BLACK WARRIOR MINERALS, INC.

MINE NO. 1, P-3950

ALABAMA SURFACE MINING COMMISSION

SURFACE MINING PERMIT APPLICATION

P A R T I I I

Prepared by:

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PART III - OPERATION PLAN

A. General Operation Information

1. Describe the type and method of coal mining procedures and major equipment to be used. (780.11)

   See Attachment III-A-1

2 Track Hoe	4 Blast hole drills
4 Loaders	2 Fuel and service truck
6 Dozers	8 Rock Trucks

2. Describe the sequence and timing of increments to be mined (as shown on permit map) over the total life of the permit. (780.11)

   See **Permit Map** and **Cut Layout Map**.

   The timing increments are as follows:

Increment No.	Acres	Dates	
		From	To
1	78.0	Mining Completed	
2	87.0	Effective Date*	12 Months After
3	92.0	Effective Date*	12 Months After
4	32.0	End of Inc. 3	12 Months After
5	37.0	End of Inc. 4	12 Months After
6	28.0	Effective Date*	Life of Mine

   * The Effective Date depends on the date of issuance of permit.

   The sequence of mining operations will be generally as follows:
   1) Construction of sediment control structures
   2) Clearing and grubbing
   3) Topsoil removal, if required
   4) Overburden drilling and blasting
   5) Overburden removal
   6) Coal Recovery
   7) Grading
   8) Revegetation

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ATTACHMENT III-A-1

OPERATION PLAN

The surface mining method of area mining will be used at this mine site. Preparation will consist of removing timber, topsoil removal (if required), drilling and blasting of overburden, overburden removal, coal removal, regrading, topsoil replacement (if required), and revegetation. See **Cut Layout Map**.

This change to the operation plan addresses adding 28 mining acres to the permit, re-aligning increments and changing the cut alignment.

Mining has advanced into Increment No. 3 in two different areas as shown on the Cut Layout Map. HW-1 is northwest of Basin 046 that is aligned basically west to east and is advancing to the north. HW-2 is on the east side of Basin 046 and is aligned north to south and is advancing to the east.

It is anticipated that a new permit will be submitted that will add substantial area to the east of Increments 3, 4 and 5 in Section 10 & 15. As HW-1 advances to the north, it is proposed to leave the far east end of Increments 3, 4 and 5 open for a pit access, pit drainage and for spoiling room for the new permit. A request for delay in contemporaneous reclamation has been submitted.

INCREMENT NO. 1

Mining has been completed in Increment 1. Grading and backfilling have been completed.

INCREMENT NO. 2

Mining has been completed in Increment 2. Grading and backfilling is on-going.

INCREMENT NO. 6 – Five acres of ancillary road (highwall access) are being added.

Increment No. 6 will be initially be bonded and mined as follows:
Increment No. 6 includes primary roads, sediment basins, powder bin area and ancillary roads. Primary roads and ancillary roads will be mined through as the mining operation advances.

The New Castle, Marylee, Blue Creek and Jagger coal seams will be mined in Increment No. 6.

INCREMENT NO. 3

Increment No. 3 is currently bonded and will be mined as follows:

Mining has advanced into Increment No. 3 in two different areas as shown on the Cut Layout Map. HW-1 is northwest of Basin 046 that is aligned basically west to east and is advancing to the north. HW-2 is on the east side of Basin 046 and is aligned north to south and is advancing to the east.

HW-2 – Mining has just begun on the east side of Basin 046 with the box cut. HW-2 will be aligned north to south and will advance to the east. The north end of HW-2 will stop just south of the main drain flowing from the east into Basin 046 as shown on the Cut Layout Map. Material from the box cut will be hauled out and spoiled evenly into designated spoil Area 1. HW-2 will advance to the east with material from the next cut placed into the box cut area. The north end of the cuts of HW-2 will extend slightly to the north each cut stopping just short of the east main drain of Basin 046. The north end of the cuts of HW-2 will be left open for spoiling room for HW-1. HW-2 will advance to the east to the permit boundary. Once HW-2 has advanced to the permit boundary mining will move back to HW-1. The south end of the final cut of HW-2 will be the low point of the mining area and will be left open to be used as a sump to collect pit drainage to be pumped to Basin 046.

HW-1 – The western half of HW-1 has advanced up to the drainage boundary of Basin 103 and will not be advanced any further until Basin 103 is constructed and certified. The intent of the operation plan is to complete mining on HW-2 before advancing HW-1. However, one or two cuts on HW-1 may need to be taken to provide overburden removal equipment a place to work during periods of coal removal from HW-2. Once Basin 103 is constructed and certified, the west half of HW-1 will be advanced to the north until it matches back up to the east half. The west and east half of HW-1 should rejoin just south of the north line of Section 16 and should be aligned west to east. HW-1 will continue to advance to the north until Increment 4 is reached. As HW-1 advances to the north, the east end of the cuts will extend initially to the area mined by HW-2 and then all the way to the permit boundary as HW-1 continues advancing to the north. The west end of HW-1 will not extend all the way to the permit line due to the 600 foot blasting offset required by Jefferson County. As discussed previously, the far east end of Increments 3, 4 and 5 will be left open for a pit access, pit drainage and for spoiling room for the new permit.

