

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

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

Major equipment to be used includes but may not be limited to:

- Track Backhoes
- Bulk Anfo Trucks
- Dozers
- Drills
- Service Trucks
- Off Road Haulers
- Loaders

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)

The timing increments are as follows:

<u>Increment No.</u>	<u>Acres</u>	<u>From</u>	<u>Estimate of Life</u>
1	23	Issuance of Increment	12 Months
2	32	End of Increment #1	12 Months
3	8	End of Increment #2	12 Months
4	52	End of Increment #3	12 Months
5	47	End of Increment #3	12 Months
6	5	Issuance of Permit	Life of Mine

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) Removal marketable shale material
- 5) Overburden Drilling and Blasting
- 6) Overburden Removal
- 7) Coal Recovery
- 8) Clay Recovery
- 9) Re-Grading
- 10) Revegetation

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

ATTACHMENT III-A-1
TYPE AND METHOD OF COAL MINING PROCEDURES

The area method of surface mining will be used. Preparation will consist of: (a) timber removal (b) topsoil removal (if required) (c) drilling and blasting of overburden (d) overburden removal (e) coal removal (f) regrading and revegetation. Once the site has been regraded and the topsoil has been replaced, if required, soil samples will be collected and analyzed, where required, and proper nutrients will be added before revegetation. Any problem that may arise will be handled by proper consulting personnel utilizing various support equipment and support personnel.

Warrior Mine No. 1 will mine the Lick Creek, Jefferson and Black Creek Coal Seams. Spoil placement in all mining increments will be compacted and graded to the elevations required for the post mining landuse. See Part IV-B-3, Reclamation Cross-sections C-C' and D-D'.

Mining at the Warrior Mine No. 1 will commence within Increment No. 1 along the coal outcrop south of Basin 009P located in the NW/SE of Section 14 as shown on the attached Operation Map. Pits will generally align southwest to northeast with advancement to the southeast. Spoil material from the initial cuts will be placed on the previously mined area north of Basin 008P, and east, west and southwest of Basin 009P in a manner not to block drainage paths to Basins 008P and 009P. Spoil material from the next cuts will be placed within the subsequent open pits from the previous cuts. Mining will continue in this manner until the limits of the increment are reached.

A twenty-four (24) month delay in contemporaneous reclamation will be requested from the Director for the northeast 100 linear feet of each cut within Increment No. 1 that are to be mined along the Increment No. 4 boundary located within the NW/SE of Section 14. The northeast 100 linear feet of each cut within Increment No. 1 are to remain open until the initial cut of Increment No. 4 is mined.

Mining within Increment No. 2 will be a continuation of mining of Increment No. 1. Pits will generally align southwest to northeast with advancement to the southeast. As mining progresses pits will gradually move to generally align west to east with advancement to the south. Spoil material will be placed within the subsequent open pits from the previous cuts. Mining will continue in this manner until the limits of the increment are reached.

A eighteen (18) month delay in contemporaneous reclamation will be requested from the Director for the northeast 100 linear feet of each cut within Increment No. 2 that are to be mined along the Increment No. 4 boundary located within the NW/SE and SW/SE of Section 14. The northeast 100 linear feet of each cut within Increment No. 2 are to remain open until the initial cut of Increment No. 4 is mined.

Mining within Increment No. 3 will be a continuation of mining of

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

Increment No. 2. Pits will generally align west to east with advancement to the south. Spoil material will be placed within the subsequent open pits from the previous cuts. Mining will continue in this manner until the limits of the increment are reached.

A six (6) month delay in contemporaneous reclamation will be requested from the Director for the east 100 linear feet of each cut within Increment No. 3 that are to be mined along the Increment No. 4 boundary located within the SW/SE of Section 14 and NW/NE of Section 23. The east 100 linear feet of each cut within Increment No. 3 are to remain open until the initial cut of Increment No. 4 is mined.

Mining within Increment No. 4 will commence along the open cut located along the east boundary of Increment No. 1, No. 2 and No. 3 located within the NW/SE and SW/SE of Section 14 and NW/NE of Section 23. Pits will generally align north to south with advancement to the east. Spoil material from the initial cuts will be placed in the open cut located along the east boundary of Increment No. 1, No. 2 and No. 3. Spoil material from the next cuts will be placed within the subsequent open pits from the previous cuts. Mining will continue in this manner until the limits of the increment are reached.

Mining within Increment No. 5 will be a continuation of mining of Increment No. 4. Pits will generally align north to south with advancement to the east. Spoil material will be placed within the subsequent open pits from the previous cuts. Mining will continue in this manner until the limits of the increment are reached.

The permitted area located approximately 200 feet east of the north bound lane at the east edge of pavement of I-65 as shown on Reclamation Cross-section F-F' indicates there is no coal present and mining will not occur within 100 feet of the east boundary of the I-65 Right-of-way. The area inside the permit boundary will only be used for spoil placement and the construction of a portion of Diversion D-D'. In my professional opinion there is no concern of slope failure of the existing roadway cut located along the east Right-of-way boundary approximately 130 feet from the permit boundary as shown on the Permit Map at the location of Reclamation Cross-section F-F'.

See Attachment III-A-1, Operation Map for cut layout information.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

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;
 - (b) Spoil, coal processing waste and non-coal waste removal, handling, storage, transportation and disposal structures and facilities;
 - (c) Mine facilities; and
 - (d) Water pollution control facilities.

See Attachment III-A.-3.

4. Describe the means to be used to maximize the use and conservation coal reserves in the permit area. (780.18, 816.59)
Some of the measures are:
- A) Mining the deepest seam that is economically feasible to mine.
 - B) Rehandling overburden in order to maximize coal recovery that would normally be lost in the toe of the spoil.
 - C) Processing and blending coal that in its "raw" condition would not have a market.

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 combustion of such material. (780.18)

All acid-forming, toxic-forming, and combustible materials will be disposed of by selectively placing these materials within the mine excavations. These disposal locations will be a minimum of 10 feet vertically above the pit floor of the lowest seam to be mined and 4 feet below the final reclaimed surface of the mined area. None of this material will be placed within 100 feet of a drainage course or 30 feet of a final mining highwall.

After placement, these materials will be covered with a minimum of 4 feet of the best available non-acid and non-toxic forming, and non-combustible material. The surface of this cover will be crowned or sloped to prevent infiltration of surface water into the disposed material.

All non-coal waste and debris which may be accumulated at the site (including paper and wood shipping containers, empty oil containers, worn out machine parts, etc.) will be confined in appropriate temporary containers or storage areas and periodically transported to an offsite, ADEM approved, disposal area which meets all Federal, State and local laws and ordinances for permanent disposal of such materials.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

Attachment III-A-3

- 3.a) Crushing and screening of the coal to be mined will be performed utilizing a portable plant transported to the site by truck and erected on site. Regular maintenance will consist of routine lubrication, oil checking and changing as necessary, etc. and will be conducted during the period the crusher and/or screen is in use. When no longer needed the plant will be disassembled and transported offsite by trucks.

All haulage roads shall be designed to the following minimum criteria and/or prudent engineering practice for the design of haulroads, except where said haulroad is a public highway. See Part III-B-5 for primary and ancillary roads detailed design plans.

To the extent possible roads will be located on ridges or on the most stable available slopes to minimize erosion, downstream sedimentation and flooding in an effort to prevent adverse effects to fish, wildlife and related environmental values.

Prior to construction, the roadway areas shall be cleared, grubbed, and all topsoil shall be removed and stockpiled. Vegetation will not be cleared for more than the width necessary for the road and associated ditch construction.

Roads will be constructed by placing and compacting lifts of suitable subgrade material to a grade suitable for the intended use of the road. Drainage pipes will be placed in embankments or cuts as necessary to assure proper drainage. Once the desired grade of subgrade material has been attained and all drainage structures installed, roads will be surfaced with durable non-toxic, non-acid forming material. The wearing surface will consist of durable sandstone, chert, crushed limestone, crushed concrete, crushed asphalt, red rock, ironore refuse, gravel, or other durable non-toxic, non-acid forming material approved by the Regulatory Authority. The surface will be compacted until a desirable grade and surface is attained. No sustained grade will exceed 10 percent unless deemed necessary, in which case appropriate sediment control facilities will be constructed. If grades of greater than 15 percent are required cross-over drains, ditch relief drains and road drainways will be located at a minimum of 300 foot intervals.

