernating or are concentrated near their hiburnaculum. While onsite, no timbering was observed and MCI Livengood states, no further timbering is anticipated.

Water Monitoring:

Special Condition 5 and Module 6 outline the water monitoring points onsite that shall be monitored quarterly. Upon review of the permit, it was observed that monitoring point, S-6, the Spring monitoring the Upper Freeport Clay, had a field pH of 2.3 on July 16, 2009, and a field pH of 4.2 on October 12, 2009. This water was field tested on the date of inspection and the field pH was 4.5. This discharge is going off permit at: N 40° 43' 30"; W -79° 35' 20". Enforcement is deferred to DEP. MCI Livengood issued a Compliance Order for failure to construct treatment facilities necessary to ensure that effluent limitations are maintained and to prevent water pollution in violation of 25 Pa. Code § 90.101(c) and(e). As part of the abatement of this, Permittee is to submit a plan to DEP for capturing and treating the water so effluent limitations are met.

Water Treatment Facilities and Sedimentation Pond Information:

All runoff will be collected in Sediment Ponds 1 and 2. Each of these ponds have an associated treatment facility and primary detention structure. The ponds and primary detention structures are permitted to be designed to completely contain a 10-year storm frequency with no discharge. Specifically, they have been designed to provide a minimum of 2000 cubic feet per acre of

sediment storage volume and 5,000 cubic feet per acre of storm storage volume. The dewatering device for the ponds are valved and will be manually regulated to dewater the ponds within two to seven days following a precipitation event.

The treatment system will consist of a hydrated lime treatment plant and two treatment ponds. These ponds will provide approximately 36 hours of detention time to allow settling of the precipitate created during the treatment of the water.

While onsite it was observed that the dewatering pipe from primary discharge structure for Sediment Pond 2 was discharging. A field sample was taken and the water was recorded with a pH of 5.0. Enforcement is deferred to DEP. MCI Livengood issued a Compliance Order for failure to operate and maintain the permitted treatment facilities in a manner to ensure effluent limits are achieved in violation of 25 Pa. Code § 90.101(c) and(e).

Bonding:

At the time of the permit application in November 2006, it was initially anticipated that the total bond required would be $704,143. However, as of the date of the permit issuance the necessary bond increased to $981,673. In August 2009, it was determined that the costs of reclamation were higher than anticipated and an additional $50,376 of bond was to be submitted by Permittee. This was secured via a Surety Bond through the Lexon Insurance Company on August 21, 2009. It is anticipated the site will be reclaimed by 2015 and there is no permanent water treatment projected. Bond appears to be sufficient at this time.

DEP Previous Inspection Activity:

- January 19, 2010: Partial inspection; no violations or compliance orders issued.

No discharges occurring onsite. Active disposal is currently occurring onsite. Benches and outslopes appear stable and compaction appears adequate.

- December 24, 2009: Partial inspection; no violations or compliance orders issued.

Site was idle. No water treatment or discharge was occurring.

- November 24, 2009: Complete inspection; no violations or compliance orders issued.

Three water samples were taken, all had pH exceeding 7.0. A sludge float, pumping devise is installed in the first settlement pond; although it was not pumping at time of inspection and there was no flow to the polishing pond during the inspection. However, the aerator was running and pumping in lime addition to the pond.

- October 30, 2009: Partial inspection; no violations or compliance orders issued.

An application for a borehole and pipeline on file; but a permit revision has not been granted to date.

- September 11, 2009: Partial inspection; no violations or compliance orders issued.

Several additional acres have been covered with synthetic liner. Coarse refuse is being spread in three-four foot lifts to cushion the membrane from truck traffic. Permit revision to allow construction of a sludge pipeline combining treatment ponds on this permit with those on CRDA #1. The ponds have been pumped. The treatment facilities were idle during the inspection so, there were no discharges observed.

- August 25, 2009: Complete inspection; no violations or compliance orders have been issued. Discharge at Treatment Pond 3 was collected on July 23, 2009 and the field pH was 7.0. Topsoil is being placed on the outslopes and terrace structures have already been capped with rec-mix and in some areas plastic cap material. No discharge was occurring during inspection and the ponds were pumped low.

Follow-up

A follow-up will be conducted on or before April 30, 2010.

IS THE PERMITTEE IN *COMPLIANCE* WITH THE FOLLOWING CONDITIONS:					
	Y	**N**	**NA**	**Allowed**	**Actual**
Pit size (cubic yards [yds^3])			**X**		
Max number of pits (#)			**X**		
Max number of ponds (#)	**X**			**2**	**2**
Length of "bonded" haul road (feet)			**X**		
Max disturbed area requiring spreading of topsoil (acres)			**X**		
Max disturbed area requiring re-vegetation/seeding (acres)			**X**		
Max disturbed area of designated forestland (acres)	**X**			**38**	**<38**
Max disturbed ~~support area~~ area (acres)	**X**			**67.1**	**<67.1**
Date of last annual review? If permit was issued during current calendar year please list issuance date.	**August 2009**				
Are the bond rates current for this fiscal year?	**No, bond rates used in this calculation are higher than current rates.**				
Has annual exemption been granted for current calendar year? NA for permits issued during current calendar year.	**No**				
What was the date of the last bond calculation/adjustment? If permit was issued during current calendar year please list issuance date.	**August 2009, over $50,000 increase in bond.**				
Overall, is there adequate bond on the permit? Please explain any of the above conditions that are not in compliance.	**Yes, permit appears to be sufficiently bonded.**				

Explain if overall Bond amount is inadequate and/or if bond calculations are incorrect.

Bonding is sufficient. The supplemental data sheet was completed and delivered.

Cambria

TLH Coal Co.
Smith Mine
Permit 32060103
Issued 01/16/2007 Exp. 01/16/2012
Indiana County, East Mahoning Twp.
Permitted acres – 101.0
AML UDG acres – 2.0
Authorized Acres – 65.4

Hamilton, David S. "Dave"

From: Sheehan, Kathleen G.
Sent: Wednesday, April 28, 2010 5:24 PM
To: Hamilton, David S. "Dave"; Hopler, Joan; Self, Stefanie
Subject: Update TLH Pit Dimensions

Bonding:
The bond on this site is currently $288, 944.00, comprising two surety bonds from Rockwood Casualty Insurance Company. According to bond calculations, the site is currently 4.6% under-bonded; however, consistent with DEP policy, a new bond increment is not required until the permittee reaches a deficient of 15% or greater. Additionally, because of the decrease in bonding rates, following the 2010 annual bond review the current bond may be sufficient.
Pit measurements were taken onsite on March 4 2010:
Pit 1 (Lower Freeport Pit)
95,000 cubic yards
It is actually permitted for 52,889 cubic yards.

Pit 2 (Lower Kittanning)
96,000 cubic yards
It is actually permitted for 73,481.5 cubic yards.

Pit measurements were taken onsite again on April 26, 2010:

Pit 1 (Lower Freeport Pit)
255 x 48 x 120 or 54,400 cubic yards
It is actually permitted for 52,889 cubic yards.

Pit 2 (Lower Kittanning)
270 x 120 x 58 or 69,600 cubic yards
It is actually permitted for 73,481.5 cubic yards.

Operator is reminded of pit dimensions and to make sure he does not exceed his permitted pit volume.

Kathleen G. Sheehan, Esq.
Surface Mining Reclamation Specialist
United States Dept. of the Interior
Office of Surface Mining
Appalachian Regional Office
Three Parkway Center, 3rd Floor
Pittsburgh, Pennsylvania 15220
Phone: (412) 937-2829
Fax: (412) 937-2888
Email: ksheehan@osmre.gov

U.S. DEPT. OF INTERIOR

OFFICE OF SURFACE MINING

INSPECTION NARRATIVE: TLH Coal Company; Smith Mine

Inspector Number: 019

Inspection Date: March 4, 2010

Mine Site: TLH Coal Company; Smith Mine

Weather: At approximately 11:00 a.m., the weather was clear and in the mid 30s

Latitude: N 40° 46' 52.2"

Longitude: W -79° 02' 15"

Permit: 32060103

Subject: Oversight Inspection "OC"

This inspection was conducted by OSM Reclamation Specialist Kathleen G. Sheehan jointly with DEP inspector Steve Bender, from the Cambria DEP office. Stephanie Self and Dave Hamilton were also present.

Site History:

The permit for this site was originally issued on January 16, 2007, 101 acres. In addition to the mining of the Lower Freeport and Upper Kittanning coal seams the Operator is permitted to mine and remove Sandstone. Auger mining occurred onsite in the summer of 2009, but has since ceased.

Blasting:

Blasting has not taken place on the permit since June 2009 due to a decline in the coal market. During the course of the inspection, blasting records were requested; however, Operator confirmed they were not onsite. Operator provided the blasting records and they were consistent with authorized blasting plan. Blasting is not expected to be resumed in the next few months. In order to conform with 25 Pa. Code § 87.129, Operator is reminded that blasting records are to be maintained onsite for DEP and public review.

Water Treatment Facilities and Ditch Information:

Although most of the collection ditches were covered with snow at the time of inspection, SD3A and SD3C were transversed. A portion of SD3C is currently being mined through; however, temporary containment of all surface water is sufficient.

Operator is required to install a clear water diversion ditch ("DD-11") on the northeastern portion of the permit. This ditch is to have energy dissipaters located at the most north eastern portion of the permit. However, it was observed that DD-11 was not present. Inspector Bender confirmed the ditch was not installed. A Notice of Violation was prepared by Inspector Bender, to cite 25 Pa. Code § 87.105(a), because permittee has failed to intercept and divert away from areas affected by mining activities all surface drainage from unaffected areas by means of diversions.

Sedimentation Pond Information:

There are currently three sedimentation ponds onsite, all of which were certified in 2009. The newest annual certifications are to be submitted with the Annual Bond Review, which is currently being reviewed by DEP. At the time of inspection, none of the ponds were discharging as they were frozen. The site is bonded and permitted for three ponds.

Alkaline Addition:

Special condition Number 4 of the permit requires the permittee to "maintain weight slips on site documenting the amount of alkaline material imported onto surface mining permit 32060103 and must make those slips available to the Department upon request." Additionally, [t]he permittee must contact the district mine inspector to obtain approval of the alkaline addition to the pit floor prior to covering the alkaline addition material."

Operator forwarded copies of the most recent weigh slips within twenty-four hours of inspection and is aware that these are to be maintained onsite in the future. Inspector Bender maintains a log of all alkaline addition activity observed onsite. This too was forwarded within twenty-four hours to the OSM office.

Haul Road Information:

The total length of the haulroad that does not cross affected area shall not exceed 200 feet long by 30 feet wide. This structure has been certified and will remain onsite as a permanent structure.

Bonding:

The bond on this site is currently $288, 944.00, comprising two surety bonds from Rockwood Casualty Insurance Company. According to bond calculations, the site is currently 4.6% under-bonded; however, consistent with DEP policy, a new bond increment is not required until the permittee reaches a deficient of 15% or greater. Additionally, because of the decrease in bonding rates, following the 2010 annual bond review the current bond may be sufficient.

Pit measurements were taken onsite:

Pit 1 (Upper Freeport Pit)
95,000 cubic yards

It is actually permitted for 52,889 cubic yards.

Pit 2 (Lower Kittanning)
96,000 cubic yards
It is actually permitted for 73,481.5 cubic yards.

This discrepancy is to be addressed in the bond study currently being conducted by OSM and is currently viewed as a programmatic flaw and not a violation. It is assumed that the discrepancy is attributable to the differences in DEP versus OSM measurement of the coal pit.

DEP Previous Inspection Activity:

- February 24, 2010: Partial inspection; no violations or compliance orders issued. The approved pit volume is less than the actual pit volume. No activity was occurring onsite during the time of inspection; however, it appears the site is active as significant plowing occurred following large snowfall.

- January 26, 2010: Partial inspection; no violations or compliance orders issued. Auger mining was completed on January 16, 2010, and the holes were backfilled. Operator has temporarily halted coal production due to poor market conditions; therefore, operator should request a temporary cessation if the permit is to remain inactive for an extended period of time. No discharge is observed from the sediment ponds. The Annual Bond Review is due on January 16, 2010.

- December 28, 2009: Complete inspection; no violations or compliance orders issued. Auger mining is continuing in Pit #1. The mining plan was discussed with the Operator and the Operator is instructed to reduce the size of Pit #1 when the next block of Upper Kittanning coal is mined. The spoil from the Upper Kittanning pit will be used to backfill the Lower Freeport highwall. The Operator has regarded approximately 24 acres of mining area; this is to be seeded in the spring 2010 planting season.

- November 19, 2009: Partial inspection; no violations or compliance orders issued. One block of coal removal on the Lower Freeport seam has been completed. It is noted that a safety bench is located approximately 20 feet above the pit floor and Operator is warned that mining shall immediately cease if the highwall appears unstable. A pump is present onsite to pump the pit water as necessary.

- October 27, 2009: Partial inspection; no violations or compliance orders issued. Operator has mined a block of Lower Freeport Coal. The dimensions of the two pits are as follows: Pit #1 LF Bench = 100 x 80 x 20; LF Pit = 90 x 90 x 60 (measurements in feet).

  Pit#2 LF Pit = 375 x 117 x 39 (measurements in feet).

It is noted in the report that pit water needs to be pumped to treatment facilities.

- September 29, 2009: Complete inspection; i no violations or compliance orders issued. Operator requested and was granted a temporary cessation for coal operations on September 11, 2009. The only activity at the site has been the crushing of stockpiled sandstone. Pit #1 is dry

and Pit #2 has some water that is being used for dust control around the crusher. No pond discharges are observed and seeding will be done in the spring.

Follow-up

A follow-up will be conducted on or before May 31, 2010.

IS THE PERMITTEE IN *COMPLIANCE* WITH THE FOLLOWING CONDITIONS:					
	Y	**N**	**NA**	**Allowed**	**Actual**
Pit size (cubic yards [yds^3])			**X**	**See above discussion**	
Max number of pits (#)	**X**			**2**	**2**
Max number of ponds (#)	**X**			**3**	**3**
Length of "bonded" haul road (feet)	**X**				**See above**
Max disturbed area requiring spreading of topsoil (acres)	**X**			**33.4**	**<33.4**
Max disturbed area requiring re-vegetation/seeding (acres)	**X**			**45.4**	**<45.4**
Max disturbed area of designated forestland (acres)	**X**			**26**	**26**
Max disturbed support area (acres)	**X**			**1.0**	**1.0**
Date of last annual review? If permit was issued during current calendar year please list issuance date.	**January 2009**				
Are the bond rates current for this fiscal year?	**No, bond rates are higher than current rates.**				
Has annual exemption been granted for current calendar year? NA for permits issued during current calendar year.	**No**				
What was the date of the last bond calculation/adjustment? If permit was issued during current calendar year please list issuance date.	**January 2009**				
Overall, is there adequate bond on the permit? Please explain any of the above conditions that are not in compliance.	**Please see report above. Bond is sufficient because it is not under-bonded by more than 15%.**				

Explain if overall Bond amount is inadequate and/or if bond calculations are incorrect.

Bonding is sufficient. The supplemental data sheet was completed and delivered.

Greensburg

State Industries Inc.
Mine 35
Permit 03060101
Issued 10/13/2006 Exp. 10/13/2011
Armstrong County, South Buffalo Twp.
Permitted acres – 175.9
Authorized acres – 75.4

Hamilton, David S. "Dave"

From: Sheehan, Kathleen G.
Sent: Wednesday, April 28, 2010 3:50 PM
To: Hamilton, David S. "Dave"; Hopler, Joan; Self, Stefanie
Subject: Updated Pit Measurements for State Industries

Bonding:
The current bond on this site is $520,400.00, secured by a Surety Bond with Travelers Casualty and Surety Company of America. The most recent Annual Bond Calculation Study was performed in October 2009. It was determined that based on site conditions the existing calculated bond obligation—utilizing 2009 bond rates—is $402,299.00. Therefore, according to DEP calculations the site is currently over-bonded by $118,101.00
There is currently one pit being actively mined, this is known as the Northeast pit and the field measurements taken on March 3, 2010, were:
1025 x 120 x 65 or 296,111 cubic yards.
On April 21, 2010, the field measurements were:
1000 x 101 x 65 or 240,740 cubic yards.
The current approved pit volume is 1200 x 100 x 50 or 244,444 cubic yards.
There are currently 57.6 acres that are Stage II eligible.

U.S. DEPT. OF INTERIOR

OFFICE OF SURFACE MINING

INSPECTION NARRATIVE: State Industries, Inc., Mine 35

Inspector Number: 019

Inspection Date: March 3, 2010

Mine Site: State Industries, Inc. Mine 35

Weather: At approximately 10:00 a.m., the weather was clear and in the mid 30s

Latitude: N 40° 44' 07"

Longitude: W -79° 36' 05"

Permit: 03060101

Subject: Oversight Inspection "OC"

This inspection was conducted by OSM Reclamation Specialist Kathleen G. Sheehan jointly with DEP inspector David Livengood, from the Greensburg DEP office. Stephanie Self, OSM Engineer was also present as this site was selected by DEP to be part of the OSM Bond Calculation Study.

Site History:

The permit for this site was originally issued on October 13, 2006, for acres. The Upper Freeport seam is to be mined. There is a former deep mine within 500 feet, so the permit was jointly approved by DEP and MSHA. The Lower Kittaning seam was mined at the deep mine and is greater than 200 feet below the Upper Freeport seam.

A variance was granted allowing Permittee to place spoil greater than 500 feet from the pit; however, this is no longer occurring.

Current Status:

One Notice of Violation is being issued for failure to maintain erosion and sedimentation controls in conformity with 25 Pa. Code § 87.106.

Blasting:

Signs conforming to the permitted blast schedule were present onsite and a proof of publication of the blasting schedule is current. Additionally, Permittee is diligent in notifying landowners within ½ mile of the blasting area. In order to conform with 25 Pa. Code § 87.129, Operator is reminded that the seismograph records are to be attached to the blasting records and to maintained onsite for DEP and public review. MCI Livengood noted this in his report. The last shot took place on February 26, 2010 at a distance of 1,003 feet from the closest structure. The following documents this blast:

	BLAST PLAN	ACTUAL
Maximum No. of Holes	150	24
Maximum Diameter of Holes	8"	6 3/4 "
Maximum Burden	20'	16'
Maximum Spacing	20'	16'
Maximum Depth	110'	52'

Water Treatment Facilities and Ditch Information:

There are currently no water treatment facilities onsite; all have been removed.
CD-1 is permitted to run to Sediment Pond 1 after crossing the over the haulroad from the western portion of the permit. Currently, CD-1 ends prior to crossing the haul road. Therefore, surface water is accumulating in a sump near the intersection of the haul road and coal cropline. The water has accumulated to a depth of approximately 1.5 feet and a field pH of 5.5 is recorded. This water is not discharging anywhere at this time. Because the sump is located below CD-1, the water cannot be transported to Sediment Pond 1 as permitted. To correct this problem, Permittee will submit a plan to DEP no later than April 3, 2010, demonstrating how this water is to be dealt with. MCI Livengood issued a Notice of Violation for failure to maintain sediment control measures in violation of 25 Pa. Code § 87.106.

Sedimentation Pond Information:

There are currently three sedimentation ponds onsite, all of which were certified on August 2, 2009. All four ponds were observed during the inspection and they appeared to be stable and functioning. The treatment facilities associated with Sediment Ponds 2 and 4 have been removed.

Haul Road Information:

The haul road was certified on October 14, 2008. The permit requires a diversion berm to be placed above the road and a collection ditch installed to collect all runoff from the haul road and discharge into a sediment trap near the road.

Bonding:

The current bond on this site is $520,400.00, secured by a Surety Bond with Travelers Casualty and Surety Company of America. The most recent Annual Bond Calculation Study was performed in October 2009. It was determined that based on site conditions the existing calculated bond obligation—utilizing 2009 bond rates—is $402,299.00. Therefore, according to DEP calculations the site is currently over-bonded by $118,101.00

There is currently one pit being actively mined, this is known as the Northeast pit and the field measurements taken were:

1025 x 120 x 65 or 296,111 cubic yards.

The current approved pit volume is 1200 x 100 x 50 or 244,444 cubic yards.

This discrepancy is to be addressed in the bond study currently being conducted by OSM and is currently viewed as a programmatic flaw and not a violation. It is assumed that the discrepancy is attributable to the differences in DEP versus OSM measurement of the coal pit.

There are currently 57.6 acres that are Stage II eligible.

DEP Previous Inspection Activity:

- December 2, 2009: Partial inspection; no violations or compliance orders issued. Current pit volume is 400,000 cubic yards. Approximately 12 acres have been regarded and over 45 acres have been planted to grass. There are approximately 40 acres that meet Stage II criteria.

- November 11, 2009: Complete inspection; no violations or compliance orders issued. The current pit volume is 404,000 cubic yards and the pit measurements are: 810 x 120 x 65 and 600 x 120 (and various). Blasting is currently occurring.

- October 2, 2009: Partial inspection; no violations or compliance orders issued. The Upper Freeport block is measured to be 1200 x 100 x 80 (feet); the current pit volume is 355,000 cubic yards.

- September 15, 2009: Partial inspection; no violations or compliance orders issued. The approved pit volume is 795,000 cubic yards and the actual pit volume has been reduced to 500,000 cubic yards in a one month period. The ponds were dry and not discharging.

- August 18, 2009: Complete inspection; no violations or compliance orders have been issued. It is noted in the MCI's report that no violations or compliance orders have been issued in the past year.

The haul road and the erosion and sediment controls were observed and looked stable. One pond was discharging. The pit volume is approved at 795,000 cubic yards; however 800,000 cubic yards are currently open.

- July 1, 2009: Partial inspection; no violations or compliance orders have been issued. Blasting is occurring on site. The drill is currently actively drilling overburden. There was a complaint issued by the adjacent landowner stating that the water from the sediment traps areendangering trees along his driveway. In response, clean out of the sediment traps was demanded by DEP MCI.

Follow-up

A follow-up will be conducted on or before April 30, 2010.

IS THE PERMITTEE IN *COMPLIANCE* WITH THE FOLLOWING CONDITIONS:					
	Y	**N**	**NA**	**Allowed**	**Actual**
Pit size (cubic yards [yds^3])			**X**	**See above discussion**	
Max number of pits (#)	**X**			**2**	**1**
Max number of ponds (#)	**X**			**4**	**4**
Length of "bonded" haul road (feet)	**X**				**See above**
Max disturbed area requiring spreading of topsoil (acres)	**X**			**44.5**	**<44.5**
Max disturbed area requiring re-vegetation/seeding (acres)	**X**			**44.5**	**<44.5**
Max disturbed area of designated forestland (acres)			**X**		
Max disturbed support area (acres)	**X**			**75.4**	**<75.4**
Date of last annual review? If permit was issued during current calendar year please list issuance date.	**October 2009**				
Are the bond rates current for this fiscal year?	**No, bond rates used in this calculation are higher than current rates.**				
Has annual exemption been granted for current calendar year? NA for permits issued during current calendar year.	**No**				
What was the date of the last bond calculation/adjustment? If permit was issued during current calendar year please list issuance date.	**October 2009 AR; newest Bond Increment was issued in November 2008.**				
Overall, is there adequate bond on the permit? Please explain any of the above conditions that are not in compliance.	**Yes, permit appears to be over-bonded.**				

Explain if overall Bond amount is inadequate and/or if bond calculations are incorrect.

Bonding is sufficient. The supplemental data sheet was completed and delivered.

Knox

Amfire Mining Co., LLC
Amfire 35 Mine
Permit 24990101
Issued 01/13/2000 Exp. 01/13/2013
Elk County, Horton Twp.
Permitted acres – 568.9
AML Surface acres – 98.0
AML UDG acres – 19.4
Authorized acres – 456.4

U.S. DEPT. OF INTERIOR

OFFICE OF SURFACE MINING

INSPECTION NARRATIVE: AMFIRE MINING COMPANY, LLC; Amfire 35 Mine

Inspector Number: 019

Inspection Date: March 2, 2010

Mine Site: Amfire Mining Company, LLC, Amfire 35 Mine

Weather: At approximately 10:15 a.m. it was sprinkling and in the low 30s; significant snow cover.

Latitude: N 41° 16' 93"

Longitude: W -78° 43' 09"

Permit: SMP # 24990101

Subject: Oversight Inspection "OC"

This inspection was conducted by OSM Reclamation Specialist Kathleen G. Sheehan and Pennsylvania Department of Environmental Protection MCI, Lewis Kiehl of the Knox DEP Office. Mark Benson, MCI Supervisor and MCI, Jim Sennett were also present from DEP. Stephanie Self, OSM Engineer participated in the inspection as well.

Site History:
This permit was originally issued on January 13, 2000. In November 2009—as detailed in the inspection history below—a Compliance Order was issued as a result of treatment facilities failing following overflow of pit water being pumped to said facilities for treatment. As a result of this CO, Amfire proposed an environmental restoration projected located in the Brandy Camp Creek wtatershed.

Current Status:
This permit is for 568.9 acres, of which a large portion is eligible for Stage I and/or Stage II bond release..
There are currently two pits open and the Upper Kittaning and Lower Freeport coal seams are being mined. Auger mining was observed in the south pit on the date of inspection.

Blasting:
Blasting records were reviewed onsite and Operator published the most recent Blasting Notice on January 15, 2010.
The most recent shot was at 4:37 p.m. on February 25, 2010, performed by Wampum Hardware. The closest house was 787 feet away and two seismographs were employed. The review of the blasting records revealed:

	BLAST PLAN	ACTUAL
Maximum No. of Holes	120	51
Maximum Diameter of Holes	6 3/4"	6 3/4"
Maximum Burden	22'	15'
Maximum Spacing	22'	15'
Maximum Depth	75'	34'-36'

DEP Blasting Inspections:

- January 28, 2010:

This follow-up inspection is made to examine seismic data from a blast that was monitored at a residence where damage allegedly occurred. The blast failed to produce ground vibrations at the complaintant's residence above the present limits of the seismograph of .05 and air blast of 115 decibels. Blaster reported on the blast report what appears to be an extraneous event. The seismogram was examined and the damage is determined not to be blast related.

- January 15, 2010:

Blast inspector met with two local residents claiming damage from blasting at Mine #35. Damage is alleged to affect wall and ceiling at house number 6444 on Route 219. Another resident at P.O. Box 184 Marchirio Road alleges damage to concrete floor. Maximum PPV recorded for all blasts, at the closest residence to the blat sites indicates damage from blasting is not occurring; however, investigation will continue.

- October 14, 2009:

Blast records indicate blast monitoring at a location on SR219 and on Shawmut Road. Maximum PPV reported on 10/9/09.

- July 10, 2009:

Blasting occurring onsite. 79 holes, 34 feet deep, 15 x 15 pattern, 6 ¾ diameter, stemming 9-14 feet. Two pump trucks, one bulk truck, one van truck and two drills working.

Erosion and Sedimentation Control Information:

An additional treatment pond was added to the treatment facility 3, located near the former brick yard, to combat overflow. Additionally, a new monitoring point was added (MD1) off the permit area to monitor water located by the foreman. Although the water appears to be red, the iron quickly drops out—within twenty-five feet—and the pH is within effluent limits.

Treatment pond facility two is to be installed by the end of the month.

As permitted, sediment traps were placed approximately every 200 feet on the haul road for erosion control purposes.

Although the conditions were mainly snow-covered, the collection ditches and diversion ditches observed were intact and functioning properly.

Sedimentation Pond Information/ Pond Certification:

All impoundments currently in place were certified on December 15, 2009. Upon certification, all impoundments were in adequate condition. It is noted that impoundment M's emergency spillway and dewatering pipe were recently re-located at the request of DEP. The following impoundments are currently installed: E, F, G, H, I and M.

Haul Road Information:

The haulroad was certified on December 15, 2008, by Geotech Engineering, Inc.

DEP Previous Inspection Activity:

January 25, 2010:

Partial inspection; no violations or compliance orders issued.
At the northp it trucks working between the Lower Freeport and Upper Kittaning seams. In the south pit an excavator is on the Lower Freeport seam where the cut is breaking through the hill. Auguring has been approved for the Upper Kittaning seam and an auger machine is onsite.
Pit dimensions: 480 x 222 x 35
500 x 440 x 60

January 20, 2010:
Partial inspection; no violations or compliance orders issued. Auger permit #5469 was approved for the Upper Kittaning seam. The first safety ledge was made 35 feet above the coal and the second safety ledge was made 15 feet above that.

December 18, 2009:
Partial inspection; no violations or compliance orders issued. The south pit is currently idle.
Current pit dimensions: 500 x 222 x 30
385 x 440 x 50

November 6, 2009:
Partial inspection; no notice of violation or compliance orders issued. The south pit is open and there is a small amount of water in the pit. Operator submitted a remediation plan and the Compliance Order No. 09-2-022S was lifted on November 5, 2009.

October 15, 2009:
Complete inspection; no notice of violation or compliance orders issued. Compliance Order 09-2-022s remains uncorrected. The south pit is open and is removing overburden between the Lower Freeport and Upper Kittaning seams. A third treatment pond near Pond 6 has been installed and is lined with clay. The outstanding Compliance Order was placed in satisfactory progress due to the Action Plan for Stream Remediation submitted by Operator.

September 25, 2009:
Follow-up; no violations or compliance orders issued; outstanding Compliance Order remains uncorrected.
The Cease Order issued on September 18, 2009, related to the pumping from North Pit C and subsequent overwhelming of the treatment facilities was lifted.

September 18, 2009:
Partial inspection in response to Citizen Complaint; Compliance Order and Cease Order issued. Pit water is being pumped from the North Pit and the treatment facilities have been overwhelmed and discharge into Mead Run prior to effluent standards being met occurred. All pumping is ceased until a revised treatment facilities plan is submitted to the Department.

Bonding:

This site was selected to be a part of an OSM Bond Adequacy Study. Pit dimensions were recorded onsite:

N Pitt: 165' long x 399' wide x 30' high ~~165 399~~ 73,150 ~~238 150~~ To 1.1

S Pitt (divided into two benches): 364' long x 150' wide (second bench); 40' combined height. 80889

As of January 5, 2010, in the previous twelve months the following reclamation activities were performed: ~~214,920~~ 154,039

Rough grade backfilling on approximately 9.5 acres;
establishment of drainage controls;
redistribution of topsoil on approximately 9.5 acres; and
establishment of permanent grasses and legumes on approximately 9.5 acres.

No annual bond review was performed in 2009 and an exemption was granted, because the permit and conventional bond was re-issued in the summer of 2008. There was also a permit reissuance on December 24, 2009.

At least 18 acres have been reclaimed to Stage I and/or II release criteria.

This site is currently bonded for $1,260, 525.

Follow-up

No follow-up is necessary.

IS THE PERMITTEE IN *COMPLIANCE* WITH THE FOLLOWING CONDITIONS:					
	Y	**N**	**NA**	**Allowed**	**Actual**
Pit size (cubic yards [yds^3])	**X**			**941,667**	**<941,667**
Max number of pits (#)	**X**			**3 pits (2 benches each)**	**2 pits; One bench in one and 2 benches in other**
Max number of ponds (#)	**X**			**6**	**6**
Length of "bonded" haul road (feet)	**X**				**See above**
Max disturbed area requiring spreading of topsoil (acres)			**X**		
Max disturbed area requiring re-vegetation/seeding (acres)	**X**			**103**	**94**
Max disturbed area of designated forestland (acres)			**X**		
Max disturbed support area (acres)	**X**			**36**	**20.6**
Date of last annual review? If permit was issued during current calendar year please list issuance date.	**See above; Summer 2008 and currently pending.**				
Are the bond rates current for this fiscal year?	**Yes**				
Has annual exemption been granted for current calendar year? NA for permits issued during current calendar year.	**Exemption was granted in 2008 and 2009.**				
What was the date of the last bond calculation/adjustment? If permit was issued during current calendar year please list issuance date.	**Permit was re-issued in December 2009, within 90 days before anniversary date.**				
Overall, is there adequate bond on the permit? Please explain any of the above conditions that are not in compliance.	**Yes**				

Explain if overall Bond amount is inadequate and/or if bond calculations are incorrect.

Bonding is sufficient; see above paragraph on bonding for further detail.

The supplemental data sheet was completed and delivered.