The pool area of Basin 046 has been approved to be mined through and reconstructed. Mining of the pool area will be delayed until drier conditions exist or mining of the pool area may be omitted entirely. If mining of the pool area does occur, disturbed runoff will be captured in the open pit and pumped to Basin 044 until the pool area is reconstructed. Supplemental Reclamation Cross- Section E-E' depicts mining thru and reconstruction of the pool area.

The New Castle, Mary Lee, Blue Creek, and Jagger coal seams will be mined in Increment No. 3. Current market conditions are not economically favorable to recover the Jagger seam. If market conditions improve, the Jagger seam will only be mined where it is thick enough as depicted on the Cut Layout Map.

INCREMENT NO. 4

Increment No. 4 will be bonded and mined as follows:

HW-1 will continue to advance to the north from Increment 3 into Increment 4. The high wall will be aligned west to east and will advance to the north. As discussed previously, the far east end of Increments 3, 4 and 5 will be left open for a pit access, pit drainage and for spoiling room for the new permit.

The New Castle, Mary Lee, Blue Creek, and Jagger coal seams will be mined in Increment No. 4. Current market conditions are not economically favorable to recover the Jagger seam. If market conditions improve, the Jagger seam will only be mined where it is thick enough as depicted on the Cut Layout Map.

INCREMENT NO. 5

Increment No. 5 will be bonded and mined as follows:

HW-1 will continue to advance to the north from Increment 4 into Increment 5. The high wall will be aligned west to east and will advance to the north. As discussed previously, the far east end of Increments 3, 4 and 5 will be left open for a pit access, pit drainage and for spoiling room for the new permit.

The New Castle, Mary Lee, Blue Creek, and Jagger coal seams will be mined in Increment No. 4. Current market conditions are not economically favorable to recover the Jagger seam. If market conditions improve, the Jagger seam will only be mined where it is thick enough as depicted on the Cut Layout Map.

3. Attach a narrative explaining the construction modification, use, maintenance, and removal of the following facilities: (780.11)

(a) Coal removal, handling, storage, cleaning and transportation structures and facilities;

No change from R-3

(b) Spoil, coal mine waste and non-coal mine waste removal, handling, storage, transportation and disposal structures and facilities;

No change from R-3

(c) Mine facilities; and

No change from R-3

(d) Water pollution control facilities.

See **Attachment III-A-3** & **III-B-2-A**

4. Describe the means to be used to maximize the use and conservation of coal reserves in the permit area. (780.18, 816.59)

No change from R-3

5. Describe measures to be taken to ensure that all debris, acid-forming and toxic-forming materials and materials constituting a fire hazard are disposed of in accordance with 816.89 and 816.103; include contingency plans to prevent sustained contingency plans to prevent sustained combustion of such material. (780.18).

At this mine site, if acid or toxic forming material is encountered, it will be buried in the pit, a minimum of ten (10') feet away from the highwall, a minimum of ten (10') feet up from the pit floor, and a minimum of fifty (50') feet away from a major drain. This acid or toxic forming material will be covered with a minimum of four (4') feet of the best available non-acid, non-toxic and non-combustible forming material.

For areas such as coal stockpiles, the following measures will be performed: After all coal is removed and the coal stockpile is no longer needed the base material will be removed and placed in the final pit, a minimum of ten (10') feet away from the highwall, a minimum of ten (10') feet up from the pit floor, and a minimum of fifty (50') feet away from a major drain. This acid or toxic forming material will be covered with a minimum of four (4') feet of the best available non-acid, non-toxic and non-combustible forming material.

Any material such as oil, grease, rags etc. that may present a fire hazard will be properly disposed of in an approved landfill.

Any non-coal waste will be disposed of at approved off-site landfills which meet all applicable local state and federal requirements.

WATER POLLUTION CONTROL FACILITIES

Sedimentation basins constructed during mining operations are to collect sediment from the disturbed area during the actual mining phase and during the reclamation and restabilization phase. All basins will be constructed, prior to any disturbance in its respective drainage area, under the supervision of a qualified Registered Professional Engineer or by a qualified person under his direct supervision. Upon completion of construction the basin will then be certified to the Regulatory Authority as having been constructed in accordance with the approved design plan. Areas where embankments are to be built will be cleared and grubbed with the topsoil removed and stockpiled (if required). The basins will be constructed by bringing desirable material in and compacting it in lifts until the construction specifications are met. Drainage structures will be installed as per design plans with any necessary erosion control and/or stabilization procedures such as riprap, concrete, drop structures, energy dissipaters, etc. being implemented as deemed necessary by the project engineer. Upon completion of construction the entire disturbed area will be revegetated in accordance with the approved Reclamation Plan (IV-C-5).

MODIFICATIONS

No modification plans are necessary due to the basin(s) being proposed. If during mining operations it is necessary to modify any or all of the sedimentation basins, modification plans will be submitted to the Regulatory Authority for approval. Upon written approval of the modification plans by the Regulatory Authority the basin(s) will be modified in accordance with the approved plans.