All roads will be constructed and maintained so as to have adequate drainage, using ditches, cross drains, and ditch relief drains. Drainage pipes will be placed in embankments or cuts as necessary to assure proper drainage and hay bale check dams and silt fences will be used at strategic locations when necessary to control sediment runoff. Natural drainage ways will not be altered unless otherwise approved by the ASMC. For stability the side slopes of the road embankments and/or cuts will be seeded with temporary and perennial type grasses and mulched to aid in preventing erosion and to enhance germination of the seed. No modifications are expected

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

and only routine maintenance will be required to maintain the surface of roads such as periodic grading and resurfacing. Spot seeded and mulching will take place as necessary to improve coverage of vegetation on side slopes and embankments. Haulroads will be maintained with water and/or other materials to minimize fugitive dust emissions. Maintenance of erosion control facilities will include periodic removal of sediment from structures and repairs of areas damaged due to weather, etc. Unless retention of the roads is approved for post-mining land use the following procedures will apply. When no longer needed the roadbeds will be ripped, plowed and scarified. All road surfacing materials will be removed and placed within an open pit within the permit area. The natural drainage patterns will be restored by cutting slopes and shaping to blend with the natural drainage of surrounding areas. If necessary cross drains, dikes and water bars will be constructed to minimize erosion. Terraces will be used as necessary to provide long term stability on cut and fill slopes and to minimize erosion. Road surfaces will then be revegetated according to the reclamation plan approved for this permit application, which includes planting a mixture of up to 100 lbs. or more of various legumes and grasses.

Coal stockpiles, if determined necessary, will be located within the permitted and bonded area such that drainage from the area will be routed through one or more of the sediment basins that are to be constructed. In general an area will be graded to a relatively level state. Upon completion of the subgrade, a relatively impervious pad or liner will be constructed to a minimum thickness of 12 inches. The pad or liner will be made of a clayey material possessing a maximum permeability coefficient of 1×10^{-6} centimeters per second. The material will be placed in 6 inch compacted lifts to 95 percent of the standard proctor density. A pad will be constructed of coal material over the relatively impervious pad or liner with material created by cleaning the coal in the pit. The only modification to the stockpile areas may be to enlarge them and this operation, if necessary, will be handled in the same manner as new construction. Small terraces and/or temporary diversions will be used as necessary to minimize surface runoff across the stockpile areas. These facilities will be maintained periodically along with the coal pad which will be maintained by grading and reshaping as necessary. After the stockpile area has served its useful purpose the pad material that can not meet market specifications will be buried within the permit area no closer than 30 feet from any remaining highwalls and 100 feet from any drainage courses and a minimum of 10 feet above the bottom of the lowest coal seam being mined and will be placed under a minimum of four feet of the best available non-acid and non-toxic forming and non-combustible material.

- b) There is adequate spoil room available on site and excess spoil disposal facilities are not necessary. There will be no coal processing which generates waste so no coal waste disposal

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

facilities are necessary. Any non-coal wastes will be disposed of within an offsite disposal area which meets all Federal, State and local laws and ordinances for permanent disposal of such materials.

- c) There will be no mine facilities at this site other than a portable office which will most probably be an office trailer or a converted mobile home and will be removed from the site soon after the end of the mining process. There is a possibility that during the life of the permit an equipment maintenance shop may be constructed at this site. If this decision is made the building will be located within the permitted and bonded area. Generally these buildings are constructed of sheet metal covering a wooden frame built around poles and are erected in a manner that will facilitate disassembly and relocation to another site after equipment is removed from the area. Any modification or addition to the structure would be of similar construction. Periodic maintenance including painting and winterizing will be done either by contractors or mine personnel. After mining is completed and the equipment is removed from the site, the building will be disassembled and the various structural components will be transported via truck to another location.
- d) Water pollution control facilities, sediment basins, berms, and drainage ditches shall be constructed prior to mine operation in a particular increment according to approved plans. These facilities will be used to control runoff from the mine and will be inspected and maintained until reclamation of the area is complete. Sediment basin construction and any subsequent modifications that may be required will be conducted under the general supervision of a qualified registered professional engineer and will be done in accordance with the approved design plans. The dam will be constructed of the best available soil material based on soil strength parameters and permeability. The dam core wall will bear on unyielding, relatively impermeable consolidated rock and the balance of the dam structure on the prepared compacted natural soil material present at the site. The dam will be built in horizontal lifts beginning at the lowest point of the foundation with each lift being thoroughly compacted. The drainage structure will be installed as outlined on the detailed design plans and shall be stabilized with respect to erosion using rip-rap, concrete paving, energy dissipators, vegetation or otherwise. After construction of the basin, the dam and all areas disturbed by construction will be limed, fertilized, and seeded with an appropriate mixture of grasses and legumes, then mulched.

Routine maintenance of the sediment basins will consist of spot seeding, fertilization and mulching to insure that a good vegetative cover is maintained on the dam and areas around the pond, repair and stabilization of any rills and gullies which may develop, repairs to discharge structures and erosion protection structures as required, and removal of entrapped sediment from the basins prior to its reaching the maximum level indicated on the

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

approved plans. All sediment basins will be inspected quarterly by the operator's personnel and annually by a registered professional engineer and any required maintenance will be completed at the earliest possible time by the operator.

All basins are proposed, no modification plans are required. If during the term of the permit basins require modifications, modification plans will be submitted to the Regulatory Authority for approval prior to any modifications. Upon modifying the basin, the basin will be certified to the Regulatory Authority.

Upon completion of mining, successful reclamation and effluent standards being met, each sediment basin not remaining as a permanent water impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.) and reclaimed to approximate original contours by the following procedure:

A permanent diversion channel (designed for a 10 yr. -24 hr. precipitation event) shall be cut along the outer edge of the basin to re-route drainage around the basin and back through the stabilized spillway to allow for the reclamation of the sediment basin. The diversion channel shall be designed and grassed as per enclosed information. (See permanent diversion channel for basin disposal) Upon completion of the diversion channel the embankment will be breached to the existing sediment level to prevent the impoundment of water. The breach will be graded to a minimum side slope of 2.5 to 1 and revegetated and/or rip-rapped as to prevent erosion and ensure the stability of the exposed breach. The remaining back slope of the embankment will be graded to a minimum 3 to 1 slope. The dewatered sediment basin will be seeded with some combination of the following: Fescue, bermuda, rye grass, canary grass, and willows. After seeding the area will be mulched. Any additional sediment or embankment material not used to meet approximate original contour, if nontoxic, will be spread in thin layers within the permit area and vegetated as stated in the reclamation plan. All toxic material encountered in the basin disposal will be buried and covered with 4 feet of nontoxic and noncombustible material and vegetated as stated in the reclamation plan.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

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)

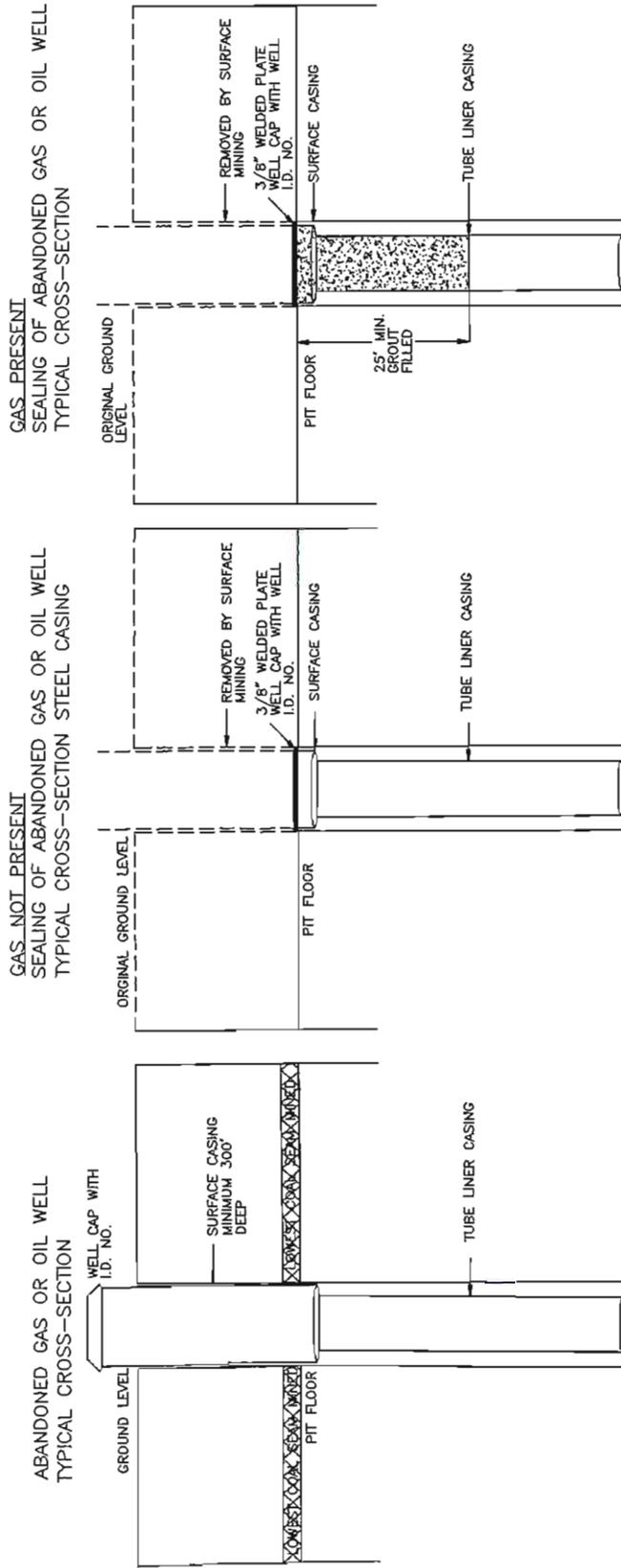
Bore holes, wells, and other openings will be backfilled with cuttings from the holes and capped with clay or other impervious material. Abandoned monitoring wells will be sealed with a concrete cap which is approximately 2' x 2' x 0.5'. See Attachment III-A-6 for typical illustrations of methods to be used to seal and/or manage bore holes and wells.