Moshannon

Strishock Coal Co.
Huey Mine
Permit 17860135
Issued 05/11/1990 Exp. 05/11/2010
Clearfield County, Union Twp.
Permitted acres – 361.4
Authorized acres – 339.6

U.S. DEPT. OF INTERIOR

OFFICE OF SURFACE MINING

INSPECTION NARRATIVE: Strishock Coal Company; Huey Mine

Inspector Number: 019

Inspection Date: March 23, 2010

Mine Site: Strishock Coal Company; Huey Mine

Weather: At approximately11:10 a.m. the weather was slightly rainy and in the low 50s.

Latitude: N 41° 05' 38"

Longitude: W -78° 40' 13"

Permit: 17860135

Subject: Oversight Complete Inspection "OC"

This inspection was conducted by OSM Reclamation Specialist Kathleen G. Sheehan and Pennsylvania Department of Environmental Protection MCI, James Parlavecchio of the Moshannon DEP Office. The results of this Oversight Inspection are also part of the Pennsylvania Bond Calculation Study.

Site History:

This 367.6 acre permit, located in Clearfield County in the Townships of Union, Sandy and Brady, was initially issued on May 11, 1999. Multiple bond increments have been issued, the most recent in August of 2009, known as BI 22. 335.3 acres of the permit are to be affected. The Upper, Middle and Lower Kittaning and the Luthersburg seams are permitted for mining. The main entrance to the permit can be found at the intersection of Township Road 379.

Current Status:

Five Notice of Violations ("NOV")s were issued by Inspector Parlavecchio:

- Failure to Maintain Permit information at junction of haul road and access road: 25 Pa. Code § 87.92;
- Failure to maintain blasting signs: 25 Pa. Code §§ 87.127 and 87.92(f);
- Failure to maintain and construct adequate erosion and sedimentation controls: 25 Pa. Code § 87.106;
- Failure to pass all surface drainage from the disturbed area through a sedimentation pond...before leaving the permit area: 25 Pa. Code § 87.108; and
- The stability of the surface area has been compromised: 25 Pa. Code § 87.146.

Signs and Markers:

There are two entrances to this permit. Signs identifying the operation by name, business address, telephone number and permit number are not present at either entrance in violation of 25 Pa. Code § 87.92. Enforcement was deferred to Inspector Parlavecchio, who will issue a NOV.

Permit Requirements:

Special Condition No. 9 of the Permit requires, "[t]he Permittee shall implement the abatement plan as defined and described in Module 26.6. Specifically, the permittee shall regrade and revegetate at least 16.4 acres of abandoned surface mines. The Permittee shall notify the MCI prior to completion of each step of the abatement plan and shall provide written progress reports to the Department within 30 days after the completion of each step of the abatement program in accordance with 25 Pa. Code Sect. 87.206(4)."

Inspector Parlavecchio has never received these progress reports. Pam Moore at Fike states she has never prepared or submitted any such progress report for Strishock. She claims to have no knowledge of the requirement. However, she stated that Jack Chamberlin also does consulting and engineering work for Strishock and may have some insight on this permit requirement. I called Jack and he confirmed that he also has no knowledge of these reports and he has neither prepared one nor submitted one to DEP. Because the May 15, 2009 Annual Bond Calculation Summary does not detail any abandoned surface mines being reclaimed to Stage II, Inspector Parlavecchio will confer with Permittee on status of this requirement and this issue will be addressed in the follow-up inspection.

Blasting:

Permittee has been conducting blasting on permit for over a year; however, Permittee has failed to post notification of the blasting at the entrances to permit area from public roads or highways which state "Warning Explosives in Use" and the details of the blast warning and all clear signals. This is a violation of 25 Pa. Code §§ 87.127 and 87.92(f). Enforcement was deferred to the DEP MCI and a NOV was issued.

Blasting records were reviewed and were consistent with the blast plan. The last blast was on October 27, 2009, at 3:44 p.m.

Holes = 41

Diameter = 6 ¾ inches

Depth = 15-48 feet

Burden = 18-21 feet

Stemming = 10-20 feet

The scaled distance was 76.84 feet; a cast booster was utilized; the nearest residence was 1,774 feet away and the PPV was below the "Z" curve.

Water Treatment Facilities and Ditch Information:

The entirety of CD-7 was transverse. Approximately 12 feet from the entrance channel to the sedimentation pond, CD-7 must be repaired as it has collapsed in certain places. Additionally, when weather permits, CD-7 should be seeded and mulched in area where it has recently been constructed or cleaned out. Additionally, CD-7 must be extended on the southwest end of the permit adjacent to the abandoned campsite. Enforcement action was deferred to the State MCI, who issued an NOV pursuant to 25 Pa. Code § 87.106, as Permittee has failed to construct and maintain appropriate sediment control measures. This is a two-part NOV as CD-8 is also in need of maintenance; specifically CD-8 is to be seeded.

An additional NOV is cited because Permittee has failed to pass all surface drainage from the disturbed area through a sedimentation pond...before leaving the permit area as mandated by 25 Pa. Code § 87.108. As noted below, the treatment facility at N 41° 05' 04", W -78° 40' 18", is releasing water off permit prior to passing through a sediment structure because the appropriate sediment structure was removed without DEP consent. Additionally, this same treatment facility, has exceeded its capacity and a breach of approximately 30 gallons per minute is leaving the permit area. A water sample was collected onsite; the pH was 7.5.This breach is to be corrected and the water re-routed to an appropriate sedimentation pond.

Sedimentation Pond Information/ Pond Certification:

All remaining ponds were certified on May 7, 2009. All were found to be in good condition.

Sediment Pond B: There was no discharge at the time of inspection.

Sediment Pond D: Permittee removed this pond approximately nine months ago, but failed to re-route the discharge from treatment facilities that were to flow to this pond. The treatment facility located at N 41° 05' 04", W -78° 40' 18", remains and as detailed below, is now flowing off-permit.

Sediment Pond E: There was no discharge at the time of inspection. It is noted that in the pond certification, the engineer noted that the emergency spillway has not been rock lined consistent with the permit. This is to be corrected.

Reclamation Status:

As of May 15, 2009, 32.7 acres were reclaimed to Stage I and 28.6 acres were reclaimed to Stage II. A portion of the area reclaimed to Stage II or eligible therefore, has significant rills and gullies, measuring over 2.5 feet in some locations. The GPS coordinates of where the rills and gullies meet the haul road are: N 41° 05' 01", W -78° 40' 42". The presence of these significant rills and gullies have compromised the stability of the surface area and disrupted the approved postmining land use of forestland and reestablishment of vegetative cover in violation of 25 Pa. Code § 87.146. Enforcement action was deferred to Inspector Parlavecchio, who will issue a NOV.

Haul Road Information:

On May 7, 2009, the haul road was certified by Darrin R. Preston, P.L.S.

Bonding Information:

According to the Annual Bond Review, issued in Summer 2009, the required bond for this site is $1,169,400. However, Permittee has placed $1,446,275 on deposit; thus, the site, according to DEP calculations is over bonded by $276,875.

There are three pits permitted onsite. Field verification of pit dimensions were as follows:

291 x 324 x 50

96 x 300 x 30
These measurements are consistent with the authorized limits.

DEP Inspection Activity:

January 13, 2010:

Partial inspection; no violations or compliance orders issued. No problems noted. Auger mining is occurring. Signs and markers were observed.

December 23, 2009:

Partial inspection; no violations or compliance orders issued. No problems noted. Frozen and snow bond conditions; too dangerous to sample.

November 24, 2009:

Partial inspection; no violations or compliance orders issued. No problems noted. Signs and markers and sediment control measures were observed.

October 20, 2009:

Complete inspection; no violations or compliance orders issued. No problems noted. Auger mining was not occurring at time of inspection.

September 3, 2009:

Partial inspection; no violations or compliance orders issued. No problems noted. Signs and markers and sediment control measures were observed. Blasting and augering were occurring onsite at time of inspection. Conditions were too dry for sampling.

August 20, 2009:

Partial inspection; no violations or compliance orders issued. No problems noted. Signs and markers and sediment control measures were observed. Blasting and augering were occurring onsite at time of inspection.

IS THE PERMITTEE IN *COMPLIANCE* WITH THE FOLLOWING CONDITIONS:					
	Y	N	NA	Allowed	Actual
Pit size (cubic yards [yds^3])	X			621,203	See above
Max number of pits (#)	X			3	2
Max number of ponds (#)	X			3	2
Length of "bonded" haul road (feet)	X				See above
Max disturbed area requiring spreading of topsoil (acres)	X			96.6	<96.9
Max disturbed area requiring re-vegetation/seeding (acres)	X			96.6	<96.6
Max disturbed area of designated forestland (acres)	X			96.6 acres w/ 680 trees per acre.	Requirements are met.
Max disturbed support area (acres)	X			32.3	<32.3
Date of last annual review? If permit was issued during current calendar year please list issuance date.	May 2009				
Are the bond rates current for this fiscal year?	No, new bond rates are lower than what is calculated.				
Has annual exemption been granted for current calendar year? NA for permits issued during current calendar year.	No				
What was the date of the last bond calculation/adjustment? If permit was issued during current calendar year please list issuance date.	August 2009				
Overall, is there adequate bond on the permit? Please explain any of the above conditions that are not in compliance.	Yes, the permit is over-bonded.				

Explain if overall Bond amount is inadequate and/or if bond calculations are incorrect.

Bonding is sufficient. The supplemental data sheet was completed and delivered.

Appendix F. OSM Bond Handbook Calculations

Pottsville

Mountaintop Coal Mining, Inc.
J & A Mine
Permit 54960101
Issued 01/08/1997 Exp. 01/08/2012
Schuylkill County, Barry Twp.
Permitted acres – 246.4
Authorized acres – 30.0

BOND AMOUNT COMPUTATION

Applicant: Mountaintop Coal Mining, Inc.
Mountaintop Mine
Permit Number: 54960101
Revision dated March 2008, 6820-54960101-09

Permitted Acreage: 246.4
Phase/Mining Area: 81.7
Operational Area: 30

Bonding Scheme: Incremental

Authorization to Mine from March 2008 limits (Bonding Increment 09):

The pit area is limited to the following dimensions:
32,711 cubic yards
Selective Grading of 15.2 acres
Erosion and sediment controls will need to be removed
There may be a maximum of 30 acres not planted to the post mining land use at any given time

Bond Calculation Worksheets dated 2008

Phase/Mining Area 1 = 24.0 acres
Operational Area 1 = 9.8 acres
Phase/Mining Area 2 = 5.0 acres
Operational Area 2 = 1.4 acres
Phase/Mining Area 3 = 13.8 acres
Operational Area 3 = 5.7 acres
Pit 1 = cross section of 4,322 sq ft, length 100 ft
Phase/Mining Area 4 = 6.1 acres
Operational Area 4 = 1.4 acres
Phase/Mining Area 5 = 12.8 acres
Operational Area 5 = 6.7 acres
Phase/Mining Area 6 = 20.0 acres
Operational Area 6 = 5.0 acres
Pit 5 = cross section of 4,500 sq ft, length 100 ft
Total Phase/Mining Area = 81.7
Total Operational Area = 30

From Exhibit 9.2 Cross Sections Map:

Pit 1 cross section = **5651**
Pit 5 cross section = **4600**

Note: The cross-sectional areas from the exhibit 9.2 map were calculated by looking only at the amount of overburden removed (coal seam dimensions were not taken into consideration).

Type of Operation: Anthracite Surface Mine - Remining Operation
Location: Barry and Foster Townships, Schuylkill County
Bond (March 2008): $101,855

Prepared by: Stefanie Self
Date: 5/6/2010
Total Bond Amount: **$ 218,493**

WORKSHEET 1
DESCRIPTION OF THE WORST-CASE RECLAMATION SCENARIO

The worst case scenario for the Mountaintop Mine will be if all three approved pits are open to their fullest extent with fill material located in storage areas (no further than 500 feet of pit areas). No ponds will need to be reclaimed. Spoil material will be stored no more than 500 feet away (maximum approved distance).

The following tasks must be completed to reclaim the site:
Fill in existing pits (2, cross-sectional area and length given in bond calculation worksheets)
Grade area of pits after filled and revegetate
Grade area where material was obtained for filling pits (500 linear feet max), topsoil and revegetate
No ponds to be constructed on site, sediment traps and sumps only
Shed will need to be removed (36 ft x 40 ft x 20 ft)
Existing haul roads will remain for postmining use at the request of the landowner
Remove trash, storage tanks, parts trailer and derelict equipment as needed

Assumptions:
Overburden classified as well-blasted sandstone with a loose density of 2550 lb/cubic yard and a swell factor of 0.67-0.72 (use mid of 0.7) or swell percent of 43%
Revegetation will occur in the form of planting trees at 400 trees/acre
Existing structures, haulroads and existing abandoned equipment will remain for postmining use at the
Final grading will be to the approved final contour with no slopes greater than 20 percent anticipated
No alkaline addition proposed within the permit.

Data Sources:
Mountaintop Mining Company, Permit 54960101
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
Society of Mining Engineers (SME) Mining Reference Handbook
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 2
STRUCTURE DEMOLITION AND DISPOSAL COSTS

Structures to be demolished:

Item	Construction Material	Volume (cubic feet)	Unit Cost Basis ($)	Demolition Cost ($)
Shed	Pole Building	28,800	$ 0.28	$ 8,064.00
				0
				0
				0
				0
				0
				0
			Subtotal	$ 8,064.00

Other items to be demolished (paved roads, conveyors, utility poles, rail spurs, etc.)

Subtotal = $0

Debris handling and disposal costs:

Removal of trash and derelict equipment, Lump Sum = $5,000 $ 5,000.00

Subtotal = $5,000

TOTAL DEMOLITION AND DISPOSAL = $13,064

Data Sources:
Mountaintop Mining Company, Permit 54960101

WORKSHEET 3
MATERIAL HANDLING PLAN SUMMARY

Earthmoving Activity	Volume (BCY)	Volume (LCY)	Acre (ac)	Origin	Destination	Haul/Push Distance (ft)	Grade * (%)	Equipment To Be Used
Push spoil into open pits	37,967	54,238		Spoil Piles	3 Open Pits	500	10	Caterpillar D10 Semi-U Blade
Regrade entire operational area			30	In Place				Caterpillar D10 Semi-U Blade

*Record grade resistance here. Calculate total resistance on the appropriate worksheet. Total Resistance = Grade Resistance + Rolling Resistance.

WORKSHEET 4B
EARTHWORK QUANTITY

Spoil Swell Factor: 0.7 **Spoil Swell %:** 43

Fill Open Pit:

Pit Volume	length	width	cross section area	BCY	LCY
Pit 1	100 Ft	155 Ft	5651 Sq Ft	20,930	29,899
Pit 5	100 Ft	195 Ft	4600 Sq Ft	17,037	24,339
Total:				37,967	54,238

Area of Pits: 35,000 Sq Ft 0.80 Ac

Support Areas:

Area 12.3 Ac

Data Source:
Mountaintop Mining Company, Permit 54960101

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Push spoil into open pits

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-10, Semi-U Blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 54,238 Density (lb/lcy): 2550 Distance (ft): 500 Grade (%): 10

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 0.80 (grade factor) x 0.90 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.32**

Net Hourly Production = 400 (normal hourly production (lcy/hr)) x 0.32 (operating adjustment factor) = **126 LCY/hr**

Hours Required = 54,238 (volume to be moved (LCY)) / 126 (net hourly production (LCY/hr)) = 429.5 hrs

use **430 hrs**

Data Sources:
Mountaintop Mining Company, Permit 54960101
Caterpillar Performance Handbook, Edition 39

WORKSHEET NO. 6
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE--GRADING

Earthmoving Activity:
Regrade area over pits, spoil storage and support area

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-10, Semi-U Blade

Description of Dozer Use (% grade, effective blade width, operating speed, etc.):

Area (ac.): 30.0 Grade (%): 10 Average Speed (mph): 4.2 Effective Blade Width (ft): 13.92 Density (lb/lcy) 2550

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 0.80 (grade factor) x 0.90 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.32**

Hourly Production = 4.2 (average speed (mph)) x 13.92 (effective blade width (ft)) x _____ (mile) x _____ (43,560 sq ft) = **7.1 ac/hr**

Net hourly Production = 7.1 (hourly production (ac/hr)) x 0.32 (operating adjustment factor) = **2.2 ac/hr**

Hours Required = 30.0 (area to be graded (ac)) / 2.2 (net hourly production (ac/hr)) = 13.4 hours

use **14 hrs**

Data Sources:
Mountaintop Mining Company, Permit 54960101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 13
SUMMARY CALCULATION OF EARTHMOVING COSTS

Equipment *	Ownership & Operating Cost ($/hr)	Labor Cost ($/hr)	Total Hours Required **	Total Cost *** ($)
Caterpillar D-10, Semi-U Blade	$ 216.75	$ 43.38	444	$ 115,498
				$ -
				$ -
				$ -
			Grand Total of Earthmoving	**$ 115,497.72**

*** Be sure to include all necessary attachments and accessories for each item of equipment. Also, add support equipment such as water wagons and graders to match total project time as appropriate.**

**** Account for multiple units in truck and/or scraper teams**

***** Calculate the total cost for each item of equipment by adding the second and third columns (the ownership and operation and labor costs) and then multiplying that number by the fourth column (the total hours required).**

Data Sources:
Mountaintop Mining Company, Permit 54960101
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 14
REVEGETATION COSTS

Name and Description of Area To Be Revegetated:
Revegetate all areas disturbed
Vegetation will be divided where 65% of area will be trees at 400 seedlings/acre
Description of Revegetation Activities:

Revegetate 30.0 ac
PA Bond Rates = $1600/acre for revegetation mixture and $0.15/tree seedling
Cost Calculation for Individual Revegetation Activities:

Initial Seeding

10.5	x (		+	1600	) =	$ 16,800
area to be seeded (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Planting Trees and Shrubs

19.5	x (	60	+		) =	$ 1,170
area to be planted (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Reseeding *

1.1	x (		+	1600	) =	$ 1,680
area anticipated to need reseeding (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Replanting Trees and Shrubs *

2.0	x (	60	+		) =	$ 117
area anticipated to need replanting (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Other Necessary Revegetation Activities

(Examples of other activities that may be necessary include soil sampling, irrigation, and rill and gully repair. Describe each activity and provide a cost estimate with documentation. Use additional worksheets if necessary.)

TOTAL REVEGETATION COST = $ 19,767

* **Generally, the proportion of the area initially seeded and planted that is anticipated to need reseeding or replanting is determined on the basis of historic failure rates for similar sites and conditions. The same principle applies to determining the extent of seedbed preparation and soil amendments that may be needed as part of any reseeding or replanting effort. If anticipated failure rates vary within the area proposed for disturbance, use a separate worksheet for the area subject to each failure rate.**

Assumptions:

$_____ per acre includes seed mix, 2T/ac. mulch, 3T/ac. Lime, 50 lb/ac. Nitrogen, 100 lb/ac. Phosphorous, and 100 lb/ac. Potassium.
Second seeding at $____ per acre.
Assume 25% failure for second seeding.

Data Sources:
Mountaintop Mining Company, Permit 54960101
Per acre cost obtained from consultation with AML programs in surrounding states.

WORKSHEET 15
OTHER RECLAMATION ACTIVITY COSTS

(Includes subsidence damage repair costs, water supply replacement costs, and funds required to support long-term treatment of unanticipated acid or ferruginous mine drainage.)

Description of Reclamation, Repair or Pollution Abatement Activity:

Assumptions:

Cost Estimate Calculations:

Remove remaining sediment traps and other erosion and sediment controls	$	5,000

TOTAL COSTS = $ 5,000

Other Documentation or Notes:

(Include additional sheets, maps, calculations, etc., as necessary to document estimate.)

Data Sources:
Mountaintop Mining Company, Permit 54960101

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$	13,064	
2 Total Earthmoving Costs		$	115,498	
3 Total Revegetation Costs		$	19,767	
4 Total Other Reclamation Activities Costs		$	5,000	
5 Total Direct Costs (Sum of Lines 1 through 4)		$	153,329	
6 Inflated Total Direct Costs (Line 5 times inflation factor*)				**$ 153,329**
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$	4,599.86	
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$	4,599.86	
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$	4,599.86	
10 Contractor Profit/Overhead (See Graph 1)	**28.0% of line 6**	$	42,932.04	
11 Project Management Fee (See Graph 2)	**5.5% of line 6**	$	8,433.08	
12 Total Indirect Costs (Sum of Lines 7 through 11)				**$ 65,165**
13 Grand Total Bond Amount (Sum of Lines 6 and 120				**$ 218,493**

$$\frac{\text{ENR Construction Cost Index (CCI) for current mo/yr}}{\text{ENR CCI for mo/yr 3 years prior to current mo/yr}} = \frac{1}{1} = 1.00$$

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

* This calculation does not reflect an inflation factor because the purpose of the calculation is to determine if the posted bond is sufficient for the current conditions.

Data Sources:
Mountaintop Mining Company, Permit 54960101

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$	13,064	
2 Total Earthmoving Costs		$	115,498	
3 Total Revegetation Costs		$	19,767	
4 Total Other Reclamation Activities Costs		$	5,000	
5 Total Direct Costs (Sum of Lines 1 through 4)		$	153,329	
6 Inflated Total Direct Costs (Line 5 times inflation factor*)				**$ 174,335**
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$	5,230.04	
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$	5,230.04	
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$	5,230.04	
10 Contractor Profit/Overhead (See Graph 1)	**28.0% of line 6**	$	48,813.73	
11 Project Management Fee (See Graph 2)	**5.5% of line 6**	$	9,588.41	
12 Total Indirect Costs (Sum of Lines 7 through 11)				**$ 74,092**
13 Grand Total Bond Amount (Sum of Lines 6 and 120				**$ 248,427**

*Inflation factor = 1.137

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

Data Sources:

Mountaintop Mining Company, Permit 54960101

California

McVille Mining Co.
Refuse Disposal Area 2
Permit 03060701
Issued 04/30/2007 Exp. 04/30/2012
Armstrong County, South Buffalo Twp.
Permitted acres – 120.3

BOND AMOUNT COMPUTATION

Applicant: McVille
Refuse Disposal Area 2
Permit Number: 03060701 **Permitted Acreage:** 120.3

Bonding Scheme (permit area, incremental, cumulative):

Notes:

Permit file does not contain information about the following. Information was obtained thru conversation with PA DEP staff:
Refuse Pile will be capped with geotextile liner on top of pile only. Then covered with 1 ft of topsoil.
Refuse Pile out-slopes will be capped with 1 ft clay material, then covered with 1 ft of topsoil.

Module 9 Permit Map:

The top of the refuse pile covers 25.5 acres.
To dispose of the sludge stored in the treatment ponds at the refuse disposal area, trucks will need to haul the sludge 4000 ft.

Type of Operation: Refuse Disposal Area
Location: South Buffalo Township, Armstrong County
Bond (November 2006): $ 704,143

Prepared by: Stefanie Self
Date: 5/5/2010
Total Bond Amount: **$ 1,020,379**

WORKSHEET 1
DESCRIPTION OF THE WORST-CASE RECLAMATION SCENARIO

The worst case scenario for the McVille Refuse Disposal site will be if the entire disposal area needs regraded, capped and revegetated with capping and soil located in storage areas. 6 ponds will need to be reclaimed. Topsoil no more than 500 feet away (maximum approved distance).

The following tasks must be completed to reclaim the site:

Remove 2 sediment ponds, 2 primary detention structures, 2 treatment pond facilities and diversion ditches, grade, topsoil and revegetate

Remove sludge from two treatment ponds before removal (286,624 cubic feet storage combined)

Rip and grade area used for haul roads, culverts, diversion ditches and other support functions (53.2 ac)

Grade entire refuse pile prior to lining (67.1 ac)

Line top of refuse pile with geomembrane (25.5 acres)

Capping material placement on outslopes of pile to a depth of 1 ft (41.6 acres)

Topsoil placement to a depth of 1 ft (over top and slopes of pile for 67.1 acres)

Revegetate refuse pile area with typical reclamation mixture and non-refuse (support) area with trees at 680 trees/acre

The seedbed will be harrowed 3-6 inches along the contour, and 2.5-3 tons of hay mulch per acre will be applied

Remove trash, storage tanks, parts trailer and derelict equipment as needed

Assumptions:

12 inches of topsoil to be placed, stored no more than 500 feet from area to be used (from permit)

Data Sources:

McVille Mining Company, Permit 03060701

Caterpillar Performance Handbook, Edition 39

Custom Cost Evaluator, http://www.equipmentwatch.com

Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm

Society of Mining Engineers (SME) Mining Reference Handbook

OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 2
STRUCTURE DEMOLITION AND DISPOSAL COSTS

Structures to be demolished:

Item	Construction Material	Volume (cubic feet)	Unit Cost Basis ($)	Demolition Cost ($)
				0
				0
				0
				0
				0
				0
				0
			Subtotal	0

Other items to be demolished (paved roads, conveyors, utility poles, rail spurs, etc.)

Subtotal = $0

Debris handling and disposal costs:

Removal of trash and derelict equipment, Lump Sum = $5,000

Subtotal = $5,000

TOTAL DEMOLITION AND DISPOSAL = $5,000

Data Sources:
McVille Mining Company, Permit 03060701

WORKSHEET 3
MATERIAL HANDLING PLAN SUMMARY

Earthmoving Activity	Volume (BCY)	Volume (LCY)	Area (ac)	Origin	Destination	Haul/Push Distance (ft)	Grade * (%)	Equipment To Be Used
Remove sludge from treatment ponds	10,616			In Place				Caterpillar 992K
Haul sludge from treatment ponds to refuse area	10,616			Treatment Pond	Top of refuse site	4000	0	Caterpillar 777F (2 trucks)
Rip haul roads and other support			53.2	In Place				Blade with Multishank Ripper
Regrade refuse area prior to capping			67.1	In Place				D9T with Semi-Universal Blade
Load capping material for refuse site	67,115	100,171		Capping Material Storage				Caterpillar 992K
Haul capping material to refuse site	67,115	100,171		Capping Material Storage	Refuse site	500	20	Caterpillar 777F (2 trucks)
Spread and grade capping material over refuse site			41.6	In Place				D9T with Semi-Universal Blade
Load topsoil for refuse site and support areas	151,169			In Place				Caterpillar 992K
Haul topsoil to refuse site and support areas				Topsoil Storage	Refuse site	500	20	Caterpillar 777F (2 trucks)
Spread topsoil over refuse site and support areas			120.3	In Place				D9T with Semi-Universal Blade

*Record grade resistance here. Calculate total resistance on the appropriate worksheet. Total Resistance = Grade Resistance + Rolling Resistance.

WORKSHEET 4B
EARTHWORK QUANTITY

Sludge Swell Factor:	**0.83**	**Sludge Swell %:**	**20**
Capping Swell Factor:	**0.67**	**Capping Swell %:**	**49**

Sludge to be removed

	Cubic Feet	BCY	LCY
As reported in permit:	286,624	10,616	12,790

Haul roads and other support areas:

Area	53.2 Ac	Length of push	1522

Area of refuse pile:

Note: Top of pile measured from Operations Map

Area	67.1 Ac		
Area of outslopes (capping and topsoil):	41.6 Ac		
Area of top of pile (geomembrand and topsoil):	25.5 Ac	Length of push	1054

Capping material needed for refuse:

					BCY	LCY
Capping Volume =	1,812,096	Sq Ft	41.6 ac	1 Ft	67,115	100,171

Soil Volumes (top-and sub-soil):	Area (sq ft)		Area (ac)	Depth (ft)	BCY
Soil Volume (Haul Road and Support Areas) =	2,317,392	Sq Ft	53.2 ac	0.5 Ft	42,915
Soil Volume (Coal refuse pile Area) =	2,922,876	Sq Ft	67.1 ac	1 Ft	108,255
					151,169

Data Source:

McVille Mining Company, Permit 03060701

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Remove sludge from treatment ponds

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity 12,790 CY

Productivity Calculations:

Cycle Time = ( ) haul time loaded (min) + ( ) return time empty + 0.65 basic cycle time (min) = **0.65 min**

Net Bucket Capacity = 15.0 heaped bucket capacity (LCY) x 0.87 bucket fill factor* = **13.05 LCY**

Hourly Production = 13.05 net bucket capacity (LCY) ÷ 0.65 cycle time (min) x 0.83 efficiency factor x 60 hr = **1004 LCY/hr**

Hours Required = 12,790 volume to be moved (LCY) ÷ 1004 net hourly production (LCY/hr) = **12.7 hr**

use 13.0 hr

*** See loader section of equipment manual.**

Data Sources:
McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39

WORKSHEET 9
PRODUCTIVITY AND HOURS REQUIRED FOR TRUCK USE

Earthmoving Activity:
Remove sludge from treatment ponds to refuse pile prior to capping

Characterization of Truck Use (type, size, etc.):
Caterpillar 777F (2 trucks)

Description of Truck Use (origin, destination, grade, haul distance, etc.):

Volume to be moved (lcy):	12,790	Density (lb/lcy):	2700	Distance (ft):	4000	Grade (%):	0
		Rolling Resistance (%):	3			Total Resistance (%):	3

Productivity Calculations:

No. Loader Passes/Truck = 66.8 truck capacity* (LCY) + 13.05 loader bucket net capacity (LCY) = **5.12 passes**
(round down to the nearest whole number; reduce net truck capacity and weight accordingly in calculations below)

Loading Time/Truck = 0.65 loader cycle time (min) (From WS 8 or WS 10) x 5.00 number of loader passes/ truck = **3.25 min**

Truck Cycle Time = 2.0 haul time (min) + 1.1 return time (min) + 3.25 loading time (min) + 1.2 dump and maneuver time (min) = **7.6 min.**

No. Trucks Required = 7.55 truck cycle time (min) + 3.25 total loading time (min) = **2.32 trucks**
(round down to the nearest whole number; reduce net truck capacity and weight accordingly in calculations below)

Production Rate = 65.25 net truck capacity ** x 2.00 number of trucks + 7.55 truck cycle time (min) = **17.3 LCY/min**

Hourly Production = 17.3 production rate (LCY/min) x 60 min hr x 0.83 efficiency factor = **864.2 LCY/hr**

Hours Required = 12,790 volume to be moved (LCY) ÷ 864.2 hourly production (LCY/hr) = **15.0 hr**

Use whichever is higher from Worksheets 8 & 9 **15.0 hr**

* **Use the average of the heaped and struck capacities.**
** **Net truck capacity = loader bucket net capacity x no. loader passes/truck.**

Data Sources:
McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39

WORKSHEET 7
PRODUCTIVITY AND HOURS REQUIRED FOR RIPPER-EQUIPPED DOZER USE

Ripping Activity:
Rip haul roads and other support

Characterization of Dozer and Ripper Use:
Caterpillar D9-T Semi-U Blade with Multishank Ripper

Description of Ripping (ripping depth, cut spacing, cut length, and material to be ripped):
BCY: 85,829 Cut Spacing (ft): 11.6 Cut Length (ft): 1522 Area (ac): 53.20
Assumed ground speeed of 1 mph Speed (ft/min): 88

Productivity Calculation:

Cycle Time = 1522 (cut length (ft)) ÷ 88 (ft/min) + 0.25 (fixed turn time* (min)) = **17.5 min/pass**

Passes/Hour = 60 min (hr) ÷ 17.5 (cycle time (min/ pass)) x 0.83 (efficiency factor) = **2.85 passes/hr**

Volume Cut/Pass = 1 (tool penetration (ft)) x 11.6 (cut spacing (ft)) x 1522 (cut length (ft)) ÷ 27 cu ft (cu yd) = **654 BCY/pass**

Hourly Production = 654 (volume cut/pass (BCY/ pass)) x 2.85 (passes/ hour) = **1863.4 BCY/hr****

Hours Required = 85,829 (volume to be ripped (BCY)) ÷ 1863.4 (hourly production (BCY/hr)) = 46.1 hours

use **47 hrs**

* **Fixed turn time depends upon dozer used. 0.25 min/turn is normal.**

** **Remember to use the swell factor to convert from bank cubic yards to loose cubic yards when applying these data to *Worksheet No. 5*. Calculate separate dozer hauling of ripped material for each lift on that worksheet.**

Data Sources:
McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39

WORKSHEET NO. 6
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE--GRADING

Earthmoving Activity:
Regrade refuse area prior to capping

Characterization of Dozer Used (type, size, etc.):
D9T with Semi-Universal Blade

Description of Dozer Use (% grade, effective blade width, operating speed, etc.):