MAINTENANCE

Semi-monthly inspections of each basin will be made for erosion, instability, proper functioning, etc. until the removal of said basin(s) or until Phase III Bond Release. Minor signs of erosion, instability, improper functioning, etc. will be repaired immediately. Standard anticipated maintenance will include repairing rills and gullies, repairing slope failures, re-seeding areas of failed or scarce vegetation, cleaning out or removing debris obstructing pipes and/or spillways to allow proper functioning, etc. Hazardous conditions observed during inspections will be reported to the Regulatory Authority for further consultation or instructions. All basins will be examined quarterly for weakness, instability, excessive erosion, etc. with maintenance performed as necessary. Formal inspections will be made annually with any reports or modifications being filed with the Regulatory Authority along with a certification that the basin has been maintained in accordance with the approved plans and 880-X-10C-.20 [l(j)] of the Alabama Surface Mining Regulations. Sediment will be removed from the basin when the accumulated sediment exceeds the sediment removal volume as set forth on the approved detailed design plans.

REMOVAL

All sedimentation basins constructed during mining operations, not being left as permanent water impoundments, upon completion of mining, reclamation, restabilization and effluent standards compliance, will be removed in the following manner:

Upon written approval from the Regulatory Authority of the basin removal plans, the impoundment will be dewatered in a controlled manner by either pumping or siphoning. Upon successful dewatering, a determination will be made as to the level of retained sediment in the basin. Upon determining the retained sediment level, a permanent channel will be cut into the embankment down to the retained sediment level on the side of the embankment deemed most suitable to reach natural ground without encountering prohibiting rock. The embankment material removed from the newly constructed channel will be spread and compacted over the previous impoundment (wet area) to prevent erosion and insure restabilization. The newly constructed channel will be of adequate design (width, depth and grade) to cause all surface drainage to travel across this area in sheetflow, minimizing the possibility of erosion. Also, where deemed necessary, hay dams will be strategically located across the width of the channel to retain sediment and slow the water velocity down to a favorable rate. Where anticipated discharge velocities require further attention, energy dissipaters such as rock check dams, concrete flumes, sacrete bags, etc. will be installed or constructed at the exit section of the newly constructed permanent channel. Upon removal of the embankment section, the remaining embankment material will be graded to the approximate original contour. All disturbed areas will be graded in such a manner to insure slope stability, successful restabilization and to minimize erosion. All disturbed areas will be seeded, fertilized and mulched in accordance with the approved Reclamation Plan (IV-C-5). No slope existing or created in the removal of the basin will be left on a grade that may slip or slough.

6. Give a description, including appropriate cross-sections and maps, of measures to be used to seal or manage mine openings, bore holes, wells and other openings within the proposed permit area. (780.18, 816.13-816.15)

   No change from R-3

7. Give a description of steps to be taken to comply with applicable water quality laws, regulations and health and safety standards. (780.18)

   No change from R-3

8. Is surface mining to be conducted within 500 feet of an underground mine? (780.27, 816.79)
   ( ) Yes (XX) No

   If yes, describe measures to be used to comply with Section 816.79. Attach a map showing the location and extent of known workings in accordance with 780.14(a) (13).

B. Engineering Plans.

All cross sections, maps and plans related to operations, reclamation and structures must comply with Section 780.10. Plans, appropriate calculation and conclusions shall be presented in a clear and logical sequence and shall take into account all applicable factors necessary to evaluate the proposed plan or design.

1. Existing Structures. (780.12, 786.21)

(a) Describe each existing structure to be used, its location, current condition, approximate dates of construction and evidence (including relevant monitoring data) showing whether or not the structure meets the performance standards of Subchapter K or Subchapter B, whichever is more stringent and demonstrate whether or not the use of existing structures will pose a significant harm to the environment or public health or safety.

Not Applicable

(b) If an existing structure requires modification or reconstruction to meet the performance standards, attach a compliance plan that includes design specifications, construction schedule, monitoring procedures, and evidence that the risk of harm to the environment or public health or safety is not significant during modification or reconstruction.

Not Applicable

2. Ponds, impoundments, banks, dams and embankments. (780.25)

(a) Submit a general plan which complies with Section 780.25 (a)(1) for each proposed sedimentation pond, water impoundment, and coal processing waste bank, dam or embankment to be located within the proposed permit area.

See Attachment III-B-2-A

(b) Submit detailed design plans, which comply with Sections 780.25(a)(2)(3) and 816.46, for each sedimentation pond to be constructed on the increment you currently propose to mine. If the sediment pond is to remain as a permanent water impoundment, design plans shall also comply with Section 816.49.

See Attachment III-B-2-A

(c) Submit detailed design plans which comply with Sections 780.25(a) (2&3) and 816.49, for each temporary or permanent water impoundment to be constructed on the increment you currently propose to mine.

See Attachment III-B-2-A

(d) Submit detailed design plans, which comply with Section 780.25(a) (2&3) and 816.81-816.85, for coal mine waste bank to be constructed on the increment you currently propose to mine.