Any abandoned plugged and unplugged gas and oil wells found during mining of the old works will be sealed as outlined by the Alabama Oil and Gas Board after all coal is removed from the vicinity of the well.

Plugged and abandoned wells will be squared up and a device will be used to detect the presence of gas. If gas is present, the area of flow will be sealed by placing concrete/grout or sacrete to a depth of 25 feet and a 3/8 inch steel plate welded across all casing stubs. If gas is not present, a 3/8" inch steel plate will be welded across all casing stubs. A written report of the resealing process used on each plugged and abandoned well will be submitted to the ASMC and Alabama Oil and Gas Board within 30 days.

Unplugged wells will be temporarily sealed and restored by the following process: the owner of the well will submit a temporary abandonment and restoration plan to the Alabama Oil and Gas Board for approval. The well will be sealed for temporary abandonment prior to mining through and restored in accordance with the approved plan to the Alabama Oil and Gas Board.

Underground mine openings within the lowest coal seam to be mined will be eliminated by backfilling the openings with a clay material having a permeability ranging from 0.00001 to 0.000001 cm/sec. The clay material will be placed in horizontal lifts not to exceed six inches and compacted to 95% of the standard proctor. The clay material will be placed to a minimum height of five feet above the top of the underground mine opening. Upon the completion of the sealing operations the open pit will be backfilled and reclaimed in accordance with the reclamation plan. See Attachment III-A-6 for typical illustration of methods to be used to seal underground mine openings within the lowest coal seam to be mined.



PERC
ENGINEERING CO., INC.
 1715 JEFFERSON AVE., SUITE 200
 P.O. BOX 1715 JEFFERSON, ALABAMA 35502
 (205) 344-0833 FAX (205) 344-3114

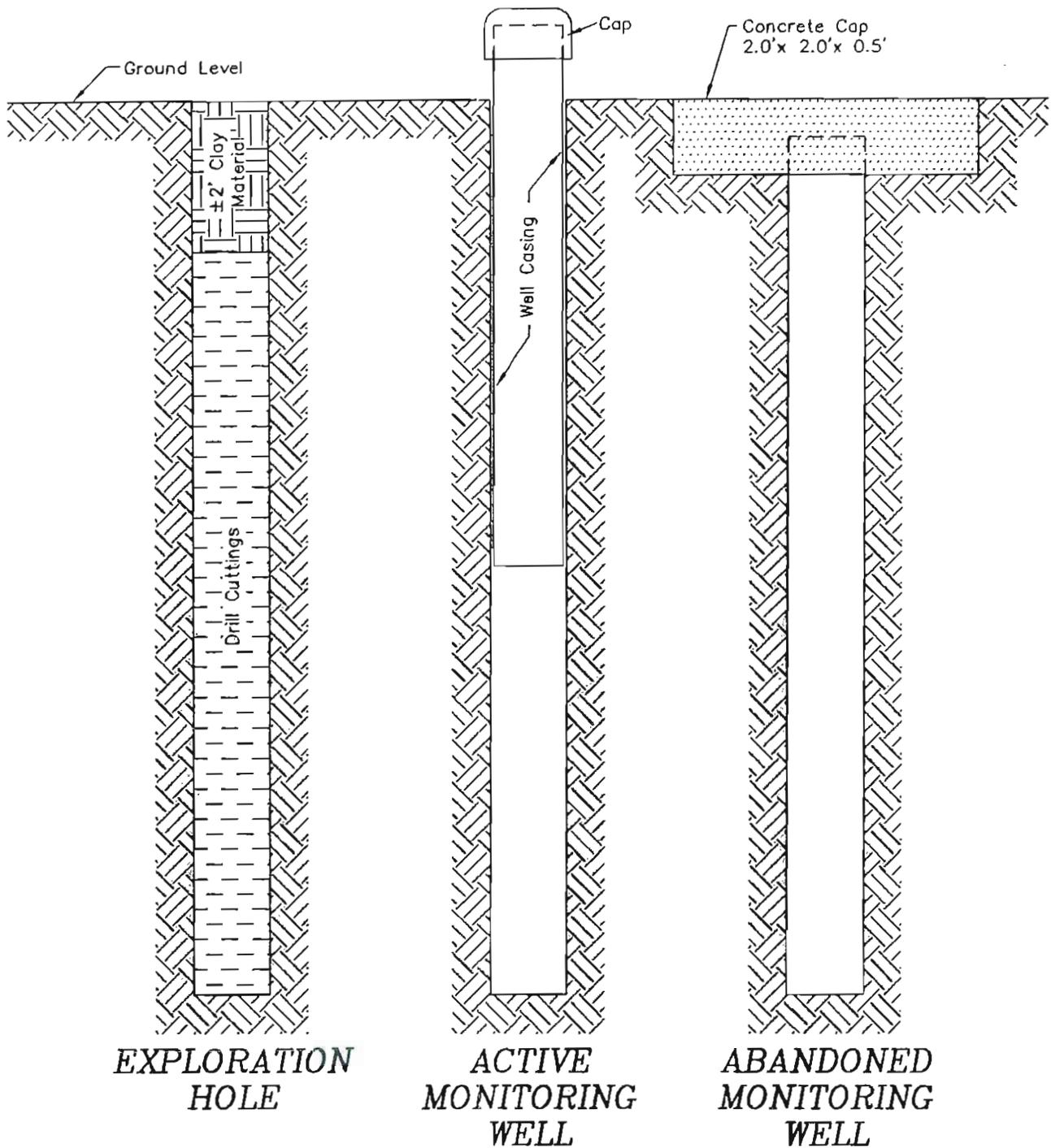
ATTACHMENT III-A-6
TYPICAL PLUGGING
PROCEDURE FOR GAS
OR OIL WELL ENCOUNTERED
IN MINING PROCESS

DRAWN BY: K.E.P.
 DWG. NAME: TYPPLUGG

DATE: 11/13/2008

APPROVED BY: S.D.M.

SCALE: NO SCALE



**EXPLORATION
HOLE**

**ACTIVE
MONITORING
WELL**

**ABANDONED
MONITORING
WELL**

ATTACHMENT III-A-6



PERC
ENGINEERING CO., INC.