Area (ac.): 67.1 Grade (%): 20 Average Speed (mph): 4.2 Effective Blade Width (ft): 13.17 Density (lb/lcy) 2700

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 0.55 (grade factor) x 0.85 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.20**

Hourly Production = 4.2 (average speed (mph)) x 13.17 (effective blade width (ft)) x _____ (mile) x _____ (43,560 sq ft) = **6.7 ac/hr**

Net hourly Production = 6.7 (hourly production (ac/hr)) x 0.20 (operating adjustment factor) = **1.4 ac/hr**

Hours Required = 67.1 (area to be graded (ac)) / 1.4 (net hourly production (ac/hr)) = 48.8 hours

use **49 hrs**

Data Sources:
McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Load capping material for refuse site

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity 100,171 CY

Productivity Calculations:

Cycle Time = 0 (haul time loaded (min)) + 0 (return time empty) + 0.65 (basic cycle time (min)) = **0.65 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 0.65 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **1004 LCY/hr**

Hours Required = 100,171 (volume to be moved (LCY)) ÷ 1004 (net hourly production (LCY/hr)) = **99.8 hr**

use 100.0 hr

*** See loader section of equipment manual.**

Data Sources:
McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39

WORKSHEET 9
PRODUCTIVITY AND HOURS REQUIRED FOR TRUCK USE

Earthmoving Activity:
Haul capping material to refuse site
Characterization of Truck Use (type, size, etc.):
Caterpillar 777F (2 trucks)
Description of Truck Use (origin, destination, grade, haul distance, etc.):

Volume to be moved (lcy):	100,171	Density (lb/lcy):	2700	Distance (ft):	500	Grade (%):	0
		Rolling Resistance (%):	3			Total Resistance (%):	3

Productivity Calculations:

No. Loader Passes/Truck = 66.8 (truck capacity* (LCY)) + 13.05 (loader bucket net capacity (LCY)) = **5.12 passes**
(round down to the nearest whole number; reduce net truck capacity and weight accordingly in calculations below)

Loading Time/Truck = 0.65 (loader cycle time (min) (From WS 8 or WS 10)) x 5.00 (number of loader passes/ truck) = **3.25 min**

Truck Cycle Time = 0.6 (haul time (min)) + 0.25 (return time (min)) + 3.25 (loading time (min)) + 1.2 (dump and maneuver time (min)) = **5.3 min.**

No. Trucks Required = 5.30 (truck cycle time (min)) ÷ 3.25 (total loading time (min)) = **1.63 trucks**
(round down to the nearest whole number; reduce net truck capacity and weight accordingly in calculations below)

Production Rate = 65.25 (net truck capacity **) x 2.00 (number of trucks) ÷ 5.30 (truck cycle time (min)) = **24.6 LCY/min**

Hourly Production = 24.6 (production rate (LCY/min)) x 60 min/hr x 0.83 (efficiency factor) = **1231.1 LCY/hr**

Hours Required = 100,171 (volume to be moved (LCY)) ÷ 1231.1 (hourly production (LCY/hr)) = **82.0 hr**

Use whichever is higher from Worksheets 8 & 9 **100.0 hr**

* **Use the average of the heaped and struck capacities.**
** **Net truck capacity = loader bucket net capacity x no. loader passes/truck.**

Data Sources:
McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread and grade capping material over refuse site

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-9T Semi-U blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 50,086 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2000 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1258 LCY/hr**

Hours Required = 50,086 (volume to be moved (LCY)) / 1258 (net hourly production (LCY/hr)) = 39.8 hrs

use **40 hrs**

Use whichever is higher from Worksheets 5, 8 & 9 **100.0 hr**

Note: Use three times the hours calculated, since one dozer will have to help loader, and one will spread material in final area - spread dozer will need to compact the clay capping material

Data Sources:
McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Load topsoil for refuse site and support areas

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity 151,169 CY

Productivity Calculations:

Cycle Time = ____ (haul time loaded (min)) + ____ (return time empty) + 0.65 (basic cycle time (min)) = **0.65 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 0.65 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **1004 LCY/hr**

Hours Required = 151,169 (volume to be moved (LCY)) ÷ 1004 (net hourly production (LCY/hr)) = **150.6 hr**

use **151.0 hr**

*** See loader section of equipment manual.**

Data Sources:
McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39

WORKSHEET 9
PRODUCTIVITY AND HOURS REQUIRED FOR TRUCK USE

Earthmoving Activity:
Load topsoil for refuse site and support areas
Characterization of Truck Use (type, size, etc.):
Caterpillar 777F (2 trucks)
Description of Truck Use (origin, destination, grade, haul distance, etc.):

Volume to be moved (lcy):	151,169	Density (lb/lcy):	1600	Distance (ft):	500	Grade (%):	0
		Rolling Resistance (%):	3			Total Resistance (%):	3

Productivity Calculations:

No. Loader Passes/Truck = 66.8 (truck capacity* (LCY)) ÷ 13.05 (loader bucket net capacity (LCY)) = **5.12 passes**
(round down to the nearest whole number; reduce net truck capacity and weight accordingly in calculations below)

Loading Time/Truck = 0.65 (loader cycle time (min) (From WS 8 or WS 10)) x 5.00 (number of loader passes/ truck) = **3.25 min**

Truck Cycle Time = 0.4 (haul time (min)) + 0.3 (return time (min)) + 3.25 (loading time (min)) + 2 (dump and maneuver time (min)) = **6.0 min.**

No. Trucks Required = 5.95 (truck cycle time (min)) ÷ 3.25 (total loading time (min)) = **1.83 trucks**
(round down to the nearest whole number; reduce net truck capacity and weight accordingly in calculations below)

Production Rate = 65.25 (net truck capacity **) x 2.00 (number of trucks) + 5.95 (truck cycle time (min)) = **21.9 LCY/min**

Hourly Production = 21.9 (production rate (LCY/min)) x 60 min (hr) x 0.83 (efficiency factor) = **1096.6 LCY/hr**

Hours Required = 151,169 (volume to be moved (LCY)) ÷ 1096.6 (hourly production (LCY/hr)) = **138.0 hr**

Use whichever is higher from Worksheets 8 & 9 **151.0 hr**

* **Use the average of the heaped and struck capacities.**
** **Net truck capacity = loader bucket net capacity x no. loader passes/truck.**

Data Sources:
McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread topsoil over refuse site and support areas

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-9T Semi-U blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 75,585 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2000 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1258 LCY/hr**

Hours Required = 75,585 (volume to be moved (LCY)) / 1258 (net hourly production (LCY/hr)) = 60.1 hrs

use **61 hrs**

Use whichever is higher from Worksheets 5, 8 & 9 **151.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39

WORKSHEET 13
SUMMARY CALCULATION OF EARTHMOVING COSTS

Equipment *	Ownership & Operating Cost ($/hr)	Labor Cost ($/hr)	Total Hours Required **	Total Cost *** ($)
Caterpillar 992K	$ 261.37	$ 43.38	266	$ 81,063.50
Caterpillar 777F (2 trucks)	$ 251.21	$ 36.36	532	$ 152,987.24
Caterpillar D9-T Semi-U Blade with Multishank Ripper	$ 174.57	$ 43.38	47	$ 10,243.65
D9T with Semi-Universal Blade	$ 159.28	$ 43.38	651	$ 131,931.66
			Grand Total of Earthmoving	**$ 376,226.05**

*** Be sure to include all necessary attachments and accessories for each item of equipment. Also, add support equipment such as water wagons and graders to match total project time as appropriate.**

**** Account for multiple units in truck and/or scraper teams**

***** Calculate the total cost for each item of equipment by adding the second and third columns (the ownership and operation and labor costs) and then multiplying that number by the fourth column (the total hours required).**

Data Sources:

McVille Mining Company, Permit 03060701
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
Society of Mining Engineers (SME) Mining Reference Handbook
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 14
REVEGETATION COSTS

Name and Description of Area To Be Revegetated:
Revegetate all disturbed areas

Description of Revegetation Activities:

Revegetate 120.3 ac with a pasture seed mix
Plant 680 trees/acre as in permit

Cost Calculation for Individual Revegetation Activities:
PA Rates = $1600/ac for revegetation, $102/acre for tree planting

Initial Seeding

67.1	x (	250	+	700	) =	$ 63,745
area to be seeded (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Planting Trees and Shrubs

53.2	x (	102	+		) =	$ 5,426
area to be planted (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Reseeding *

16.8	x (	250	+	700	) =	$ 15,936
area anticipated to need reseeding (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Replanting Trees and Shrubs *

13.3	x (	102	+		) =	$ 1,357
area anticipated to need replanting (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Other Necessary Revegetation Activities

(Examples of other activities that may be necessary include soil sampling, irrigation, and rill and gully repair. Describe each activity and provide a cost estimate with documentation. Use additional worksheets if necessary.)

TOTAL REVEGETATION COST = **$ 86,464**

* **Generally, the proportion of the area initially seeded and planted that is anticipated to need reseeding or replanting is determined on the basis of historic failure rates for similar sites and conditions. The same principle applies to determining the extent of seedbed preparation and soil amendments that may be needed as part of any reseeding or replanting effort. If anticipated failure rates vary within the area proposed for disturbance, use a separate worksheet for the area subject to each failure rate.**

Assumptions:

$_____ per acre includes seed mix, 2T/ac. mulch, 3T/ac. Lime, 50 lb/ac. Nitrogen, 100 lb/ac. Phosphorous, and 100 lb/ac. Potassium.
Second seeding at $____ per acre.
Assume 25% failure for second seeding.

Data Sources:

McVille Mining Company, Permit 03060701
Per acre cost obtained from consultation with AML programs in surrounding states.

WORKSHEET 15
OTHER RECLAMATION ACTIVITY COSTS

(Includes subsidence damage repair costs, water supply replacement costs, and funds required to support long-term treatment of unanticipated acid or ferruginous mine drainage.)

Description of Reclamation, Repair or Pollution Abatement Activity:

Geomembrane liner over coal refuse, $2/square yard
2.5-3 tons of hay mulch per acre will be applied

Assumptions:

	Acres	Square Feet	Square Yards
Calculations of area needed:	25.5	1,110,780	123,420

Cost Estimate Calculations:

	Unit	Unit Cost	Total
Geomembrane liner over coal refuse, $2/square yard	123,420	$ 2.00	$ 246,840
Removal of 2 sediment ponds	2	$ 5,000	$ 10,000
Removal of 2 primary detention structures	2	$ 5,000	$ 10,000
Removal of 2 treatment ponds	2	$ 5,000	$ 10,000
Mulch	120.3	$ 250.00	$ 30,075
TOTAL COSTS =			**$ 276,840**

Other Documentation or Notes:

Pennsylvania published bonding rates were used to estimate the required geomembrane and mulch costs

Data Sources:
McVille Mining Company, Permit 03060701

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$ 5,000		
2 Total Earthmoving Costs		$ 376,226		
3 Total Revegetation Costs		$ 86,464		
4 Total Other Reclamation Activities Costs		$ 276,840		
5 Total Direct Costs (Sum of Lines 1 through 4)		$ 744,530		
6 Inflated Total Direct Costs (Line 5 times inflation factor*)			$	**744,530**
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$ 22,335.91		
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$ 22,335.91		
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$ 22,335.91		
10 Contractor Profit/Overhead (See Graph 1)	**23.5% of line 6**	$ 174,964.62		
11 Project Management Fee (See Graph 2)	**4.6% of line 6**	$ 33,876.13		
12 Total Indirect Costs (Sum of Lines 7 through 11)			$	**275,848**
13 Grand Total Bond Amount (Sum of Lines 6 and 120			$	**1,020,379**

*Inflation factor = ENR Construction Cost Index (CCI) for current mo/yr / ENR CCI for mo/yr 3 years prior to current mo/yr = 1 / 1 = 1.00

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

* This calculation does not reflect an inflation factor because the purpose of the calculation is to determine if the posted bond is sufficient for the current conditions.

Data Sources:
McVille Mining Company, Permit 03060701

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$ 5,000		
2 Total Earthmoving Costs		$ 376,226		
3 Total Revegetation Costs		$ 86,464		
4 Total Other Reclamation Activities Costs		$ 276,840		
5 Total Direct Costs (Sum of Lines 1 through 4)		$ 744,530		
6 Inflated Total Direct Costs (Line 5 times inflation factor*)			**$**	**846,531**
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$ 25,395.93		
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$ 25,395.93		
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$ 25,395.93		
10 Contractor Profit/Overhead (See Graph I)	**23.0% of line 6**	$ 194,702.12		
11 Project Management Fee (See Graph 2)	**4.5% of line 6**	$ 38,093.89		
12 Total Indirect Costs (Sum of Lines 7 through 11)			**$**	**308,984**
13 Grand Total Bond Amount (Sum of Lines 6 and 120			**$**	**1,155,515**

*Inflation factor = 1.137

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

Data Sources:

McVille Mining Company, Permit 03060701

Cambria

TLH Coal Co.
Smith Mine
Permit 32060103
Issued 01/16/2007 Exp. 01/16/2012
Indiana County, East Mahoning Twp.
Permitted acres – 101.0
AML UDG acres – 2.0
Authorized Acres – 65.4

BOND AMOUNT COMPUTATION

Applicant:	T.L.H. Coal Company Smith Mine		
Permit Number:	32060103	**Permitted Acreage:**	101
New Authorization to Mine dated January 2009, 1333-32060103-02		**Operational Area:**	65.4

Bonding Scheme: Incremental

Authorization to Mine from January 2009 limits (Bonding Increment 02):

The pit area is limited to 2 pits with the following dimensions:
Pit #1 not to exceed 52,889 cubic yards in volume, based on Length 150 ft, width 80 feet, depth 120 feet, spoil distance <500 feet
Pit #2 not to exceed 73,482 cubic yards in volume, based on Length 200 ft, width 80 feet, depth 125 feet, spoil distance >500 feet
There may be a maximum of 3 sedimentation ponds
There may be a maximum of 45.4 acres requiring seeding
Maximum total acres of support areas shall not exceed 1.0 acres
The maximum number of acres designated for forestland that have not been planted in trees shall not exceed 26.0 acres at any time

Bond Calculation Worksheet 2010 Annual Review limits:

The pit area is limited to 2 pits with the following dimensions:
Pit #1 not to exceed 101,111 cubic yards in volume, based on CURRENT Length 260 ft, width 210 feet, depth 50 feet, spoil distance <500 feet
Pit #2 not to exceed 41,482 cubic yards in volume, based on CURRENT Length 350 ft, width 80 feet, depth 40 feet, spoil distance <500 feet
Area requiring topsoil 45.4 acres
Selective grading area 3.2 acres
Reforestation area 26 acres

Type of Operation:	Surface Box-Cut and Auger Mine
Location:	East Mahoning Township, Indiana County
Bond (February 2010):	$302,316
Prepared by:	Stefanie Self
Date:	5/5/2010
Total Bond Amount:	**$ 285,576**

WORKSHEET 1
DESCRIPTION OF THE WORST-CASE RECLAMATION SCENARIO

The worst case scenario for the TLC Smith Mine will be if both pits are open to their fullest extent with fill material located in storage areas. 3 ponds will need to be reclaimed. Topsoil no more than 500 feet away (maximum approved distance).

The following tasks must be completed to reclaim the site (based on Permit No 133-32060103-02 Authorization to Mine):
The pit floor will be limed at 100-150 tons/acre of 100% $CaCO_3$ equivalent (translates to 205 tons/acre of available material)
Fill in existing pits (2: one 150 ft x 80 ft x 120 ft, one 200 ft x 80 ft x 125 ft
Grade area of pits after filled, topsoil and revegetate
Grade area where material was obtained for filling pits (500 linear feet max), topsoil and revegetate
Seal auger holes in both the Upper Kittanning and Lower Freeport seams
Remove 3 sediment ponds, grade, topsoil and revegetate
Remove coal stockpile area, grade, topsoil and revegetate
Haul roads will remain as permanent post-mining structures per the landowner's request
Remove trash, storage tanks, parts trailer and derelict equipment as needed

Assumptions:
Overburden classified as well-blasted sandstone with a loose density of 2550 lb/cubic yard and a swell factor of 0.67-0.72 (use mid of 0.7) or swell percent of 43%
12 inches of topsoil to be placed, stored no more than 500 feet from area to be used (from permit)
The top 3-4 inches of soil will be scarified and 3 tons/acre of lime and 300 lb/acre of 50-50-50 fertilizer will be worked in. 2.5 tons/acre of hay or small grain straw mulch will be used.
Ditches will be constructed in a V configuration - inside ditch slopes 4:1 and 2:1

Data Sources:
T.L.H. Coal Company, Permit 32060103
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
Society of Mining Engineers (SME) Mining Reference Handbook
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 2
STRUCTURE DEMOLITION AND DISPOSAL COSTS

Structures to be demolished:

Item	Construction Material	Volume (cubic feet)	Unit Cost Basis ($)	Demolition Cost ($)
				0
				0
				0
				0
				0
				0
				0
			Subtotal	0

Other items to be demolished (paved roads, conveyors, utility poles, rail spurs, etc.)

Auger holes to be sealed (ft)	350	$	5.92	$	2,072.00

Note: PA does not include a cost for sealing of auger holes in their published bonding rate guidelines. Therefore, the unit costs above are from Ohio's estimations from previous reclamation contracts

Subtotal = $2,072

Debris handling and disposal costs:

Removal of trash and derelict equipment, Lump Sum = $5,000

Subtotal = $5,000

TOTAL DEMOLITION AND DISPOSAL = $7,072

Data Sources:
T.L.H. Coal Company, Permit 32060103

WORKSHEET 3
MATERIAL HANDLING PLAN SUMMARY

Earthmoving Activity	Volume (BCY)	Volume (LCY)	Area (ac)	Origin	Destination	Haul/Push Distance (ft)	Grade * (%)	Equipment To Be Used
Push spoil into open pits	127,407	182,011		Spoil Piles	3 Open Pits	80	0	Caterpillar D-10, Semi-U Blade
Regrade area over pits			0.64	In Place				Caterpillar D-10, Semi-U Blade
Regrade area where spoil stored			0.96	In Place				Caterpillar D-10, Semi-U Blade
Haul topsoil to pit and spoil areas	2,593			Topsoil Storage	3 Open Pits	500	0	Caterpillar 992K
Spread topsoil over pit and spoil areas			1.61	In Place				Caterpillar D-10, Semi-U Blade
Rip coal stockpile area			1.00	In Place				Semi-U Blade with Multishank Ripper
Grade coal stockpile area			1.00	In Place				Caterpillar D-10, Semi-U Blade
Haul topsoil to coal stockpile area	1,613			Topsoil Storage	Stockpile Area	500	0	Caterpillar 992K
Spread topsoil over coal stockpile area			1.00	In Place				Caterpillar D-10, Semi-U Blade

*Record grade resistance here. Calculate total resistance on the appropriate worksheet. Total Resistance = Grade Resistance + Rolling Resistance.

WORKSHEET 4B
EARTHWORK QUANTITY

Spoil Swell Factor: 0.7 **Spoil Swell %:** 43

Fill Open Pit:

	length	width	depth	BCY	LCY
Mine Area A	150 Ft	80 Ft	120 Ft	53,333	76,190
Mine Area B	200 Ft	80 Ft	125 Ft	74,074	105,820
Total:				127,407	182,011

Coal Processing and Equipment Staging Areas:

Area 1 Ac Length of push 209

Soil Volumes (top-and sub-soil):	Area (sq ft)	Area (ac)	Depth (ft)	BCY
Soil Volume (Pit and Spoil Areas) =	70,000 Sq Ft	1.61 ac	1 Ft	2,593
Soil Volume (Coal Storage Area) =	43,560 Sq Ft	1.00 ac	1 Ft	1,613
				4,206

Data Source:
T.L.H. Coal Company, Permit 32060103

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Push spoil into open pits

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-10, Semi-U Blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 182,011 Density (lb/lcy): 2550 Distance (ft): 80 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 0.90 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.39**

Net Hourly Production = 1850 (normal hourly production (lcy/hr)) x 0.39 (operating adjustment factor) = **730** **LCY/hr**

Hours Required = 182,011 (volume to be moved (LCY)) / 730 (net hourly production (LCY/hr)) = 249.3 hrs

use **250 hrs**

Data Sources:
T.L.H. Coal Company, Permit 32060103
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Haul topsoil to pit and spoil areas

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity	2,593 CY		Distance (ft):	500		Grade (%):	0
	Density (lb/lcy):	1600	Rolling Resistance (%):		3	Total Resistance (%):	3
Productivity Calculations:						Total Resistance (%):	3

Cycle Time = 0.45 (haul time loaded (min)) + 0.45 (return time empty) + 0.65 (basic cycle time (min)) = **1.55 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 1.55 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **421 LCY/hr**

Hours Required = 2,593 (volume to be moved (LCY)) ÷ 421 (net hourly production (LCY/hr)) = **6.2 hr**

use 7.0 hr

*** See loader section of equipment manual.**

Data Sources:
T.L.H. Coal Company, Permit 32060103
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread topsoil over pit and spoil areas

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-9T Semi-U blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 1,296 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2000 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1258 LCY/hr**

Hours Required = 1,296 (volume to be moved (LCY)) / 1258 (net hourly production (LCY/hr)) = 1.0 hrs

use **2 hrs**

Use whichever is higher from Worksheets 5 & 8 **7.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
T.L.H. Coal Company, Permit 32060103
Caterpillar Performance Handbook, Edition 39

WORKSHEET 7
PRODUCTIVITY AND HOURS REQUIRED FOR RIPPER-EQUIPPED DOZER USE

Ripping Activity:
Rip coal stockpile area

Characterization of Dozer and Ripper Use:
Caterpillar D9-T Semi-U Blade with Multishank Ripper

Description of Ripping (ripping depth, cut spacing, cut length, and material to be ripped):
BCY: 43,560 Cut Spacing (ft): 11.6 Cut Length (ft): 209 Area (ac): 1.00
Assumed ground speeed of 1 mph Speed (ft/min): 88

Productivity Calculation:

Cycle Time = 209 (cut length (ft)) ÷ 88 (ft/min) + 0.25 (fixed turn time* (min)) = **2.6 min/pass**

Passes/Hour = 60 min (hr) ÷ 2.6 (cycle time (min/pass)) x 0.83 (efficiency factor) = **19.07 passes/hr**

Volume Cut/Pass = 1 (tool penetration (ft)) x 11.6 (cut spacing (ft)) x 209 (cut length (ft)) ÷ 27 cu ft (cu yd) = **90 BCY/pass**

Hourly Production = 90 (volume cut/pass (BCY/pass)) x 19.07 (passes/hour) = **1710.1 BCY/hr****

Hours Required = 43,560 (volume to be ripped (BCY)) ÷ 1710.1 (hourly production (BCY/hr)) = 25.5 hours

use **26 hrs**

* **Fixed turn time depends upon dozer used. 0.25 min/turn is normal.**

** **Remember to use the swell factor to convert from bank cubic yards to loose cubic yards when applying these data to *Worksheet No. 5*. Calculate separate dozer hauling of ripped material for each lift on that worksheet.**

Data Sources:
T.L.H. Coal Company, Permit 32060103
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Haul topsoil to coal stockpile area

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity	1,613 CY	Distance (ft):	500	Grade (%):	0
	Density (lb/lcy): 1600	Rolling Resistance (%):	3	Total Resistance (%):	3
Productivity Calculations:				Total Resistance (%):	3

Cycle Time = 0.45 (haul time loaded (min)) + 0.45 (return time empty) + 0.65 (basic cycle time (min)) = **1.55 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 1.55 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **421 LCY/hr**

Hours Required = 1,613 (volume to be moved (LCY)) ÷ 421 (net hourly production (LCY/hr)) = **3.8 hr**

use 4.0 hr

*** See loader section of equipment manual.**

Data Sources:
T.L.H. Coal Company, Permit 32060103
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread topsoil over coal stockpile area

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-9T Semi-U blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 807 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2000 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1258** **LCY/hr**

Hours Required = 807 (volume to be moved (LCY)) / 1258 (net hourly prodnction (LCY/hr)) = 0.6 hrs

use **1 hrs**

Use whichever is higher from Worksheets 5 & 8 **4.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
T.L.H. Coal Company, Permit 32060103
Caterpillar Performance Handbook, Edition 39

WORKSHEET 13
SUMMARY CALCULATION OF EARTHMOVING COSTS

Equipment *	Ownership & Operating Cost ($/hr)	Labor Cost ($/hr)	Total Hours Required **	Total Cost *** ($)
Caterpillar D-10, Semi-U Blade	$ 216.75	$ 43.38	272	$ 70,755.36
Caterpillar 992K	$ 261.37	$ 43.38	11	$ 3,352.25
Caterpillar D9T with Semi-Universal Blade & Multishank Ripper	$ 174.57	$ 43.38	26	$ 5,666.70
			Grand Total of Earthmoving	**$ 79,774.31**

*** Be sure to include all necessary attachments and accessories for each item of equipment. Also, add support equipment such as water wagons and graders to match total project time as appropriate.**

**** Account for multiple units in truck and/or scraper teams**

***** Calculate the total cost for each item of equipment by adding the second and third columns (the ownership and operation and labor costs) and then multiplying that number by the fourth column (the total hours required).**

Data Sources:
T.L.H. Coal Company, Permit 32060103
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
Society of Mining Engineers (SME) Mining Reference Handbook
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 14
REVEGETATION COSTS

Name and Description of Area To Be Revegetated:
Revegetate all disturbed areas

Description of Revegetation Activities:

Revegetate 45.4 ac with a pasture seed mix
Plant 680 trees/acre as in permit

Cost Calculation for Individual Revegetation Activities:
PA Rates = $1600/ac for revegetation, $102/acre for tree planting

Initial Seeding

45.4	x (		+	1600	) =	$ 72,640
area to be seeded (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Planting Trees and Shrubs

26.0	x (	102	+		) =	$ 2,652
area to be planted (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Reseeding *

11.4	x (		+	1600	) =	$ 18,160
area anticipated to need reseeding (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Replanting Trees and Shrubs *

6.5	x (	102	+		) =	$ 663
area anticipated to need replanting (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Other Necessary Revegetation Activities

(Examples of other activities that may be necessary include soil sampling, irrigation, and rill and gully repair. Describe each activity and provide a cost estimate with documentation. Use additional worksheets if necessary.)

TOTAL REVEGETATION COST = **$ 94,115**

* **Generally, the proportion of the area initially seeded and planted that is anticipated to need reseeding or replanting is determined on the basis of historic failure rates for similar sites and conditions. The same principle applies to determining the extent of seedbed preparation and soil amendments that may be needed as part of any reseeding or replanting effort. If anticipated failure rates vary within the area proposed for disturbance, use a separate worksheet for the area subject to each failure rate.**

Assumptions:

$_____ per acre includes seed mix, 2T/ac. mulch, 3T/ac. Lime, 50 lb/ac. Nitrogen, 100 lb/ac. Phosphorous, and 100 lb/ac. Potassium.
Second seeding at $____ per acre.
Assume 25% failure for second seeding.

Data Sources:
T.L.H. Coal Company, Permit 32060103
Per acre cost obtained from consultation with AML programs in surrounding states.

WORKSHEET 15
OTHER RECLAMATION ACTIVITY COSTS

(Includes subsidence damage repair costs, water supply replacement costs, and funds required to support long-term treatment of unanticipated acid or ferruginous mine drainage.)

Description of Reclamation, Repair or Pollution Abatement Activity:

Lime addition as mentioned in the permit on exposed pit floor
Remove 3 sediment ponds, grade, topsoil and revegetate

Assumptions:

Cost Estimate Calculations:

	Unit	Unit Cost	Total
Removal of 3 sediment ponds	3	$ 5,000	$ 15,000
Lime addition	329	$ 25.68	$ 8,460

TOTAL COSTS = $ 23,460

Other Documentation or Notes:

Pennsylvania published bonding rates were used to estimate the cost of the required lime.

Data Sources:
T.L.H. Coal Company, Permit 32060103

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$ 7,072	
2 Total Earthmoving Costs		$ 79,774	
3 Total Revegetation Costs		$ 94,115	
4 Total Other Reclamation Activities Costs		$ 23,460	
5 Total Direct Costs (Sum of Lines 1 through 4)		$ 204,421	
6 Inflated Total Direct Costs (Line 5 times inflation factor*)			**$ 204,421**
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$ 6,132.63	
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$ 6,132.63	
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$ 6,132.63	
10 Contractor Profit/Overhead (See Graph 1)	**25.5% of line 6**	$ 52,127.38	
11 Project Management Fee (See Graph 2)	**5.2% of line 6**	$ 10,629.90	
12 Total Indirect Costs (Sum of Lines 7 through 11)			**$ 81,155**
13 Grand Total Bond Amount (Sum of Lines 6 and 120			**$ 285,576**

*Inflation factor = ENR Construction Cost Index (CCI) for current mo/yr / ENR CCI for mo/yr 3 years prior to current mo/yr = 1 / 1 = 1.00

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

* This calculation does not reflect an inflation factor because the purpose of the calculation is to determine if the posted bond is sufficient for the current conditions.

Data Sources:

T.L.H. Coal Company, Permit 32060103

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$ 7,072	
2 Total Earthmoving Costs		$ 79,774	
3 Total Revegetation Costs		$ 94,115	
4 Total Other Reclamation Activities Costs		$ 23,460	
5 Total Direct Costs (Sum of Lines 1 through 4)		$ 204,421	
6 Inflated Total Direct Costs (Line 5 times inflation factor*)			**$ 232,427**
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$ 6,972.80	
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$ 6,972.80	
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$ 6,972.80	
10 Contractor Profit/Overhead (See Graph 1)	**25.0% of line 6**	$ 58,106.69	
11 Project Management Fee (See Graph 2)	**5.2% of line 6**	$ 12,086.19	
12 Total Indirect Costs (Sum of Lines 7 through 11)			**$ 91,111**
13 Grand Total Bond Amount (Sum of Lines 6 and 120			**$ 323,538**

*Inflation factor = 1.137

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

Data Sources:

T.L.H. Coal Company, Permit 32060103

Greensburg

State Industries Inc.
Mine 35
Permit 03060101
Issued 10/13/2006 Exp. 10/13/2011
Armstrong County, South Buffalo Twp.
Permitted acres – 175.9
Authorized acres – 75.4

BOND AMOUNT COMPUTATION

Applicant: State Industries, Inc.
Mine 35

Permit Number: 3060101 **Permitted Acreage:** 175.9

Authorization to Mine dated November 2008, 1249-03060101-03 **Operational Area:** 75.4

Bonding Scheme: Incremental

Bonding Increment 03:

Per Module 10.2 modified October 2008: "see Bond Calculation Sheets"
Bond Calculation Sheet dated October 2008
Pit #1: Length 950 ft, width 90 ft, highwall 75 ft, low-wall 30 ft for an average 52.5 ft depth
Pit #2: Length 950 ft, width 90 ft, highwall 75 ft, low-wall 30 ft for an average 52.5 ft depth
There may be a maximum of 4 sedimentation ponds
There may be a maximum of 62.4 acres not planted to the post mine land use at any given time

Module 9 Permit Map:

There may be 3 treatment pond facilities on site
There may be an estimated 1.75 acres of haul roads to be removed

Type of Operation: Surface Mine
Location: South Buffalo Township, Armstrong County
Bond: $520,400

Prepared by: Stefanie Self
Date: 5/6/2010
Total Bond Amount: **$ 536,794**

WORKSHEET 1
DESCRIPTION OF THE WORST-CASE RECLAMATION SCENARIO

The worst case scenario for the State Industries Mine 35 will be if both pits are open to their fullest extent with fill material located in storage areas. 7 ponds will need to be reclaimed. Topsoil no more than 500 feet away (maximum approved distance).

The following tasks must be completed to reclaim the site:

Fill in existing pits (2, each 950 ft x 90 ft x 52.5 ft)
Grade area of pits after filled, topsoil and revegetate
Grade area where material was obtained for filling pits (500 linear feet max), topsoil and revegetate
Remove 4 sediment ponds and 3 treatment ponds and diversion ditches, grade, topsoil and revegetate
Remove coal stockpile area (2 acres), grade, topsoil and revegetate
Rip, topsoil and revegetate haul road
Remove trash, storage tanks, parts trailer and derelict equipment as needed

Assumptions:

Overburden classified as well-blasted sandstone with a loose density of 2550 lb/cubic yard and a swell factor of 0.67-0.72 (use mid of 0.7) or swell percent of 43%
12 inches of topsoil to be placed, stored no more than 500 feet from area to be used (from permit)

Data Sources:

State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
Society of Mining Engineers (SME) Mining Reference Handbook
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 2
STRUCTURE DEMOLITION AND DISPOSAL COSTS

Structures to be demolished:

Item	Construction Material	Volume (cubic feet)	Unit Cost Basis ($)	Demolition Cost ($)
				0
				0
				0
				0
				0
				0
				0
			Subtotal	0

Other items to be demolished (paved roads, conveyors, utility poles, rail spurs, etc.)