None Proposed

(e) Submit detailed plans which comply with Sections 780.25 (a)(2&3) and 816.91-816.93 for each coal mine waste dam and embankment to be constructed on the increment which you currently propose to mine.

None Proposed

BLACK WARRIOR MINERALS, INC.
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ATTACHMENT III-B-2(a)

GENERAL ENGINEERING PLAN CERTIFICATION STATEMENT

I, Sanford M. Hendon, a registered professional engineer, hereby certify that the information, cross-sections, data, maps, etc., contained in this general plan in Attachment III-B-2-A is true and correct to the best of my knowledge and belief.

McGehee Engineering Corp.

Sanford M. Hendon, P.E.

Alabama Reg. No. 18208

ALABAMA REGISTERED No. 18208 PROFESSIONAL ENGINEER SANFORD M. HENDON

2-19-14

Date

BLACK WARRIOR MINERALS, INC.
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ATTACHMENT III-B-2(a)

GENERAL PLAN

The addendum to the general plan consists of adding 28 mining acres to the permit and Sediment Basin 103. Basin 046 will control 7 of the new acres and Basin 103 will control 21 of the new acres.

Also the section and forty lines have been changed to surveyed location instead of USGS quad sheet location. Additional 10 foot contour mapping was obtained from Jefferson County for the permit area in Sections 9 & 10. Based on the new mapping to total drainage areas of Basin 046 has decreased slightly from 286 acres to 282 acres while the drainage area for Basin 119E increased from 112 acres to 114 acres.

Detailed design plans for Sediment Basin 103 are attached. Upon written approval from ASMC, Sediment Basin 103 will be constructed and certified to ASMC prior to any disturbance in its respective drainage area.

Basin 103 will be monitored as a discharge point although it is upstream of, and will eventually flow into existing Basin 119. A re-evaluation of Basin 119 was done with the additional mining area and Basin 103 being added within its watershed. The re-evaluation revealed that Basin 119 still meets effluent requirements without any modifications. The peak stage increased 0.29 feet but the existing as-built top of dam is high enough to provide 1.15 feet of freeboard from the peak stage of the basin during the worst case. The existing concrete channel depth provides more than 1.0 feet of freeboard above the peak flow depth.

A re-evaluation of Basin 046 was also done. No modifications are needed or proposed to Basin 046 due to the additional disturbed area. Based on the new mapping the total drainage area decreased while the disturbed area increased by seven acres. A re-check of the 10 year 24 hour rainfall event showed the peak effluent of stable solids to be 0.40 ml/l which is below the limit of 0.50 ml.l. The peak stage of the 25 year 6 hour rainfall event did not increase any due to the total drainage area decreasing. Copies of the SedCad printouts are available upon request.

Detail design plans for remaining sediment basins will be submitted prior to disturbance within their drainage areas. Upon written approval from the Regulatory Authority, all sediment basins will be constructed and certified to the Regulatory Authority prior to any disturbance in their respective drainage areas. See **Watershed Map** and **NPDES Permit Map** for basin locations.

Mining will occur within portions of the pool area of sediment basin, 103. Prior to any mining disturbance within the drainage areas of each sediment basin, the embankments, spillway pipes, emergency spillways, surface areas pool volumes, etc., will be constructed in accordance with the detailed design plans. The initial volumes specified in the detailed design plans will be more than adequate to treat the surface runoff from the drill benches and mining advances toward the basins. Prior to mining/spoiling within the pool area, the water impounded with the basins will be pumped to an adjacent basin. During mining of the pool area, disturbed surface runoff from the respective drainage areas will be contained within the pit and pumped to a previously constructed and certified sediment basin until mining is completed in the pool area of said sediment basin. The water will be pumped to the nearest sediment basin available based on the layout and implementation of the operation plan.

The embankment and spillway system will remain undisturbed during the mining directly adjacent to the pond area. Upon completion of mining in the immediate area of the sediment basin, the volume and surface area required in the approved detailed design plan will be re-established. Any reconstructed part of the pool area located in spoil material will be lined with a clay liner to insure that the impoundment retains water. See attached **Typical Clay Liner** drawing. Upon completion of this phase of construction a new certification of construction will be submitted to the Regulatory Authority as totally constructed in accordance with the approved detailed design plans.

General design data for all sediment basins is included. See attached data and watershed map for the sediment basin location and preliminary hydrologic information. All sediment basins are proposed as permanent with the exception of Basin 042 being temporary. Additional data qualifying all basins proposed as permanent water impoundments will be submitted and approved by the Regulatory Authority prior to a Phase II bond release. Removal plans for each proposed temporary sediment basin will be submitted and approved by the Regulatory Authority prior to a Phase II bond release.

Geologic investigations of the area indicate alternating sequences of sandstone and shale with sandstone streaks and minor amounts of bituminous coal and underclay. The coal to be mined by Black Warrior Minerals, Inc. will be the New Castle, Mary Lee, Blue Creek, and Jagger coal seams.

All surface drainage from the proposed mining area drains into U.T. to Crooked Creek and Crooked Creek. All diversions are to be temporary and will be graded and revegetated. (See attached Diversion Ditch, Diversion Berm Design, and Construction Specifications).