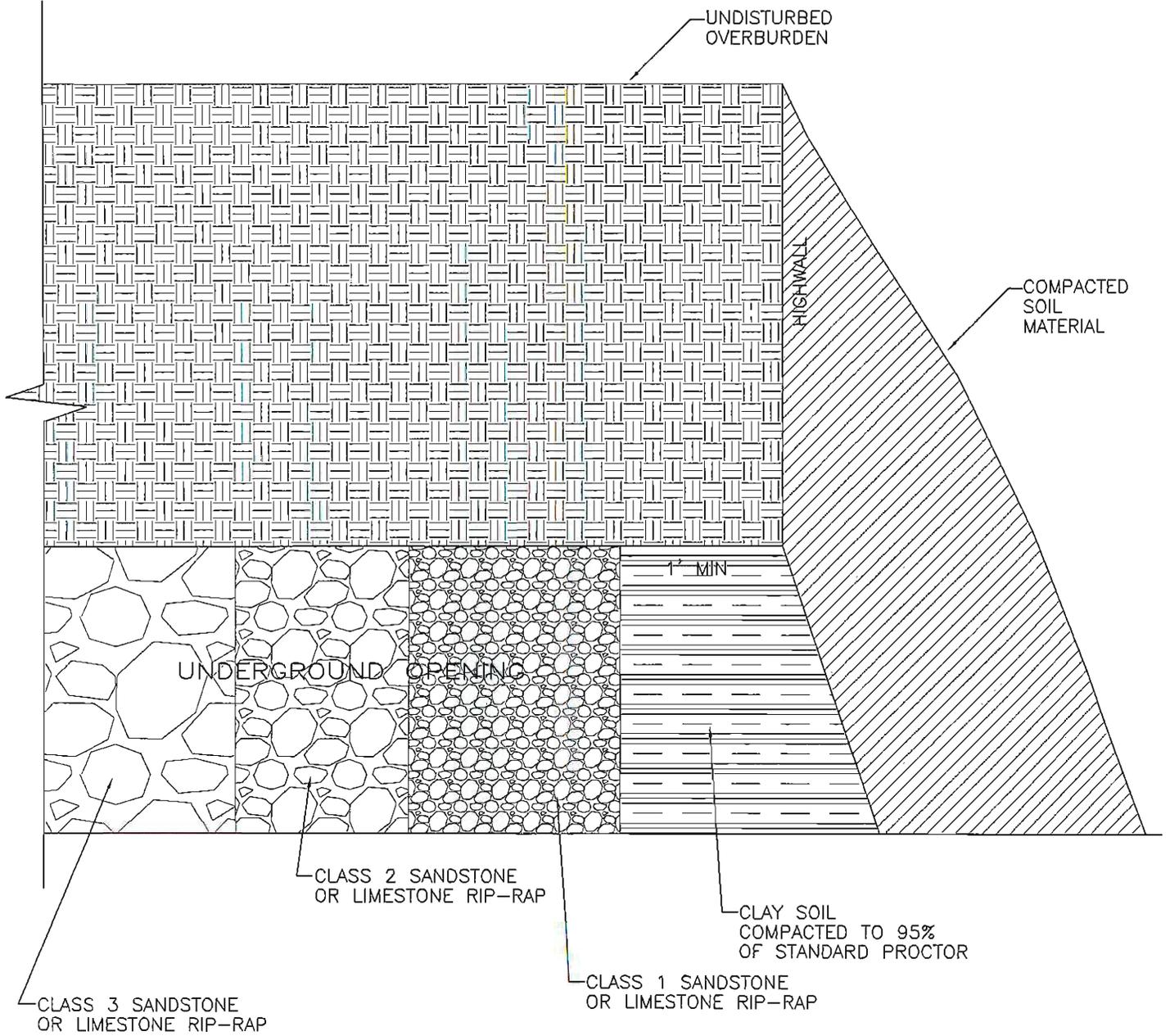
**MONITORING WELL AND
EXPLORATION HOLE
MAINTENANCE AND
SEALING DETAILS**

DRAWN BY: R.E.P.

DATE: 6-28-89

APPROVED BY:

SCALE: NONE



See response to III. - A. - 6 for sealing details.

ATTACHMENT III. - A. - 6.



**Typical Cross Section of
Underground
Workings Seal
Dry Conditions**

DRAWN BY: K.E.P.	DATE: 12-6-07
DWG. NAME: MRLLCUWS	
APPROVED BY: W.K.M.	SCALE: NONE

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

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

Surface runoff will be routed through sediment control basins prior to being discharged from the permit area. Discharges from sediment basins will be monitored by in-house personnel or consultants, at the discretion of the Permittee, as necessary to assure compliance with applicable State and Federal Laws and Regulations. Chemical treatment with aqueous sodium hydroxide solution will be used on water entering the drainage course of the existing basins if this is determined necessary to achieve compliance with State and Federal Laws. On occasion, a solution of chemically hydrated lime and water will be used in sediment basins for immediate correction of pH imbalances. With proper pH, the heavy metals will precipitate to the bottom of the basins and will not exit the discharge pipe or spillway. Alum may be used on occasion if necessary to facilitate flocculation and precipitation of suspended solids. A permit to discharge under the National Pollutant Discharge Elimination System has been applied for and discharges from the proposed basins will be monitored and results of that monitoring, both compliant and non-compliant, will be reported in accordance with the NPDES Permit and the hydrologic monitoring plan shown elsewhere in this permit application. A trained and qualified health and safety staff will be contracted to assure that all health and safety standards and MSHA regulations are complied with. Certification and training of all mine personnel will be current and will be updated as necessary by attending MSHA classes taught by certified personnel. All dust, noise and other required control tests will be current and will be performed as necessary by certified MSHA personnel. Records of all testing required will be kept at the mine and will be available for inspection by the Regulatory Authority. All necessary permits for field absorption systems for the office and similar facilities will be obtained prior to construction of these facilities. Haul roads will be maintained with water and/or other materials to minimize fugitive dust emissions.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

8. Is surface mining to be conducted within 500 feet of an underground mine? (780.27, 816.79) (XXX) Yes () 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). Attach a copy of MSHA approval.

As shown on Attachment III-A-8, part of the permit area is underlain by abandoned works from Pilot Coal Inc.'s Warrior Mine No. 1, ASMC Permit No. P-3464 in the Black Creek Coal Seam. By allowing the mining of coal within and adjacent to the abandoned underground mines, coal reserves will be recovered that would otherwise be lost, the potential of water pollution caused by the underground workings will be eliminated, and public safety hazards from subsidence and entrapment within the mine openings will be eliminated.

In numerous previous permit applications submitted to ASMC, the Mine Safety and Health Administration (MSHA) has been consulted concerning conducting surface mining within 500 feet of an abandoned or inactive underground mine. MSHA's response has always been, if the underground mine is abandoned or inactive with no works in the mine, MSHA has no interest, concern, or jurisdiction.

Personnel of PERC Engineering Co., Inc. will contact and notify MSHA of Warrior 282 LLC's, intent to mine through the above referenced abandoned mines.

See Attachment III-A-8, Underground Mine Location Map.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

B. Engineering Plans

All cross-sections, maps and plans related to operations, reclamation and structures must comply with Section 780.10. Plans, appropriate calculations 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.

None.

(b) If an existing structure requires modification or reconstruction to meet the performance standards, attach a compliance plan which 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.

None.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

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 and 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 and 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 Sections 780.25(a) (2 and 3) and 816.81-816.85 for each coal processing waste bank to be constructed on the increment you currently propose to mine.

None proposed.

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

None proposed.

3. Diversions. (780.29, 816.43, 816.44)

Are diversions of overland flow or stream channel diversions proposed?

(XXX) Yes () No

If yes, complete the following:

- (a) Is the diversion to be permanent?

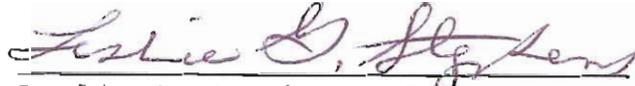
() Yes (XXX) No

Applicant: Warrior 282 LLC
Mine Name: Warrior Mine No. 1
Permit Number: P-

Attachment III-B-2(a)

CERTIFICATION STATEMENT:

I hereby certify that Attachment III-B.-2.A prepared for Warrior 282, LLC's Warrior Mine No. 1, is in accordance with the Regulations of the Alabama Surface Mining Commission as adopted by Act 81-435 of December 18, 1981 and amended to date, and is true and correct to the best of my knowledge and belief.


Leslie G. Stephens, P.E., P.L.S.
AL Registration #14117-E

12/01/2010
Date



Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

Attachment III-B-2(a)

GENERAL PLAN

The General Plan consists of constructing eight (8) proposed sediment basins, Basins 001AP, 001P, 002P, 003P, 004P, 006P, 008P and 009P for the life of the mine. All basins are to remain as permanent water impoundments, fish and wildlife habitats. Data to qualify the basins as permanent water impoundments will be submitted to the regulatory authority prior to Phase II Bond Release. (See attached data and watershed map for basin location and preliminary hydrologic information).

Due to the small watersheds of Basins 001AP, 003P and 004P, a revision application will be submitted to the Regulatory Authority to change the classification of the basins to temporary if the basins do not have sufficient water volume to support fish and wildlife habitats prior to Phase II Bond Release.

Due to Basins 006P, 008P and 009P being constructed in spoil material, the interior of the basins will be lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the emergency spillway elevation to minimize infiltration and to provide a stable pool level. The material will be placed in horizontal lifts not to exceed 6 inches and compacted to 95% of the standard proctor. Detailed design plans for each basin will be submitted to the Regulatory Authority and upon written approval from the Regulatory Authority the basins will be constructed and certified to the Regulatory Authority prior to disturbance in their drainage areas. General design data is enclosed.