Subtotal = $0

Debris handling and disposal costs:

Removal of trash and derelict equipment, Lump Sum = $5,000

Subtotal = $5,000

TOTAL DEMOLITION AND DISPOSAL = $5,000

Data Sources:
State Industries, Inc., Mine 35, Permit 03060101

WORKSHEET 3
MATERIAL HANDLING PLAN SUMMARY

Earthmoving Activity	Volume (BCY)	Volume (LCY)	Area (ac)	Origin	Destination	Haul/Push Distance (ft)	Grade * (%)	Equipment To Be Used
Push spoil into open pits	332,500	475,000		Spoil Piles	3 Open Pits	90	0	Caterpillar D-10, Semi-U Blade
Regrade area over pits			3.93	In Place				Caterpillar D-10, Semi-U Blade
Regrade area where spoil stored			5.89	In Place				Caterpillar D-10, Semi-U Blade
Haul topsoil to pit and spoil areas	15833			Topsoil Storage	3 Open Pits	500	0	Caterpillar 992K
Spread topsoil over pit and spoil areas			9.81	In Place				Caterpillar D-10, Semi-U Blade
Rip coal stockpile area			2.00	In Place				Semi-U Blade with Multishank Ripper
Haul topsoil to coal stockpile area	3,227			Topsoil Storage	Stockpile Area	500	0	Caterpillar 992K
Spread topsoil over coal stockpile area			2.00	In Place				Caterpillar D-10, Semi-U Blade
Rip haul road area			1.75	In Place				Semi-U Blade with Multishank Ripper
Haul topsoil to haul road area	2,823			Topsoil Storage	Stockpile Area	500	0	Caterpillar 992K
Spread topsoil over haul road area			1.75	In Place				Caterpillar D-10, Semi-U Blade

*Record grade resistance here. Calculate total resistance on the appropriate worksheet. Total Resistance = Grade Resistance + Rolling Resistance.

WORKSHEET 4B
EARTHWORK QUANTITY

Spoil Swell Factor: **0.7** **Spoil Swell %:** **43**

Fill Open Pit:

	length	width	depth	BCY	LCY
Mine Area A	950 Ft	90 Ft	53 Ft	166,250	237,500
Mine Area B	950 Ft	90 Ft	53 Ft	166,250	237,500
Total:				332,500	475,000

Coal Processing Area:

Area	2 Ac	Length of push	295

Haul Road Area (from Exhibit 9 map):

Area	1.75 Ac	Length of push	276

Soil Volumes (top-and sub-soil):	Area (sq ft)	Area (ac)	Depth (ft)	BCY
Soil Volume (Pit and Spoil Areas) =	427,500 Sq Ft	9.81 ac	1 Ft	15,833
Soil Volume (Coal Storage Area) =	87,120 Sq Ft	2.00 ac	1 Ft	3,227
Soil Volume (Haul Road Area) =	76,230 Sq Ft	1.75 ac	1 Ft	2,823
Total:				21,883

Data Source:
State Industries, Inc., Mine 35, Permit 03060101

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Push spoil into open pits
Regrade area over pits
Regrade area where spoil stored

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-10, Semi-U Blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 475,000 Density (lb/lcy): 2550 Distance (ft): 90 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 0.90 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.39**

Net Hourly Production = 1800 (normal hourly production (lcy/hr)) x 0.39 (operating adjustment factor) = **710 LCY/hr**

Hours Required = 475,000 (volume to be moved (LCY)) / 710 (net hourly production (LCY/hr)) = 668.7 hrs

use **669 hrs**

Data Sources:
State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Haul topsoil to pit and spoil areas

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity	15,833 CY	Distance (ft):	500		Grade (%):	0
	Density (lb/lcy): 1600	Rolling Resistance (%):	3		Total Resistance (%):	3
Productivity Calculations:					Total Resistance (%):	3

Cycle Time = 0.45 (haul time loaded (min)) + 0.45 (return time empty (min)) + 0.65 (basic cycle time (min)) = **1.55 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 1.55 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **421 LCY/hr**

Hours Required = 15,833 (volume to be moved (LCY)) ÷ 421 (net hourly production (LCY/hr)) = **37.6 hr**

use 38.0 hr

*** See loader section of equipment manual.**

Data Sources:
State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread topsoil over pit and spoil areas

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-9T Semi-U blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 7,917 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2000 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1258 LCY/hr**

Hours Required = 7,917 (volume to be moved (LCY)) / 1258 (net hourly production (LCY/hr)) = 6.3 hrs

use **7 hrs**

Use whichever is higher from Worksheets 5 & 8 **38.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 7
PRODUCTIVITY AND HOURS REQUIRED FOR RIPPER-EQUIPPED DOZER USE

Ripping Activity:
Rip area of coal storage area, 2.0 acres

Characterization of Dozer and Ripper Use:
Caterpillar D9-T Semi-U Blade with Multishank Ripper

Description of Ripping (ripping depth, cut spacing, cut length, and material to be ripped):
BCY: 3,227 Cut Spacing (ft): 11.6 Cut Length (ft): 295 Area (ac): 2.00
Assumed ground speeed of 1 mph Speed (ft/min): 88

Productivity Calculation:

Cycle Time = 295 (cut length (ft)) ÷ 88 (ft/min) + 0.25 (fixed turn time* (min)) = **3.6 min/pass**

Passes/Hour = 60 min (hr) ÷ 3.6 (cycle time (min/ pass)) x 0.83 (efficiency factor) = **13.87 passes/hr**

Volume Cut/Pass = 1 (tool penetration (ft)) x 11.6 (cut spacing (ft)) x 295 (cut length (ft)) + 27 cu ft (cu yd) = **127 BCY/pass**

Hourly Production = 127 (volume cut/pass (BCY/ pass)) x 13.87 (passes/ hour) = **1759.2 BCY/hr****

Hours Required = 3,227 (volume to be ripped (BCY)) ÷ 1759.2 (hourly production (BCY/hr)) = 1.8 hours

use **2 hrs**

* **Fixed turn time depends upon dozer used. 0.25 min/turn is normal.**

** **Remember to use the swell factor to convert from bank cubic yards to loose cubic yards when applying these data to *Worksheet No. 5*.**
Calculate separate dozer hauling of ripped material for each lift on that worksheet.

Data Sources:
State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Haul topsoil to coal stockpile area

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity	3,227 CY		Distance (ft):	500		Grade (%):	0
	Density (lb/lcy):	1600	Rolling Resistance (%):	3	Total Resistance (%):		3
Productivity Calculations:					Total Resistance (%):		3

Cycle Time = 0.45 (haul time loaded (min)) + 0.45 (return time empty) + 0.65 (basic cycle time (min)) = **1.55 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 1.55 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **421 LCY/hr**

Hours Required = 3,227 (volume to be moved (LCY)) ÷ 421 (net hourly production (LCY/hr)) = **7.7 hr**

use 8.0 hr

*** See loader section of equipment manual.**

Data Sources:
State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread topsoil over coal stockpile area

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-9T Semi-U blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 1,613 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2000 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1258 LCY/hr**

Hours Required = 1,613 (volume to be moved (LCY)) / 1258 (net hourly production (LCY/hr)) = 1.3 hrs

use **2 hrs**

Use whichever is higher from Worksheets 5 & 8 **8.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 7
PRODUCTIVITY AND HOURS REQUIRED FOR RIPPER-EQUIPPED DOZER USE

Ripping Activity:
Rip haul road area

Characterization of Dozer and Ripper Use:
Caterpillar D9-T Semi-U Blade with Multishank Ripper

Description of Ripping (ripping depth, cut spacing, cut length, and material to be ripped):
BCY: 2,823 Cut Spacing (ft): 11.6 Cut Length (ft): 276 Area (ac): 1.75
Assumed ground speeed of 1 mph Speed (ft/min): 88

Productivity Calculation:

Cycle Time = 276 (cut length (ft)) ÷ 88 (ft/min) + 0.25 (fixed turn time* (min)) = **3.4 min/pass**

Passes/Hour = 60 min / hr ÷ 3.4 (cycle time (min/pass)) x 0.83 (efficiency factor) = **14.76 passes/hr**

Volume Cut/Pass = 1 (tool penetration (ft)) x 11.6 (cut spacing (ft)) x 276 (cut length (ft)) ÷ 27 cu ft / cu yd = **119 BCY/pass**

Hourly Production = 119 (volume cut/pass (BCY/pass)) x 14.76 (passes/hour) = **1750.9 BCY/hr****

Hours Required = 2,823 (volume to be ripped (BCY)) ÷ 1750.9 (hourly production (BCY/hr)) = 1.6 hours

use **2 hrs**

* **Fixed turn time depeuds upon dozer used. 0.25 min/turn is normal.**

** **Remember to use the swell factor to convert from bauk cubic yards to loose cubic yards when applying these data to *Worksheet No. 5*. Calculate separate dozer hauling of ripped material for each lift on that worksheet.**

Data Sources:
State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Haul topsoil to haul road area

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity	2,823 CY		Distance (ft):	500		Grade (%):	0
	Density (lb/lcy):	1600	Rolling Resistance (%):	3	Total Resistance (%):		3
Productivity Calculations:					Total Resistance (%):		3

Cycle Time = 0.45 (haul time loaded (min)) + 0.45 (return time empty) + 0.65 (basic cycle time (min)) = **1.55 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 1.55 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **421 LCY/hr**

Hours Required = 2,823 (volume to be moved (LCY)) ÷ 421 (net hourly production (LCY/hr)) = **6.7 hr**

use 7.0 hr

*** See loader section of equipment manual.**

Data Sources:
State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread topsoil over haul road area

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-9T Semi-U blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 1,412 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2000 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1258 LCY/hr**

Hours Required = 1,412 (volume to be moved (LCY)) / 1258 (net hourly production (LCY/hr)) = 1.1 hrs

use **2 hrs**

Use whichever is higher from Worksheets 5 & 8 **7.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 13
SUMMARY CALCULATION OF EARTHMOVING COSTS

Equipment *	Ownership & Operating Cost ($/hr)	Labor Cost ($/hr)	Total Hours Required **	Total Cost *** ($)
Caterpillar D-10, Semi-U Blade	$ 216.75	$ 43.38	775	$ 201,600.75
Caterpillar 992K	$ 261.37	$ 43.38	53	$ 16,151.75
Caterpillar D9T with Semi-Universal Blade & Multishank Ripper	$ 174.57	$ 43.38	4	$ 871.80
			Grand Total of Earthmoving	**$ 218,624.30**

*** Be sure to include all necessary attachments and accessories for each item of equipment. Also, add support equipment such as water wagons and graders to match total project time as appropriate.**

**** Account for multiple units in truck and/or scraper teams**

***** Calculate the total cost for each item of equipment by adding the second and third columns (the ownership and operation and labor costs) and then multiplying that number by the fourth column (the total hours required).**

Data Sources:

State Industries, Inc., Mine 35, Permit 03060101
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
Society of Mining Engineers (SME) Mining Reference Handbook
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 14
REVEGETATION COSTS

Name and Description of Area To Be Revegetated:
Revegetate all disturbed areas

Description of Revegetation Activities:

Revegetate 62.4 ac with a pasture seed mix

Cost Calculation for Individual Revegetation Activities:
PA Rates = $1600/ac for revegetation, $102/acre for tree planting

Initial Seeding

62.4	x (		+	1600	) =	$ 99,840
area to be seeded (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Planting Trees and Shrubs

	x (	102	+		) =	$ -
area to be planted (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Reseeding *

15.6	x (		+	1600	) =	$ 24,960
area anticipated to need reseeding (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Replanting Trees and Shrubs *

0	x (	102	+		) =	$ -
area anticipated to need replanting (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Other Necessary Revegetation Activities

(Examples of other activities that may be necessary include soil sampling, irrigation, and rill and gully repair. Describe each activity and provide a cost estimate with documentation. Use additional worksheets if necessary.)

TOTAL REVEGETATION COST = **$ 124,800**

* **Generally, the proportion of the area initially seeded and planted that is anticipated to need reseeding or replanting is determined on the basis of historic failure rates for similar sites and conditions. The same principle applies to determining the extent of seedbed preparation and soil amendments that may be needed as part of any reseeding or replanting effort. If anticipated failure rates vary within the area proposed for disturbance, use a separate worksheet for the area subject to each failure rate.**

Assumptions:

$_____ per acre includes seed mix, 2T/ac. mulch, 3T/ac. Lime, 50 lb/ac. Nitrogen, 100 lb/ac. Phosphorous, and 100 lb/ac. Potassium.
Second seeding at $____ per acre.
Assume 25% failure for second seeding.

Data Sources:

State Industries, Inc., Mine 35, Permit 03060101
Per acre cost obtained from consultation with AML programs in surrounding states.

WORKSHEET 15
OTHER RECLAMATION ACTIVITY COSTS

(Includes subsidence damage repair costs, water supply replacement costs, and funds required to support long-term treatment of unanticipated acid or ferruginous mine drainage.)

Description of Reclamation, Repair or Pollution Abatement Activity:

Remove 4 sediment ponds and 3 treatment ponds and diversion ditches, grade, topsoil and revegetate

Assumptions:

Cost Estimate Calculations:

	Unit	Unit Cost	Total
Removal of 4 sediment ponds	4	$ 5,000	$ 20,000
Removal of 3 treatment ponds	3	$ 5,000	$ 15,000

TOTAL COSTS = $ 35,000

Other Documentation or Notes:

(Include additional sheets, maps, calculations, etc., as necessary to document estimate.)

Data Sources:

State Industries, Inc., Mine 35, Permit 03060101

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$ 5,000		
2 Total Earthmoving Costs		$ 218,624		
3 Total Revegetation Costs		$ 124,800		
4 Total Other Reclamation Activities Costs		$ 35,000		
5 Total Direct Costs (Sum of Lines 1 through 4)		$ 383,424		
6 Inflated Total Direct Costs (Line 5 times inflation factor*)			**$ 383,424**	
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$ 11,502.73		
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$ 11,502.73		
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$ 11,502.73		
10 Contractor Profit/Overhead (See Graph 1)	**26.0% of line 6**	$ 99,690.32		
11 Project Management Fee (See Graph 2)	**5.0% of line 6**	$ 19,171.22		
12 Total Indirect Costs (Sum of Lines 7 through 11)			**$ 153,370**	
13 Grand Total Bond Amount (Sum of Lines 6 and 120			**$ 536,794**	

*Inflation factor = ENR Construction Cost Index (CCI) for current mo/yr / ENR CCI for mo/yr 3 years prior to current mo/yr = 1 / 1 = 1.00

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

* This calculation does not reflect an inflation factor because the purpose of the calculation is to determine if the posted bond is sufficient for the current conditions.

Data Sources:

State Industries, Inc., Mine 35, Permit 03060101

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$ 5,000	
2 Total Earthmoving Costs		$ 218,624	
3 Total Revegetation Costs		$ 124,800	
4 Total Other Reclamation Activities Costs		$ 35,000	
5 Total Direct Costs (Sum of Lines 1 through 4)		$ 383,424	
6 Inflated Total Direct Costs (Line 5 times inflation factor*)			**$ 435,953**
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$ 13,078.60	
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$ 13,078.60	
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$ 13,078.60	
10 Contractor Profit/Overhead (See Graph 1)	**25.0% of line 6**	$ 108,988.36	
11 Project Management Fee (See Graph 2)	**5.0% of line 6**	$ 21,797.67	
12 Total Indirect Costs (Sum of Lines 7 through 11)			**$ 170,022**
13 Grand Total Bond Amount (Sum of Lines 6 and 120			**$ 605,975**

*Inflation factor = 1.137

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

Data Sources:

State Industries, Inc., Mine 35, Permit 03060101

Knox

Amfire Mining Co., LLC
Amfire 35 Mine
Permit 24990101
Issued 01/13/2000 Exp. 01/13/2013
Elk County, Horton Twp.
Permitted acres – 568.9
AML Surface acres – 98.0
AML UDG acres – 19.4
Authorized acres – 456.4

BOND AMOUNT COMPUTATION

Applicant: AMFIRE Mining Company
AMFIRE 35 Mine

Permit Number: 24990101 **Permitted Acreage:** 568.9

Revision dated December 2009, 11536-24990101-CB-04 **Operational Area:** 456.4

Bonding Scheme: Incremental

Authorization to Mine from December 2009 limits (Bonding Increment 04):

The pit area is limited to 3 pits with two benches at the following

Pit #1: Lower Freeport - Length 550 ft, width 180 feet, depth at an average of 37 feet, spoil distance < 500 feet

Pit #1: Upper Kittanning - Length 550 ft, width 180 feet, depth at an average of 45 feet, spoil distance < 500 feet

Pit #2: Lower Freeport - Length 550 ft, width 180 feet, depth at an average of 37 feet, spoil distance < 500 feet

Pit #2: Upper Kittanning - Length 550 ft, width 180 feet, depth at an average of 45 feet, spoil distance < 500 feet

Pit #3: Lower Freeport - Length 500 ft, width 180 feet, depth at an average of 49 feet, spoil distance < 500 feet

Pit #3: Upper Kittanning - Length 500 ft, width 180 feet, depth at an average of 45 feet, spoil distance < 500 feet

There may be a maximum of 12 sedimentation ponds

There may be a maximum of 103 acres not planted to the post mining land

Type of Operation: Surface Mine
Location: Horton Township, Elk County
Bond (October 2009): $1,260,600

Prepared by: Stefanie Self
Date: 5/5/2010
Total Bond Amount: **$ 2,198,322**

WORKSHEET 1
DESCRIPTION OF THE WORST-CASE RECLAMATION SCENARIO

The worst case scenario for the AMFIRE 35 Mine will be if all three pits are open to their fullest extent with fill material located in storage areas. 6 ponds will need to be reclaimed. Topsoil no more than 500 feet away (maximum approved distance).

The following tasks must be completed to reclaim the site:
Fill in existing pits (3, each 360 ft x 550 ft x 60 ft - one pit might be 80 ft deep) Revision 11/09
Seal open auger mining holes (clay material to a depth 3 times the opening diameter of the holes)
Grade area of pits after filled, topsoil and revegetate
Grade area where material was obtained for filling pits (500 linear feet max), topsoil and revegetate
Remove 6 impoundments, 4 Treatment pond facilities, diversion ditches, grade, topsoil and revegetate
Remove coal stockpile and equipment staging areas, grade, topsoil and revegetate (2.4 + 3.6 acres)
Remove trash, storage tanks, parts trailer and derelict equipment as needed

Assumptions:

Overburden classified as well-blasted sandstone with a loose density of 2550 lb/cubic yard and a swell factor of 0.67-0.72 (use mid of 0.7) or swell percent of 43%
12 inches of topsoil to be placed, stored no more than 500 feet from area to be used (from permit)
The top 3-4 inches of soil will be scarified and 3 tons/acre of lime and 300 lb/acre of 50-50-50 fertilizer will be worked in. 2.5 tons/acre of hay or small grain straw mulch will be used.
Ditches will be constructed in a V configuration - inside ditch slopes 4:1 and 2:1

Data Sources:

AMFIRE Mining Company, Permit 24990101
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
Society of Mining Engineers (SME) Mining Reference Handbook
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 2
STRUCTURE DEMOLITION AND DISPOSAL COSTS

Structures to be demolished:

Item	Construction Material	Volume (cubic feet)	Unit Cost Basis ($)	Demolition Cost ($)
				0
				0
				0
				0
				0
				0
				0
			Subtotal	0

Other items to be demolished (paved roads, conveyors, utility poles, rail spurs, etc.)

	Unit		Unit cost		Total
Auger holes to be sealed ($/linear foot)	3200	$	5.50	$	17,600.00

Subtotal = $17,600

Debris handling and disposal costs:

Removal of trash and derelict equipment, Lump Sum = $5,000

Subtotal = $5,000

TOTAL DEMOLITION AND DISPOSAL = $22,600

Data Sources:
AMFIRE Mining Company, Permit 24990101

WORKSHEET 3
MATERIAL HANDLING PLAN SUMMARY

Earthmoving Activity	Volume (BCY)	Volume (LCY)	Area (ac)	Origin	Destination	Haul/Push Distance (ft)	Grade * (%)	Equipment To Be Used
Load and haul spoil to open pit	914,667	1,306,667		Spoil Piles	3 Open Pits	500	0	Caterpillar 992K Loader & 777F Truck
Spread spoil in open pit	914,667	1,306,667		In Place	3 Open Pits	50		Caterpillar D-10, Semi-U Blade
Regrade area over pits			4.35	In Place				Caterpillar 992K Loader & 777F Truck
Regrade area where spoil stored			6.53	In Place				Caterpillar 992K Loader & 777F Truck
Haul topsoil to pit and spoil areas	17563			Topsoil Storage	3 Open Pits	500		Caterpillar 992K
Spread topsoil over pit and spoil areas			10.89	In Place				Caterpillar 992K Loader & 777F Truck
Rip coal stockpile area			2.40	In Place				blade with Multishank ripper
Haul topsoil to coal stockpile area	9,680			Topsoil Storage	Coal Stockpile Area	500		Caterpillar 992K
Spread topsoil over coal stockpile area			2.40	In Place				Caterpillar 992K Loader & 777F Truck

*Record grade resistance here. Calculate total resistance on the appropriate worksheet. Total Resistance = Grade Resistance + Rolling Resistance.

WORKSHEET 4B
EARTHWORK QUANTITY

Spoil Swell Factor: **0.7** **Spoil Swell %:** **43**

Fill Open Pits:

	length	width	depth	BCY	LCY	Cubic Yards needed to account for compaction
Pit 1 Lower Freeport	550 Ft	180 Ft	37 Ft	135,667	193,810	164,738
Pit 1 Upper Kitanning	550 Ft	180 Ft	45 Ft	165,000	235,714	200,357
Pit 2 Lower Freeport	550 Ft	180 Ft	37 Ft	135,667	193,810	164,738
Pit 2 Upper Kitanning	550 Ft	180 Ft	45 Ft	165,000	235,714	200,357
Pit 3 Lower Freeport	500 Ft	180 Ft	49 Ft	163,333	233,333	198,333
Pit 3 Upper Kitanning	500 Ft	180 Ft	45 Ft	150,000	214,286	182,143
Total:				914,667	1,306,667	1,110,667

Coal Processing and Equipment Staging Areas:

Coal Processing Area	2.4 Ac	Length of push	323
Equipment Staging Area	3.6 Ac	Length of push	396
Total:	6	Average Length	360

Soil Volumes (top-and sub-soil):

	Area (sq ft)	Area (ac)	Depth (ft)	BCY
Soil Volume (Pit and Spoil Areas) =	474,200 Sq Ft	10.89 ac	1 Ft	17,563
Soil Volume (Coal Storage Area) =	261,360 Sq Ft	6.00 ac	1 Ft	9,680
				27,243

Data Source:
AMFIRE Mining Company, Permit 24990101

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Load and haul spoil to open pit

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):
Load spoil from stockpile
Quantity 1,110,667 CY

Productivity Calculations:

Cycle Time = 0 (haul time loaded (min)) + 0 (return time empty) + 0.65 (basic cycle time (min)) = **0.65 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 0.65 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **1004 LCY/hr**

Hours Required = 1,110,667 (volume to be moved (LCY)) ÷ 1004 (net hourly production (LCY/hr)) = **1106.4 hr**

use 1107.0 hr

*** See loader section of equipment manual.**

Data Sources:
AMFIRE Mining Company, Permit 24990101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 9
PRODUCTIVITY AND HOURS REQUIRED FOR TRUCK USE

Earthmoving Activity:
Load and haul spoil to open pit
Characterization of Truck Use (type, size, etc.):
Caterpillar 777F (2 trucks)
Description of Truck Use (origin, destination, grade, haul distance, etc.):
Haul spoil from stockpile to open pit area

Volume to be moved (lcy):	1,110,667	Density (lb/lcy):	2550	Distance (ft):	500	Grade (%):	0
		Rolling Resistance (%):	3			Total Resistance (%):	3

Productivity Calculations:

No. Loader Passes/Truck = 66.8 (truck capacity* (LCY)) + 13.05 (loader bucket net capacity (LCY)) = **5.12 passes**
(round down to the nearest whole number; reduce net truck capacity and weight accordingly in calculations below)

Loading Time/Truck = 0.65 (loader cycle time (min) (From WS 8 or WS 10)) x 5.00 (number of loader passes/ truck) = **3.25 min**

Truck Cycle Time = 0.3 (haul time (min)) + 0.25 (return time (min)) + 3.25 (loading time (min)) + 2 (dump and maneuver time (min)) = **5.8 min.**

No. Trucks Required = 5.80 (truck cycle time (min)) + 3.25 (total loading time (min)) = **1.78 trucks**
(round down to the nearest whole number; reduce net truck capacity and weight accordingly in calculations below)

Production Rate = 65.25 (net truck capacity **) x 2.00 (number of trucks) + 5.80 (truck cycle time (min)) = **22.5 LCY/min**

Hourly Production = 22.5 (production rate (LCY/min)) x 60 min/hr x 0.83 (efficiency factor) = **1125.0 LCY/hr**

Hours Required = 1,110,667 (volume to be moved (LCY)) ÷ 1125.0 (hourly production (LCY/hr)) = **988.0 hr**

Use whichever is higher from Worksheets 8 & 9 **1107.0 hr**

* **Use the average of the heaped and struck capacities.**
** **Net truck capacity = loader bucket net capacity x no. loader passes/truck.**

Data Sources:
AMFIRE Mining Company, Permit 24990101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread spoil in open pit

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-10, Semi-U Blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 555,333 Density (lb/lcy): 2550 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 0.90 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.39**

Net Hourly Production = 2800 (normal hourly production (lcy/hr)) x 0.39 (operating adjustment factor) = **1105 LCY/hr**

Hours Required = 555,333 (volume to be moved (LCY)) / 1105 (net hourly production (LCY/hr)) = 502.6 hrs

use **503 hrs**

Use whichever is higher from Worksheets 5, 8 & 9 **1107.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
AMFIRE Mining Company, Permit 24990101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Haul topsoil to pit and spoil areas

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity 17,563 CY

Productivity Calculations:

Cycle Time = 0.45 (haul time loaded (min)) + 0.45 (return time empty) + 0.65 (basic cycle time (min)) = **1.55 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 1.55 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **421 LCY/hr**

Hours Required = 17,563 (volume to be moved (LCY)) ÷ 421 (net hourly production (LCY/hr)) = **41.7 hr**

use 42.0 hr

*** See loader section of equipment manual.**

Data Sources:
AMFIRE Mining Company, Permit 24990101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread topsoil over pit and spoil areas

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-10, Semi-U Blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 8,781 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2800 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1761 LCY/hr**

Hours Required = 8,781 (volume to be moved (LCY)) / 1761 (net hourly production (LCY/hr)) = 5.0 hrs

use **5 hrs**

Use whichever is higher from Worksheets 5 & 8 **42.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
AMFIRE Mining Company, Permit 24990101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 7
PRODUCTIVITY AND HOURS REQUIRED FOR RIPPER-EQUIPPED DOZER USE

Ripping Activity:
Rip coal stockpile area

Characterization of Dozer and Ripper Use:
Caterpillar D9T-SU blade with Multishank ripper

Description of Ripping (ripping depth, cut spacing, cut length, and material to be ripped):
BCY: 9,680 Cut Spacing (ft): 11.6 Cut Length (ft): 360 Area (ac): 6.00
Assumed ground speeed of 1 mph Speed (ft/min): 88

Productivity Calculation:

Cycle Time = 360 (cut length (ft)) ÷ 88 (ft/min) + 0.25 (fixed turn time* (min)) = **4.3 min/pass**

Passes/Hour = 60 min / hr ÷ 4.3 (cycle time (min/pass)) x 0.83 (efficiency factor) = **11.53 passes/hr**

Volume Cut/Pass = 1 (tool penetration (ft)) x 11.6 (cut spacing (ft)) x 360 (cut length (ft)) ÷ 27 cu ft / cu yd = **155 BCY/pass**

Hourly Production = 155 (volume cut/pass (BCY/pass)) x 11.53 (passes/hour) = **1781.4 BCY/hr****

Hours Required = 9,680 (volume to be ripped (BCY)) ÷ 1781.4 (hourly production (BCY/hr)) = 5.4 hours

use **6 hrs**

* **Fixed turn time depends upon dozer used. 0.25 min/turn is normal.**

** **Remember to use the swell factor to convert from bank cubic yards to loose cubic yards when applying these data to *Worksheet No. 5*.**
Calculate separate dozer hauling of ripped material for each lift on that worksheet.

Data Sources:
AMFIRE Mining Company, Permit 24990101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Haul topsoil to coal stockpile area

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity 9,680 CY

Productivity Calculations:

Cycle Time = 0 (haul time loaded (min)) + 0 (return time empty) + 0.65 (basic cycle time (min)) = **0.65 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 0.65 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **1004 LCY/hr**

Hours Required = 9,680 (volume to be moved (LCY)) ÷ 1004 (net hourly production (LCY/hr)) = **9.6 hr**

use 10.0 hr

*** See loader section of equipment manual.**

Data Sources:
AMFIRE Mining Company, Permit 24990101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread topsoil over coal stockpile area

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-10, Semi-U Blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 4,840 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2800 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1761 LCY/hr**

Hours Required = 4,840 (volume to be moved (LCY)) / 1761 (net hourly production (LCY/hr)) = 2.7 hrs

use **3 hrs**

Use whichever is higher from Worksheets 5 & 8 **10.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
AMFIRE Mining Company, Permit 24990101
Caterpillar Performance Handbook, Edition 39

WORKSHEET 13
SUMMARY CALCULATION OF EARTHMOVING COSTS

Equipment *	Ownership & Operating Cost ($/hr)	Labor Cost ($/hr)	Total Hours Required **	Total Cost *** ($)
Caterpillar D-10, Semi-U Blade	$ 216.75	$ 43.38	1110	$ 288,744.30
Caterpillar 992K	$ 261.37	$ 43.38	1159	$ 353,205.25
Caterpillar 777F (2 trucks)	$ 251.21	$ 36.36	2214	$ 636,679.98
Caterpillar D9T with Semi-Universal Blade & Multishank Ripper	$ 174.57	$ 43.38	6	$ 1,307.70
			Grand Total of Earthmoving	**$ 1,279,937.23**

*** Be sure to include all necessary attachments and accessories for each item of equipment. Also, add support equipment such as water wagons and graders to match total project time as appropriate.**

**** Account for multiple units in truck and/or scraper teams**

***** Calculate the total cost for each item of equipment by adding the second and third columns (the ownership and operation and labor costs) and then multiplying that number by the fourth column (the total hours required).**

Data Sources:

AMFIRE Mining Company, Permit 24990101
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
Society of Mining Engineers (SME) Mining Reference Handbook
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 14
REVEGETATION COSTS

Name and Description of Area To Be Revegetated:
Revegetate all disturbed areas

Description of Revegetation Activities:

Revegetate 103.0 ac with a pasture seed mix
Plant 680 trees/acre as in permit

Cost Calculation for Individual Revegetation Activities:
PA Rates = $1600/ac for revegetation, $102/acre for tree planting

Initial Seeding

103.0	x (	0	+	1600	) =	$ 164,800
area to be seeded (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Planting Trees and Shrubs

0.0	x (	102	+		) =	$ -
area to be planted (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Reseeding *

25.8	x (	0	+	1600	) =	$ 41,200
area anticipated to need reseeding (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Replanting Trees and Shrubs *

0	x (	102	+		) =	$ -
area anticipated to need replanting (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Other Necessary Revegetation Activities

(Examples of other activities that may be necessary include soil sampling, irrigation, and rill and gully repair. Describe each activity and provide a cost estimate with documentation. Use additional worksheets if necessary.)

