

**Office of Surface Mining
Reclamation and Enforcement**

Pittsburgh Field Division



Evaluation Report

RECLAMATION SUCCESS

Maryland Abandoned Mine Lands Program

Evaluation Year 2004

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OBJECTIVES

The objective of this study was to evaluate the effectiveness of the Maryland Program in ensuring successful reclamation on lands affected by surface coal mining operations.

SUMMARY

The Maryland program ensures successful reclamation. Maryland operations continue to improve post mining land capability by re-mining and reclaiming highwalls, abandoned underground mines and spoil piles.

Four parameters were reviewed to evaluate reclamation success during this study. They were Land Form/Approximate Original Contour (AOC), Land Capability, Hydrologic Reclamation, and Contemporaneous Reclamation. All sites reviewed complied with all criteria for all four parameters.

All bond release inspections were conducted within the appropriate season.

All but one of the inspections were completed within the thirty-day limit stipulated by regulation.

BACKGROUND

Maryland's requirements for ensuring reclamation and subsequent release of bond liability are found in the Code of Maryland Regulations (COMAR) 26.20.14 and the Annotated Code of Maryland ' 15-511 and ' 15-513.

Bond is released based on successful completion of reclamation in three phases:

Phase I - When the permittee completes backfilling, regrading, resoiling, seeding, mulching, and drainage control in accordance with the approved permit plan.

Phase II - When revegetation has been successfully established; the lands are not contributing excessive suspended solids to stream flow or runoff outside the permit area; temporary drainage controls have been removed and affected areas graded, seeded and mulched; prime farmland yields restored; permanent impoundment plans implemented; the liability period has elapsed;¹ and the site is approved by the Maryland Land Reclamation Committee (LRC) and Department of the Environment (MDE).

Phase III - When the permittee has successfully completed all operations in accordance with the approved reclamation plan and achieved compliance with the regulatory program, the permit, and the applicable liability period.²

An aspect of Maryland's bond release program is the Phase I floating bond system. Phase I bond is generally not released until the entire permit site meets phase I standards. This is because phase I

¹Two years after last augmented seeding per COMAR 26.20.29.06C.

²Five years after last augmented seeding per COMAR 26.20.29.06D.

bond, which is required to cover only the unreclaimed area (open acres³), can float with the progression of the active mining. Phase I reclamation continues behind the active mining and the bond floats to the active area once phase I reclamation standards are met. However, phase I bond is not released until phase I reclamation is completed on the final active mining area.

Maryland's bond release system, therefore, does not lend itself to equating phase I bond release with successful phase I reclamation. Rather, successful phase I reclamation is documented by the approval of a Backfilling and Planting Report as described in § 15-513(a) of the Maryland Code. This report was used by the Office of Surface Mining (OSM) in evaluating successful phase I reclamation.

Phase II and phase III bond releases are independent of phase I release. Bond is, therefore, often released for phases II and III before phase I.

Maryland's bonding system is flowcharted in Exhibit 1.

METHODOLOGY

In order to determine the effectiveness of reclamation in Maryland, OSM evaluated the following four parameters in accordance with OSM Directive REG-8, Appendix II, item II.C.2:

1. Land Form/Approximate Original Contour
2. Land Capability
3. Hydrologic Reclamation
4. Contemporaneous Reclamation

Results of the file review and inspection were documented on OSM's Mine Evaluation Inspection Report. OSM also used the Bond Release Checklist form (Exhibit 2) to assist in documenting all three phases of reclamation success. The results are summarized in Exhibit 3.

Five permit sites with impending bond release inspections were evaluated. Within the five permits were nine separate release evaluations: Two phase I actions, three phase II actions, and four phase III actions. OSM reviewed the permit file prior to inspection and conducted joint inspections with State inspectors on all sites.

In addition to reviewing the file prior to inspection, OSM did a more detailed review of the three most recently issued permit files reviewed in this report to determine contemporaneous reclamation utilizing the backfilling/planting reports, Maryland's manual tracking system, and interviews with Maryland program personnel.

FINDINGS

Inspection Timing

COMAR 26.20.14.09 A. requires that bond release *applications A...be filed only at times or seasons*

³Disturbed area that has not been backfilled, regraded, top soiled, seeded and mulched.

that allow the Bureau to properly evaluate the reclamation operations presented in the application as having been completed. These times and seasons will be identified by the Bureau@.

MDE Reclamation Advisory Memorandum dated January 6, 2000 (Exhibit 4) states, A...beginning in calendar year 2000 the Bureau will only accept bond release applications from March 15 through September 15.@

Maryland has issued exceptions to the policy each year since its implementation. The latest exception was a memo dated September 12, 2003, which allowed submittals to occur up until October 1, 2003. In each exception letter, the due date has been extended into October to synchronize with the Land Reclamation Committee's schedule for inspections and account for seasonal changes from year to year.

Three of the five sites reviewed had applications submitted during the allowable accepted period. The two which were not submitted within the appropriate season were held over until the following season for evaluation in accordance with approved policy. By comparison, all three submissions reviewed last year were made within the allowable period and in EY02 four of six submissions were made within the allowable period.