The coal located in the proposed pool areas of Basins 001AP, 001P, 002P, 003P and 004P will be excavated during the time of construction of each basin. See the Detailed Design Plans for Basins 001AP, 001P, 002P, 003P and 004P.

Geologic investigations of the area indicate layers of siltstone, shale and minor amounts of bituminous coal and underclay. The coal to be mined by Warrior 282 LLC, will be confined to the Lick Creek, Jefferson and Black Creek Coal Seams. The strata in the area is characterized by small scale normal faulting and gentle open folding.

All surface drainage from the proposed mining area flows into an unnamed tributary to Cane Creek. All diversions are to be temporary and will be graded and revegetated (See diversion ditch criteria).

See Attachment III-B-2(a), Watershed Map.

See Attachment III-B-2(a), Basin 008P Detailed Design Plans.

See Attachment III-B-2(a), Basin 009P Detailed Design Plans.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

Attachment III-B-2(a)

<u>Basin No.</u>	<u>Location</u>	<u>Drainage Area (Acres)</u>
001AP	SE/SE of Section 14	5
001P	SE/SE of Section 14	26
002P	SW/SE of Section 14	51
003P	NW/NE of Section 23	17
004P	NW/NE of Section 23	6
006P	SE/SW of Section 14	30
008P	NE/SW of Section 14	21
009P	NW/SE of Section 14	52

All in Township 14 South, Range 3 West, Jefferson County, Alabama, as shown on the Warrior, Alabama United States Geological Survey Quadrangle Map.



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM INDIVIDUAL PERMIT

PERMITTEE: Warrior 282 LLC
FACILITY LOCATION: Jefferson County
T13S, R8W, S13, S14, & S23
PERMIT NUMBER: AL0079928

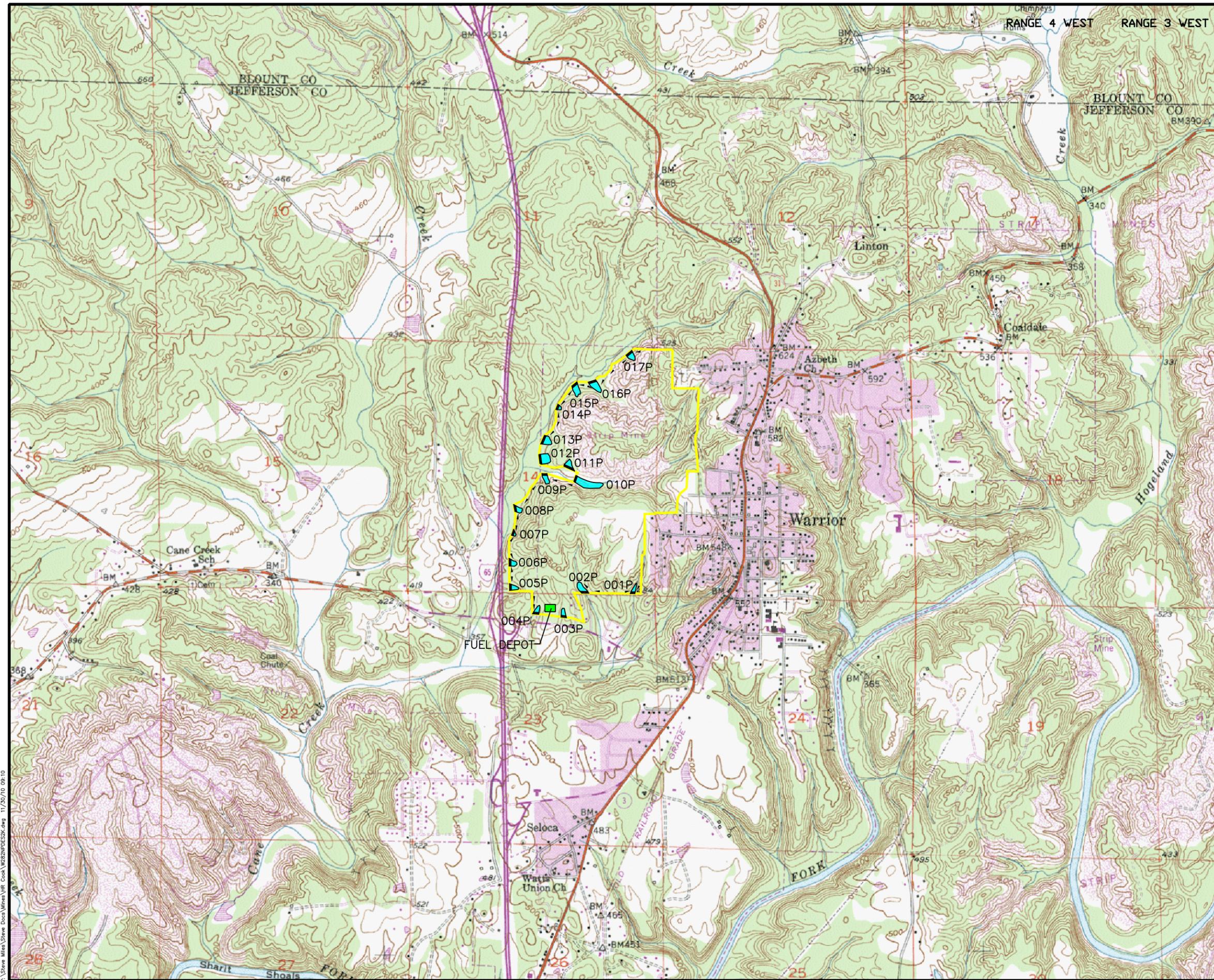
- DSN Receiving Water
- 001 Unnamed tributary to Cane Creek
 - 003 Unnamed tributary to Cane Creek
 - 005 Unnamed tributary to Cane Creek
 - 007 Unnamed tributary to Cane Creek
 - 009 Unnamed tributary to Cane Creek
 - 011 Unnamed tributary to Cane Creek
 - 013 Unnamed tributary to Cane Creek
 - 015 Unnamed tributary to Cane Creek
 - 017 Unnamed tributary to Cane Creek

- DSN Receiving Water
- 002 Unnamed tributary to Cane Creek
 - 004 Unnamed tributary to Cane Creek
 - 006 Unnamed tributary to Cane Creek
 - 008 Unnamed tributary to Cane Creek
 - 010 Unnamed tributary to Cane Creek
 - 012 Unnamed tributary to Cane Creek
 - 014 Unnamed tributary to Cane Creek
 - 016 Unnamed tributary to Cane Creek

In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1378 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, Code of Alabama 1975, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-16, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.

ISSUANCE DATE: March 4, 2009
EFFECTIVE DATE: March 4, 2009
EXPIRATION DATE: March 3, 2014


Alabama Department of Environmental Management



LEGEND	
	Permit Boundary
	700 Surface Contour
	Sediment Basin
	Natural Drainage Course
	Diversion Ditch/Berm
	Occupied Dwelling and Manufactured Housing
	Out Building (Barn, Shed, etc.)
	Haul Road
	Ancillary Road
	County Road (Paved unless otherwise designated)
	Road (Private unless otherwise designated)

Scale: 1" = 2000'

NPDES PERMIT NO.: AL0079928
 ISSUANCE DATE: MARCH 4, 2009
 EFFECTIVE DATE: MARCH 4, 2009
 EXPIRATION DATE: MARCH 3, 2014



**N.P.D.E.S. PERMIT MAP
 WARRIOR 282 LLC.
 WARRIOR MINE NO. 1
 JEFFERSON COUNTY, ALABAMA**

DRAWN BY: S.W.L.	DATE: 9-5-08
DWG. NAME: W282NPDES2K	
APPROVED BY: L.G.S.	SCALE: 1"=2000'

V:\Steve\mine\Steve\Docs\Mine\YR_Cook\W282NPDES2K.dwg 11/20/10 09:10

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

Attachment III-B-2-A

Pond Construction Criteria

The embankment for sediment basins (temporary and permanent) shall be designed and built using the following as minimum criteria:

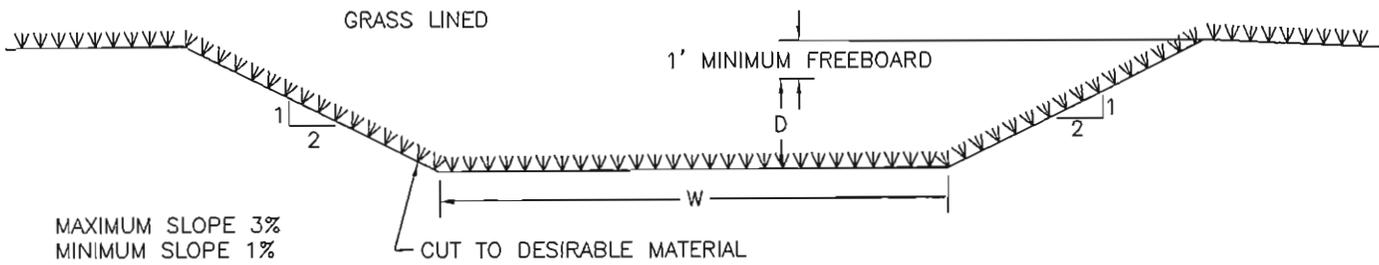
1. The top of the dam shall be no less than 12 feet wide.
2. See design sheet for maximum and minimum embankment slopes.
3. The foundation and abutments for the impounding structure shall be designed to be stable under all conditions of construction and operation of the impoundments, with a minimum static safety factor of 1.5 for the normal pool with steady seepage saturation conditions, and a seismic safety factor of at least 1.20.
4. The dam shall be constructed with a cutoff trench based upon prudent engineering practices for the site. The cutoff shall be located on the dam centerline and be of sufficient depth to extend into a relatively impervious material from which the core of the dam shall also be constructed.
5. The embankment foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1v:1h, and the entire foundation surface scarified.
6. The entire embankment and cutoff trench shall be compacted to 95 percent density, based on standard proctor as outlined in ASTM.
7. The material placed in the embankment shall be free of sod, roots, stones over 6 inches in diameter, and other objectionable materials. The fill material shall be placed and spread over the entire fill area, starting at the lowest point of the foundation, in layers not to exceed 12 inches in thickness. Construction of the fill shall be undertaken only at such times that the moisture content of the fill material will permit satisfactory compaction in accordance with paragraph 5.
8. The pool area of the basin will be cleared of timber and large undergrowth.
9. The primary decant system when consisting of a pipe shall be installed according to Class C pipe installation for embankment bedding.
10. The primary decant system shall be equipped with a device, or constructed, such as to insure that subsurface withdrawal is accomplished to prevent discharge of floating solids. If a channel is used as the primary decant a skimmer shall be installed to prevent floating solids from discharging.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

11. A splash pad or rip-rap may be required under the discharge of the primary decant system where necessary to insure that the discharge does not erode the embankment.
12. The combination primary and secondary decant system shall be designed to safely carry the expected peak flow from a 25 year - 6 hour storm. The entire emergency overflow spillway channel will be a stabilized channel and will be stabilized upon completion of construction as specified within the detailed design plans using prudent engineering measures. These measures may consist of lining the spillway with concrete or a durable rock rip-rap, or the spillway being constructed in consolidated non-erodible material and planted with a mixture or both annual and perennial grasses, or a combination of any or all of the above.
13. Sediment basins using a single spillway system shall be an open channel of non-erodible construction consisting of concrete, durable rock rip-rap or its being constructed in consolidated non-erodible material as specified in the detailed design plans.
14. The settled embankment for temporary impoundments shall be a minimum of 1.0 foot above the maximum water elevation for the runoff from a 25 year - 6 hour, or a 10 year - 24 hour precipitation event (whichever has the greatest runoff). The settled embankment for permanent impoundments shall be a minimum of 1.0 foot above the maximum water elevation for the runoff from a 25 year - 6 hour, or a 10 year - 24 hour precipitation event (whichever has the greatest runoff).
15. If basins are built in series, then the combined decant system for each shall be designed to accommodate the entire contributing drainage area.
16. The dam and all disturbed areas shall be seeded with both perennial and annual grasses, fertilized and mulched in order to insure erosion is minimized. Hay bales or rip-rap may be placed at the toe of the dam immediately upon completion of construction.
17. The constructed height of the dam shall be increased a minimum of 5 percent over the design height to allow for settlement over the life of the embankment.
18. Final graded slopes of the entire permanent water impoundment area shall not exceed 2.5H-1.0V to provide for adequate safety and access for proposed water users.
19. Prior to Phase II bond release, additional data concerning water quality, water quantity, depth, size, configuration, postmining land use, etc., for each proposed permanent water impoundment, shall be submitted to the Regulatory Authority for permanent water impoundment approval.

Applicant: Warrior 282 LLC
Mine Name: Warrior Mine No. 1
Permit Number: P-

20. All sediment basins will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the reclamation bond.
21. The embankment and spillway will be maintained by repairing any damage such as erosion, slope failure or spillway damage until removal of the structure or release of the performance bond.
22. All ponds shall be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections shall be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C-.20[l(j)] of the Alabama Surface Mining Commission Regulations.
23. Sediment will be removed from each pond when the accumulated sediment reaches the sediment storage volume as shown on the detailed design sheet.
24. Upon completion of mining, successful reclamation and effluent standards being met, each sediment basin not remaining as a permanent water impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.) and reclaimed to approximate original contours by the following procedure: A permanent diversion channel (designed for a 10 year - 24 hour precipitation event) shall be cut along the outer edge of the basin to re-route drainage around the basin and back through the stabilized spillway to allow reclamation of the sediment basin. The diversion channel shall be designed and grassed as per enclosed information. (See permanent diversion for basin disposal). Upon completion of the diversion channel the back slope of the dam shall be graded to a minimum 3H to 1V slope. The dewatered sediment basin area shall be seeded with some combination of the following: Fescue, bermuda, rye grass, canary grass and willows. After seeding the area shall be mulched. Any additional sediment or embankment material not used to meet original contour, if non-toxic, shall be spread in thin layers within the permit area and vegetated as stated in the approved reclamation plan. All toxic material encountered in the basin disposal shall be buried and covered with 4 feet of non-toxic material and vegetated as stated in the approved reclamation plan.
25. A qualified registered professional engineer or other qualified professional specialist, under the direction of the professional engineer shall conduct regular inspections during construction and upon completion shall inspect each basin for certification purposes.
26. Point source discharge embankments shall be constructed and abutments keyed into desirable material if at all possible. In the event that undesirable material is encountered, additional design and construction criteria shall be submitted prior to certification.



$$Q = \frac{1.49}{N} A R^{2/3} S^{1/2}$$

$N(\text{LOOSE STONE OR GRASS LINED}) = 0.035$
 $A = \text{AREA}$
 $R = \text{AREA/WETTED PERIMETER}$
 $S = \text{SLOPE}$

* GRASS LINING: FESCUE, BERMUDA, RYE GRASS

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 8.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
1-15	0.5
15-50	1.0
50-100	1.5
100-180	2.0
180-270	2.5

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 10.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-15	0.5
15-60	1.0
60-120	1.5
120-210	2.0
210-320	2.5

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 12.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-20	0.5
20-70	1.0
70-150	1.5
150-250	2.0
250-383	2.5

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 15.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-20	0.5
20-90	1.0
90-180	1.5
180-300	2.0
300-450	2.5