TOTAL REVEGETATION COST = **$ 206,000**

* **Generally, the proportion of the area initially seeded and planted that is anticipated to need reseeding or replanting is determined on the basis of historic failure rates for similar sites and conditions. The same principle applies to determining the extent of seedbed preparation and soil amendments that may be needed as part of any reseeding or replanting effort. If anticipated failure rates vary within the area proposed for disturbance, use a separate worksheet for the area subject to each failure rate.**

Assumptions:

$_____ per acre includes seed mix, 2T/ac. mulch, 3T/ac. Lime, 50 lb/ac. Nitrogen, 100 lb/ac. Phosphorous, and 100 lb/ac. Potassium.
Second seeding at $____ per acre.
Assume 25% failure for second seeding.

Data Sources:
AMFIRE Mining Company, Permit 24990101
Per acre cost obtained from consultation with AML programs in surrounding states.

WORKSHEET 15
OTHER RECLAMATION ACTIVITY COSTS

(Includes subsidence damage repair costs, water supply replacement costs, and funds required to support long-term treatment of unanticipated acid or ferruginous mine drainage.)

Description of Reclamation, Repair or Pollution Abatement Activity:

Remove 6 impoundments, 4 Treatment pond facilities, diversion ditches, grade, topsoil and revegetate The top 3-4 inches of soil will be scarified and 3 tons/acre of lime and 300 lb/acre of 50-50-50 fertilizer will be worked in. 2.5 tons/acre of hay or small grain straw mulch will be used.

Assumptions:

4 Treatment pond facilities - each are 2 or 3 ponds in series, so use 2 per facility
Nitrogen per pound = $0.58
Phosphate per pound = $0.42
Potash per pound = $0.32
Fertilizer cost: 50-50-50 composition $ 0.66

Cost Estimate Calculations:

	Unit	Unit Cost	Total
Removal of 6 sediment ponds	6	$ 5,000	$ 30,000
Removal of 8 treatment ponds	8	$ 5,000	$ 40,000
Lime addition as stated in permit	309	$ 25.69	$ 7,938
Fertilizer Addition	30,900	$ 0.66	$ 20,394
Mulch	103	$ 250.00	$ 25,750
TOTAL COSTS =			**$ 124,082.21**

Other Documentation or Notes:

Lime, Fertilizer and Mulch costs are utilized by OSM based on published 2009 PA bonding rates.

Data Sources:
AMFIRE Mining Company, Permit 24990101

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$ 22,600		
2 Total Earthmoving Costs		$ 1,279,937		
3 Total Revegetation Costs		$ 206,000		
4 Total Other Reclamation Activities Costs		$ 124,082		
5 Total Direct Costs (Sum of Lines 1 through 4)		$ 1,632,619		
6 Inflated Total Direct Costs (Line 5 times inflation factor*)			**$**	**1,632,619**
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$ 48,978.58		
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$ 48,978.58		
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$ 48,978.58		
10 Contractor Profit/Overhead (See Graph 1)	**21.5% of line 6**	$ 351,013.18		
11 Project Management Fee (See Graph 2)	**4.2% of line 6**	$ 67,753.71		
12 Total Indirect Costs (Sum of Lines 7 through 11)			**$**	**565,703**
13 Grand Total Bond Amount (Sum of Lines 6 and 120			**$**	**2,198,322**

*Inflation factor = ENR Construction Cost Index (CCI) for current mo/yr / ENR CCI for mo/yr 3 years prior to current mo/yr = 1 / 1 = 1.00

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

* This calculation does not reflect an inflation factor because the purpose of the calculation is to determine if the posted bond is sufficient for the current conditions.

Data Sources:

AMFIRE Mining Company, Permit 24990101

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$ 22,600	
2 Total Earthmoving Costs		$ 1,279,937	
3 Total Revegetation Costs		$ 206,000	
4 Total Other Reclamation Activities Costs		$ 124,082	
5 Total Direct Costs (Sum of Lines 1 through 4)		$ 1,632,619	
6 Inflated Total Direct Costs (Line 5 times inflation factor*)			$ 1,856,288
7 Mobilization/Demobilization (1%-10% of Line 6	3% of line 6	$ 55,688.65	
8 Contingencies (3%-5% of Line 6)	3% of line 6	$ 55,688.65	
9 Engineering Redesign Fee (2.5%-6% of Line 6)	3% of line 6	$ 55,688.65	
10 Contractor Profit/Overhead (See Graph 1)	20.5% of line 6	$ 380,539.10	
11 Project Management Fee (See Graph 2)	4.1% of line 6	$ 76,107.82	
12 Total Indirect Costs (Sum of Lines 7 through 11)			$ 623,713
13 Grand Total Bond Amount (Sum of Lines 6 and 120			$ 2,480,001

*Inflation factor = 1.137

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

Data Sources:

AMFIRE Mining Company, Permit 24990101

Moshannon

Strishock Coal Co.
Huey Mine
Permit 17860135
Issued 05/11/1990 Exp. 05/11/2010
Clearfield County, Union Twp.
Permitted acres – 361.4
Authorized acres – 339.6

BOND AMOUNT COMPUTATION

Applicant:	Strishock Coal Company Huey Mine		
Permit Number:	17860135	**Permitted Acreage:**	339.6
Revision dated August 2009, 1229-1760135AR-22		**Operational Area:**	102.8

Bonding Scheme: Incremental

Bonding Increment Special Conditions currently in permit:

The pit area is limited to 3 pits with the following dimensions:

Pit #1: Lower Kittanning - Length 850 ft, width 125 feet, depth 110 feet, spoil distance >500 feet

Pit #2: Middle Kittanning - Length 350 ft, width 270 feet, depth 50 feet, spoil distance >500 feet

Pit #3: Bench - Length 200 ft, width 90 feet, depth 20 feet, spoil distance >500 feet

There may be a maximum of 3 sedimentation ponds

There may be a maximum of 96.6 acres not planted to the post mining land use at any given time

There may be a maximum of 96.6 acres not reforested with 680 trees per acre

Type of Operation:	Surface Mine
Location:	Union Township, Clearfield County
Bond Required (July 2009):	$1,169,400

Prepared by:	Stefanie Self
Date:	5/5/2010
Total Bond Amount:	**$ 1,691,776**

WORKSHEET 1
DESCRIPTION OF THE WORST-CASE RECLAMATION SCENARIO

The worst case scenario for the Huey Mine will be if all three pits are open to their fullest extent with fill material located in storage areas. 3 ponds will need to be reclaimed. Topsoil no more than 500 feet away (maximum approved distance).

The following tasks must be completed to reclaim the site:
Fill in existing pits (Lower Kittanning 850 ft x 125 ft x 110 ft; Middle Kittanning 350 ft x 270 ft x 50 ft; Bench Length 200 ft x 90 ft x 20 ft)
Grade area of pits after filled, topsoil and revegetate
Grade area where material was obtained for filling pits (500 linear feet max), topsoil and revegetate
Remove 3 impoundments, diversion ditches, grade, topsoil and revegetate
Remove work area (19.9 acres)
Most of the haul roads will remain as permanent post-mining structures per the landowner's request (3.2 acres to be removed)
Remove trash, storage tanks, parts trailer and derelict equipment as needed

Assumptions:
Overburden classified as sandstone and limestone with a loose density of 2575 lb/cubic yard and a sandstone swell factor of 0.67-0.72 (use mid of 0.7) or swell percent of 43% and limestone swell factor of 0.61 or swell percent of 64% *USE AVERAGE: swell factor of 0.66 or 53%
96.6 acres disturbed at any one point to be graded, treated and revegetated
12 inches of topsoil to be placed, stored no more than 500 feet from area to be used (from permit)
4 tons/acre of lime and 350 lb/acre of 10-20-20 fertilizer will be used

Data Sources:
Strishock Coal Company, Permit 1760135
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
Society of Mining Engineers (SME) Mining Reference Handbook
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 2
STRUCTURE DEMOLITION AND DISPOSAL COSTS

Structures to be demolished:

Item	Construction Material	Volume (cubic feet)	Unit Cost Basis ($)	Demolition Cost ($)
				0
				0
				0
				0
				0
				0
				0
			Subtotal	0

Other items to be demolished (paved roads, conveyors, utility poles, rail spurs, etc.)

Subtotal = $0

Debris handling and disposal costs:

Removal of trash and derelict equipment, Lump Sum = $5,000

Subtotal = $5,000

TOTAL DEMOLITION AND DISPOSAL = $5,000

Data Sources:
Strishock Coal Company, Permit 1760135

WORKSHEET 3
MATERIAL HANDLING PLAN SUMMARY

Earthmoving Activity	Volume (BCY)	Volume (LCY)	Area (ac)	Origin	Destination	Haul/Push Distance (ft)	Grade * (%)	Equipment To Be Used
Push spoil into open pits	621,204	948,403		Spoil Piles	3 Open Pits	270	0	Caterpillar D-10, Semi-U Blade
Regrade area over pits			4.62	In Place				Caterpillar D-10, Semi-U Blade
Regrade area where spoil stored			6.92	In Place				Caterpillar D-10, Semi-U Blade
Haul topsoil to pit and spoil areas	18615			Topsoil Storage	3 Open Pits	500	0	Caterpillar 992K
Spread topsoil over pit and spoil areas			11.54	In Place				Caterpillar D-10, Semi-U Blade
Rip haul road and work areas			16.18	In Place				Semi-U Blade with Multishank Ripper
Grade haul road and work areas			16.18	In Place				Caterpillar D-10, Semi-U Blade
Haul topsoil to haul road and work areas	26,099			Topsoil Storage	Coal Stockpile Area	500	0	Caterpillar 992K
Spread topsoil over haul road and work areas			16.18	In Place				Caterpillar D-10, Semi-U Blade

*Record grade resistance here. Calculate total resistance on the appropriate worksheet. Total Resistance = Grade Resistance + Rolling Resistance.

WORKSHEET 4B
EARTHWORK QUANTITY

Spoil Swell Factor: 0.66 **Spoil Swell %:** 53

Fill Open Pit:

	length	width	depth	BCY	LCY
Lower Kittanning	850 Ft	125 Ft	110 Ft	432,870	660,871
Middle Kittanning	350 Ft	270 Ft	50 Ft	175,000	267,176
Bench	200 Ft	90 Ft	20 Ft	13,333	20,356
Total:				621,204	948,403

Haul Roads and "Work Area":

Area 16.2 Ac Average Length of push 839

Note: This area was estimated by using the areas provided in the company's "Bond Calculation Information" sheet. This includes the haul road area (3.2 ac) plus the total area shown for "selective grading" (19.9 ac) minus the area of the open pits which is accounted for separately in OSM's calculations.

Soil Volumes (top-and sub-soil):	Area (sq ft)	Area (ac)	Depth (ft)	BCY
Soil Volume (Pit and Spoil Areas) =	502,600 Sq Ft	11.54 ac	1 Ft	18,615
Soil Volume (Haul Road Area) =	704,676 Sq Ft	16.18 ac	1 Ft	26,099
				44,714

Data Source:

Strishock Coal Company, Permit 1760135

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Push spoil into open pits
Regrade area over pits
Regrade area where spoil stored

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-10, Semi-U Blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 948,403 Density (lb/lcy): 2575 Distance (ft): 270 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 0.89 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.39**

Net Hourly Production = 700 (normal hourly production (lcy/hr)) x 0.39 (operating adjustment factor) = **274** **LCY/hr**

Hours Required = 948,403 (volume to be moved (LCY)) / 274 (net hourly production (LCY/hr)) = 3467.1 hrs

use **3468 hrs**

Data Sources:
Strishock Coal Company, Permit 1760135
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Haul topsoil to pit and spoil areas

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):

Quantity	18,615 CY	Distance (ft):	500	Grade (%):	0
	Density (lb/lcy): 1600	Rolling Resistance (%):	3	Total Resistance (%):	3
Productivity Calculations:				Total Resistance (%):	3

Cycle Time = 0.45 (haul time loaded (min)) + 0.45 (return time empty (min)) + 0.65 (basic cycle time (min)) = **1.55 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 1.55 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **421 LCY/hr**

Hours Required = 18,615 (volume to be moved (LCY)) ÷ 421 (net hourly production (LCY/hr)) = **44.2 hr**

use 45.0 hr

*** See loader section of equipment manual.**

Data Sources:
Strishock Coal Company, Permit 1760135
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread topsoil over pit and spoil areas

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-9T Semi-U blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 9,307 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2000 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1258 LCY/hr**

Hours Required = 9,307 (volume to be moved (LCY)) / 1258 (net hourly production (LCY/hr)) = 7.4 hrs

use **8 hrs**

Use whichever is higher from Worksheets 5 & 8 **45.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
Strishock Coal Company, Permit 1760135
Caterpillar Performance Handbook, Edition 39

WORKSHEET 7
PRODUCTIVITY AND HOURS REQUIRED FOR RIPPER-EQUIPPED DOZER USE

Ripping Activity:
Rip haul roads and work area

Characterization of Dozer and Ripper Use:
Caterpillar D9-T Semi-U Blade with Multishank Ripper

Description of Ripping (ripping depth, cut spacing, cut length, and material to be ripped):
BCY: 26,099 Cut Spacing (ft): 11.6 Cut Length (ft): 839 Area (ac): 16.18
Assumed ground speeed of 1 mph Speed (ft/min): 88

Productivity Calculation:

Cycle Time = 839 (cut length (ft)) ÷ 88 (ft/min) + 0.25 (fixed turn time* (min)) = **9.8 min/pass**

Passes/Hour = 60 min (hr) ÷ 9.8 (cycle time (min/pass)) x 0.83 (efficiency factor) = **5.11 passes/hr**

Volume Cut/Pass = 1 (tool penetration (ft)) x 11.6 (cut spacing (ft)) x 839 (cut length (ft)) ÷ 27 cu ft (cu yd) = **361 BCY/pass**

Hourly Production = 361 (volume cut/pass (BCY/pass)) x 5.11 (passes/hour) = **1842.1 BCY/hr****

Hours Required = 26,099 (volume to be ripped (BCY)) ÷ 1842.1 (hourly production (BCY/hr)) = 14.2 hours

use **15 hrs**

* **Fixed turn time depends upon dozer used. 0.25 min/turn is normal.**

** **Remember to use the swell factor to convert from bank cubic yards to loose cubic yards when applying these data to *Worksheet No. 5*. Calculate separate dozer hauling of ripped material for each lift on that worksheet.**

Data Sources:
Strishock Coal Company, Permit 1760135
Caterpillar Performance Handbook, Edition 39

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Topsoil and revegetate haul roads and work area

Characterization of Loader Use (type, size, etc.):
Caterpillar 992K

Description of Loader Use (origin, destination, grade, haul distance, etc.):
Haul top soil from stockpile

Quantity	26,099 CY		Distance (ft):	500		Grade (%):	0
	Density (lb/lcy):	1600	Rolling Resistance (%):		3	Total Resistance (%):	3
Productivity Calculations:						Total Resistance (%):	3

Cycle Time = 0.45 (haul time loaded (min)) + 0.45 (return time empty (min)) + 0.65 (basic cycle time (min)) = **1.55 min**

Net Bucket Capacity = 15.0 (heaped bucket capacity (LCY)) x 0.87 (bucket fill factor*) = **13.05 LCY**

Hourly Production = 13.05 (net bucket capacity (LCY)) ÷ 1.55 (cycle time (min)) x 0.83 (efficiency factor) x 60 (hr) = **421 LCY/hr**

Hours Required = 26,099 (volume to be moved (LCY)) ÷ 421 (net hourly production (LCY/hr)) = **62.0 hr**

use 62.0 hr

*** See loader section of equipment manual.**

Data Sources:
Strishock Coal Company, Permit 1760135
Caterpillar Performance Handbook, Edition 39

WORKSHEET 5
PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:
Spread topsoil over pit and spoil areas

Characterization of Dozer Used (type, size, etc.):
Caterpillar D-9T Semi-U blade

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Volume (lcy): 13,050 Density (lb/lcy): 1600 Distance (ft): 50 Grade (%): 0

Productivity Calculations:

Operating Adjustment Factor = 0.75 (operator factor) x 0.70 (material factor) x 0.83 (efficiency factor) x 1.00 (grade factor) x 1.44 (weight correction factor) x 1.00 (production method/ blade factor) x 1.00 (visibility factor) x 1.00 (elevation factor) = **0.63**

Net Hourly Production = 2000 (normal hourly production (lcy/hr)) x 0.63 (operating adjustment factor) = **1258 LCY/hr**

Hours Required = 13,050 (volume to be moved (LCY)) / 1258 (net hourly production (LCY/hr)) = 10.4 hrs

use **11 hrs**

Use whichever is higher from Worksheets 5 & 8 **62.0 hr**

Note: Use twice the hours calculated, since one dozer will have to help loader, and one will spread topsoil in final area

Data Sources:
Strishock Coal Company, Permit 1760135
Caterpillar Performance Handbook, Edition 39

WORKSHEET 13
SUMMARY CALCULATION OF EARTHMOVING COSTS

Equipment *	Ownership & Operating Cost ($/hr)	Labor Cost ($/hr)	Total Hours Required **	Total Cost *** ($)
Caterpillar D-10, Semi-U Blade	$ 216.75	$ 43.38	3682	$ 957,798.66
Caterpillar 992K	$ 261.37	$ 43.38	107	$ 32,608.25
Caterpillar D9T with Semi-Universal Blade & Multishank Ripper	$ 174.57	$ 43.38	15	$ 3,269.25
			Grand Total of Earthmoving	**$ 993,676.16**

*** Be sure to include all necessary attachments and accessories for each item of equipment. Also, add support equipment such as water wagons and graders to match total project time as appropriate.**

**** Account for multiple units in truck and/or scraper teams**

***** Calculate the total cost for each item of equipment by adding the second and third columns (the ownership and operation and labor costs) and then multiplying that number by the fourth column (the total hours required).**

Data Sources:

Strishock Coal Company, Permit 1760135
Caterpillar Performance Handbook, Edition 39
Custom Cost Evaluator, http://www.equipmentwatch.com
Bureau of Labor Statistics, http://www.bls.gov/oes/current/oes_3710.htm
Society of Mining Engineers (SME) Mining Reference Handbook
OSM Handbook for Calculation of Reclamation Bond Amounts, Revised April 2000

WORKSHEET 14
REVEGETATION COSTS

Name and Description of Area To Be Revegetated:
Revegetate all disturbed areas

Description of Revegetation Activities:
Revegetat
e 96.6 ac with a pasture seed mix
Plant 680 trees/acre as in permit

Cost Calculation for Individual Revegetation Activities:
PA Rates = $1600/ac for revegetation, $102/acre for tree planting

Initial Seeding

96.6	x (	107	+	1600	) =	$ 164,896
area to be seeded (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

Planting Trees and Shrubs

96.6	x (	102	+		) =	$ 9,853
area to be planted (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Reseeding *

24.2	x (	107	+	1600	) =	$ 41,224
area anticipated to need reseeding (ac)		seedbed preparation costs ($/ac)		seeding, fertilizing, and mulching costs ($/ac)		

***Replanting Trees and Shrubs* ***

24.15	x (	102	+		) =	$ 2,463
area anticipated to need replanting (ac)		planting costs ($/ac)		herbicide treatment costs ($/ac)		

Other Necessary Revegetation Activities

(Examples of other activities that may be necessary include soil sampling, irrigation, and rill and gully repair. Describe each activity and provide a cost estimate with documentation. Use additional worksheets if necessary.)

TOTAL REVEGETATION COST = **$ 218,437**

* **Generally, the proportion of the area initially seeded and planted that is anticipated to need reseeding or replanting is determined on the basis of historic failure rates for similar sites and conditions. The same principle applies to determining the extent of seedbed preparation and soil amendments that may be needed as part of any reseeding or replanting effort. If anticipated failure rates vary within the area proposed for disturbance, use a separate worksheet for the area subject to each failure rate.**

Assumptions:

$_____ per acre includes seed mix, 2T/ac. mulch, 3T/ac. Lime, 50 lb/ac. Nitrogen, 100 lb/ac. Phosphorous, and 100 lb/ac. Potassium.
Second seeding at $____ per acre.
Assume 25% failure for second seeding.

Data Sources:

Strishock Coal Company, Permit 1760135
Per acre cost obtained from published PA reclamation rates for bonding calculations

WORKSHEET 15
OTHER RECLAMATION ACTIVITY COSTS

(Includes subsidence damage repair costs, water supply replacement costs, and funds required to support long-term treatment of unanticipated acid or ferruginous mine drainage.)

Description of Reclamation, Repair or Pollution Abatement Activity:
Lime addition as mentioned in the permit at 4 tons/acre on entire site
Fertilizer addition as mentioned in the permit at 350 lbs/acre on entire site
Removal of 3 impoundments

Assumptions:

Nitrogen per pound = $0.58
Phosphate per pound = $0.42
Potash per pound = $0.32
Fertilizer cost: 10-20-20 composition $ 0.21

Cost Estimate Calculations:

	Unit	Unit Cost	Total
Alkaline Addition	386.40	$ 25.69	$ 9,926.62
Fertilizer Addition	33,810.00	$ 0.21	$ 6,964.86
Removal of 3 sediment ponds	3	$ 5,000	$ 15,000
TOTAL COSTS =			**$ 31,891.48**

Other Documentation or Notes:

Pennsylvania published bonding rates were used to estimate the cost of the reqnired lime and fertilizer addition.

Data Sources:
Strishock Coal Company, Permit 1760135

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$ 5,000	
2 Total Earthmoving Costs		$ 993,676	
3 Total Revegetation Costs		$ 218,437	
4 Total Other Reclamation Activities Costs		$ 31,891	
5 Total Direct Costs (Sum of Lines 1 through 4)		$ 1,249,004	
6 Inflated Total Direct Costs (Line 5 times inflation factor*)			**$ 1,249,004**
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$ 37,470.13	
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$ 37,470.13	
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$ 37,470.13	
10 Contractor Profit/Overhead (See Graph 1)	**22.0% of line 6**	$ 274,780.96	
11 Project Management Fee (See Graph 2)	**4.5% of line 6**	$ 55,580.70	
12 Total Indirect Costs (Sum of Lines 7 through 11)			**$ 442,772**
13 Grand Total Bond Amount (Sum of Lines 6 and 120			**$ 1,691,776**

*Inflation factor = ENR Construction Cost Index (CCI) for current mo/yr / ENR CCI for mo/yr 3 years prior to current mo/yr = 1 / 1 = 1.00

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

* This calculation does not reflect an inflation factor because the purpose of the calculation is to determine if the posted bond is sufficient for the current conditions.

Data Sources:
Strishock Coal Company, Permit 1760135

WORKSHEET 16
RECLAMATION BOND SUMMARY WORKSHEET

1 Total Facility and Structure Removal Costs		$ 5,000		
2 Total Earthmoving Costs		$ 993,676		
3 Total Revegetation Costs		$ 218,437		
4 Total Other Reclamation Activities Costs		$ 31,891		
5 Total Direct Costs (Sum of Lines 1 through 4)		$ 1,249,004		
6 Inflated Total Direct Costs (Line 5 times inflation factor*)			**$**	**1,420,118**
7 Mobilization/Demobilization (1%-10% of Line 6	**3% of line 6**	$ 42,603.54		
8 Contingencies (3%-5% of Line 6)	**3% of line 6**	$ 42,603.54		
9 Engineering Redesign Fee (2.5%-6% of Line 6)	**3% of line 6**	$ 42,603.54		
10 Contractor Profit/Overhead (See Graph 1)	**21.0% of line 6**	$ 298,224.78		
11 Project Management Fee (See Graph 2)	**4.4% of line 6**	$ 62,485.19		
12 Total Indirect Costs (Sum of Lines 7 through 11)			**$**	**488,521**
13 Grand Total Bond Amount (Sum of Lines 6 and 120			**$**	**1,908,639**

*Inflation factor = 1.137

Identify current mo/yr used in formula above _____

Identify prior mo/yr used in formula above _____

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

Data Sources:

Strishock Coal Company, Permit 1760135

Appendix G. OSM Bond Forfeiture Inspections

Laurel Land Development Surety Reclamation
Permit Number 11980103
Cambria District Office

U.S. DEPT. OF INTERIOR

OFFICE OF SURFACE MINING

INSPECTION NARRATIVE: Laurel Land Development, Inc.; McFadden #2

Inspector Number: 019

Inspection Date: April 27, 2010

Mine Site: Laurel Land Development, Inc. McFadden #2

Weather: At approximately 11:00 a.m., the weather was clear and in the mid 40s

Latitude: N 40° 29' 25"

Longitude: W -78° 51' 00"

Permit: 11980103

Subject: Bond Forfeiture Inspection "OBF"

This inspection was conducted by OSM Reclamation Specialist Kathleen G. Sheehan.

Site History:

The permit for this site was originally issued on August 10, 1999. On November 22, 2000, a request was made by Operator, Laurel Land Development ("LLD") for release of bond totaling $39,780. The total bond at that time was for $119,300. The release requested was for Stage I because the area had been backfilled to approximate original contour and all erosion and sedimentation controls were in place.

On February 15, 2001, a release of $29,420 was approved, covering 22.5 acres for Stage I release.

On April 2, 2003, Operator submitted a request for Stage I bond release on the remaining acreage. A hydrologic review was performed and it was determined that there was degradation of water quality on and off the permit. Specifically, the unnamed tributary to South Branch of Blacklick Creek was observed to have an increase in acidity and manganese levels exceeding the mandatory stream criteria. Additionally, it was discovered that post-mining discharge, at monitoring point, DE did not meet effluent criteria as the pH had decreased, aluminum had significantly increased and acidity exceeded alkalinity. DEP advised LLD, " [i]n order to secure the release of your bonds, you must submit a new completion report and take the following correction actions: Permanently abate degradation of unnamed tributary to South Branch Blacklick Creek by decreasing acidity and decreasing in-stream manganese in order to meet Chapter 93 requirements."

LLD filed for voluntary Chapter 7 Bankruptcy on September 24, 2003.

A Consent Order and Agreement ("CO&A"), attached hereto, in relevant part, as "Exhibit A", was entered into on July 11, 2005, whereby the surety, Rockwood Casulty Insurance Company, agreed to conform with an established Reclamation Plan in exchange for the Department's guarantee they will waive the collection of the remaining bonds, totaling $69,300.00.

Current Status:

The site has been reclaimed consistent with the reclamation plan approved by the Department pursuant to the CO&A. However, there has been no provision made for the treatment of the water that has been degraded as a result of mining. These circumstances are consistent with the criteria for establishing a mine drainage treatment trust; yet none is in place. The water remains degraded.

While onsite on April 27, 2010, the monitoring points initially tested in 2003—12A and DE—and found to be degraded were observed. However, on the date of inspection DE appeared dry. There is no evidence to support DE is permanently desiccated.

All other aspects of reclamation appear to be consistent with the plan established in the CO&A. Vegetation was quite thick, deciduous and coniferous trees were growing well, sedimentation ponds were in place and producing quality wildlife habitat.

OSM Recommendation:

Consultation with DEP should be made to inquire why the degraded water has not been addressed and what methods, if any, of alternative enforcement were pursued to hold LLD responsible for perpetual treatment of the water.

Hamilton, David S. "Dave"

From: Carl, Bruce A [brcarl@state.pa.us]
Sent: Thursday, April 29, 2010 2:11 PM
To: Hamilton, David S. "Dave"
Subject: RE: Permit 11980103 Laurel Land Development

Dave,

Yes- $19,389 was conversion assistance bond under bond instrument no. 484049CFG issued 4/24/2002. The remainder of the $99,309 was in remining financial guarantees - $29,420 BI No. 484039FG, $10,800 BI No. 484058FG, and $39,700 BI No. 484073

Bruce Carl | Chief, Compliance Section
Department of Environmental Protection
Bureau of Mining and Reclamation
Rachel Carson State Office Building
400 Market Street | Harrisburg, PA 17101
Phone: 717.783.3516 | Fax: 717.783.4675
brcarl@state.pa.us
www.depweb.state.pa.us

-----Original Message-----
From: Hamilton, David S. "Dave" [mailto:dhamilton@osmre.gov]
Sent: Thursday, April 29, 2010 1:21 PM
To: Carl, Bruce A
Subject: Permit 11980103 Laurel Land Development

Hi Bruce. The bond forfeited permit has $99,309 in bonds forfeited and $69,300 held by Rockwook waived upon its reclamation. Were the $99,309 bonds forfeited, Conversion assistance, or remining financial assurances?

Tracking No 05204

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of:	: Bond Forfeiture
	: Surety Reclamation
Rockwood Casualty Insurance Company	: SMP 11950102
	: SMP 11980103
	: GFCC 11-01-01

CONSENT ORDER AND AGREEMENT

This Consent Order and Agreement is entered into this 19th day of July 2005, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and Rockwood Casualty Insurance Company.

A. The Department is the agency with the duty and authority to administer and enforce The Surface Mining Conservation and Reclamation Act, Act of May 31, 1945, P.L. 1198, as amended, 52 P.S. § 1396.1 *et seq.*, ("Surface Mining Act"); The Coal Refuse Disposal Control Act, Act of September 24, 1968, P.L. 1040, as amended, 52 P.S. § 30.51 *et seq.* ("Coal Refuse Disposal Act"); The Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended, 35 P.S. § 691.1 *et seq.* ("Clean Streams Law"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, as amended, 71 P.S. § 510-17, ("Administrative Code"); and the rules and regulations promulgated thereunder.

B. Rockwood is a Pennsylvania corporation whose business includes, among other things, the issuance of bonds, as surety, on behalf of operators of coal surface mines, as principal, in favor or the Commonwealth, as obligee. Rockwood has a business address of 654 Main Street, Rockwood, Pennsylvania 15557-1029.

C. Laurel Land Development, Inc. ("Laurel Land") is a corporation with a business address of P. O. 629, Carrolltown, Pennsylvania 15722, whose business included the mining of coal by the surface method. On September 24, 2003, Laurel Land filed a voluntary Chapter 7 petition in the United States Bankruptcy Court for the Western District of Pennsylvania.

D. At all times material hereto, Laurel Land was authorized to conduct surface mining in Pennsylvania pursuant to Surface Mining Operator's License No. 1451.

E. At all times material hereto, Laurel Land has operated surface mines in Jackson Township and Blacklick Township, Cambria County, pursuant to Surface Mine Permit No. 11950102 ("McDermott Job"), Surface Mine Permit No. 11980103 ("McFadden No. 2 Job") and Government Financed Construction Contract No. 11-01-01 ("Lillian Neal").

F. Rockwood issued the following surety bonds for the McDermott Job:

Bond No. ISM 1466	$49,800.00
Bond No. ISM1480	$7,700.00
Bond No. ISM 1516	$24,100.00
Bond No. ISM1541	$12,000.00
Bond No. ISM 1577	$25,200.00
Bond No. ISM 1660	$34,000.00
Bond No. ISM 1691	$24,600.00
Bond No. ISM 1710	$8,300.00
Bond No. ISM 1891	$1,400.00

for a total amount of $187,100.00.

G. Rockwood issued the following surety bonds for the McFadden No. 2 Job:

Bond No. ISM 1779	$11,000.00
Bond No. ISM 1844	$28,300.00
Bond No. ISM 1906	$30,000.00

for a total amount of $69,300.00.

H. Rockwood issued a performance and warranty bond for the Lillian Neal GFCC 11-01-01, Bond No. ISB 2167, in the amount of $24,000.00.

I. On the McDermott Job, there are approximately 35 acres unreclaimed. There are two open pits and numerous ash stockpiles. Laurel Land's mining activities degraded the nearby Sherry Spring and two monitoring points, MD-3 and MD-5. On January 2, 2003, the Department ordered Laurel Land to treat MD-3 and MD-5. Laurel Land appealed the order to the Environmental Hearing Board (Docket Number 2003-033-R). The appeal was dismissed on February 24, 2004 "as a sanction pursuant to 25 Pa. Section 1021.161", because Appellant has not filed its pre-hearing memorandum.

J. On the McFadden No. 2 Job, there are approximately 10 acres that need to be regraded. In addition, Laurel Land's mining degraded an unnamed tributary to South branch Blacklick, as demonstrated by water samples taken at Monitoring Point 12A. The Department denied an application for bond release on October 20, 2003. Laurel Land did not appeal that denial.