COMAR 26.20.14.09 D. requires MDE to inspect and evaluate the reclamation work A...within 30 days after receiving a complete application for bond release, or as soon after that as weather conditions permit.” Maryland's Bond Release Checklist and Log designates the date the application was determined complete by the reviewer. In cases where the completion date is not shown on the Bond Release Checklist and Log, the date used for the study is that found in the notice of Bond Release inspection letter. As shown in Table I below (Inspection Timing), on average permits were inspected within the 30-day criteria, with an average of 22 days from the date of the completeness determination to the date of inspection. This compares with the average for the last three evaluation years of 18 days. However one permit was not inspected within the 30 day criteria. Maryland should assure that all permits are inspected within thirty days of receiving a complete bond release application unless weather conditions preclude such an inspection, and document weather-related reasons in the Bond Release Checklist and Log or other suitable form.

Table 1 also shows that on average, MDE took approximately 36 days to make a completeness determination after receipt of the application for the five permits reviewed. This compares with the average for the last three evaluation years of 26 days.

TABLE I INSPECTION TIMING					
PERMIT #	BOND RELEASE APPLICATION RECEIVED DATE ⁴ (a)	COMPLETENESS DETERMINATION DATE ⁵ (b)	INSPECTION DATE (c)	DAYS FROM APPLICATION RECEIVED TO COMPLETENESS DETERMINATION (d)	DAYS FROM COMPLETENESS DETERMINATION TO INSPECTION (e)
SM-84-273	06/11/03	07/28/03	08/07/03	17	10
SM-84-365	02/23/04	03/25/04	05/18/04	30	54
SM-84-367	02/24/04	05/03/04	05/18/04	68	15
SM-84-375	06/11/03	07/28/03	08/07/03	47	10
SM-95-425	07/11/03	07/28/03	08/18/03	17	21
AVERAGE				36	22

Land Form/Approximate Original Contour (AOC)

All evaluations complied with the criteria for this standard. These criteria include elimination of all highwalls and spoil piles, contouring the area to closely resemble the general surface configuration, and blending with the surrounding area and drainage pattern.

Land Capability

All of the field evaluations complied with the criteria for this standard. These criteria include, as applicable, replacement of topsoil, achievement of vegetative stability, post-mining land use, and establishment of successful vegetation. Post-mining land use for all of the permits was pasture.

Federal regulations under 30 CFR ' 816.116(a)(2) and the Maryland equivalent under the Code of Maryland Regulations (COMAR) 26.20.29.07 require that establishment of successful vegetation be judged using, *A...a 90 percent statistical confidence interval.*” Maryland uses a modified Rennie-Farmer method for evaluating revegetation success as approved by OSM in the EY2000 study, Maryland Revegetation Evaluation Techniques. All four phase III reviews showed more than 90% revegetation success using the modified Rennie-Farmer method.

All five sites reviewed had been previously mined. In addition to meeting the standards for land capability, these sites were improved through the elimination of 5000 feet of highwall, 7 acres of underground mines, and 47 acres of old spoil, improving the surface water quality. An underground mine fire was also eliminated as well as an adjacent highwall and acid mine drainage.

⁴The later of application receipt date or Proof of Publication receipt date from Bond Release Checklist and Log

⁵ Notice of Bond Release Inspection letter date if not shown on Bond Release Checklist and Log.

Hydrologic Reclamation

The criteria evaluated includes assurance that surface and ground water quality and quantity, as well as the groundwater recharge capacity, was restored. This assurance is made through the monitoring of ground and surface water quality and quantity⁶ until final phase III bond is either released or the operator can demonstrate monitoring is no longer required in accordance with COMAR 26.20.20. This demonstration is made by a showing that the operation has minimized disturbances of the hydrologic balance both onsite and offsite, water availability and quality are suitable to support approved post-mining land uses, and the water rights of other users have been protected or replaced.

All of the evaluations except one complied with this standard. The one exception, SM-84-367, still requires treatment for several impoundments and bond release could not be approved for this site at the time the inspections were conducted.

Contemporaneous Reclamation

All evaluations were found to be in conformance with the criteria. These criteria include backfilling/grading beginning within 60 days of coal removal, proceeding within 1500 feet of coal removal, or three spoil ridges behind the open pit; completion of backfilling/grading within one year; open acres not beyond the bonded limit; planting within the first season following resoiling, etc., per COMAR 26.20.28.01.

In addition to the general information shown in Exhibit 3, file reviews of the three most recent permanent program sites inspected were conducted in greater detail to gather quantitative data on contemporaneous reclamation. The results are shown in Exhibit 6.

Exhibits 6, 7, 8, and 9 track the achievement of contemporaneous reclamation during the following three phases of reclamation:

Phase I (Backfilling/Grading)

The degree to which Phase I backfilling, grading, and planting keep up with disturbance of the permit site is demonstrated as the difference between acres backfilled and planted to acres affected at a given point in time. These Asnapshots@ reveal, on average, that seventy-three percent of affected acres have been backfilled and planted at any point in time. Over the past three evaluation years, the average for the sites reviewed has been approximately eighty-one percent. It is evident that phase I backfilling, grading, and planting proceed in a timely manner with the progression of mining, as the gap between affected and backfilled/planted narrows progressively with time. This relationship is demonstrated graphically in Exhibit 9 for the three permit sites. On average, seventeen acres were open⁷ on the three permit sites at any time.

Phase II (Establishment of Vegetation)

The timeliness for establishing vegetation and meeting other criteria for phase II reclamation

⁶ Monitored quality and quantity parameters are based on the probable hydrologic consequences determination made in the permit application, and analysis of all baseline hydrologic, geologic, and other information in the permit application. As a minimum, all sites must be monitored for specific conductance, total suspended solids, acidity and alkalinity, pH, total iron, manganese, sulfates, depth to water, rates of discharge or use, flow, and sulfates.