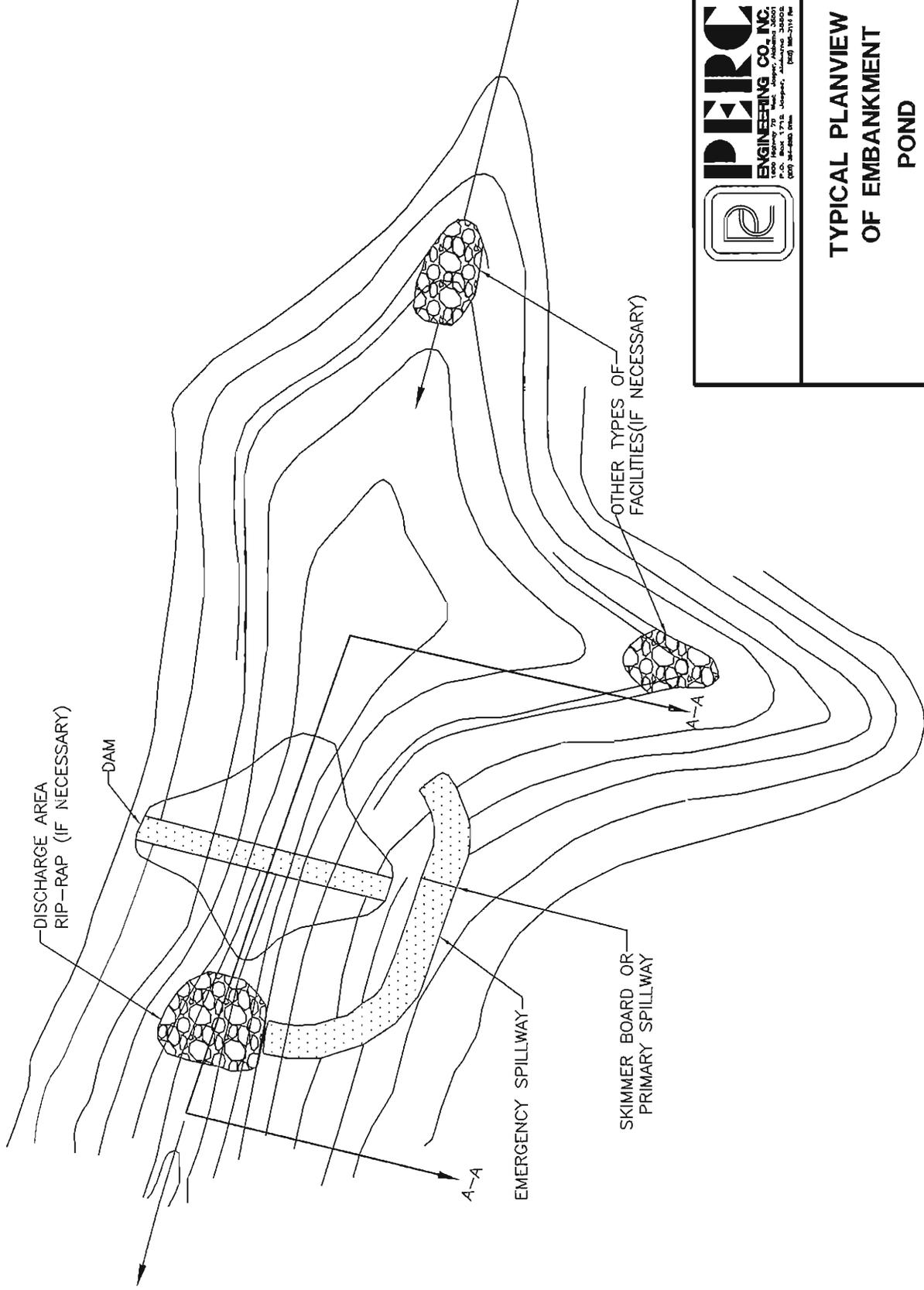
TYPICAL PERMANENT DIVERSION FOR BASIN DISPOSAL

DRAWN BY: P.T.O.
DWG. NAME: TYPICALS

DATE: 8-10-05

APPROVED BY: W.K.M.

SCALE: NONE



TYPICAL PLANVIEW OF EMBANKMENT POND

DRAWN BY: P.T.O.	DATE: 8-10-05
DWG. NAME: TYPICALS	
APPROVED BY: W.K.M.	SCALE: NONE

PLANVIEW OF EMBANKMENT POND

\\perc004\perc_ama\Steve_Mans\Drawings\Projects\III-B-2\III-B-2.dwg, 07/20/99 14:59

FRONT AND BACK SLOPES GRASSED

NORMAL POOL LEVEL VARIES

PRINCIPAL SPILLWAY

2.5 MIN.
1

COMPACTED FILL MATERIAL

2.5 MIN.
1

KEY

STRIP VEGETATION

GROUND

SKIMMER BOARD
SPILLWAY ELEV. VARIES

TOP OF DAM ELEV. VARIES

3' MIN.

1.5'

VARIABLES

BOTTOM OF BASIN
ELEV. VARIES

TYPICAL DAM DETAIL
NO SCALE



TYPICAL DAM DETAIL

DRAWN BY: P.T.O.
DWG. NAME: TYPICALS

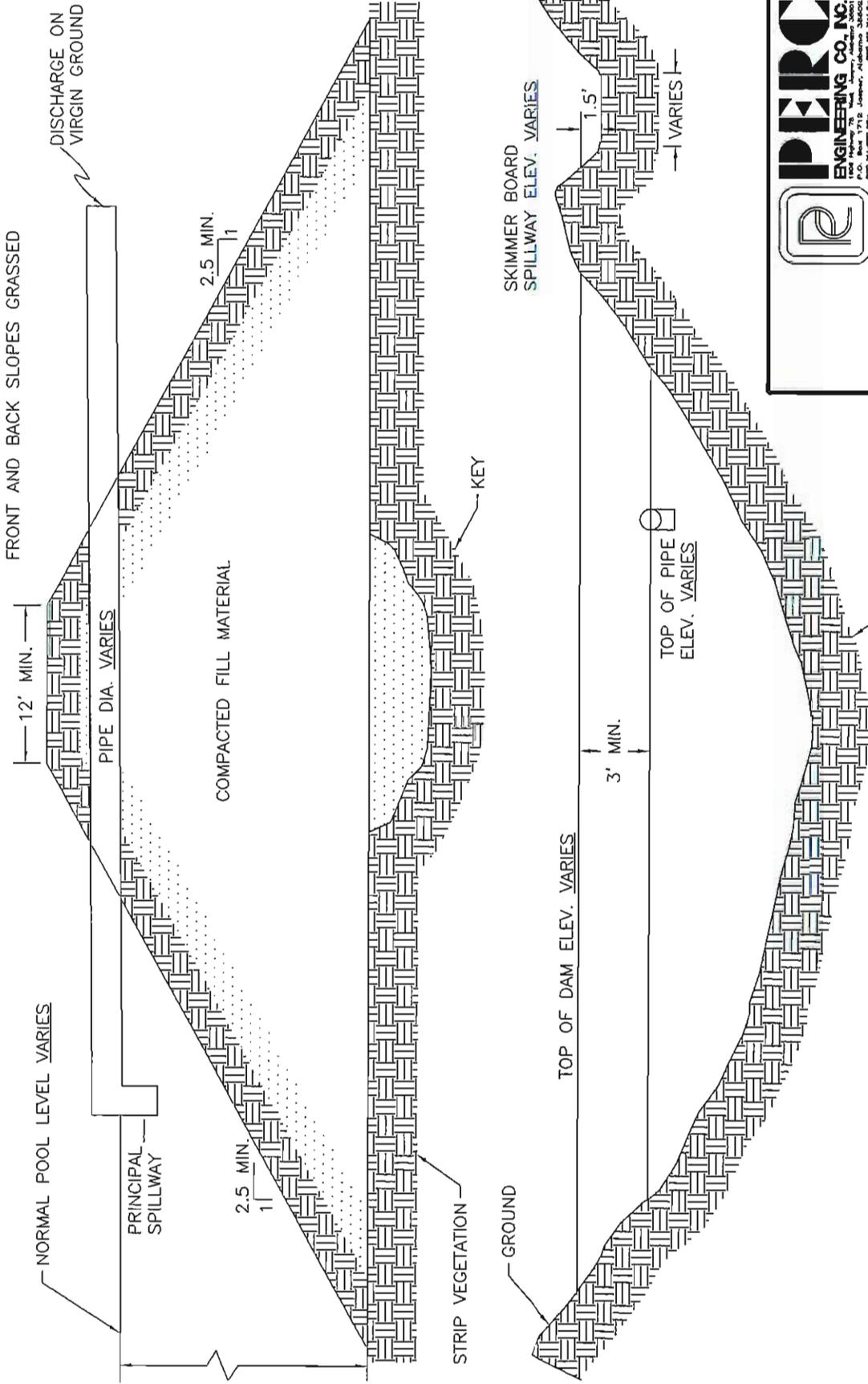
DATE: 8-10-05

APPROVED BY: W.K.M.

SCALE: NONE

ATTACHMENT III-B-2-A

V:\projects\perc_era\Site\Site\Drawings\B-2(1)\Attachment II-B-2(1).dwg 07/09/09 14:58



TYPICAL DAM DETAIL
NO SCALE

TYPICAL DAM DETAIL

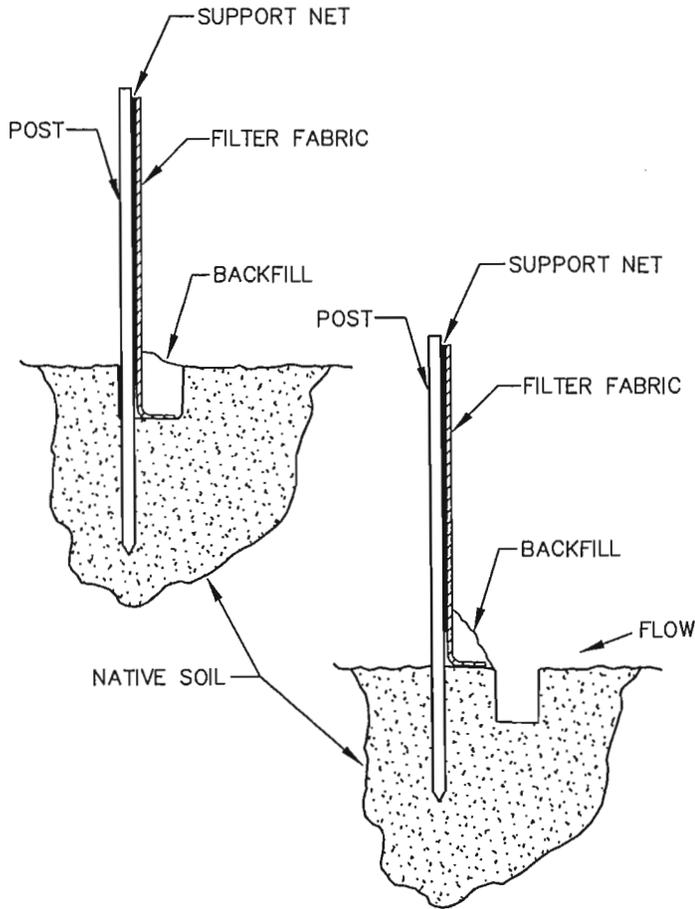
DRAWN BY: P.T.O.	DATE: 8-10-05
DWG. NAME: TYPICALS	
APPROVED BY: W.K.M.	SCALE: NONE