K. On the Lillian Neal GFCC, there are 5.7 acres of which approximately 1 ½ acres require reseeding.

L. By letter, dated June 16, 2003, the Department notified Laurel Land Development, Inc., and Rockwood of the Department's intent to declare forfeit the bonds posted for the McDermott Job. The letter stated that this action was necessary due to numerous violations of the law, including but not limited to: failure to adequately

construct and maintain treatment facilities, failure to backfill and grade concurrently with mining, removal of backfilling equipment from mine site without approval from the Department, failure to comply with an order of the Department, and failure to maintain liability insurance for the duration of mining and reclamation operations.

M. The Department and Rockwood have met.

N. The Department has stated that it intends to forfeit the bonds posted for the McDermott, McFadden No. 2 and Lillian Neal jobs listed in Paragraphs F, G and H, due to numerous violations of the law, including but not limited to: failure to adequately construct and maintain treatment facilities, failure to backfill and grade concurrently with mining, removal of backfilling equipment from mine site without approval from the Department, failure to comply with an order of the Department, and failure to maintain liability insurance for the duration of mining and reclamation operations. Also, Laurel Land has abandoned the permit areas, has failed in business, has filed a petition in bankruptcy and cannot demonstrate the ability to continue to operate in compliance with applicable law.

O. Rockwood has agreed not to appeal or otherwise contest before the Environmental Hearing Board. Rockwood has previously told Laurel Land that Rockwood considers Laurel Land to have defaulted on its obligations to Rockwood.

P. On or about November 1, 2004, Minetech Engineers submitted on behalf of Rockwood Casualty Insurance Company a proposed plan for reclamation of the three (3) mine sites listed in Paragraphs F, G and H ("Reclamation Plan"). By this Consent Order and Agreement, the Department has approved of the Reclamation Plan, which is incorporated by reference and attached hereto as Exhibit A.

Q. Pursuant to this Consent Order and Agreement, the Department is willing to irrevocably waive collection of the Rockwood Bonds and allow the other relief provided herein contingent upon Rockwood's completion of the Reclamation Plan.

R. The Parties desire to resolve the foregoing matters without resort to further litigation.

ORDER AND AGREEMENT

After full and complete negotiation of all matters set forth in this Consent Order and Agreement and upon mutual exchange of covenants contained herein, the Parties desiring to avoid litigation and intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by Rockwood.

1. **Authority**. This Consent Order and Agreement is an Order of the Department authorized and issued pursuant to Section 5 of the Clean Streams Law, 35

P.S. § 691.5; Sections 4.2 and 4.3 of the 52 P.S. §1396.4b and 1396.4c; Section 3.1 of the 52 P.S. § 30.53a; and Section 1917-A of the Administrative Code, 71 P.S. § 510-17.

2. Findings.

a. Rockwood agrees that the findings in Paragraph A through R are true and correct and, in any matter or proceeding involving Rockwood and the Department, Rockwood shall not challenge the accuracy or validity of the findings.

b. The parties do not authorize any other persons to use the findings in this Consent Order and Agreement in any matter or proceeding.

3. The Bonds.

a. The surety bonds described in Paragraphs F, G and H are hereby declared forfeit.

b. Rockwood shall not appeal the forfeiture to the Environmental Hearing Board or otherwise contest the forfeitures in the Bankruptcy Court or any other court.

e. As is fully described in Paragraphs 4 and 6 below, the Department agreed to waive collection of the surety bonds once Rockwood completes the Reclamation Plan.

4. The Reclamation Plan. The Reclamation Plan (attached as Exhibit A) is approved by the Department and is incorporated herein as an obligation of Rockwood under this Consent Order and Agreement. Rockwood is authorized to conduct the activities required by the approved Reclamation Plan and need not obtain any additional authorizations from the Department. The Department's waiver of collection in accordance with Paragraph 6 and agreement to settlement and release in Paragraph 10 are in consideration of Rockwood's implementation of the approved Reclamation Plan in accordance with Paragraph 5. The Reclamation Plan comprises Rockwood's full and total obligation regarding reclamation of the McDermott, McFadden and Lillian Neal Jobs, as authorized by Section 4(h) of the SMCRA.

5. Schedule of Reclamation Activities. Rockwood shall complete the construction and reclamation activities identified in the Reclamation Plan according to the schedule set forth below. .

a. Revegetation. Following completion of regrading activities associated with construction, removal and modifications identified in the Reclamation Plan, Rockwood shall revegetate the areas it has disturbed with various types of cover including perennial grasses, herbaceous legumes, annual grasses, and trees:

(1) This revegetation shall be accomplished on or before September 30, 2005 for McFadden No. 2 and Lillian Neal; and

(2) This revegetation shall be accomplished by May 30, 2007 for McDermott.

b. Completion Defined.

(1) For purposes of this Consent Order and Agreement, "completion" means that:

a) all notarized landowner release letters have been obtained for any remaining structures, and

b) all construction, removal, modification, regrading, and successful seeding has been accomplished in accordance with the approved Reclamation Plan.

any problems remain?

(2) For purposes of this Consent Order and Agreement, "successful seeding" is defined as the achievement of 70% vegetative cover after one complete growing season following completion of all construction, removal, modification, regrading, and revegetation set forth in the Reclamation Plan.

6. **Procedures Relating to the Department's Waiver of Bond Collection.**

a. The Department has agreed to waive collection of the associated Rockwood Bonds upon completion of work required for each permit. Although Rockwood is required to complete the work set forth in the Reclamation Plan no later than the dates set forth in Paragraph 5 above, Rockwood may request that the Department waive collection of any applicable Rockwood Bonds at any time by submitting a written notice to the Department that specifies the work that has been completed in accordance with the Reclamation Plan. The Department has agreed to respond in writing to any such request within forty-five (45) days of receipt of notice. In the event that the Department disapproves of Rockwood's request, the Department's response will identify specific actions that must be undertaken in order for the Department to approve the requested waiver.

b. The Department agrees that Rockwood's obligations under the surety bonds identified in paragraphs F, G and H respecting each permit site apply separately to each identified permit site and do not apply in the aggregate to all permit sites collectively. The Department also agrees that the Reclamation Plan applies separately to each permit site as identified therein and acknowledges that completion of

RECEIVED

JUL 15 2005 JUL 05 2005

reclamation activities at one permit site shall not affect the rights or obligations of either party as respect to the other permit sites.

7. **Limitation of Liability.** For purposes of this Consent Order and Agreement, Rockwood shall not by virtue of this Consent Order and Agreement or any activities hereunder; (i) be deemed an "operator of a mine" or an "occupier of land" or a party related to Laurel Land under Section 315 or 316 of the Clean Streams Law, 35 P.S. §§ 691.315 or 691.316, or under the Surface Mining act or any regulations promulgated thereunder; or, (ii) be deemed to have assumed any liabilities or obligations of Laurel Land except to the extent expressly set forth in this Consent Order and Agreement. This Consent Order and Agreement is not intended to create rights in any parties other than those who have signed below.

8. **Force Majeure.**

a. In the event that Rockwood is prevented from complying in a timely manner with any time limit in this Consent Order and Agreement solely because of a strike, fire, flood, act of God, or other circumstances beyond Rockwood's control and which Rockwood, by the exercise of all reasonable diligence, is unable to prevent, then Rockwood may petition the Department for an extension of time. An increase in the cost of performing the obligations set forth in this Consent Order and Agreement shall not constitute circumstances beyond Rockwood's control.

b. Rockwood shall only be entitled to the benefits of this paragraph if it notifies the Department within five (5) days by telephone and within ten (10) working days in writing of the date it becomes aware or reasonably should have become aware of the event impeding performance. The written submission shall include all necessary documentation, as well as a notarized affidavit from an authorized individual specifying the reasons for the delay, the expected duration of the delay, and the efforts which have been made and are being made by Rockwood to mitigate the effects of the event and to minimize the length of the delay. The initial written submission may be supplemented within 10 working days of its submission. Rockwood's failure to comply with the requirements of this paragraph specifically and in a timely fashion shall render this paragraph null and of no effect as to the particular incident involved.

c. The Department will decide to grant all or part of the extension requested on the basis of all documentation submitted by Rockwood and other information available to the Department. In any subsequent litigation, Rockwood shall have the burden of proving that the Department's refusal to grant the requested extension was an abuse of discretion based upon the information then available.

9. **Additional Acknowledgements.** Rockwood's performance or reclamation obligations under this Consent Order and Agreement shall be in Rockwood's capacity as surety. Rockwood shall not, by virtue of this Consent Order and Agreement or any of its contractor's activities hereunder: (a) be deemed an owner, occupier, permittee or operator of any surface mine site or mine drainage treatment system under

the Clean Streams Law or the SMCRA or any regulations promulgated thereunder; or (b) be deemed to have assumed any liabilities or obligations of Laurel Land, except as expressly set forth in this Consent Order and Agreement. This Consent Order and Agreement is not intended to create rights in any party other than Rockwood.

10. **Settlement and Release.** The Department accepts Rockwood's performance of the Reclamation Plan as full settlement and compromise of the Department's claims concerning the Rockwood Bonds. So long as Rockwood complies with this Consent Order and Agreement, the Department releases and forever discharges Rockwood and its officers, shareholders, agents, attorneys, employees, successors and assigns from any and all claims and demands of whatsoever nature or kind, at law or in equity regarding the Rockwood Bonds and the McDermott Job, McFadden No. 2 Job, and the Lillian Neal GFCC.

11. **Decisions Under the Consent Order and Agreement.** With the exception of any determinations by the Department under Paragraph 6 or 17 of this Consent Order and Agreement (i.e., waivers of collection of the Rockwood Bonds), any decision or determination made by the Department regarding the terms and obligations of this Consent Order and Agreement shall not be deemed to be a final action of the Department and shall not be appealable to the Environmental Hearing Board or to any court. Any objection which Rockwood may have to the decision will be preserved until the Department enforces this Consent Order and Agreement. In the event of any appeal of a determination by the Department under Paragraph 6 or 17 of this Consent Order and Agreement, the Department agrees not to take action to collect the Rockwood Bonds unless and until the appeal is resolved in favor of the Department.

12. **Correspondence with Department.** All correspondence with the Department concerning this Consent Order and Agreement shall be addressed to:

Donald Barnes
District Mining Manager
Cambria Office
286 Industrial Park Road
Ebensburg, Pennsylvania 15931

With a courtesy copy to:

Martin Sokolow, Attorney
Southcentral Region Litigation
Pennsylvania Department of Environmental Protection
P. O. Box 8464
Harrisburg, Pennsylvania 17110-8200

Service of any notice or any legal process for any purpose under this Consent Order and Agreement, including its enforcement, may be made by mailing a copy by first-class mail to the above addresses. Either or both of the foregoing addresses

may be changed by the Department providing written notice to Rockwood. Any notice provided hereunder shall be deemed delivered and effective seven days after the date of mailing as aforesaid.

13. **Correspondence with Rockwood**. All correspondence with Rockwood concerning this Consent Order and Agreement shall be addressed to:

Rockwood Casualty Insurance Company
654 Main Street
Rockwood, Pennsylvania 15557-1029
Attn: Philip S. Kift, General Counsel

Service of any notice or any legal process under this Consent Order and Agreement, including its enforcement, may be made by mailing a copy by first-class mail to the above addresses. Either or both of the foregoing addresses may be changed by Rockwood providing written notice to the Department. Any notice provided hereunder shall be deemed delivered and effective seven days after the date of mailing as aforesaid.

14. **Entire Agreement**. This Consent Order and Agreement shall continue the entire integrated agreement of the Parties. No prior or contemporaneous communications or prior drafts shall be relevant or admissible for purposes of determining the meaning or extent of any provisions herein in any litigation or any other proceeding.

15. **Attorney Fees**. The parties shall bear their respective attorney fees, expenses and other costs in the prosecution or defense of this matter or any related matters, arising prior to execution of this Consent Order and Agreement.

16. **Modifications**. No changes, additions, modifications or amendments of this Consent Order and Agreement shall be effective unless they are set out in writing and signed by the Parties hereto.

17. **Notice; Collection**.

a. If the Department determines that Rockwood has failed to comply in a timely manner with any requirements of this Consent Order and Agreement, the Department shall give written notice to Rockwood stating in detail in what respect(s) Rockwood has failed to comply with these requirements. Rockwood shall reply to the Department in a timely manner, but in no event later than 30 days after receipt of the notice, and identify actions Rockwood has taken and/or proposes to take, if any, to address the Department's concerns, including a proposed schedule of work.

b. The Department agrees that it will not seek to collect all or any portion of the Rockwood Bonds prior to following the procedure set forth in Paragraph 17 a.

IN WITNESS WHEREOF, the parties hereto have caused this Consent Order and Agreement to be executed by their duly authorized representatives. The undersigned representatives of Rockwood certify under penalty of law, as provided by 18 Pa. C.S. §4904, that they are authorized to execute this Consent Order and Agreement on behalf of Rockwood; that Rockwood consents to the entry of this Consent Order and Agreement as a final ORDER of the Department; and that Rockwood hereby knowingly waive their rights to appeal this Consent Order and Agreement and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, the Act of July 13, 1988, P.L. 530, No. 1988-94, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provision of law. Signature by Rockwood's attorney certifies only that the agreement has been signed after consulting with counsel.

EXHIBIT A

RECLAMATION PROPOSAL

FOR

LAUREL LAND DEVELOPMENT, INC.

SMP# 11950102 – McDermott Job

SMP# 11980103 – McFadden No. 2 Job

GFCC 11-01-01 – Lillian Neal

Operations Bonded By Rockwood Insurance Company

Prepared By:
Minetech Engineers, Inc.
Altoona, PA

November 1, 2004

SMP# 11980103 – McFadden No. 2 Job

TASK NO. 1 – REMOVAL OF SEDIMENTATION POND SP-A1

This task consists of furnishing all labor and equipment and performing all operations in association with the removal of the existing sedimentation pond and associated ditch SD-A1-1. The embankment material is to be used to fill the pond and grade the area to match the surrounding contour. The ditch is also to be graded out to match the surrounding contour. Upon completion of grading, all affected area is to be seeded and mulched in accordance with Task No. 5 – Revegetation.

TASK NO. 2 – MODIFICATION OF SEDIMENTATION POND SP-A

This task consists of furnishing all labor and equipment and performing all operations in association with the modification of Sedimentation Pond SP-A to a wildlife enhancement area. The pond has developed into a wildlife habitat, which will remain on-site with landowner consent. The existing emergency spillway is to be lowered to match the elevation of the existing water level in the pond. The emergency spillway is to be installed to the same width dimensions as the existing spillway and seeded and mulched in accordance with Task No. 5 – Revegetation.

TASK NO. 3 – REPAIR OF SEDIMENTATION DITCH SD-A1

This task consists of furnishing all labor and equipment and performing all operations in association with the repair of the sedimentation ditch. The initial 300' section of the ditch beginning at its entry point into Pond SP-A is to be repaired as needed and lined with available on site rock encountered during regrading. An additional 250' section of the ditch beginning at the point where it crosses under the access road and extending southward is to be reinstalled and then seeded and mulched in accordance with Task No. 5 – Revegetation.

TASK NO. 4 – MODIFICATION OF SEDIMENTATION POND SP-C

This task consists of furnishing all labor and equipment and performing all operations in association with the modification of Sedimentation Pond SP-C to a wildlife enhancement area. The pond has developed into a wildlife habitat, which will remain on-site with landowner consent. The southern and eastern embankments are to be lowered approximately six feet, with the excavated material used to generate a gentle inslope to the wildlife habitat area. The existing emergency spillway is to be lowered to match the elevation of the existing water level in the pond. The emergency spillway is to be installed to the same width dimensions as the existing spillway and extended to provide a stable flowpath towards the receiving stream. All affected area is to be seeded and mulched in accordance with Task No. 5 – Revegetation.

TASK NO. 5 - REVEGETATION

Upon completion of grading, all affected area is to be limed, fertilized, seeded and mulched. The work shall consist of preparation of the seedbed, furnishing and placing pulverized agricultural limestone at the rate of three (3) tons per acre, 10-20-20 commercial fertilizer at the rate of 300 pounds per acre, seed at the rate of 50 pounds per acre (15 lb. Annual Ryegrass, 7.5 lb. Tall Fescue, 2.5 lb. Redtop, 7.5 lb. Empire Birdsfoot Trefoil, 5.0 lb. Climax Timothy, 5.0 lb. Orchardgrass & 7.5 lb. Alsike Clover) and mulch at the rate of three (3) tons per acre, and maintaining the seeded areas. Seeding will be performed as soon as possible following the completion and approval of final grading, and the incorporation of soil supplements. If erosion occurs between the time of final grading and time of seeding, the Contractor shall replace the fine soil materials that were eroded away and regrade all eroded areas to reestablish the final grade. Vegetation will be maintained for one full growing season.

Ed Hanslovan Coal Company Surety Reclamation
Permit Number 17980101
Moshannon District Office

OFFICE OF SURFACE MINING INSPECTION NARRATIVE

Inspector Number: 011
Inspection Date: April 28th, 2010
Mine Site: Ed Hanslovan Coal Company, Inc. "Tower North #2"
Weather: Sunny 50°
Latitude: N 40°57'48''
Longitude: W -78°45'45''
Permit: 17980101
Subject: Bond Forfeiture Inspection

Inspection Summary: This inspection was conducted by OSM inspector Thomas Koptchak. The purpose of this inspection was to evaluate the status of reclamation on the above referenced forfeited surface mine. The total acreage for the original permit was 214.2 acres with 127.5 acres planned to be affected. The following coal seam was authorized to be mined: Upper Freeport (E). Permit was for surface mining/Auger mining, and the method of mining was contour. Permit status is listed as Bond-Forfeiture/ Under Reclamation and was issued on February 9th, 2000 and expired on February 9th, 2005. This permit was a transfer from M.B. Energy dated November 7th, 2000. Review of the original reclamation plan showed the post mining land-use is forestland. Species included: bristley locust, black birch, black cherry, black locust, paper birch, sycamore, white ash, virginia pine, white pine, and yellow poplar (700/acre). Re-vegetation consisted of 3 tons/acre of lime and 300 pounds/acre of fertilizer and the following temporary cover: oats, annual rye grain, johnstone, tall fescue, and birdsfoot trefoil. Also, the original backfilling plan called for the operator to conduct alkaline addition in the vicinity of drill holes 1, 2, 3, and 4 in the southern portion of the permit area. Alkaline material was to be applied at a rate of 100 tons/acre and mixed into the spoil and the remainder applied to the pit floor. The backfilled area was to be returned to approximate original contour.

Permit was forfeited on July 1st, 2005. Forfeited bonds consisted of a Surety bond in the amount of $43,300 and $317,700 of Land Reclamation Financial Guarantee Bond issued by the State. The Department entered into a Consent Order and Agreement with Rockwood Casualty Insurance Company on July 25th, 2007 to complete the reclamation on this site. Forfeiture was in response to outstanding violations including, but not limited to: failure to complete reclamation of the mine site, failure to backfill and re-grade all affected areas, failure to maintain erosion and sediment controls, failure to pay outstanding civil penalties, failure to comply with an order of the Department, and failure to maintain liability insurance. As part of the CO&A Rockwood, with input from the Department, was to submit a reclamation plan to the Department by July 31st, 2007. A scope of work was included in the original CO&A as exhibit B. Work included: backfilling the open pit (to approximate original contour), replacing topsoil or best available material, re-vegetating approximately 20 acres (oats, annual rye grain, johnstone, tall fescue, birdsfoot trefoil) , best management practice of adding alkaline material interspersed throughout the backfill, and after one year of successful re-vegetation sedimentation pond A and associated collection ditches are to be removed.

Based of permit review and discussions with the State bids for reclamation were sent out on October 29th, 2007. Following receipt and review of the four bids on November 12th, 2007 it was

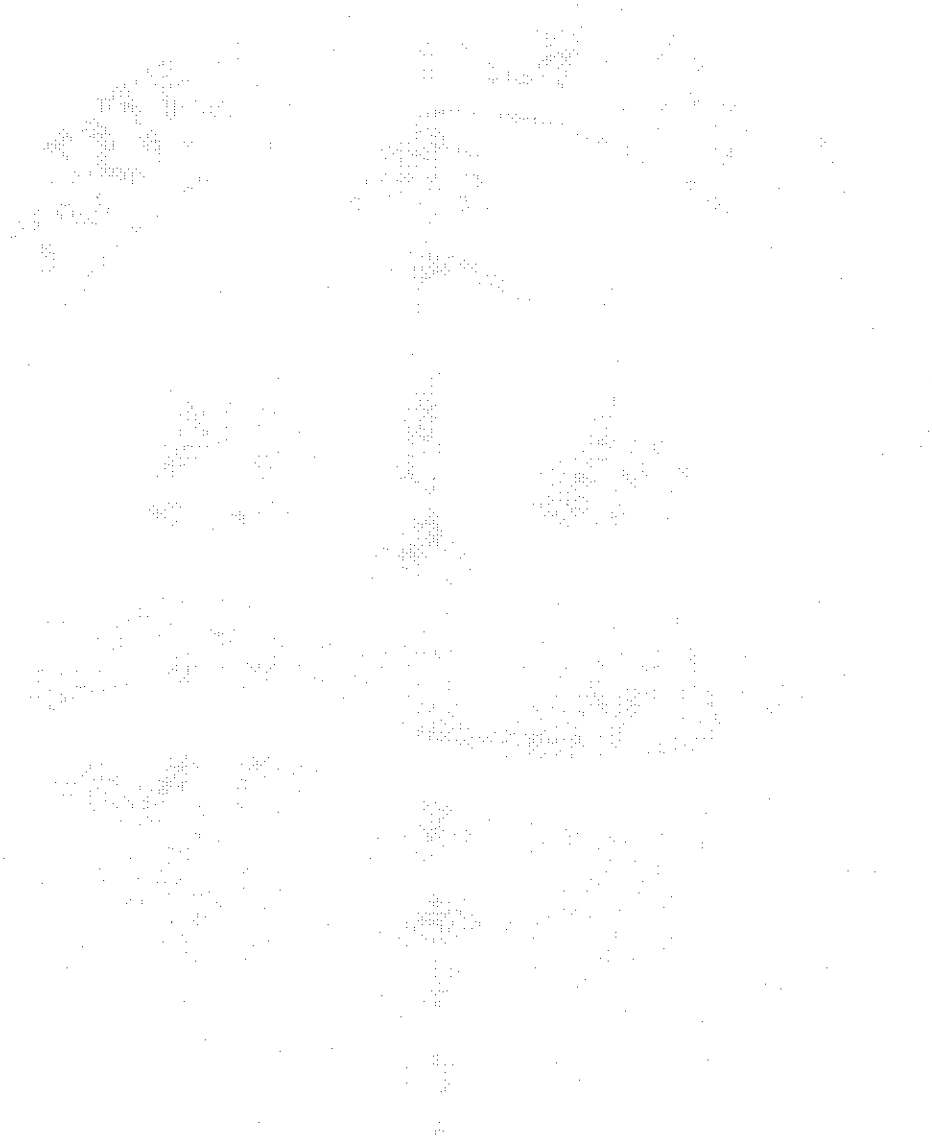
determined the bid costs exceeded the funding available. At this point Moshannon DMO modified the scope and configuration of the project to reduce reclamation costs and obtain a contractor using available funds. This revision included the deletion of the original plan to transport the 14,000 cubic yards of alkaline material from the adjoining site, reduction in grading to approximately 200,000 cubic yards of material, and the area requiring selective grading was adjusted to approximately 9.3 acres. All grading and seeding work was expected to be completed by the end of the 2008 fall planting season. Tree planting was to be completed as late as the spring 2009 planting season. Revised bids using the above mentioned modifications to the reclamation plan were due February 4th, 2008. Under the revised reclamation plan the work consists of: backfilling open pit (to alternate AOC, ~200,000 cubic yards), Re-vegetation of approximately 25 acres placing agricultural limestone at a rate of 4 tons/acre, commercial fertilizer at a rate of 500 pounds/acre, and seed at a rate of 50 pounds/acre (annual ryegrass, tall fescue, redtop, empire birdsfoot trefoil, climax timothy, orchard grass, alsike clover), Tree planting (red pine, European alder or Japanese larch (680/acre)). On July 21st, 2009 the reclamation plan was again slightly modified. These modifications included: Sedimentation pond 1 and ditch SD-1 will remain as post reclamation structures, final soil cover shall consist of all existing topsoil piles plus best available material encountered, re-vegetation with limestone, and fertilizer rates adjusted off soil analysis (birdfoot trefoil 10#, redtop 5#, timothy or orchard grass 10#), tree planting (red oak, black cherry, and white pine (100/acre)). Work was slated for completion by June 30th, 2010.

This inspection commenced at approximately 2:00 pm and site was accessed via the coordinates noted above. Upon entering the site the contractor was actively backfilling the pit area. During the inspection I spoke with John Robbins "Machine Operator" who pointed out the available topsoil pile. According to Mr. Robbins work began in November of 2009. During this inspection I reviewed two post-mining discharges (MP-S2 and MP-RS). Neither of these discharges has been entered into the State's Sample Information System, nor has the State been actively sampling these discharges. The last samples collected by the State are from 2003-2004 timeframe. Both discharges were flowing at an estimated .5 gpm during this inspection. MP-S2 emanates within the embankment of sediment pond 2 at the toe of spoil. Field ph of this discharge was 5.1 during this inspection. Based on DEP samples this discharge is characteristically acidic with elevated levels of manganese and aluminum. MP-RS is located south of sediment pond 2 directly below the collection ditch. This discharge emanates in various locations along the wood line. Field pH was 4.8 during this inspection. Based on DEP samples this discharge is characteristically acidic with elevated levels of manganese. Sediment pond 2 was holding water and discharging at the time of this inspection at approximately .5 gpm. Ponds embankments were well vegetated, although water was leaching through the downslope embankment of the pond around the drawdown pipe. Field pH of pond discharge was 4.6. All discharges flow into UNT to Curry Run.

OSM Inspector Concerns/Recommendations:

After permit review it is clear that the reclamation contract does not mirror that of the original permit reclamation plan. The original CO&A reclamation plan seems to be more consistent with that of the permit. Due to the multiple revisions the current reclamation plan has been altered in order to sufficiently fund this project. This project is further complicated by the two above

referenced post-mining discharges. Conversations with the State revealed that they anticipate that after backfilling and re-vegetation of the site these discharges will be eliminated. If the discharges are not eliminated no plans are in place to treat these discharges. It has been documented throughout the permit that a portion of the permit area has acidic overburden. Without the alkaline addition outlined in the original permit there may be a high probability that these discharges will remain post reclamation. Although, no landowner sign-offs were located at the time of my review the State has informed me that all necessary sign offs have been obtained and copies can be furnished upon request.



Hamilton, David S. "Dave"

From: Smith, Michael W. (DEP) [michaesmit@state.pa.us]
Sent: Monday, May 03, 2010 2:42 PM
To: Hamilton, David S. "Dave"
Cc: Morrison, Richard S; Confer, Terry; Carrello, Mario
Subject: FW: Comptroller CAFG memos
Attachments: Conversion Assistance memo from Comptroller.pdf; Conversion Assistance memo to Comptroller.pdf

Dave: Here's the memos to and from the Comptroller that authorize us to do the Hanslovan reclamation project as a co-surety reclamation agreement. The percentages are different that those at the Tower North site (which was 87.52% & 12.48%) but are still based on the proportionate share of bond between DEP and Rockwood. At the time, we thought the need would be with the Clover Run site, which ended up being transferred to Waroquier, and that the Tower North site would probably be taken over by another company. Turns out we were 180 degrees opposite.

By the way, I checked the numbers - there's not as much left "on the table" as you think. The $299,318.40 is the amount DEP will pay for reclamation. The total cost of reclamation is $342,000 which is $330,000 plus $12,000 earmarked for Rockwood's engineering costs. That leaves $21,000. I'm sure we have more than that much in administrative staff time and had this gone to a bid contract, it would have easily exceeded $363,000

P.s. You'll be happy to know we will be doing FRA on this reclamation site.

-----Original Message-----
ın, Richard
day, November 01, 2006 11:50 AM
chael W. (DEP)
liam (DEP)
W: Comptroller CAFG memos

Mike:

Attached are copies of the legal memo prepared for the Comptroller regarding use of conversion assistance funds for surety reclamation, and the Comptroller's responding memo which includes description of terms that Comptroller wants in the COA. Let me know if you have questions.

Richard S. Morrison
Bureau of Regulatory Counsel
717-783-8073

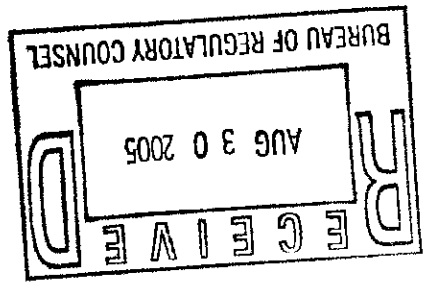
-----Original Message-----
r, Brooke A
day, November 01, 2006 9:33 AM
Richard
canning

Richard,
You can rename them if you want.

COMMONWEALTH OF PENNSYLVANIA

DATE: August 29, 2005

SUBJECT: Use of Conversion Assistance Financial Guarantee Funds
Rockwood Insurance Company



TO: Richard S. Morrison, Assistant Counsel
Bureau of Regulatory Counsel
Department of Environmental Protection

FROM: Mary K. DeLutis Mary K. DeLutis
Comptroller
Department of Environmental Protection

Our office has reviewed your proposal and defers to your legal opinion that the conversion assistance financial guarantee funds can be used to fund the department's share of reclamation costs to be undertaken by the Rockwood Insurance Company (surety company).

As indicated in your proposal, the Bureau of Mining and Reclamation will enter into a Consent Order and Agreement with the surety company to facilitate the reclamation of the forfeited mine site. The Consent Order and Agreement should include payment terms indicating that the costs will be reimbursed based on the department's proportionate share of the percentage of bonds posted for the mine site (Commonwealth 74%, Rockwood 26%). Invoices submitted by the surety company pursuant to the terms of the agreement should also present the costs in the same fashion, and be accompanied by invoices from the surety company's subcontractor. In addition, the signature page of the agreement should contain a signature line for the Comptroller, under which we will certify the availability of funds in the Surface Mining and Reclamation General Operations executive authorization.

Please note, since the funds are currently posted to the Full Cost Bonding Guarantees restricted receipts account, it will be necessary to transfer sufficient funding to the Surface Mining Conservation and Reclamation Fund, General Operations executive authorization to allow for reclamation expenditures to be processed. The funds may be brought in as augmentations. Please work with the Bureau of Fiscal Management to facilitate the transfer.

We would appreciate the opportunity to review a draft of the Consent Order and Agreement prior to issuance to the surety company. If you have any questions, please contact me at 772-7000.

pw

Attachments

cc: Joseph G. Pizarchik
Richard P. Mather
William W. Shakcly
William B. Calder
Patricia Sale

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Office of Chief Counsel
717-783-8073

August 11, 2005

Subject: Proposal by the Bureau of Mining and Reclamation to Use Conversion Assistance Financial Guarantee Funds for Surety Reclamation Pursuant to Section 4(h) of the Surface Mining Conservation and Reclamation Act

To: Mary K. DeLutis
Comptroller
Comptroller's Office

From: Richard S. Morrison
Assistant Counsel
Bureau of Regulatory Counsel

The Department's Bureau of Mining and Reclamation (BMR) has asked for an opinion regarding a proposed use of certain funds appropriated by the Legislature in the 2001-02 budget for the purpose of assisting mine operators in the Department's conversion to a full-cost bonding system. Using the appropriated funds as a reserve, the Department underwrites bonds issued to individual operators. These "conversion assistance" bonds supplement the reclamation bond posted by the operator for a permitted mine site and thereby assure that the full cost of the operator's reclamation obligation is adequately bonded.

For the first time since the program's inception, a forfeiture has occurred involving a conversion assistance bond issued by the Department to a mine operator. In this case, the operator had posted a surety bond for approximately 26% of its reclamation liability; the Department's conversion assistance bond insured about 74% of the obligation. The surety company who issued the operator's now-forfeited surety bond for the site is proposing to undertake performance of the reclamation pursuant to section 4(h) of the Surface Mining Conservation and Reclamation Act (SMCRA), 52 P.S. § 1396.4(h); this section gives a corporate surety issuing bonds forfeited by the Department the option of reclaiming the forfeited site in lieu of paying the bond amount, upon the Department's consent and approval. The surety's proposal is to competitively bid the reclamation work and to prorate the reclamation costs with the Commonwealth based on the percentage of bonds each posted for the site. BMR would like to enter into a Consent Order and Agreement with the surety company based on this proposal.