⁷ Disturbed and not reclaimed

is demonstrated as the difference between when the site becomes eligible for phase II bond release (minimum two years from last augmented seeding) to when the phase II is determined successful. The Pittsburgh Field Division (PFD) uses the approval date by the Land Reclamation Committee (LRC) after it conducts its inspection as the Asuccessful@ date. This inspection is triggered automatically when the two-year liability period expires or is close to expiration (see Exhibit 7). Even though this date more closely reflects timeliness of phase II success, it is not without problems. First, it is only a preliminary inspection. The purpose of the LRC inspection is to advise the operator whether he is eligible to submit an application for a final bond release. Therefore, final bond release is still subject to MDE's official bond release inspection, and appeals by the public. Also, since the inspections are only conducted twice a year, LRC inspections may occur up to six months before or after a site meets the liability period and becomes eligible for inspection. The source of data for this exercise was derived from the Revegetation Bond Release 2003 tables Maryland publishes annually. It included all areas eligible for revegetation bond release from April 1, 2003, through March 31, 2004. Nine of fifteen sites (60%) eligible for phase II release were approved and the average time for approval was three months following eligibility. This compares with last year's data that showed that 4 of 8 sites (50%) were approved and the average time was also approximately three months. The majority of disapprovals for phase II during this period were due to insufficient cover and/or insufficient tree/shrub survival for areas in which trees and/or shrubs are part of the approved post-mining land use. This aspect will be looked at in greater detail in the EY05 review cycle.

Phase III (Successful Completion of all Reclamation Operations)

The timeliness for successful completion of all operations and meeting all other criteria for phase III reclamation is demonstrated as the difference between when the site becomes eligible for phase III bond release (minimum five years from last augmented seeding) to when phase III is determined successful. Changes were made in the date used as the Asuccessful@ date in the same manner as in phase II discussed above. The source of data for this exercise was derived from the Revegetation Bond Release 2003 tables MDE publishes annually. It included all areas eligible for final bond release from April 1, 2003, through March 31, 2004. The data (Exhibit 8) shows twelve of nineteen sites eligible for phase III releases were approved (63%), and approval occurred on average within the same month as eligible. This is an improvement from last year's data showing that only one of the four sites (25%) were approved and the average time was within eight months of eligibility. It is notable that, similar to phase II disapprovals, the majority of disapprovals for phase III during the review period were due to insufficient cover and/or insufficient tree/shrub survival for areas in which trees and/or shrubs are part of the approved post-mining land use. This aspect will be looked at in greater detail in the EY05 review cycle.

RECOMMENDATIONS

It is recommended that Maryland document weather-related reasons for postponing inspections which cannot be conducted within the 30 day time limit specified by COMAR 26.20.14.09D.