All sediment basins are located in Jefferson County, Alabama and are found on the Gardendale Quadrangle.

GENERAL DESIGN DATA

SEDIMENT BASIN	LOCATION	DRAINAGE AREA ACRES
046E	SE/NE, NE/NE of Section 16, T15S, R3W	282
103P	SW/SE of Section 9, NW/NE of Section 16, T15S, R3W	31.5
119E	NW/NW, NE/NW of Section 16, T15S, R3W	113.5

SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS

Sediment basins (temporary or permanent) will be designed and constructed using the following as minimum specifications:

1. EMBANKMENT REQUIREMENTS

A) The minimum width of the top of the embankment will under no circumstance be less than twelve (12) feet.

B) The embankment will have a minimum front and back slope no steeper than the slopes listed on the detailed design sheet.

C) The foundation area of the embankment will be cleared and grubbed of all organic matter with no surface slope steeper than 1 horizontal to 1 vertical. The entire wet area, as measured from the upstream toe of the embankment to the normal pool level, will be cleared of trees and large brush.

D) A core will be constructed in a cutoff trench along the centerline of the embankment. The cutoff trench will be of suitable depth and width to attain relatively impervious material.

E) The embankment construction material will be free of sod, roots, stumps, rocks, etc., which exceed six (6") inches in diameter. The embankment material will be placed in layers of twelve (12") inches or less and compacted to ninety five (95%) percent of the standard proctor density, as set forth in ASTM.

F) The embankment, foundation and abutments will be designed and constructed to be stable under normal construction and operating conditions, with a minimum static safety factor of 1.5 and a minimum seismic safety factor of 1.2, at normal pool level with steady seepage saturation conditions.

G) The actual constructed height of the embankment will be a minimum of five (5%) percent higher than the design height to allow for settling over the life of the embankment.

H) The design embankment height for both temporary and permanent impoundments will be a minimum of one (1) foot above the maximum water level anticipated from a 10 Year - 24 Hour or a 25 Year - 6 Hour precipitation event (whichever is greater).

I) For embankments constructed as point source discharges, the embankment will be constructed and abutments keyed into undisturbed, virgin, ground if at all possible. In the event that this can not be achieved, additional design and construction specifications will be submitted in the Detailed Basin Design Plans.

J) The embankment and all areas disturbed in the construction of the embankment will be seeded with a mixture of perennial and annual grasses, fertilized and mulched to prevent erosion and ensure restabilization. Hay dams, silt fences, rock check dams, etc. will be installed, where deemed necessary, as additional erosion prevention methods.

SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS

2. DISCHARGE STRUCTURE REQUIREMENTS

A) The primary spillway will be designed to adequately carry the anticipated peak runoff from a 10 Year - 24 Hour precipitation event. The combination primary and secondary (emergency) spillway system will be designed to safely carry the anticipated peak runoff from a 25 Year - 6 Hour precipitation event. When sediment basins are proposed in the drainage course of a public water supply, the spillway system will be designed and constructed to adequately carry the runoff from a 50 Year - 24 Hour precipitation event.

B) Channel linings, for secondary (emergency) spillways will be a trapezoidal open channel constructed in consolidated, nonerodible material and planted with a mixture of both annual and perennial grasses being predominantly fescue and bermuda. In the event that the spillway can not be constructed in consolidated, nonerodible material the spillway will be lined with riprap, concrete, asphalt or durable rock (See Detailed Design Plans for Spillway Lining).

C) When consisting of pipe, the primary spillway will be installed according to Class "C" pipe installation for embankment bedding.

D) Sediment basins with a single spillway system, such as a skimmer board, will be a trapezoidal open channel constructed in consolidated, nonerodible material and lined with riprap, concrete, asphalt or durable rock (See Detailed Design Plans for Spillway Lining).

E) The primary spillway will be designed and constructed with device to eliminate floating solids from leaving the impoundment. This device will consist of a turned down elbow when using pipe or a skimmer system when using an open channel spillway.

F) When necessary, to prevent erosion of the embankment or discharge area, a splash pad of riprap, durable rock, sacrete, etc. will be installed at the discharge end of the primary spillway.

G) The combined spillway systems, for sediment basins constructed in series, will be designed to adequately accommodate the entire drainage area.

3. INSPECTION, MAINTENANCE AND CERTIFICATION REQUIREMENTS

A) Inspections will be conducted regularly during construction of the sediment basin by a qualified registered professional engineer or other qualified person under the direction of a professional engineer. Upon completion of construction, the sediment basin will be certified, by a qualified registered professional engineer, to the Regulatory Authority as having been constructed in accordance with the approved detailed design plans.

B) Sediment basins will be inspected semi-monthly for erosion, instability, etc., until the removal of the structure or until a Phase III Bond Release is granted.

3. INSPECTION, MAINTENANCE AND CERTIFICATION REQUIREMENTS

C) Sediment basins will be examined quarterly for structural weakness, instability, erosion, slope failure, or other hazardous conditions.