In my view, there is legal authority for the Department to enter an agreement in which the Commonwealth's conversion assistance bond would be used to pay the surety company for the Department's share of the reclamation costs. Because this is a question of first impression, and the Legislature provided no explicit direction for administering forfeited conversion assistance bonds, I am seeking your concurrence in BMR's proposal to use the conversion assistance bond to pay the surety company for the Department's percentage share of the reclamation costs.

I. Background

Under Pennsylvania and pertinent federal law, the Department has the authority to establish one of two basic types of bonding programs in order to provide financial assurance that surface coal mining operations are thoroughly reclaimed. See 52 P.S. § 1396.4(d); 30 U.S.C. §§ 1259(a), (c). The two types are known as conventional and alternative bonding. The conventional bonding system requires that the mine operator post a bond sufficient to assure completion of the mine site's reclamation plan if the work has to be performed by the Department in the event of a forfeiture. An alternative bonding system has no specific requirements except that it must achieve the objectives of the bond program. From 1982 until 2001, Pennsylvania maintained an alternative bonding system for surface coal mines in which a central pool of money for reclamation was funded by a per-acre reclamation fee paid by operators of permitted sites. The operator was not required to post a bond sufficient in amount to cover the full cost of performing reclamation of the mine site.

In late 1999, the Department announced that it was converting its surface coal mining bonding program to a conventional bonding system that would require operators to post reclamation bonds for the full cost of completing reclamation if the work had to be performed by the Department. Conversion from the alternative bonding system to conventional bonding would necessitate many mine operators posting significant additional bonds for their permitted sites. To avoid forcing many operators out of business as a result of this change in bonding requirements, the Commonwealth decided to underwrite the additional needed bond amounts through a conversion assistance financial guarantee program through which the Department would issue conversion assistance bonds to individual mine operators for the amount needed to bridge the gap between the operator's posted bond and the full cost of reclamation calculated for the mine site. It was determined that $70 million worth of conversion assistance bonds would be necessary to meet full cost bonding requirements for surface mine sites; given the fact of a 10% historical rate of bond forfeiture, $7 million in reserves would be necessary to underwrite the conversion assistance financial guarantee program.

The 2001-02 budget appropriations bill included a $7 million appropriation to the Department to be used to underwrite the conversion assistance financial guarantee program. Act of June 22, 2001, § 213, (P.L. 979, No. 2001-6A). Specifically, $7 million was appropriated: "For the conservation purpose of providing sum-certain guarantees needed to facilitate the implementation of full-cost bonding for a fee and, in the event of forfeiture, to finance reclamation of the forfeited surface mining site in an amount not to exceed the sum-certain guarantee." *Id.* No other explicit guidance was provided in the appropriations act regarding the use of the conversion assistance funds or the administration of the conversion assistance financial guarantee program. Nor did the Legislature amend SMCRA to prescribe the manner in which the Department should administer the conversion assistance bond program.

The Department issued a little over $60 million in conversion assistance financial guarantee bonds. Mining and reclamation has been completed on some of these sites and the bonds have been released. Currently, there are approximately $43 million of outstanding conversion assistance financial guarantee bonds.

II. Bond Forfeiture and the Surety Proposal

The first forfeiture of a conversion assistance financial guarantee bond has occurred since the inception of the program. In this case, the operator had posted a surety bond for part of its reclamation liability and the remainder was covered through a conversion assistance financial guarantee. Out of a required full-cost reclamation bond amount of $270,900 for the permitted mine site, the Rockwood Insurance Company issued a $71,400 surety bond for the site and the Commonwealth issued a $199,500 conversion assistance financial guarantee bond. The operator failed to complete the reclamation and the bonds were forfeited by the Department.

Pursuant to section 4(h) of SMCRA, a corporate surety issuing bonds which are forfeited by the Department is given the right—subject to the Department's consent and approval—to undertake the performance of the approved reclamation plan for the forfeited mine site:

> A corporate surety issuing surety bonds which are forfeited by the department shall have the option of reclaiming the forfeited site, in lieu of paying the bond amount to the department, upon the consent and approval of the department. A corporate surety issuing surety bonds which are forfeited may propose . . . the reclamation of the forfeited mine sites after payment of the amount of the forfeited bonds to the department. If the department approves the corporate surety's proposal to reclaim the forfeited site after the surety pays the bond amount to the department, the State Treasurer shall return to the corporate surety any moneys paid to the department in connection with the forfeited bond provided the proposal includes acceptable financial assurance. Acceptable financial assurance includes the department withholding return of the moneys until the reclamation is complete or the posting of a replacement bond.

52 P.S. § 1396.4(h).

Surety companies routinely propose to complete reclamation for forfeited sites instead of paying the forfeited surety bond money to the Department, and each year the Department enters into about a dozen agreements with sureties to undertake and complete reclamation of forfeited sites.[1]

Typically, surety proposals to reclaim forfeited sites only involve sites that are fully bonded by the surety company. If the surety company proposes to undertake the reclamation, the Department generally forbears collection of the forfeited surety bond pending completion of the reclamation by the surety company. In this case there are, in effect, two surety companies for the site with forfeited bonds—the Rockwood Insurance Company with its $71,400 surety bond and the Commonwealth with its $199,500 conversion assistance bond.

---

[1] The Department usually agrees to surety reclamation for several reasons. Surety reclamation gets the site reclaimed more quickly (typically about one year sooner), reducing public exposure to any dangerous conditions that exist on the mine site and preventing environmental problems that could develop between the time the site is abandoned and the time a contract to complete reclamation would be issued by the Commonwealth. Surety reclamation saves the Commonwealth the cost and expense of preparing, bidding and managing the contract. Finally, sureties are more likely to continue to write bonds in Pennsylvania if they can minimize their payouts, and the writing of additional bonds facilitates future mining by helping to ensure reclamation bonds are available for other operators.

Pursuant to section 4(h) of SMCRA, Rockwood has proposed to complete the reclamation of the site. The surety's proposal is to competitively bid the reclamation work and to prorate the reclamation costs with the Commonwealth based on the percentage of bonds each posted for the mine site (Commonwealth 74%, Rockwood 26%). The question that arises is whether SMCRA and the appropriations bill providing for conversion assistance financial guarantee funds statutorily authorize the Department to pay the forfeited conversion assistance financial guarantee bond money to the surety company for the purpose of completing the required reclamation at the forfeited mine site?

III. Legal Justification

As stated above, section 4(h) of SMCRA gives the corporate surety issuing bonds forfeited by the Department the right to undertake the completion of the reclamation at the forfeited site in lieu of paying over the forfeited bond to the Department. One alternative to surety reclamation provided by SMCRA is for the Department to advertise for bids for reclamation of the forfeited bond site and to enter into a contract with an acceptable bidder for completion of reclamation. *See* 52 P.S. § 1396.18(c), (d). SMCRA also authorizes the Department, after public notice in a local newspaper of general circulation, to "negotiate and enter into a contract" to complete the reclamation with either the landowner of the forfeited mine site or with a licensed mine operator. 52 P.S. § 1396.18(d). Finally, if a licensed mine operator has a "permit on property contiguous to [a forfeited mine site] the operator or permittee shall be provided the opportunity to make a proposal to complete the reclamation plan of the forfeited bond area." 52 P.S. § 1396.18(f).

In my opinion, use of the forfeited financial conversion assistance bond to finance part of the cost of the surety reclamation is an effective means of implementing the provisions of SMCRA section 4(h) which provide for reclamation by a surety company whose bond has been forfeited. The Legislature granted surety companies, like Rockwood Insurance Company in this instance, the right to reclaim the forfeited site in lieu of paying over its bond amount to the Department. See 52 P.S. § 1396.4(h) ("A corporate surety issuing bonds which are forfeited by the department *shall have the option of reclaiming the forfeited site* in lieu of paying the bond amount to the department"). Although the right to reclaim is conditioned on the Department's consent and approval, such consent cannot be unreasonably withheld. Rockwood's proposal for reclaiming the forfeited site at issue is reasonable under the circumstances; for the Department to refuse to accept this proposal would effectively thwart the Legislature's purposes expressed in section 4(h) of SMCRA.

The language in the appropriation bill authorizing the reserve funds for the conversion assistance financial guarantee program supports this conclusion. The act appropriated the funds for "the conservation purpose of providing sum-certain guarantees needed to facilitate the implementation of full-cost bonding for a fee and, *in the event of forfeiture, to finance reclamation of the forfeited surface mining site* in an amount not to exceed the sum-certain guarantee." Act of June 22, 2001, § 213 (P.L. 979, No. 2001-6A) (emphasis added). Since no other provision was made by the Legislature for administration of the conversion assistance bond program, it must have intended the Department to exercise its discretion in accordance with the relevant provisions of SMCRA. The appropriations bill authorizes the Department to "finance

reclamation" of the forfeited site in the event of forfeiture; "finance" is a broad term that encompasses the range of alternatives for accomplishing reclamation of forfeited sites that are provided in SMCRA, including surety reclamation. The only restriction placed by the appropriation bill on the Department's financing of reclamation is that the amount used for such financing not "exceed the sum-certain guarantee." Consenting to Rockwood's proposal for prorating the costs of the reclamation will adhere to this restriction.

Indeed, allowing the surety to handle the reclamation contract will enable reclamation to be completed for less money, thus resulting in a savings to the Commonwealth and the surety. It is in the Commonwealth's interest to prudently manage the costs for reclamation of a forfeited conversion assistance financial guarantee given that there remains approximately $43 million in conversion assistance bonds outstanding. An underlying purpose of the Legislature in providing the various alternatives for reclamation of forfeited sites is to enable completion of reclamation in the most economical and administratively efficient manner, thus freeing forfeited bond funds for reclamation at other sites, the restoration of water supplies, or for other conservation purposes. *See* 52 P.S. §§ 1396.18(a) – (f). Using the forfeited conversion assistance bond for surety reclamation will help effectuate SMCRA's goals of accomplishing proper reclamation of forfeited sites in an economically efficient manner and with substantially less administrative cost to the Department.

I will be happy to discuss this matter with you further and to answer any questions you may have. I would appreciate it if you would inform me as to whether you concur in BMR's proposal for using forfeited conversion assistance bond money for surety reclamation of a forfeited site at your earliest convenience.

cc: Rick Mather
Joseph Pizarchik
William Shakely
William Calder

MINETECH
ENGINEERS

1108 13TH AVE., P.O. BOX 791, ALTOONA, PA 16603 • (814) 946-4242 • FAX (814) 942-1175

January 25, 2008

RE: Ed Hanlsovan Coal Co., Inc.
SMP# 17980101 - Tower North No. 2 Mine
Bell Township, Clearfield County

Gentlemen:

On October 29, 2007 you were sent plans and specifications to bid on the reclamation of the above referenced project. Following receipt and review of the four bids on 11/12/07, it was determined the bid costs exceeded the funding available to complete the work as originally presented. After discussions with representative of the Moshannon District Mining Office and Rockwood Insurance Company, the scope and configuration of the project have been revised. In particular, the plan to transport the 14,000 yd.^{3} of alkaline material from the adjoining site has been deleted from the project. In addition, the final reclamation plan has been revised to reduce the grading to approximately 200,000 yd.^{3} of material to reclaim the abandoned highwall. The select grading area has been adjusted slightly, while the revegetation and tree planting quantities remain unchanged. We are again soliciting your bids for the reclamation of the site based upon the revised plans and specifications that are enclosed. A brief summary of the primary tasks is as follows:

1. Approximately 9.3 acres of select grading.
2. Grading of approximately 200,000 yd.^{3} of material
3. Revegetation and tree planting of approximately 25.0 acres.

As noted before, the notice to proceed should be awarded immediately following submission of the required bond by the selected contractor. All grading and seeding work is expected to be completed by the end of the 2008 fall planting season. Tree planting may be completed as late as the spring 2009 planting season. Bids are due in the offices of Minetech Engineers by 12:00 Noon, on Monday, 02/04/08 and may be mailed to Minetech Engineers, Inc., P.O. Box 791, Altoona, PA 16603-0791 or faxed to 814-942-1175.

If you should have any questions concerning the enclosed information, please feel free to give me a call at 814-946-4242 Ext. 1 or 814-931-0301

Very truly yours,
Minetech Engineers, Inc.

Todd M. Coleman, P.E.
Mining Engineer

Enclosures
XC: T. Confer - DEP
W.T. Gorton Esq.
S:\WG\8\BIDPROP

EXHIBIT 2

Scope of Proposed Reclamation
Tower North #2 Mine Site, SMP #17980101

MOBILIZATION, DEMOBILIZATION AND ADVANCED FUEL PROCUREMENT

Mobilization - This work refers to the delivery and assembly, at the project site, of all plant and equipment required to complete the Contract.

Demobilization - This work refers to the removal of all plant and equipment from project site upon completion of the project. The work also includes cleanup and restoration of all work areas or any other area disturbed as a result of the project. The Contractor shall be required to restore disturbed area to a condition equal to or better than that which existed prior to the work being done, such as replacing any improvement to the land, including but not limited to: roads, structures, culverts, ditches and similar objects which may have been removed or damaged by or as a result of the work.

Advanced Fuel Procurement - Due to unpredictability and the risk of fuel price escalation that could cause the Contractor to assume unwarranted risks due to the quantity of fuel required for the work, upon Contract Award Contractor shall make arrangements with a fuel vendor to supply fuel at a fixed price for the duration of the Contract Term.

TASK 1 - EROSION & SEDIMENTATION CONTROLS

This task consists of furnishing all labor and equipment and performing all operations in association with the implementation of the erosion and sedimentation control plan for the site. The existing sedimentation pond, SP-1 and associated ditches SD-1 and SD-2 are to be utilized for erosion control for the proposed reclamation work. The contractor shall inspect the two existing collection ditches and make any repairs as needed to insure all runoff is directed to the pond. Prior to the removal of Ditch SD-2, the contractor shall install filter fence backed with hay bales below the grading area as shown to control sediment runoff. The existing 4" PVC dewatering pipe in Pond SP-1 shall be examined to insure it is functional. Pond SP-1 and collection ditch SD-1 are to remain on the site at the completion of reclamation work as post reclamation structures in accordance with the desires of the landowner, New Forestry, LLC.

TASK 2 - SELECTIVE GRADING

This task consists of furnishing all labor and equipment and performing all operations in association with the repair and reclamation of erosion areas (rills & gullies) within the two areas noted as covering approximately 9.3 acres on the attached exhibit map. The eroded areas are to be graded out to match the surrounding contour. Upon completion of grading, all affected area is to be limed, fertilized, seeded and mulched in accordance with Task 4 - Revegetation.

TASK 3 - BACKFILLING OF EXISTING HIGHWALL

This task consists of furnishing all labor, equipment and materials and performing all excavation and fill, of approximately 200,000 $yd.^3$, to the approximate lines and grades shown on the Drawings and other related and incidental operations necessary to insure the runoff of surface water. All excavation under this task is unclassified and all material encountered, regardless of character or hardness, shall be removed to the approximate lines and grades shown on the attached exhibit map. Material from required excavation that is best suited for surface material for vegetative growth shall be selected and separated for that use. Stockpiling of this material will be required. All material for fill shall be provided from required excavation . All grading shall be controlled so the grading areas blend into the adjacent topography. The final soil cover shall consist of all existing topsoil piles plus the best available encountered material and shall be reasonably free from stones and debris that may be detrimental to the application of soil supplements and seed. The existing access roads are to remain following conclusion of the reclamation work for the benefit of the landowner. The roads shall be graded so as to be stable and in a passable condition at the conclusion of reclamation activities.

TASK 4 - REVEGETATION

The Contractor shall seed the area of the out-slope 50 feet up from the toe of spoil diversion ditch. The remainder of the site shall be graded in such a manner as to limit compaction of the spoil and top material to a depth of four feet. The final surface grade should be left rough to promote water infiltration and reduce runoff and provide for a seed bed to improve natural regeneration. Pulverized limestone is to be apply according to a soil analysis amending the soil pH to 6. Fertilizer is to be applied to grass area according to the soil analysis. A grass mixture of 10 # birdsfoot trefoil, 2 to 5#'s redtop, and 10# timothy or orchard grass is to be planted in this area. The area to be reforested should get no more than 50 pounds of nitrogen fertilizer with no grass planted on reforested areas.

TASK 5 - TREE PLANTING

The Contractor shall plant trees on the proposed reforestation area of approximately 23.7 acres which has been affected by reclamation activities. Trees are to be planted at the rate of 100 per acre and shall consist of red oak, black cherry and white pine in equal numbers planted in a random distribution.

EXHIBIT 3

SCHEDULE OF PRICES

SMP# 17980101 – Tower North No. 2 Operation
Bell Township, Clearfield County, PA

TASK NO	DESCRIPTION	ESTIMATED QUANITY	UNIT	UNIT PRICE	TOTAL
	Mobilization & Demobilization & Advance fuel procurement	JOB	JOB	LS	$52,000
1	Erosion & Sedimentation Controls	JOB	JOB	LS	$2,100
2	Selective Grading	JOB	JOB	LS	$11,000
3	Backfilling of Existing Highwall	JOB	JOB	LS	$258,000
4	Re-vegetation	JOB	JOB	LS	$3,000
5	Tree Planting	JOB	JOB	LS	$3,900
			TOTAL AMOUNT OF BID		$330,000

Scope of work to be as per Minetech Engineer's reclamation map revised June 22, 2009

Cherep's Excavating
Company Name

Signature

July 21, 2009
Date

EXHIBIT 3

PROGRESS ESTIMATE
HANSLOVAN TOWER NORTH #2 RECLAMATION

Contract No: PBF17980101.1
FC # TBA
#1 Appropriation: $299,318.40

Original Contract: $299,318.40
With Change Order(s): _____

Contractor: **Rockwood Casualty Insurance Co.**
Address: **654 Main Street, Rockwood PA 15557**
Contract Expiration Date: 06/30/10 Invoice Number: 3 For Period From 12/09/09 To 03/05/10

ITEM NO.	CONTRACT QUANTITIES INCLUDING C.O.'S	FINAL QUANTITIES	DESCRIPTION	UNIT PRICE	QUANTITY			PAYMENT	
					THIS PERIOD		TO DATE	THIS PERIOD	TO DATE
A.	L.S.		Project Development & Management	$ 12,000.00	NA*	NA*	NA*	$ -	$ 8,131.80
B	L.S.		Mobilization & Demobilization & Advanced Fuel Placement	$ 52,000.00	%	%	90%	$ -	$ 46,800.00
C.	L.S.		Maintenance & Removal of Erosion & Sedimentation Controls	$ 2,100.00	%	%	%	$ -	$ -
D.	L.S.		Selective Grading	$ 11,000.00	%	%	%	$ -	$ -
E.	L.S.		Backfilling/Grading of Existing Highwall	$ 258,000.00	33.300%	%	56.425%	$ 85,914.00	$ 145,576.50
F.	L.S.		Re-vegetation	$ 3,000.00	%	%	%	$ -	$ -
G.	L.S.		Tree Planting	$ 3,900.00	%	%	%	$ -	$ -
H.	L.S.				%	%	%	$ -	$ -
I.	L.S.				%	%	%	$ -	$ -
J.	L.S.				%	%	%	$ -	$ -
		*This item based on actual billing up to a maximum of $12,000. Percentage does not apply.							
			Total Cost of Reclamation	$ 342,000.00					

		Total	$ 85,914.00	$ 200,508.30
		Less Previous Payment	$ -	$ 114,594.30
		Amount Due Contractor x 0.8752	**$ 75,191.93**	**$ 75,191.93**

"This is a public contract subject to interest"

CERTIFIED CORRECT: 3/16/10
DEP Representative DATE

Vendor ID # 354388

DATE Mailed to Hbg

I certify that the above estimate is just and correct, and that payment therefore has not been received.

Gerald M Coleman 3/9/2010
Contractor DATE

Contractor's Identification Number

DATE Received from Contractor

*MINETECH ENGINEERS FOR ROCKWOOD INSURANCE CO.

Account Codes: 2010209000-3555809000-6344630

orig. To Tammy 3/16/10

RECLAMATION AGREEMENT
Rockwood Casualty Insurance Company, Tower North #2 Mine Site, SMP #17980101

THIS AGREEMENT made as of the 24 day of September, 2009 between **ROCKWOOD CASUALTY INSURANCE COMPANY ("ROCKWOOD"), 654 MAIN STREET, ROCKWOOD, PA 15557** and **CHEREP'S EXCAVATING, 9742 SALTSBURG ROAD, PITTSBURGH, PA 15239 ("CONTRACTOR")**, for the Work to be performed in connection with reclamation associated with the Tower North #2 mine site, SMP #17980101, in Clearfield County, Pennsylvania (the "Project").

Rockwood and Contractor agree as set forth below:

1. The Scope of Work

1.1 The Contractor shall execute the Work described in the Scope of Proposed Reclamation approved by the Pennsylvania Department of Environmental Protection ("DEP") and detailed in the bid package and Contract Documents as enumerated and discussed in Paragraphs 5 and 6 ("Work"), as they apply to the Scope of Proposed Reclamation. The Contractor has conducted the necessary investigations to familiarize itself with site conditions to perform the Work. The Contractor has developed a proposal to complete the Work based on its review and knowledge of the site conditions and has professional training and experience in reclamation activities.

2. Date of Commencement and Completion

2.1 The date of commencement is the date from which Rockwood states in its Notice to Proceed.

2.2 Completion shall be met when (i) an inspection report is received from the Pennsylvania Department of Environmental Protection ("DEP") stating that the Work has been conducted in accordance with the Contract Documents and (ii) when the Engineer has approved the Work as in compliance with Contract Documents.

3. Contract Sum

3.1 Rockwood shall pay the Contractor for the Contractor's performance, the sum of $330,000 in accordance with the terms of the Consent Order and Agreement between Rockwood and DEP dated July 25, 2007 which describes the allocation of funding between Rockwood and DEP and is incorporated by reference and attached hereto as Exhibit 1, and payment plan in paragraph 4.1. Rockwood's contribution to the Contract Sum is $41,184. DEP's contribution to the Contract Sum is $288,816.

3.2 The Contract Sum is based upon the Scope of Proposed Reclamation detailed in the bid package delivered to Contractor on or about January 25, 2008, as well as the modification to Technical Specification #3 delivered to Contractor on or about June 22, 2009,

from Todd M. Coleman, P.E., of Minetech Engineering ("Engineer"), regarding and relating to the reclamation plans and hereby incorporated by reference and attached to this Agreement as Exhibit 1, with the understanding that the Contract Sum detailed in this Agreement supersedes any documents or verbal quotes to the contrary. The Work was originally bid on or about October 29, 2007 and modified by subsequent re-bids as described. The Contract Sum is based on a Schedule of Prices dated July 21, 2009 submitted to Rockwood in response to the June 22, 2009 bid package modification.

4. Payments

4.1 With the exception of mobilization, demobilization and advance fuel procurement, progress payments shall be made based on a percentage of Work completed per Task based on the Schedule of Prices, as approved and recommended by the Engineer and the DEP. **No later than five (5) working days prior to invoice, Contractor shall notify Engineer of proposed invoice progress. Engineer will, in consult with DEP, approve the invoice statements prior to submission. Upon approval by DEP and conditioned upon receipt of the DEP contribution of 87.52% of approved total invoice amount, Rockwood will provide the additional 12.48% of the payment for the approved total invoice amount, less a 10% retainage of the approved total invoice amount. The retainage shall be held by Rockwood pending approval of the Project, as defined by the Scope of Proposed Reclamation, by the DEP in the form of a final inspection report.**

4.2 Final Payment, constituting the entire unpaid balance of the Contract Sum, including retainage, shall be made by Rockwood to the Contractor when the DEP issues a satisfactory final inspection report and the Engineer provides final approval that Work at the site is Complete. As a condition precedent to Final Payment, the Contractor shall execute all appropriate lien waivers and obtain releases and lien waivers from subcontractors, suppliers and sub-subcontractors.

5. Enumeration of Contract Documents

5.1 The Contract Documents, except for modifications issued after execution of this Agreement, are enumerated as follows:

5.1.1 This Agreement, which is the Contract between Rockwood and Contractor.

5.1.2 The Consent Order and Agreement between Rockwood and DEP dated ~~July 25, 2007, attached as Exhibit 1.~~

5.1.3 The Bid Package including a narrative discussion of Project requirements, plans and specifications for the Work, included in the Scope of Proposed Reclamation attached hereto as Exhibit 2.

5.1.4 The responsive bid from Contractor dated July 21, 2009, attached as Exhibit 3.

6. Contract Documents

6.1 The Contract Documents consist of those enumerated in Paragraph 5, written and mutually agreed to modifications, and Change Orders issued after execution of this Agreement. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

6.2 The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between Rockwood and a Subcontractor, Supplier or Sub-subcontractor, and (2) between any persons or entities other than Rockwood and the Contractor.

6.3 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site and become familiar with the local conditions and, through experience and communication with DEP, has become familiar with the regulatory framework under which the Work is to be performed.

6.4 The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations under the Contract Documents. The Work may constitute the whole or a part of the Project.

7. Rockwood's Right to Cease Nonconforming Work

7.1 If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents or fails to carry out the Work in accordance with the Contract Documents, Rockwood, by a written order, after seven (7) days' notice in conformance with Paragraph 19, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of Rockwood to stop the Work shall not give rise to a duty on the part of Rockwood to exercise this right for the benefit of the Contractor or any other person or entity.

8. Contractor

8.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for conducting surface reclamation activities, including necessary contracting of professional surveying or engineering services to the extent necessary to assure completion of the Work in accordance with the Contract Documents, and shall have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

8.2 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Requests for adjustments to the Contract Sum shall follow the procedure detailed in Paragraph 12.

8.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

8.4 The Contractor warrants to Rockwood that materials and equipment furnished under the Contract meets the specified quality and will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with legal requirements and requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by Rockwood or DEP, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

8.5 The Contractor warrants that the Work as described in the Scope of Work will conform to the standards specified in 25 Pa. Code §§ 86 and 87 et seq. and Pennsylvania Bituminous Coal Mine Act, 52 P.S. 33 et seq. 701-101, The Bituminous Mine Subsidence and Land Conservation Act, 52 P.S. 1406, et seq.; Federal Mine Safety and Health Act, 30 U.S.C. §§ 801 et seq.; and the Pennsylvania Surface Mine Conservation and Reclamation Act, 52 P.S. § 1396.1 et seq. and the Pennsylvania Clean Streams Law, 35 P.S. 691.1 et seq. Contractor further warrants that its employees and subcontractors have been properly trained and certified under these statutes and other applicable statutes.

8.6 Unless otherwise provided in the Contract Documents, the Contractor shall pay applicable sales, consumer, use, and other similar taxes which are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect, and shall secure and pay for permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work.

8.7 Notwithstanding mining/reclamation regulatory permits, notices and approvals, the Contractor shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the Work.

8.8 The Contractor shall be responsible to Rockwood and the property owners for the acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under a contract, express or implied, with the Contractor. Contractor shall specifically incorporate these Contract Documents into any subcontracts or purchase orders executed for the purpose of performing the Work.

8.9 When professional certification of performance criteria of materials, systems or equipment is required by law, professional standards or the Contract Documents, Contractor will obtain or provide the necessary certifications and Rockwood and DEP shall be entitled to rely upon the accuracy and completeness of such certifications.

8.10 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials.

8.11 The Contractor shall be responsible for the security of his materials and equipment, and shall be responsible for protection of the site.

8.12 The Contractor shall provide Rockwood access to the Work wherever located.

8.13 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless Rockwood, Rockwood's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses (including but not limited to, attorneys' fees and costs), arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than to the Work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this paragraph.

8.13.1 In claims against any person or entity indemnified under this Paragraph 8.13 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Paragraph 8.13 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

9. Administration of the Contract

9.1 The Contractor will have control over and responsibility for construction means, methods, techniques, testing, sequences, procedures and safety precautions and programs in connection with the Work. Contractor shall be responsible for the supervision and coordination of Contractor's Subcontractors.

9.2 The parties contemplate that approval from DEP must be obtained for specific aspects of the Work. The DEP must approve and accept the results of the surface reclamation activities as described in the Scope of Proposed Reclamation. Rockwood's obligation to make progress payments or Final Payment is conditioned upon approval by DEP of those phases where

DEP approval is necessary and receipt of funds from DEP for the DEP contribution as stated in Article 3.1.

9.3 The Contractor will submit the necessary documentation to DEP regulatory authorities in order to assure necessary DEP approvals. The Contractor will also take any necessary and appropriate actions to correct deficiencies or bring the Work into conformity with the Contract Documents. In the case of a dispute with DEP as to the necessity or appropriateness of DEP requirements or the improper withholding of necessary approvals in regard to the Work, it shall be the obligation solely of the Contractor to resolve the dispute with DEP. Rockwood reserves the right to participate in discussions with the DEP in order to resolve disputes.

9.4 The Engineer for the purposes of approving work as compliant with the Contract Documents, approving progress payment amounts, and approving change orders is:

Mr. Todd M. Coleman, P.E.
Minetech Engineers
P.O. Box 791
Altoona, Pennsylvania 16603
814.946.4242 ext. 1

9.5 If a dispute arises between the Contractor and Rockwood as to whether the Work is in conformance with the Contract Documents, the Contractor will complete the Work according to the requirements of Rockwood to bring the Work into conformance and the dispute will be resolved according to the process described in Paragraph 9.6.

9.6 All claims or disputes between the Contractor and Rockwood arising out of or relating to the Contract or the breach thereof, shall be decided by arbitration in accordance with the expedited procedures for arbitration of the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect, unless the parties mutually agree otherwise. However, prior to filing a demand for arbitration, the parties shall attempt to resolve the conflict by non-binding mediation. The parties will agree on a professional mediator and shall share expenses on an equal basis. Notice of the demand for arbitration shall be filed in writing with the other party to this Agreement and with the American Arbitration Association and shall be made within forty-five (45) days after mediation. Claims not made within forty-five (45) days are waived. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof. Except by written consent of the person or entity sought to be joined, no arbitration arising out of or relating to the Contract Document shall include, by consolidation, joinder or in any other manner, any person or entity not a party to the Agreement under which such arbitration arises, unless it is shown at the time the demand for arbitration is filed that (1) such person or entity is substantially involved in a common question of fact or law, or (2) the presence of such person or entity is required if complete relief is to be accorded in the arbitration. The agreement herein among the parties to the Agreement and any other written agreement to arbitrate referred to herein shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

10. Subcontractors

10.1 A Subcontractor is a person who has a direct contract with the Contractor to perform a portion of the Work whether in the design phases, constructions phases or post-construction phases.

10.2 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to Rockwood the names of the Subcontractors for each of the principal portions of the Work. The Contractor shall not contract with any Subcontractor to whom Rockwood has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection. Contracts between the Contractor and Subcontractors shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by the Contract Documents, assumes toward Rockwood.

11. Construction by Rockwood or by Separate Contractors

11.1 Rockwood reserves the right to perform construction or operations related to the Project with their own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site. If the Contractor claims that delay is involved because of such action by Rockwood, the Contractor shall make a request for an extension of the contract time as provided elsewhere in the Contract Documents.

11.2 The Contractor shall afford Rockwood and separate contractors reasonable opportunity for the introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

11.3 CONTRACTOR'S SOLE REMEDY FOR DELAY, HINDRANCE OR INTERFERENCE FOR WHATEVER PURPOSE OR CAUSED BY WHATEVER SOURCE IS AN EXTENSION OF TIME TO COMPLETE THE WORK. IN NO WAY WILL AN EXTENSION OF TIME TO PERFORM THE WORK RESULT IN ALLOWANCE OF INCREASED COSTS TO ROCKWOOD.

12. Changes in the Work

12.1 Rockwood, without invalidating the Contract, may order changes in the Scope of Proposed Reclamation consisting of additions, deletions or modifications, resulting in the Contract Sum and Contract Time being adjusted accordingly. Such changes in the Scope of Proposed Reclamation shall be authorized by written Change Order signed by Rockwood and Contractor and, where necessary, approved by DEP, however, where time is of the essence, verbal change orders may be issued only by the Engineer, followed by written verification by Rockwood.

12.2 Additions to or deletions from the Contract Sum and Contract Time shall be changed only by written Change Order except as noted in 12.1.

12.3 The cost to Rockwood as a result of a change in the Scope of Proposed Reclamation shall be paid on an actual time and materials basis.