EXHIBITS

Exhibit 1 – Maryland Bond Procedures

MARYLAND BOND PROCEDURES Exhibit I

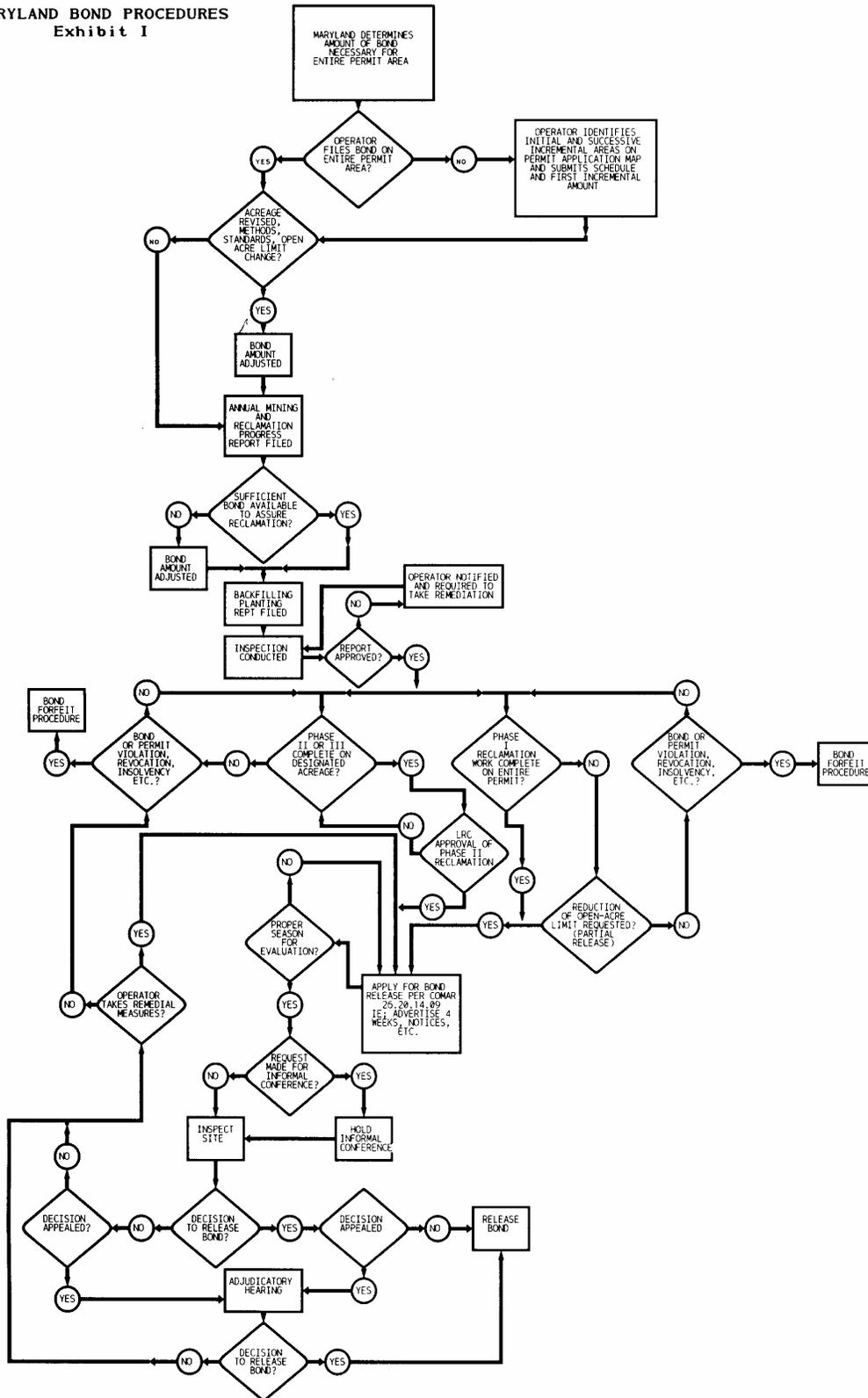


Exhibit 2 - Bond Release Checklist

A. ADMINISTRATIVE	
1. Permit number	
2. Permittee	
3. Inspection date	
4. OSM Inspector Name	Pete Hartman
5. Release phase evaluated	Phase I
6. Yearly segment	
7. Acreage	
8. Month/Year identified for reclamation in annual report	
9. Month/Year permittee submitted bond release request	
10. Type of facility	
11. Type of Review	
12. Type of Release	
13. Number of acres requested for release	
14. Amount of bond requested for release	
15. Amount of bond released	
16. Amount of bond rolled over	
17. Amount of bond retained	
18. Were public notice requirements satisfied	YES

19. Were landowner notice requirements satisfied?	YES
20. Were local government notification requirements satisfied?	YES
21. Was proof of publication received by BOM within 30 days after application was received?	YES
22. Date application determined complete	
23. Were no written objections received within 30 days? (If YES, go to #24, otherwise go to a.)	YES
a. Was a field conference held in response to the objection? (If YES, comment on results in i, Otherwise go to b.)	NA
i.	
b. Was an informal conference requested following a field conference?	NA
c. Was informal conference held within 30 days?	NA
d. Was Surface owner notified of right to accompany?	NA
e. Did surface owner accompany?	NA
f. Was a copy of final determination sent to each party with written comment or objection?	NA
24. Was State inspection made within 30 days of receipt of complete application?	YES
25. Was application report received in the proper season (ie; March 15 – September 15)	YES
26. Date of BOM inspection	
27. Recommendation (If negative, provide reasons in comments section)	APPROVE
28. Date of bond release	
29. Date copy of final determination sent to local municipality	

b. Evaluation of Landform / AOC

PHASE I

Criteria for Success	Met Criteria	Explanation or Comments
1. Highwalls eliminated	YES	a.
2. Landform meets PMLU or AOC achieved	YES	a.
3. Drainage controls functional	YES	a.
4. Backfilled slopes stable	YES	a.

c. Land Capability

PHASE II

Criteria for Success	Met Criteria	Explanation or Comments
1. Vegetation established to control erosion?	YES	a.
2. Runoff controlled to prevent suspended solids to streamflow or outside permit area	YES	a.
3. Topsoil depth meets permit conditions? a. # of probes b. Avg Depth (inches) c. If not probed, explain how soil restoration was evaluated?	YES	d.
4. ARM restored as required by permit?	YES	a. # of acres with ARM
5. DMR drilling of PFL area shows depth meets permit conditions?	YES	a.
6. Are target yields for PFL restored?	YES	a.

D. Land Capability
PHASE III

Criteria for Success	Met Criteria	Explanation or Comments
1. Trees planting and/or riparian vegetation meet permit requirements?	NA	a.
2. All areas stable, repairs adequate?	YES	a.
3. Production yield for target crop met? a. Target Crop: b. County Average: c. Post-mining Yield:	NA	d.
4. Are all structures temporary? (If “YES”, go to item #6; otherwise items a-d) d) YES a. Type NA b. Number c. Size NA d. Do structures meet the intended post-mining land use? NA		e.
5. Vegetative cover a. Meets cover standards? b. Did RA conduct a statistically valid evaluation? YES (If “YES” go to “i”; Otherwise, explain in comments) i. RA cover % c. Did OSM conduct a statistically valid evaluation? YES (If “YES” go to “i”; Otherwise, explain in comments) i. OSM cover %	YES	d.
6. Five-year liability period expired? a. Date of last seeding	YES	b.
7. What is the approved post-mining land use(s) on this segment? Pasture	a.	
8. Is reclaimed area supporting or capable of supporting this PMLU?	YES	a.