D) If during the above described periodic inspections, it is determined that there exists signs of structural weakness, instability, erosion, slope failure, improper functioning, or other hazardous conditions, these will be repaired immediately.

E) Standard anticipated maintenance will include repairing rills and gullies, repairing slope failures, re-seeding areas of failed or scarce vegetation, cleaning out or removing debris obstructing pipes and/or spillways to allow proper functioning, etc. Standard maintenance discovered during the above described periodic inspections will be performed immediately. Hazardous conditions observed during inspections will be reported immediately to the Regulatory Authority for further consultation or instructions.

F) Retained sediment will be removed from each sediment basin when the accumulated sediment reaches the maximum allowable sediment volume as set forth in the detailed design plans.

G) Formal inspections will be made annually, by a qualified registered professional engineer or other qualified person under the direction of a professional engineer, including any reports or modifications, in accordance with 880-X-10C-.20[1(j)] of the Alabama Surface Mining Regulations.

4. BASIN REMOVAL REQUIREMENTS

A) Upon completion of mining, reclamation, restabilization and effluent standards being met, each sediment basin not proposed as a permanent water impoundment will be dewatered in a controlled manner by either pumping or siphoning. Upon successful dewatering, a determination will be made as to the retained sediment level in the basin. After determining the retained sediment level, a channel will be cut into the embankment down to the retained sediment level on the side of the embankment deemed most suitable to reach natural ground without encountering prohibiting rock. The embankment material removed from this newly constructed channel will be spread and compacted over the previous impoundment (wet area) area to prevent erosion and ensure restabilization. The newly constructed channel will be of adequate width (minimum 30 feet) and sloped to a grade (approximately 1% to 3%) which will cause all surface drainage to travel across this area in sheet flow, minimizing the possibility of erosion. Also, where necessary, hay dams will be installed in strategic locations across the width of the channel to retain sediment and slow the water velocity to a favorable rate. Upon removal of the embankment section, all disturbed areas will be graded in such a manner to ensure slope stability, successful restabilization and to minimize erosion. All disturbed areas will be seeded with a mixture of annual and perennial grasses, fertilized and mulched. No slope, existing or created in the removal of the sediment basin, will be left on a grade that will slip or slough.

5. PERMANENT WATER IMPOUNDMENT REQUIREMENTS

A) Prior to a request for a Phase II Bond Release, all sediment basins being left as permanent water impoundments will have supplemental data submitted to the Regulatory Authority concerning water quality, water quantity, size, depth, configuration, postmining land use, etc.

B) Final grading slopes of the entire permanent water impoundment area will not exceed a slope of 2 Horizontal to 1 Vertical to provide for safety and access for future water users.

TYPICAL DRAWINGS FOR EMBANKMENT TYPE BASINS

Typical Pond Plan View

Typical Embankment Cross Section

3. Diversions [780.29, 816.43, 816.44]

   Are diversions of overflow or stream channel diversions proposed?

   (XX) Yes ( ) No

   If yes, complete the following:

   (a) Is the diversion to be permanent? ( ) Yes (XX) No

(b) Describe in detail the proposed diversion and include plans, maps and cross-sections that comply with 816.43 and 816.44.

   See Attachment III-B-3 , Watershed Map, Typical Diversion Ditch Cross Section

(c) If diversions are temporary, enclose plans for removal including a timetable and plans for restoration of vegetation, channel characteristics, etc.

   See Attachment III-B-3

(d) Enclose approvals of other governmental agencies where required.

   Not Required

DIVERSION DITCH AND DIVERSION BERM
DESIGN AND CONSTRUCTION SPECIFICATIONS

1) Temporary diversions will be designed and constructed to adequately carry the runoff from a 2 Year - 6 Hour precipitation event.

2) Permanent diversions will be designed and constructed to adequately carry the runoff from a 10 Year - 6 Hour precipitation event.

3) Permanent diversions will be designed and constructed with gently sloping banks stabilized with appropriate vegetation.

4) All diversions will be designed, constructed and maintained, using the best technology currently available, whereas additional contribution of suspended solids to stream-flow and to runoff outside the permit area is prevented.

5) Maintenance of appropriate gradient, channel lining, revegetation, roughness structures, detention basins, etc. will be used, when necessary, as sediment control measures for these diversions.

6) Diversions will not be constructed on existing land slides nor be located so as to increase the potential for land slides.

7) Temporary diversions will be removed and the affected area regraded, topsoiled (if required) and revegetated in accordance with Rules 880-X-10C-.10, 880-X-10C-.11, 880-X-10C-.52 thru 880-X-10C-.57 and 880-X-10C-.58, 880-X-10C-.60 and 880-X-10C-.62, when no longer needed.

8) Channel linings, for diversions with slopes of three (3%) percent or less, will consist of a mixture of both annual and perennial grasses being predominantly fescue and bermuda. Channel linings, for diversions with slopes greater than three (3%) percent, will consist of riprap or other non-erodible material or cut into non-erodible material.

9) Adequate freeboard will be provided for protection for transition of flows and critical areas such as swales and curves along the entire diversion length.