13. Time

13.1 The date of Completion is the date when the Work has been completed in accordance with the Contract Documents and approved by DEP.

13.2 If the Contractor is delayed at any time in progress of the Work by changes ordered in the Scope of Proposed Reclamation, by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions not reasonably anticipatable, unavoidable casualties or any causes beyond the Contractor's control, or by other causes which Rockwood determines may justify delay, then the Contract Time may be extended by Change Order for such reasonable time as may be agreed upon.

13.3 Contractor shall complete the Work no later than June 30, 2010.

14. Payments and Completion

14.1 Payment shall be made as provided in Articles 3 and 4 of this Agreement.

14.2 Payments may be withheld on account of: (1) failure of Contractor to receive necessary approvals regarding the Work by DEP, (2) defective Work not remedied, (3) claims or liens filed by third parties, (4) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum, (5) damage to Rockwood or the property owner or another contractor, (6) reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance would not be adequate to cover damages for the anticipated delay, or (7) persistent failure to carry out the Work in accordance with the Contract Documents.

14.3 Acceptance of Final Payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee.

15. Protection of Persons and Property

15.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

15.1.1 employees on the Work and other persons who may be affected thereby as required by the Mine Safety and Health Administration, Occupational Safety and Health Administration, or other state or federal agencies. Particular care shall be taken

to comply with shoring and bracing requirements when employees or others are working in and around open trenches;

15.1.2 the Work and materials and equipment to be incorporated therein; and

15.1.3 other property at the site or adjacent thereto.

The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons and property and their protection from damage, injury or loss. The Contractor shall promptly remedy damage and loss to property at the site caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible.

15.2 The Contractor shall erect and maintain, as required by existing conditions and the progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

16. Insurance and Bonds

16.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in Pennsylvania, and acceptable to Rockwood, insurance for protection from claims under workers' or workmen's compensation acts and other employee benefit acts which are applicable, claims for bodily injury and property damage from all owned, non-owned and hired vehicles, claims for damages because of bodily injury, including death, and from claims for damages, other than to the Work itself, to property which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by the Contractor or by a Subcontractor or anyone directly or indirectly employed by any of them. The Contractor shall require the same insurance coverages be obtained by Subcontractors. This insurance shall be written for not less than $1,000,000, and shall include contractual liability insurance applicable to the Contractor's obligations under Paragraph 8.13. Certificates of such insurance shall be filed with the Engineer prior to the commencement of the Work. Rockwood shall be named as an additional insured on all such policies of insurance. All insurance policies required of Contractor under this Agreement shall contain a waiver of subrogation in favor of Rockwood and Rockwood's consultants, agents, and employees.

16.2 The Contractor shall furnish bonds covering the faithful performance of the Contract, payment of obligations arising thereunder and maintenance within ten (10) days of Contract execution. The bonds shall be written by a reputable bonding company satisfactory to Rockwood and shall be in the penal sum of one hundred percent (100%) of the Contract sum for both the performance and payment bonds. The maintenance bond shall be in the amount of ten percent (10%) of the Contract sum and shall cover a period of one (1) year following final payment. The obligees on the performance, payment, and maintenance bonds shall be Rockwood and the DEP.

17. Correction of Work

17.1 The Contractor shall promptly correct Work rejected by DEP, the Engineer or Rockwood for failing to conform to the requirements of the Contract Documents, whether observed before or after Completion and whether or not fabricated, installed or completed, and shall correct any Work found to be not in accordance with the requirements of the Contract Documents within a period of one year from the date of Completion. The provisions of this paragraph shall apply to Work done by Subcontractors as well as to Work done by direct employees of the Contractor. It is expressly recognized that reclamation of mined lands may involve minor corrections or remedial work during the first year following Completion. If Contractor fails, after receiving written or verbal notice from Rockwood, its representative or DEP, to promptly correct the Work, Rockwood may hire a contractor to correct the Work and Contractor shall be liable for all of Rockwood's costs incurred including consultants' fees, contractors' fees and markup, overhead, profit, attorneys' fees and costs.

18. Miscellaneous Provisions

18.1 The Contract shall be governed by the law of the Commonwealth of Pennsylvania.

18.2 As between Rockwood and the Contractor, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued:

18.2.1 not later than the date of Completion for acts or failures to act occurring prior to the relevant date of Completion;

18.2.2 not later than the date of issuance of the DEP approval for acts or failures to act occurring subsequent to the relevant date of Completion and prior to issuance of the Final Payment; and

18.2.3 not later than the date of the relevant act or failure to act by the Contractor for acts or failures to act occurring after the date of the Final Payment.

19. Default and Termination of the Contract

19.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents; fails to make payment to Subcontractors or Suppliers for materials or labor in accordance with respective agreements between the Contractor and the Subcontractors; disregards laws, ordinances or rules, regulations or orders of a public authority having jurisdiction or fails to perform a provision of the Contract, Rockwood, after seven days written notice to the Contractor and without prejudice to any other remedy Rockwood may have, may make good such deficiencies and may deduct the cost thereof, including compensation for consultants' services and expenses made necessary thereby, as well as all attorney's fees and expenses from the payment then or thereafter due the Contractor. The Contractor shall not be

entitled to receive further payment until the Work is finished. Alternatively, at Rockwood's option, Rockwood may terminate the Contract and take possession of the site and of all materials thereon owned by the Contractor and may finish the Work by whatever method Rockwood may deem expedient. If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for consultants' services and expenses as well as attorney's fees and expenses made necessary thereby, such excess shall be paid to the Contractor, but if such costs exceed such unpaid balance, the Contractor shall pay the difference to Rockwood.

20. Rockwood's Termination for Convenience

20.1 Rockwood may, at any time, terminate the Contract in whole or in part for Rockwood's convenience and without cause. Termination by Rockwood under this Paragraph shall be by a written notice of termination delivered to the Contractor specifying the extent of termination and the effective date.

20.2 Upon receipt of a notice of termination for convenience, the Contractor shall immediately, in accordance with instructions from Rockwood, proceed with performance of the following duties regardless of delay in determining or adjusting amounts due under this Paragraph.

.1 cease operation as specified in the notice;

.2 place no further orders and enter into no further subcontracts for materials, labor, services or facilities except as necessary to complete continued portions of the Contract;

.3 terminate all subcontracts and orders to the extent they relate to the Work terminated;

.4 proceed to complete the performance of Work not terminated; and

.5 take actions that may be necessary, or that the Engineer may direct, for the protection and preservation of the terminated Work.

20.3 Upon such termination, the Contractor shall recover as its sole remedy payment for Work properly performed in connection with the terminated portion of the Work prior to the effective date of termination and for items properly and timely fabricated off the Project site, delivered and stored in accordance with Rockwood's instructions. The Contractor hereby waives and forfeits all other claims for payment and damages, including, without limitation, anticipated profits.

20.4 Rockwood shall be credited for (1) payments previously made to the Contractor for the terminated portion of the Work, (2) claims which the Owner has against the

Contractor under the Contract and (3) the value of the materials, supplies, equipment or other items that are to be disposed of by the Contractor that are part of the Contract Sum.

21. Counterparts

21.1 This Agreement or any amendment thereto, may be executed in multiple counterparts, each of which shall be deemed an original agreement, and all of which shall constitute one (1) agreement between the parties.

22. Acknowledgment

The Parties hereto acknowledge that they have had the opportunity to consult with legal counsel regarding the obligations created by the Agreement and attached Exhibits which are incorporated into this Agreement and enter into this Agreement as of the day and year first written above.

Cherep's Excavating ("Contractor")	Rockwood Casualty Insurance Company ("Rockwood")
_____ (Signature)	_____ (Signature)
John Cherep - owner (Printed name and title)	_____ Name Title

Contractor under the Contract and (3) the value of the materials, supplies, equipment or other items that are to be disposed of by the Contractor that are part of the Contract Sum.

21. Counterparts

~~21.1 This Agreement or any amendment thereto, may be executed in multiple~~ counterparts, each of which shall be deemed an original agreement, and all of which shall constitute one (1) agreement between the parties.

22. Acknowledgment

The Parties hereto acknowledge that they have had the opportunity to consult with legal counsel regarding the obligations created by the Agreement and attached Exhibits which are incorporated into this Agreement and enter into this Agreement as of the day and year first written above.

Cherep's Excavating ("Contractor")	Rockwood Casualty Insurance Company ("Rockwood")
_____ (Signature)	_____ (Signature)
_____ (Printed name and title)	Kurt D. Tipton, Sr. Vice-President Name Title

Copy

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ROCKWOOD CASUALTY INSURANCE COMPANY

v.

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

EHB DOCKET NO. 2005-230-C
(Consolidated with EHB Docket Nos. 2005-231-C and 2005-356-C)

Ed Hanscottan Coal
SMP#17980101-Tower North #2 Mine
SMP#17990113- Clover Run Mine
SMP#33860109-Buchanan Mine

Bell/Clearfield

CONSENT ORDER AND AGREEMENT

This Consent Order and Agreement is entered into this 25th day of July 2007, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department" or "DEP") and Rockwood Casualty Insurance Company ("Rockwood").

FINDINGS

The Department has found and determined the following findings which Rockwood agrees are true and correct.

Parties

A. The Department is the agency with the duty and authority to administer and enforce the Surface Mining Conservation and Reclamation Act of May 31, 1945, P.L. 1198, as amended, 52 P.S. § 1396.1 et seq., ("Surface Mining Act"); The Clean Streams Law, Act of June 22, 1937, as amended, 35 P.S. § 691.1 et seq. ("Clean Streams Law"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, as amended, 71 P.S. § 510-17, ("Administrative Code"); and the rules and regulations promulgated thereunder (the "Rules and Regulations").

B. Rockwood is a corporation with a business address of 654 Main Street, Rockwood, Pennsylvania 15557, whose business includes, among other things, the issuance of surety bonds for mining operations in Pennsylvania.

C. Ed Hanslovan Coal Company, Inc. ("Hanslovan") is a corporation with a business address of 2021 Allport Cutoff, Morrisdale, Pennsylvania 16858, whose business included the mining of coal by the surface method.

D. At all times material hereto, Hanslovan was authorized to conduct surface mining in Pennsylvania pursuant to Surface Mining Operator's License No. 1304, which is now expired.

HANSLOVAN RECLAMATION SITES

E. Hanslovan conducted coal surface mining in the Commonwealth at the following sites: the Buchanan #2 Mine in Washington Township, Jefferson County, pursuant to Surface Mining Permit ("SMP") No. 33860109; the Clover Run Mine in Bell Township, Clearfield County, pursuant to SMP No. 17990113; and the Tower North #2 Mine in Bell Township, Clearfield County, pursuant to SMP No. 17980101.

BUCHANAN #2 MINE

F. In support of, and as a condition to, the Department's issuance of SMP No. 33860109, Hanslovan posted the following bonds:

Bond No.	Bond Amount	Surety
ISM1743	$9,300	Rockwood
ISM1760	$59,700	Rockwood
ISM1771	$21,200	Rockwood

G. By letter dated December 1, 2005, the Department notified Hanslovan and Rockwood of the Department's declaration of bond forfeiture on bonds posted for the Buchanan #2 Mine. The Department's action was based upon Hanslovan's outstanding violations of the Surface Mining Act, The Clean Streams Law and the rules and regulations promulgated thereunder, including but not limited to: failure to reclaim all affected areas, failure to monitor groundwater and surface water, failure to comply with an order of the Department, and failure to maintain liability insurance.

CLOVER RUN MINE

H. In support of, and as a condition to, the Department's issuance of SMP No. 17990113, Hanslovan posted both corporate surety bonds and a state issued financial guarantee as follows:

Bond No.	Bond Amount	Surety
ISM1879	$ 10,000	Rockwood
ISM1895	$ 61,400	Rockwood
4820-28-CFG	$199,500	DEP

The Department issued Bond No. 4820-28-CFG as a "DEP Land Reclamation Financial Guarantee." The Department and Rockwood are co-sureties on the Clover Run Mine Site.

I. By letter dated June 27, 2005, the Department notified Hanslovan and Rockwood of the Department's declaration of bond forfeiture on bonds posted for the Clover Run Mine. The Department's action was based upon Hanslovan's outstanding violations of the Surface Mining Act, The Clean Streams Law and the rules and regulations promulgated thereunder, including but not limited to: failure to backfill and

regrade all affected areas, failure to maintain liability insurance, failure to maintain erosion and sediment controls, failure to pay outstanding civil penalties, and failure to comply with an order of the Department.

J. The Clover Run mine has been the subject of a new SMP submitted by Waroquier Coal Company that overlaps the Hanslovan SMP. Waroquier submitted a SMP application dated October 30, 2006. Reclamation bonds for SMP No. 17060112 submitted by Waroquier were approved on April 5 and 20, 2007. SMP No. 17060112 was issued by the Department on May 3, 2007. Collection of the Hanslovan corporate surety bonds and state financial guarantees were waived by the Department on June 4, 2007. Any and all reclamation obligations related to the Clover Run mine are the responsibility of the new permittee.

TOWER NORTH #2 MINE

K. In support of, and as a condition to, the Department's issuance of SMP 17980101, Hanslovan posted both a corporate surety bond and a state issued financial guarantee as follows:

Bond No.	Bond Amount	Surety
ISM1862	$ 45,300	Rockwood
4820-77-CFG	$317,700	DEP

The Department issued 4820-77-CFG as a "DEP Land Reclamation Financial Guarantee." The Department and Rockwood are co-sureties on the Tower North #2 Mine Site.

L. By letter dated July 1, 2005, the Department notified Hanslovan and Rockwood of the Department's declaration of bond forfeiture on the bond posted for the

Tower North #2 Mine. The Department's action was based upon Hanslovan's outstanding violations of the Surface Mining Act, the Clean Streams Law and the rules and regulations promulgated thereunder including, but not limited to: failure to complete reclamation of the mine site, failure to backfill and regrade all affected areas, failure to maintain erosion and sediment controls, failure to pay outstanding civil penalties, failure to comply with an order of the Department, and failure to maintain liability insurance.

M. Parties desire to resolve the foregoing matters without resort to further litigation or administrative process. Pursuant to this Consent Order and Agreement, Rockwood and the Department will perform the activities described herein and the Department will irrevocably waive collection of or release Rockwood's bonds according to the conditions described herein.

ORDER AND AGREEMENT

After full and complete negotiation of all matters set forth in this Consent Order and Agreement and upon mutual exchange of covenants contained herein, the Parties desiring to avoid litigation and intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by Rockwood as follows:

1. **Authority**. This Consent Order and Agreement is an Order of the Department authorized and issued pursuant to Section 5 of the Clean Streams Law, 35 P.S. § 691.5; Sections 4.2 and 4.3 of the Surface Mining Act, 52 P.S. §1396.4b and 1396.4c; and Section 1917-A of the Administrative Code, 71 P.S. § 510-17.

2. **Findings**.

a. Rockwood agrees that the findings in Paragraph A through L are true and correct and, in any matter or proceeding involving Rockwood and the Department, Rockwood shall not challenge the accuracy or validity of the findings.

b. The parties do not authorize any other persons to use the findings in this Consent Order and Agreement in any matter or proceeding.

3. **Withdrawal of Appeals**. Within ten (10) days of the date of this Consent Order and Agreement, Rockwood shall withdraw its three appeals of the Bond Forfeiture Declarations related to the Hanslovan Reclamation Sites which are presently before the Environmental Hearing Board docketed at EHB Docket No. 2005-230-C (Consolidated).

4. **The Bonds/Co-surety Obligations**.

a. The corporate surety bonds described in Paragraphs F, H, and K are forfeit and final.

b. As is fully described in Paragraph 8, the Department agrees to release or waive collection of the surety bonds on a site by site basis upon completion of the tasks described herein.

c. As identified in paragraph K, the Tower North #2 mine has both corporate surety bonds and DEP issued Land Reclamation Financial Guarantees both of which provide financial assurance for reclamation of the mine and establish a co-surety relationship between the Department and Rockwood.

d. In the event that reclamation is required at the Tower North #2 mine, if the permit is not transferred or re-issued, all costs relating to the development and implementation of the reclamation plan will be paid by Rockwood and the Department as co-sureties based on a proportionate share of the percentage of bonds posted for each mine site as follows:

Mine	Rockwood	Department
Tower North #2	$45,300 – 12.48%	$317,700 – 87.52%

Such costs include, but are not limited to: engineering, bidding, and reclamation activities.

BUCHANAN #2 MINE

5. **The Reclamation Plan**. The Reclamation Plan for the Buchanan #2 Mine Site is attached as Exhibit A and is approved by the Department and incorporated herein as an obligation of Rockwood under this Consent Order and Agreement. Rockwood need not obtain any additional authorizations from the Department. With the Department's consent, the Reclamation Plan may include or be amended to include proposed land use changes or requests for retention of ponds, ditches or other facilities to remain as permanent structures if accompanied by landowner requests on forms approved by the Department. The Department's waiver of collection in accordance with Paragraph 9 and agreement to settlement and release in Paragraph 12 are in consideration of Rockwood's implementation of the approved Reclamation Plan in accordance with Paragraph 6. The Reclamation Plan comprises Rockwood's full and total obligation regarding reclamation of the Buchanan #2 Mine Site subject to this Consent Order and Agreement, as authorized by Section 4(h) of the Surface Mining Act. Waiver of bond collection will be in accord with Paragraph 9.

6. **Schedule of Reclamation Activities**. Rockwood shall complete the construction and reclamation activities identified in the Reclamation Plan as described in Exhibit A no later than September 30, 2007.

7. By July 31, 2007, Rockwood, with input from the Department, shall submit a reclamation plan to the Department. The scope of which is described in Exhibit B. The Department will review and respond to Rockwood within 30 days from the proposal submission. Upon completing the approved reclamation plan release or waiver of bond collection will be in accord with Paragraph 9 herein.

8. **Reclamation Plan Development and Implementation.**

Rockwood and the Department will work cooperatively in the development of a cost effective reclamation plan for the Tower North #2 mine. Rockwood will select and coordinate contractor activities with the approval of the Department. Bids will be sought by qualified contractors with experience in mine reclamation and contracts will be awarded based on the lowest responsible bid. The reclamation contract will have standard construction terms and conditions, including a progress payment schedule and terms requiring verification of invoice amounts by an independent engineer and the Department. The reclamation contract will also require the selected contractor to post a performance bond with Rockwood and the Department as co-obligees. Rockwood and the Department will each pay its pro-rata portion as stated in paragraph 4d of the monthly invoices as follows: Upon receipt of the invoice, Rockwood will forward it to the Department for field verification of reclamation progress and invoice amount. Upon receipt of written approval of the work by the independent engineer and the Department representative, Rockwood will forward a request to the Department for its pro-rata share which shall be accompanied by a copy of the contractor's invoice. The Department shall

issue a check payable to Rockwood within thirty (30) days and Rockwood will subsequently pay the contractor the full invoice amount per the terms of the contract.

9. **Procedures Relating to the Department's Waiver of Bond Collection**.

Waiver of Bond Collection. For the Buchanan #2 site, the Department agrees to waive collection of Rockwood's bonds upon completion of the Reclamation Plan described in paragraph 5 and attached as Exhibit A to this Agreement. For the Tower North #2 site, the Department agrees to waive collection of Rockwood's bonds upon completion of the reclamation plan described in paragraph 8 and attached as Exhibit B to this Agreement. Successful vegetation for one full growing season shall be required as part of completing the reclamation plans for the Buchanan #2 and Tower North #2 sites.

10. **Limitation of Liability**. Rockwood's performance of reclamation obligations under this Consent Order and Agrcement shall be in Rockwood's role solely as a surety. For purposes of this Consent Order and Agreement, Rockwood shall not by virtue of this Consent Order and Agreement or any activities hereunder; (i) be deemed an "operator of a mine" or an "occupier of land" or a party related to Hanslovan under Section 315 or 316 of The Clean Streams Law, 35 P.S. §§ 691.315 or 691.316, or under the Surface Mining act or any regulations promulgated thereunder; or, (ii) be deemed to have assumed any liabilities or obligations of Hanslovan except to the extent expressly set forth in this Consent Order and Agreement. This Consent Order and Agreement is not intended to create rights in any parties other than those who have signed below.

11. **Force Majeure**.

a. In the event that Rockwood is prevented from complying in a timely manner with any time limit in this Consent Order and Agreement solely because of a strike, fire, flood, act of God, or other circumstances beyond Rockwood's control and which Rockwood, by the exercise of all reasonable diligence, is unable to prevent, then Rockwood may petition the Department for an extension of time. An increase in the cost of performing the obligations set forth in this Consent Order and Agreement shall not constitute circumstances beyond Rockwood's control.

b. Rockwood shall only be entitled to the benefits of this paragraph if it notifies the Department within five (5) days by telephone and within ten (10) working days in writing of the date it becomes aware or reasonably should have become aware of the event impeding performance. The written submission shall include all necessary documentation, as well as a notarized affidavit from an authorized individual specifying the reasons for the delay, the expected duration of the delay, and the efforts which have been made and are being made by Rockwood to mitigate the effects of the event and to minimize the length of the delay. The initial written submission may be supplemented within 10 working days of its submission. Rockwood's failure to comply with the requirements of this paragraph specifically and in a timely fashion shall render this paragraph null and of no effect as to the particular incident involved.

c. The Department will decide to grant all or part of the extension requested on the basis of all documentation submitted by Rockwood and other information available to the Department. In any subsequent litigation, Rockwood shall have the burden of proving that the Department's refusal to grant the requested extension was an abuse of discretion based upon the information then available.

12. **Settlement and Release**. The Department accepts Rockwood's performance of the Buchanan #2 and Tower North #2 Reclamation Plans as full settlement and compromise of the Department's claims concerning Rockwood's bonds so long as Rockwood complies with this Consent Order and Agreement. Upon Rockwood's completion of the Buchanan #2 and Tower North #2 Reclamation Plans to the Department's satisfaction and Rockwood's compliance with this Consent Order and Agreement, the Department releases and forever discharges Rockwood and its officers, shareholders, agents, attorneys, employees, successors and assigns from any and all claims and demands of whatsoever nature or kind, at law or in equity Rockwood's bonds and the Hanslovan Mines.

13. **Decisions Under the Consent Order and Agreement.** With the exception of any determinations by the Department under Paragraph 9 or 18 of this Consent Order and Agreement (i.e., waivers of collection of Rockwood's Bonds), any decision or determination made by the Department regarding the terms and obligations of this Consent Order and Agreement shall not be deemed to be a final action of the Department and shall not be appealable to the Environmental Hearing Board or to any court. Any objection which Rockwood a may have to the decision will be preserved until the Department enforces this Consent Order and Agreement. In the event of any appeal of a determination by the Department under Paragraph 9 or 18 of this Consent Order and Agreement, the Department agrees not to take action to collect Rockwood's bonds unless and until the appeal is resolved in favor of the Department.

14. **Correspondence with Department**. All correspondence with the Department concerning this Consent Order and Agreement shall be addressed to:

Michael W. Smith
District Mining Manager
Moshannnon Office
186 Enterprise Drive
Phillipsburg, Pennsylvania 16866

Javid Mirza
District Mining Manager
Knox Office
White Memorial Building, P.O. Box 669
Knox, Pennsylvania 16232-0669

With a courtesy copy to:

Richard S. Morrison, Esq.
Pennsylvania Department of Environmental Protection
Office of Chief Counsel
400 Market Street, 9th Floor
Harrisburg, Pennsylvania 17101

Service of any notice or any legal process for any purpose under this Consent Order and Agreement, including its enforcement, may be made by mailing a copy by first-class mail to the above addresses. Either or both of the foregoing addresses may be changed by the Department providing written notice to the parties. Any notice provided hereunder shall be deemed delivered and effective seven days after the date of mailing as aforesaid.

15. **Correspondence with Rockwood**. All correspondence with Rockwood concerning this Consent Order and Agreement shall be addressed to:

Mr. Kurt Tipton
Rockwood Casualty Insurance Company
654 Main Street
Rockwood, PA 15557

with a courtesy copy to:

William T. Gorton III, Esq.
Stites & Harbison, PLLC
250 West Main Street

Lexington, Kentucky 40507
(859) 226-2241

Service of any notice or any legal process under this Consent Order and Agreement, including its enforcement, may be made by mailing a copy by first-class mail to the above addresses. Either or both of the foregoing addresses may be changed by Rockwood providing written notice to the parties. Any notice provided hereunder shall be deemed delivered and effective seven days after the date of mailing as aforesaid.

16. **Entire Agreement**. This Consent Order and Agreement shall contain the entire integrated agreement of the Parties. No prior or contemporaneous communications or prior drafts shall be relevant or admissible for purposes of determining the meaning or extent of any provisions herein in any litigation or any other proceeding.

17. **Attorney Fees**. The parties shall bear their respective attorney fees, expenses and other costs in the prosecution or defense of this matter or any related matters, arising prior to execution of this Consent Order and Agreement.

18. **Modifications**. No changes, additions, modifications or amendments of this Consent Order and Agreement shall be effective unless they are set out in writing and signed by the Parties hereto.

19. **Effectiveness**. This Consent Order and Agreement shall not become effective unless and until: (a) this Consent Order and Agreement is executed by Rockwood and the Department.

20. **Notice; Collection**.

a. If the Department determines that Rockwood has failed to comply in a timely manner with any requirements of this Consent Order and Agreement, the

Department shall give written notice to Rockwood stating in detail in what respect(s) the Rockwood has failed to comply with these requirements. Rockwood shall reply to the Department in a timely manner, but in no event later than 30 days after receipt of the notice, and identify actions Rockwood has taken and/or proposes to take, if any, to address the Department's concerns, including a proposed schedule of work.

b. The Department agrees that it will not seek to collect all or any portion of Rockwood's bonds prior to following the procedure set forth in Paragraph 20a.

21. **Counterparts**. This Consent Order and Agreement may be executed in counterparts, each of which is an original for all purposes.

IN WITNESS WHEREOF, the parties hereto have caused this Consent Order and Agreement to be executed by their duly authorized representatives. The undersigned representatives of Rockwood certify under penalty of law, as provided by 18 Pa. C.S. §4904, that they are authorized to execute this Consent Order and Agreement on behalf of Rockwood; that Rockwood consents to the entry of this Consent Order and Agreement as a final ORDER of the Department; and that Rockwood hereby knowingly waives its rights to appeal this Consent Order and Agreement and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, the Act of July 13, 1988, P.L. 530, No. 1988-94, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provision of law. Signature by Rockwood's attorney certifies only that the agreement has been signed after consulting with counsel. Signature by the Comptroller of Department certifies the availability of funds in the Surface Mining and Reclamation General Operations executive authorization.

ROCKWOOD CASUALTY INSURANCE COMPANY

Kurt Tipton
Title: Sr. Vice-president

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Name:
Title:

Mary K. DeLutis
Comptroller of Department of Environmental Protection

COUNSEL TO ROCKWOOD CASUALTY INSURANCE COMPANY

William T. Gorton III, Esq.
Stites & Harbison, PLLC

COUNSEL TO PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Richard S. Morrison, Esq.
Assistant Counsel

ROCKWOOD CASUALTY INSURANCE COMPANY

Kurt Tipton
Title:

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Name: Michael W. Smith
Title: District Mining Manager

Mary K. DeLutis
Comptroller of Department of Environmental Protection

ME400001121G
2010207000 3555609000 6374630 $17,200.00
IO 35560740002

COUNSEL TO ROCKWOOD CASUALTY INSURANCE COMPANY

William T. Gorton III, Esq.
Stites & Harbison, PLLC

COUNSEL TO PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Richard S. Morrison, Esq.
Assistant Counsel

EXHIBIT A

Scope of Proposed Reclamation
Ed Hanslovan Coal Co., Inc., Buchanan #2 Mine, SMP # 33860109
Washington Twp., Jefferson County

Following are the reclamation activities proposed for the above referenced site:

1.) Two (2) sedimentation ponds (C & D) will be reclaimed and revegetated.

2.) 4100 feet of collection ditch will be reclaimed and revegetated.

3.) Three (3) washouts in the ditches, totaling at least 170 feet in length, will be regraded and stabilized with vegetation.

4.) Approximately 7 acres of steep area around the hillside will be regraded and vegetated with grass and trees. This acreage does not include the areas that will be disturbed by the reclamation of ponds and ditches discussed in #1 & #2.

5.) The access road can remain as a permanent structure to provide access to the Township's stone pit. Portions of the lower side of the roadway will be stabilized with ditches and sediment traps.

EXHIBIT B

Technical Specifications with Payment Schedule for Tower North #2 Site

Scope of Project

The intent of this project is to regrade and reclaim the forfeited surface mine of Ed Hanslovan Coal Company, Inc. known as the Tower North #2 Operation in Bell Township, Clearfield County and to remove Sedimentation Pond "A" and associated collection ditches one year after successful reclamation.

The work involved consists of backfilling the open pit, replacing the topsoil or best available material and revegetating approximately 20 acres. A best management practice of adding alkaline material interspersed throughout the backfill material is also required. After one year of successful revegetation any sedimentation controls not necessary must be removed and those areas reclaimed.

The Contractor shall be responsible for determining the locations of all underground and overhead facilities such as, but not limited to, telephone, sewer, gas, water, electric, and others, in accordance with Act 287 of the General Assembly approved December 10, 1974, as amended.

Technical Specification #1 – Backfilling

This task consists of furnishing all labor and equipment required to regrade an open pit approximately 900 feet X 100 feet X 90 feet to approximate original contour. For the purposes of this agreement, approximate original contour is defined as contouring the land affected and regraded so that it closely resembles the general surface configuration of the land prior to being affected by the surface mining and blends into and complements the drainage pattern of the surrounding terrain with no highwalls, refuse piles or depressions to accumulate water and with adequate provision for drainage. As a best management practice, the alkaline material stockpiled on the adjacent Clover Run permit shall be brought back to the Tower North Operation and thoroughly mixed with the backfill material used to regrade the pit area such that it is distributed throughout the area backfilled. Collection ditches and Sedimentation Pond "A" will be maintained during backfilling activities and for one year after final planting of the site.

Technical Specification #2 – Topsoil Placement

This task consists of furnishing all labor and equipment and performing all operations in association with placing all stockpiled topsoil material or best available material over the limit of the affected area. Sufficient topsoil material or best available material is to be allocated to cover all areas affected during the reclamation of the Tower North #2 Operation. The work shall include, but not be limited to excavation, transport and placement of the material. No compaction of the material is required and should be avoided. Soil cover shall be controlled so that the grade blends into adjacent topography. The final soil cover shall be reasonably free from stones and debris that may be

detrimental to the application of soil supplements and seed. Soil cover material shall be free of large rocks, roots, vegetation and man made materials.

Technical Specification #3 – Revegetation

The Contractor shall seed all areas affected during this project. Approximately 20 acres will remain to be planted after backfilling of the site. The work covered by this task shall consist of preparation of the seedbed, furnishing and placing of pulverized limestone and planting of the seed mixture as outlined in the Tower North #2 permit. Planting will commence during the first planting season following reclamation. Trees will be planted the first spring after reclamation is completed, unless the landowner agrees to an alternative land use. If erosion occurs between the time of completion of the work and the time of seeding, the Contractor shall replace the fine materials that were eroded away and regrade all eroded areas to reestablish the final grade. The success standard will be 70 % ground coverage of permanent grasses and legumes. Vegetation will be maintained for one full growing season.

Technical Specification #4 – Removal of Sedimentation Controls

This task consists of furnishing all labor and equipment and performing all operations in association with the removal of Sedimentation Pond "A" and associated collection ditches. Sedimentation Pond "A" will remain for passive collection of the seep zone located within its embankment unless the above described reclamation eliminates or renders diminimus the embankment flow. If this occurs the pond will be removed and the affected area reclaimed one year after the completion of planting of the site, unless the landowner requests that the pond remains as a permanent structure. The embankment material of Sedimentation Pond "A" is to be used to fill in the pond and grade the area to match the surrounding contour. The collections ditches are to be regraded to match the surrounding contour. Upon completion of grading, all affected area is to be limed, fertilized and seeded in accordance with Technical Specification #3 – Revegetation.

Technical Specification #5 – Mobilization – Demobilization

This task consists of furnishing all labor and equipment and performing all operations in association with the delivery and assembling of all equipment at the site preparatory to initiating the work and for removing it when all work has been completed. Mobilization and demobilization of equipment is the sole responsibility of the Contractor.

General Specifications

Any rills and gullies in excess of 9" in depth must be repaired prior to release of the final bond.