e. Impacts of Remining
Phase III

1.	Is the permit free of previous mining? (If YES, go to 2; Otherwise, go to a.)	Yes
a.	Does the permit include a designation of area eligible for remining? (If YES, go to i; Otherwise, go to b.)	NA
i.	How many acres are designated eligible for remining	
ii.	Has the entire area designated as eligible for remining been affected by prior mining? (If YES, go to b; Otherwise, go to A.)	NA
A.	How many acres eligible for remining are not affected by prior mining	
b.	Based on information in the permit application or site visit, identify any on-site AML features that existed prior to current mining and reclamation that are planned to be eliminated by mining and reclamation on this permit. And, of the area currently affected, please provide an estimate for each item below	
i.	Lineal feet of AML highwall planned for elimination	
ii.	Lineal feet of AML highwall affected to date	
iii.	Acres of unreclaimed AML spoil planned for reclamation	
iv.	Acres of unreclaimed AML spoil affected to date	
v.	Number of underground mine openings planned for elimination	
vi.	Number of underground mine openings affected to date	
vii.	Acres of underground mines planned for day lighting	
viii.	Acres of underground mines day lighted to date	
ix.	Number of dangerous structures planned for removal	
x.	Number of structures removed to date	
xi.	Is the re-mined area free of pre-existing discharges? (If YES, go to xii.; Otherwise, go to A.)	NA
A.	Describe the monitoring plan	
xii.	Is overall water quality being improved? (if YES, go to A; Otherwise, go to xiii)	NA
A.	Quantify improvement through monitoring results from upstream and downstream and springs and well; (miles of improved streams, number of wells, number of springs improved)	
xiii.	Identify other AML related on-site problems and corrective measures	
2.	Are all reclamation activities confined to the permit area (ie; no AML no-cost contracts or AML direct-negotiated contracts)? (If YES, go to 3; Otherwise, go to a.)	Yes
a.	Lineal feet of AML highwall eliminated	
b.	Acreage of unreclaimed spoil reclaimed	
c.	Number of underground mine openings eliminated	
d.	Acreage of underground mines day lighted	
e.	Number of dangerous structures removed	
f.	Is water quality being improved? (if YES, go to i; Otherwise, go to 'h'.)	NA

	g. Quantify improvement through monitoring results from upstream and downstream and springs and well; i.e. miles of improved streams, number of wells, springs improved, etc.	
	h. Identify other AML related off-site problems and corrective measures	
3.	Is the permit free of AML features in or adjacent to the permit that should be eligible for reming or considered for a potential AML contract with the permittee? (If YES, go to next section; Otherwise, go to a)	Yes
	a. Please describe the features	

F. HYDROLOGIC RECLAMATION
(SURFACE WATER SYSTEM)

(Provide responses for all phase release evaluations)

Criteria for Success	Met Criteria	Explanation or Comments
1. Based on the pre-mining and post-mining data and your inspection, is surface water quality as good or better than premining quality? (Considering evaluation thresholds provided by OSM.)	YES	

SURFACE WATER QUALITY REVIEW

Discharge Point (ponds, drainways, upstream, downstream)	Sample Date	Flow rate (gpm/cfs)	pH (s.u.)	Settleable Solids (mg/l)	Total Iron (mg/l)	Manganese (mg/l)	Specific Conductance ($\mu\text{mhos}@25^{\circ}\text{C}$)

Reviewer=s Assessment of Ground Water Restoration

Based on the pre-mining and post-mining data (see next page) and your inspection, is ground water quality and quantity as good or better than premining quality and quantity? Y N

(Considering evaluation thresholds provided by OSM.) (If no monitoring data is available, identify how you assessed groundwater restoration and the results.)

Comments:

G. HYDROLOGIC RECLAMATION

Permit _____ Review Date _____

GROUND WATER QUALITY REVIEW

SAMPLE LOCATION	SAMPLE DATE	pH	TOTAL ACIDITY AS CaCO ₃	TOTAL ALKALINITY AS CaCO ₃	SPECIFIC CONDUCTANCE (MMHOS @ 25°C)	SULFATES	TOTAL IRON	MANGANESE	HARDNESS AS CaCO ₃	TOTAL SUSPENDED SOLIDS	Total Dissolved SOLIDS					
Pre Mining Quality																
During Mining																
During Mining																
Post Mining Quality																

SAMPLE LOCATION	SAMPLE DATE	pH	TOTAL ACIDITY AS CaCO ₃	TOTAL ALKALINITY AS CaCO ₃	SPECIFIC CONDUCTANCE (MMHOS @ 25°C)	SULFATES	TOTAL IRON	MANGANESE	HARDNESS AS CaCO ₃	TOTAL SUSPENDED SOLIDS	TOTAL DISSOLVED SOLIDS					
Pre Mining Quality																
During Mining																
During Mining																
Post Mining Quality																

SAMPLE LOCATION	SAMPLE DATE	pH	TOTAL ACIDITY AS CaCO ₃	TOTAL ALKALINITY AS CaCO ₃	SPECIFIC CONDUCTANCE (MMHOS @ 25°C)	SULFATES	TOTAL IRON	MANGANESE	HARDNESS AS CaCO ₃	TOTAL SUSPENDED SOLIDS	TOTAL DISSOLVED SOLIDS					
Pre Mining Quality																