10) At discharge points, where diversions intersect with natural streams or exit velocities of the diversion are greater than that of the receiving streams, energy dissipaters will be installed when deemed necessary.

DIVERSION DITCH AND DIVERSION BERM DESIGN AND CONSTRUCTION SPECIFICATIONS (continued)

11) Topsoil removed from the diversion area (if required) will be handled in accordance with Rules 880-X-10C-.07 thru 880-X-10C-.11.

12) Excess material excavated in the construction of the diversion, not needed for diversion channel geometry or the regrading of the channel, will be disposed of in accordance with Rule 880-X-10C-.36.

13) Diversions will not be designed or constructed to divert water into underground mines without written approval from the Regulatory Authority.

14) The entire area in which a diversion berm is proposed will be cleared and grubbed of all organic material, scarified, and no surface slopes will be left steeper than 1V:1H.

15) Diversion berms will be constructed with desirable material, free of sod, stones, roots, limbs, etc. over six (6") inches in diameter. This material will be spread in layers no greater than twelve (12") inches in thickness and compacted to ninety five (95%) percent of the standard proctor density, as outlined in ASTM, until the design height is reached.

16) Upon completion of construction of diversion ditches or diversion berms, all disturbed areas will be seeded with a mixture of both annual and perennial grasses, fertilized, and mulched in order to minimize erosion and ensure restabilization.

17) All diversions (berms or ditches) will be examined quarterly for erosion, instability, structural weakness, or other hazardous conditions and maintenance performed as necessary.

5. Transportation Facilities (780.33, 780.37)

(a) Describe the measures to be taken to ensure the interest of the public and landowners affected are protected if disturbance within 100 feet of the right-of-way or relocation of a public road is proposed.

(1) Appropriate warning signs will be posted along the road right-of-way a minimum of five (500') hundred feet from the entrance of the proposed disturbance.

(2) Appropriate advertisements, informing the public and affected landowners, will be run in the local newspaper prior to any disturbance within the one hundred (100') feet setback of or the relocation of any public road right-of-way.

(3) All safety requirements of the appropriate Federal, State, County, or Local governments, concerning public health and safety, will be followed.

(4) In areas where disturbance is proposed within one hundred (100') feet of the road right-of-way, earthen berms, guard rails, or barricades will be constructed as necessary to prevent accidental entrance into the mine area and to prevent safety hazards.

(b) Describe any unique design, feature, or structure which is necessary for the road to meet the performance standards of Subchapter K using any necessary maps, plans, or cross-sections.

See Attachment III-B-5

(c) Describe, in detail, the measures to be taken during construction, maintenance and use of the transportation facilities to prevent damage to fish and wildlife and their habitat; public and private property; and erosion, siltation, and pollution of water.

Silt fences, hay filter dams, dust control on roads, vegetation, diversion ditches and other prudent practices will be utilized in controlling runoff. Cut and fill slopes created by road construction shall be grassed to insure stabilization and prevent erosion.

DESIGN, CONSTRUCTION, MAINTENANCE, AND RECLAMATION SPECIFICATIONS FOR ANCILLARY ROADS

1. LOCATION

A) Ancillary roads will be located on ridges or high areas or on the most stable available slopes so as to control and prevent erosion, siltation, flooding, and adverse impacts to fish and wildlife, or their habitat and related environmental values, to the extent possible.

B) No part of any ancillary road will be located in the channel of an intermittent or perennial stream without written approval from the Regulatory Authority, in accordance with 880-X-10C-.12 thru 880-X-10C-.14 and 880-X-10C-.28.

C) If at all possible, ancillary roads will be located upstream of sediment basins to prevent, control and minimize additional contributions of suspended solids to stream flow or runoff outside the permit area, the violation of applicable State or Federal water quality standards, seriously altering the normal flow of water in stream-beds or drainage channels, and damage to all public or private property.

D) In instances where it is not possible to locate ancillary roads in the above manner, sediment control will be achieved by the use of silt fences, rock check dams, hay bale berms, etc.

2. DESIGN REQUIREMENTS

A) Ancillary roads will be designed, constructed, reconstructed and maintained to have adequate drainage control structures to safely pass the peak runoff anticipated from a 10 year, 6 hour precipitation event.

3. CONSTRUCTION REQUIREMENTS

A) The foundation area of the roadbed will be cleared and grubbed of all organic material and the topsoil will be removed. The disturbed area will be kept to the minimum necessary to accommodate the roadbed and/or associated drainage ditch construction.

B) The road construction material will be suitable subgrade material, free of sod, roots, stumps, etc., and will not contain rocks which exceed twelve (12) inches in diameter. The road construction material will be placed in layers (12 inch maximum thickness) and compacted to ninety five (95%) percent of the standard proctor density, as set forth in ASTM.

C) The minimum top width of ancillary roads will under no circumstance be less than ten (10) feet and will be of maximum width necessary to facilitate the largest equipment using the road.

DESIGN, CONSTRUCTION, MAINTENANCE, AND RECLAMATION SPECIFICATIONS FOR ANCILLARY ROADS (Con't.)