During Mining															
During Mining															
Post Mining Quality															

SAMPLE LOCATION	SAMPLE DATE	pH	TOTAL ACIDITY AS CaCO ₃	TOTAL ALKALINITY AS CaCO ₃	SPECIFIC CONDUCTANCE MMHOS @ 25°C	SULFATES	TOTAL IRON	MANGANESE	HARDNESS AS CaCO ₃	TOTAL SUSPENDED SOLIDS	TOTAL DISSOLVED SOLIDS				
Pre Mining Quality															
During Mining															
During Mining															
Post Mining Quality															

H. HYDROLOGIC RECLAMATION

(continued)

Permit _____ Review Date _____

Ground Water Quality Review

SAMPLE LOCATION	SAMPLE DATE	pH	TOTAL ACIDITY AS CaCO ₃	TOTAL ALKALINITY AS CaCO ₃	SPECIFIC CONDUCTANCE MMHOS @ 25°C	SULFATES	TOTAL IRON	MANGANESE	HARDNESS AS CaCO ₃	TOTAL SUSPENDED SOLIDS	TOTAL DISSOLVED SOLIDS				
Pre Mining Quality															
During Mining															
During Mining															
Post Mining Quality															

SAMPLE LOCATION	SAMPLE DATE	pH	TOTAL ACIDITY AS CaCO ₃	TOTAL ALKALINITY AS CaCO ₃	SPECIFIC CONDUCTANCE MMHOS @ 25°C	SULFATES	TOTAL IRON	MANGANESE	HARDNESS AS CaCO ₃	TOTAL SUSPENDED SOLIDS	TOTAL DISSOLVED SOLIDS				
Pre Mining Quality															
During Mining															
During Mining															
Post Mining															

Quality																			
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SAMPLE LOCATION	SAMPLE DATE	pH	TOTAL ACIDITY AS CaCO ₃	TOTAL ALKALINITY AS CaCO ₃	SPECIFIC CONDUCTANCE MMHOS @ 25°C	SULFATES	TOTAL IRON	MANGANESE	HARDNESS AS CaCO ₃	TOTAL SUSPENDED SOLIDS	TOTAL DISSOLVED SOLIDS							
Pre Mining Quality																		
During Mining																		
During Mining																		
Post Mining Quality																		

SAMPLE LOCATION	SAMPLE DATE	pH	TOTAL ACIDITY AS CaCO ₃	TOTAL ALKALINITY AS CaCO ₃	SPECIFIC CONDUCTANCE MMHOS @ 25°C	SULFATES	TOTAL IRON	MANGANESE	HARDNESS AS CaCO ₃	TOTAL SUSPENDED SOLIDS	TOTAL DISSOLVED SOLIDS							
Pre Mining Quality																		
During Mining																		
During Mining																		
Post Mining Quality																		

Exhibit 3 – Reclamation Achievements

Permit Information			Acres Reviewed for Bond Release			Reclamation Achieved (Y/N)			
Permit#	Post Use ¹	Est. Acres Presently Disturbed/Unreclaimed (Open Acres)	Phase I	Phase II	Phase III	AOC ²	Land Capability ³	Hydrology ⁴	Contemporaneous ⁵
SM-84-273	2	0		18		Y	Y	Y	Y
SM-84-365	5		74	151	24	Y	Y	Y	Y
SM-84-367	5	20			28	Y	Y	N	Y
SM-84-375	2	0			7	Y	Y	Y	Y
SM-95-425	2	4	6	6	24	Y	Y	Y	Y
TOTAL									

1. 1=commercial/industrial; 2=pasture; 3=wildlife; 4=forestry; 5=undeveloped; 6=recreational; 7=cropland

2. Approximate Original Contour: All highwalls and spoil piles eliminated; reclaimed area closely resembles general surface configuration and blends w/surrounding area and drainage pattern

3. Topsoil replaced, vegetation established, erosion controlled, post use achieved, vegetation successful
Surface and ground water quality/quantity restored, recharge capacity restored.

Meets requirements of COMAR 26.20.28.01 (i.e.; backfill/grade begun < 60 days of coal removal, completed < 1 year; open acres not beyond limit; backfill <1500 ft. of coal removal, planting first season following resoiling) See exhibit III

4 Assurance that surface and ground water quality and quantity, as well as the groundwater recharge capacity, was restored.

5. backfilling/grading beginning within 60 days of coal removal, proceeding within 1500 feet of coal removal, or three spoil ridges behind the open pit; completion of backfilling/grading within one year; open acres not beyond the bonded limit; planting within the first season following resoiling, etc., per COMAR 26.20.28.01.

Exhibit 4 - Bond Release Letter



MARYLAND DEPARTMENT OF THE ENVIRONMENT
2500 Broening Highway • Baltimore Maryland 21224
(410) 631-3000 • 1-800-633-6101 • <http://www.mde.state.md.us>

Parris N. Glendonig
Governor

Jane T. Nishida
Secretary

**Water Management Administration
Bureau of Mines
160 South Water Street * Frostburg, Maryland 21532**

January 6, 2000

MEMORANDUM --- Reclamation Advisory

TO: All Coal Operators
FROM: Maryland Bureau of Mines
SUBJECT: Submittal of Bond Release Applications

Maryland regulations at COMAR 26.20.14.09A(1) require that applications for release of bond may be filed only at times or seasons that allow the Bureau to properly evaluate the reclamation operations presented in the applications. The regulation also requires the Bureau to identify the times or seasons when applications for bond release will be accepted for review. Section D of this regulation requires the Bureau to inspect and evaluate the reclamation work presented in the applications within 30 days after receiving a complete application or as soon after as weather permits.

In order to comply with the intent of the above regulatory requirements, the Bureau is identifying the times during the year when bond release applications will be accepted. The identification of these times is necessary to ensure that the reclamation phases applied for release in the applications can be inspected and evaluated within the required 30 days after receiving a complete application during times that allow for proper evaluation.

Therefore, beginning in calendar year 2000 the Bureau will only accept bond release applications from March 15 through September 15. Applications received after September 15 and prior to March 15 will be considered at the beginning of the next review period.

2 -

Exhibit 5 - Exception letter

**WATER MANAGEMENT ADMINISTRATION
BUREAU OF MINES**
160 South Water Street
Frostburg, MD 21532

September 12, 2003

MEMO

TO: All Coal Companies in Maryland Having Acres Eligible for Phase II & III
Revegetation Bond Release in 2003.

FROM: Mark Carney

SUBJECT: **Revegetation Bond Release 2003**

The enclosed report is the official notification by the Bureau of Mines for Phase II & III bond releases. This report indicates what areas are eligible for revegetation bond release in 2003. This report includes the area approved in the spring and fall of 2003.

This report is self-explanatory if you read each column's heading. The reason(s) for disapproval are numbered with an attached page describing the number. Refer to the "Date Planting Report Approved" column to determine when to submit a bond release application.

Contact Mark Carney, Bureau of Mines at (301) 689-6764 ext. 322, if you do not know the procedure for the release of bond money or you have any additional questions.

The deadline for submitting bond release applications for 2003 is October 1, 2003. Applications received after that date will be processed in the spring of 2004.

MC/bem

Enclosure

Exhibit 6 - Reclamation Progress

PERMIT #	DATE INSPECTOR APPROVED BACKFILLING/ PLANTING REPORT	ACRES AFFECTED THIS REPORT	ACRES BACKFILLED & PLANTED THIS REPORT	CUMULATIVE PERCENT RECLAIMED (PHASE I)	CUMULATIVE ACRES REMAINING OPEN
SM-84-367	10/20/98	75	28	37%	47
	11/11/99	13	15	49%	45
	10/31/00	4	23	72%	26
SM-84-375	11/26/91	4	4	100%	0
	10/08/97	8	5	75%	3
	10/15/97	0	0	75%	3
SM-95-425	01/07/97	17	4	24%	13
	08/27/97	5	5	41%	13
	02/27/98	6	13	79%	6
AVERAGE					
		15	11	73%	17

Exhibit 7 - Phase II Revegetation Bond Release

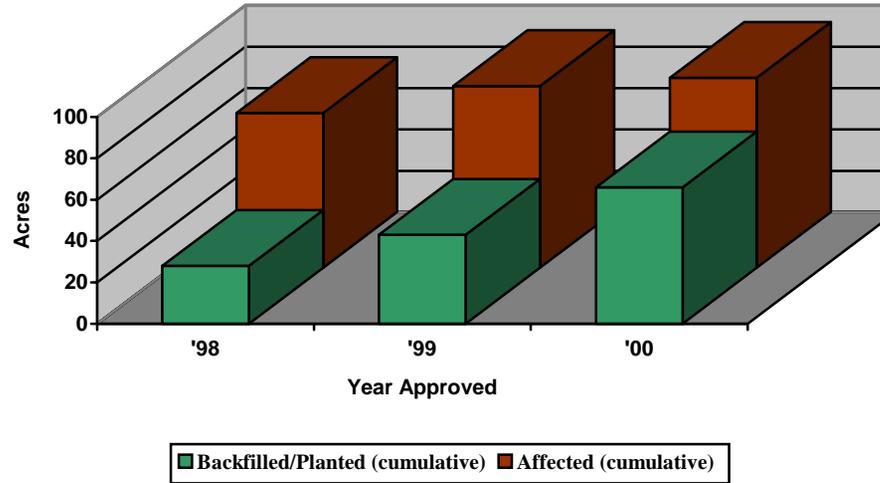
<i>Permit Number</i>	<i>Total Acres</i>	<i>Approved</i>	<i>Disapproved</i>	<i>Revegetation Type</i>	<i>Date Planting Report Approved</i>	<i>Date Eligible for Release</i>	<i>Months Difference - Eligible to Approval</i>	<i>Reason for Disapproval</i>	<i>Planting Report Number</i>	<i>Comments</i>	<i>Decision Date</i>
SM-84-247	18.0	18.0		Pasture	10/01/01	10/01/03	-1		13		09/01/03
SM-84-368	4.0	4.0		Grass	10/01/01	10/01/03	-1		5		09/01/03
SM-98-430	15.0	15.0		Grass	11/01/01	11/01/03	-2		1		09/01/03
SM-87-411	3.0	3.0		Pasture	10/01/01	10/01/03	-1		11		09/01/03
SM-87-411	2.5		2.5	Grass	12/01/01	12/01/03		Area under suspension, revocation, forfeiture, or other violation notices	12	rills	09/01/03
SM-95-424	1.0		1.0	Wooded	11/01/01	11/01/03		Trees/shrubs do not meet stems/acre requirement	3	number trees	09/01/03
Sm-97-429	10.0	10.0		Pasture	11/19/01	11/19/03	7		7		06/04/04
Sm-97-429	18.0	18.0		Pasture	05/30/02	05/29/04	0		8		06/04/04
Sm-92-422	27	27		Undev/grass	09/04/02	09/03/04	-3		5		06/04/04
Sm-84-399	9	9		grass	09/26/01	09/26/03	8		6		06/04/04
Sm-84-367	23	23		wooded	11/01/00	11/01/02	19		3		06/04/04
Sm-92-423	6		6	wildlife	05/30/02	05/29/04		Trees/shrubs do not meet stems/acre requirement	1	needs trees	06/04/04
Sm-84-184	2		2	Forestry	02/13/02	02/13/04		Trees/shrubs do not meet stems/acre requirement	1	needs trees	06/04/04
Sm-84-184	1		1	Forestry	02/13/02	02/13/04		Trees/shrubs do not meet stems/acre requirement	2	needs trees	06/04/04
Sm-92-422	32		32	Undev/Trees	09/04/02	09/03/04		Trees/shrubs do not meet stems/acre requirement	6	needs trees	06/04/04
AVERAGE							3				
TOTAL	171.5	127.0	44.5								