D) Roadbeds for ancillary roads will be cut into consolidated, non-erodible material or will be surfaced with sufficiently durable, non-toxic, non-acid forming material as needed for the anticipated duration and frequency of use of the road. Because of the short term duration and infrequency of use of most ancillary roads, sufficiently durable mine overburden material from the mine site will be used for surfacing material, placed and compacted on the roadbed surface a minimum depth of four (4) inches. In instances where ancillary roads are proposed for an extended duration or heavy usage is anticipated, then durable, non-toxic, non-acid forming material, such as chert, crushed limestone, redrock, and/or crushed sandstone will be placed and compacted on the roadbed surface a minimum depth of four (4) inches .

E) Ancillary roads will be constructed with no sustained grades of ten (10%) percent, unless unavoidable. If unavoidable, sediment control facilities such as silt fences, hay dams and/or rock check dams will be installed at strategic locations to prevent erosion and insure stability. Grades greater than fifteen (15%) percent will require ditch relief drains, cross over drains and road drainways at a minimum of three hundred (300) feet apart.

4. DRAINAGE AND SEDIMENT CONTROL REQUIREMENTS

A) Ancillary roads will be constructed, reconstructed, and maintained to have adequate drainage control, using structures such as, but not limited to bridges, culverts, drainage pipes, ditches, cross drains, and ditch relief drains designed to safely pass the peak runoff anticipated from a 10 year, 6 hour precipitation event. All drainage control structures will be designed and constructed in such a manner whereas, to allow a free and operating conditions to prevent, control, and minimize erosion at the inlets and outlets.

B) Culverts and drainage pipes will be designed and installed to provide adequate support for the load of the largest equipment using the road. All culverts or drainage pipes with diameters of forty-eight (48) inches or less will be covered with a minimum of one (1) foot and the maximum cover will not exceed fifty-seven (57) feet of desirable compacted material. All culverts or drainage pipes with diameters greater than forty-eight (48) inches will be covered with a minimum of two (2) feet and the maximum cover will not exceed forty-one (41) feet of desirable compacted material.

C) Culverts and drainage pipes will be designed and installed to allow adequate freeboard to prevent overtopping of the embankment.

D) Drainage ditches, cross drains, and ditch relief drains will be constructed and maintained, as needed, to prevent uncontrolled surface drainage over the road surface and roadway embankment.

E) Drainage ditches will be constructed with no sustained grades greater than five (5%) percent, unless unavoidable. If ditches must be constructed with grades in excess of five (5%) percent, drainage ditches will be lined with suitable liner material, such as, riprap, concrete, asphalt or durable rock, to prevent erosion and insure stabilization.

DESIGN, CONSTRUCTION, MAINTENANCE, AND RECLAMATION SPECIFICATIONS FOR ANCILLARY ROADS (Con't.)

F) Sediment control will be achieved by the use of silt fences, rock check dams, hay bale berms, etc. in strategic locations, where necessary.

G) Upon completion of construction of ancillary roads, the side slopes of the roadway cut and fill sections, including all borrow areas formed in the construction, areas used for disposal of excess material, ditches, etc. will be seeded with a mixture of perennial and annual grasses, fertilized and mulched to prevent erosion and ensure restabilization. Grass mixtures will include, but not be limited to, fescue, bermuda, rye grass, browntop millet, clover and sericea.

5. INSPECTION AND MAINTENANCE REQUIREMENTS

A) Routine inspections and maintenance (such as regrading, resurfacing, maintenance of sediment control structures, spot replanting, and dust control) will be conducted regularly during the life of each road to ensure that each road continually meets design and performance standards.

B) Dust control will be achieved by the periodic application of water, chemical binders and/or other dust suppressants.

C) Any road damaged by a catastrophic event, such as a flood, or earthquake, will be repaired as soon as is practicable after the damage has occurred.

6. REMOVAL AND RECLAMATION REQUIREMENTS

A) All roads not to be retained under an approved postmining land use will be removed and reclaimed in accordance with the approved grading and reclamation plans as soon as practicable after it is no longer needed for mining and reclamation purposes. This removal and reclamation will include:

1. Closing the road to traffic;

2. Removing all bridges, culverts, drainage pipes, and other drainage control structures, unless otherwise approved as part of the postmining land use;

3. Removing and/or otherwise disposing of road surfacing materials, that are not compatible with the postmining land use and revegetation requirements, onsite or removed and stored for re-use;

4. Reshaping and regrading cut and fill slopes as necessary to be compatible with the postmining land use and to compliment the natural drainage pattern of the surrounding terrain;

5. Protecting the natural drainage patterns by installing dikes or cross drains as necessary to control surface runoff and erosion;

DESIGN, CONSTRUCTION, MAINTENANCE, AND RECLAMATION SPECIFICATIONS FOR ANCILLARY ROADS (Con't.)

6. Scarifying or ripping the roadbed, replacing topsoil or substitute material, and revegetating the entire disturbed area in accordance with the approved reclamation plan.

7. TYPICAL ROADBED CONFIGURATION

A) See **attached typical ancillary road drawing** for an illustration of the typical roadbed configurations.