Exhibit 8 - Phase III Revegetation Bond Release

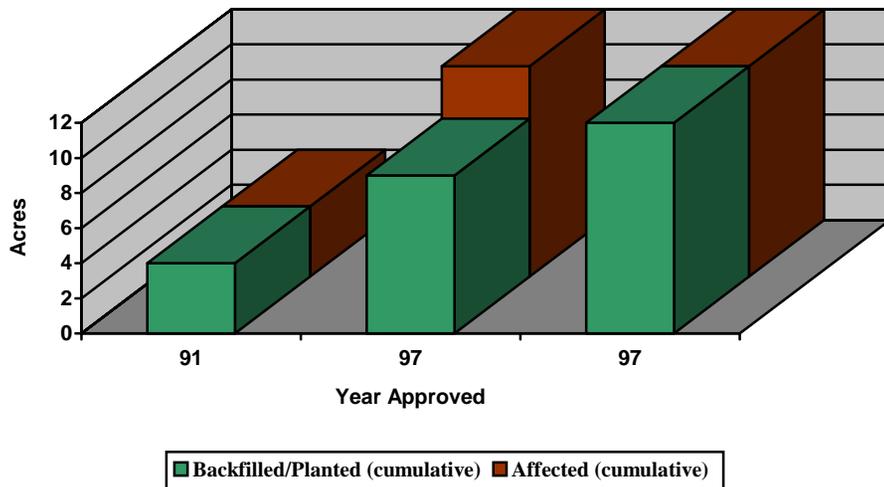
Permit Number	Total Acres	Approved	Disapproved	Revegetation Type	Date Planting Report Approved	Date Eligible for Release	Months Difference - Eligible to Approval	Reason for Disapproval	Planting Report Number	Comments	Decision Date
SM-95-424	1.0	1.0		Grass	12/14/98	12/13/03	-3		1		09/01/03
SM-84-328	24.0	24.0		Pasture	12/01/98	11/30/03	-3		9		09/01/03
SM-84-429	4.0	4.0		Pasture	10/01/98	09/30/03	-1		1		09/01/03
SM-84-429	6.0	6.0		Pasture	12/01/98	11/30/03	-3		2		09/01/03
SM-84-367	28.0	28.0		Grass	10/01/98	09/30/03	-1		1		09/01/03
SM-91-419	11.0	11.0		Grass	01/01/99	12/31/03	-4		11		09/01/03
SM-83-213	3.0	3.0		Pasture	11/01/98	10/31/03	-2		11		09/01/03
SM-84-264	3.0	3.0		Pasture	11/01/98	10/31/03	-2		15		09/01/03
SM-84-247	8.0	8.0		Pasture	10/01/98	09/30/03	-1		11		09/01/03
SM-87-411	3.0	3.0		Grass	10/01/98	09/30/03	-1		8		09/01/03
SM-84-207	17.0	17.0		Pasture	01/01/98	12/31/02	8		8		09/01/03
SM-84-338	10.0	10.0		Pasture	01/01/98	12/31/02	8		11		09/01/03
SM-92-421	17.0		17.0	Undev/Trees	10/01/98	09/30/03		Insufficient cover and bare areas	5	Cover/Bare	09/01/03
SM-92-422	26.0		26.0	Trees/grass	11/01/97	10/31/02		Bare areas and insufficient tree/shrubs stems/acre requirement	4	Bare/ # trees	09/03/03
Sm-84-338	10.0		10.0	Pasture	01/01/98	12/31/02		Erosion rills and gullies	11	rills	06/04/04
Sm-84-207	17.0		17.0	Pasture	10/01/97	09/30/02		Erosion rills and gullies	8	rills	06/04/04
Sm-92-421	7.0		7.0	Undev/Trees	08/01/97	07/31/02		Insufficient cover and bare areas	4	Cover/Bare	06/04/04
Sm-92-421	17.0		17.0	Undev/Trees	10/01/98	09/30/03		Insufficient cover and bare areas	5	Cover/Bare	06/04/04
Sm-92-422	26.0		26.0	Undev/Trees	11/01/97	10/31/02		Bare areas and insufficient tree/shrubs stems/acre requirement	4	Trees/Bare	06/04/04
AVERAGE							0				
TOTAL	238.0	118.0	120.0								

Exhibit 9 - Contemporaneous Reclamation

Permit #SM-84-367



Permit #SM-84-375



Permit #SM-95-425