ATTACHMENT III-B-2-A

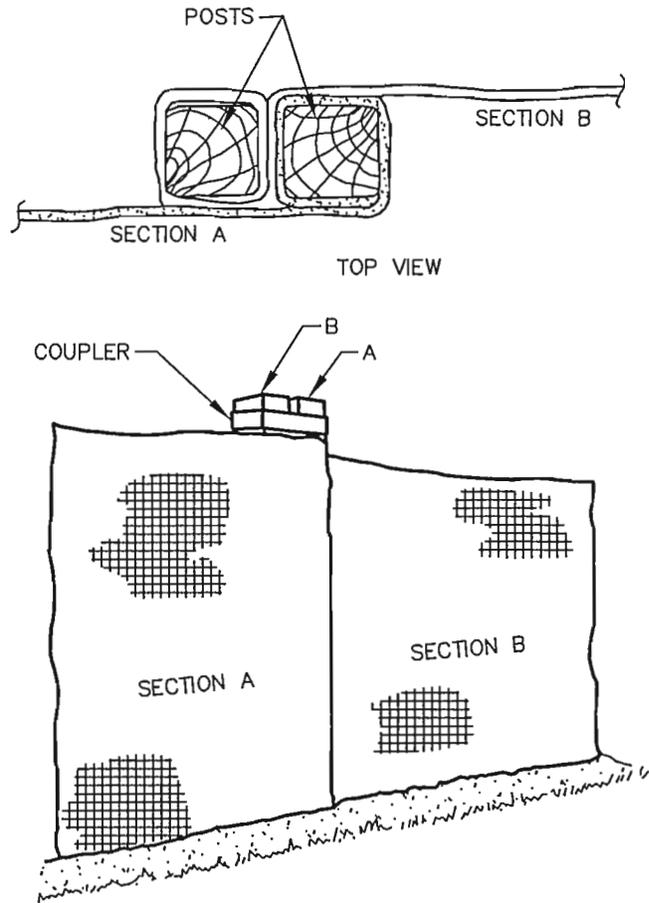
Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

Silt Fencing Design and Construction Specifications

1. Fence height - 3' including 6" trench flap.
2. Silt fencing will be secured into place by prefabricated wood or metal posts spaced as necessary.
3. The silt fence will have an equivalent opening size of 30-50 mesh by U.S. Standard Sieve.
4. The maximum particle size passing the silt fence will be .59 millimeter.
5. The flow rate of the silt fence will be 20 gallon per minute per square foot.
6. The silt fence will have a burst strength of 210 pound per square inch.
7. The grab tensile elongation of the silt fence will be 15%.
8. The grab tensile strength of the silt fence will be 100 pounds.
9. The silt fence will be installed by initially excavating a trench approximately 6" wide by 6" deep along the contour for the entire length of the silt fence. Upon completion of the trench, the silt fence will be stretched along the trench with the prefabricated wood or metal posts being driven into the ground approximately 1.5' deep against the upper wall of the trench. The 6" trench flap will then be placed into the trench and covered with compacted fill material.
10. Inspections of the silt fence will be made bimonthly and repair or replacement will be made promptly as required.
11. Accumulated sediment will be removed from the silt fencing when necessary to ensure the proper function of the silt fencing. Accumulated sediment will be disposed of within Coarse Refuse Area No. 1.
12. Prior to the removal of the silt fence, any silt or sediment retained by the silt fence will be seeded with a mixture of both annual and perennial grasses, fertilized, and mulched to establish a permanent and diverse vegetative cover.



TOE-IN METHOD



JOINING SECTIONS OF SILT FENCE

CONSTRUCTION SPECIFICATIONS

- 1.) SILT FENCING SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY FITTING THE ADJACENT FENCE SECTION.
- 2.) EACH SECTION OF FENCING SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 6".
- 3.) FENCING SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS AT A SPACING NOT TO EXCEED 6'.
- 4.) INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.



PERC
 ENGINEERING CO., INC.
 1808 Highway 78 West Jasper, Alabama 35501
 P.O. Box 1712 Jasper, Alabama 35502
 (205) 381-5553 Office (205) 799-3111 Fax

SILTFENCE TYPICAL

DRAWN BY: K.D.P.
 DWG. NAME: SILTFENC

DATE: 6-24-91

APPROVED BY: R.E.P.

SCALE: NONE

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

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

The diversion located east of Basin 002P will be constructed during the construction of Basin 002P in a manner to achieve positive drainage. To achieve positive drainage to Basin 002P the diversion will be constructed starting at Basin 002P and continue up gradient until the diversion is completed.

See Attachment III-B-3, Diversion Profile 1-2 Planview.

See Attachment III-B-3, Diversion Profile 1-2.

Temporary diversions required for the Warrior Mine No. 1 are shown on the permit map and a typical section of proposed diversions is included in this application and described in the design and construction guidelines for diversions as prepared for Warrior 282 LLC.

Should the need for diversions other than those shown become evident, they will be constructed under the same Guidelines within the area permitted and bonded.

After all mining and reclamation activities are complete the diversions will be reclaimed and revegetated.

See Attachment III-B-3 for referenced Guidelines.

See Attachment III-B-3, Detailed Diversion Design Plans for Diversions C-C' and D-D'.

See Attachment III-B-2(a), Watershed Map for diversion locations.

- (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 government agencies, where required. None required.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

Attachment III-B-3

SPECIFICATIONS FOR DIVERSION CHANNELS
AND DIVERSION BERMS

1. Temporary diversions shall be constructed to pass safely the peak runoff from a 2-year, 6-hour precipitation event.
2. To protect fills and property and to avoid danger to public health and safety, permanent diversions shall be constructed to pass safely the peak runoff from a 10-year, 6-hour precipitation event. Permanent diversions shall be constructed with gently sloping banks that are stabilized by vegetation.
3. Diversions shall be designed, constructed, and maintained in a manner which prevents additional contributions of suspended solids to stream flow and to runoff outside the permit area, to the extent possible, using the best technology currently available. Appropriate sediment control measures for these diversions may include, but not be limited to, maintenance of appropriate gradients, channel lining, revegetation, roughness structures, and detention basins.
4. No diversion shall be located so as to increase the potential for land slides and no diversion shall be constructed on existing land slides.
5. When no longer needed, each temporary diversion shall be removed and the affected land regraded, top soiled, and revegetated in accordance with Rules 880-X-10C-.10, 880-X-10C-.11, 880-X-10C-.52 through 880-X-10C-.58, 880-X-10C-.60, and 880-X-10C-.62.
6. Channel linings, when slopes are between 1-3 percent shall consist of both perennial and annual grasses and when slopes are greater than 3 percent, shall consist of rip-rap or be cut into non-erodible material.
7. Freeboard shall provide protection for transition of flows and for critical areas such as swales and curves along the entire channel length.
8. Energy dissipaters shall be installed, when necessary, at discharge points where natural streams and exit velocity of the diversion ditch flow is greater than that of the receiving stream.
9. Excess excavated material not necessary for diversion channel geometry or regrading of the channel shall be disposed of in accordance with Rule 880-X-10C-.36.
10. Topsoil removed from the diversion excavations shall be handled in accordance with Rule 880-X-10C-.07 through 880-X-10C-.11.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

11. Diversions shall not be constructed or operated to divert water into underground mines.
12. The embankment or berm foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1v:1h and the entire foundation surface scarified.
13. The entire embankment or berm shall be compacted to 95% density, based on standard proctor as outlined in ASTM.
14. The material placed in the berm shall be free of sod, roots, stones over 6 inches in diameter, and other objectionable materials. The fill material shall be placed and spread over the entire fill area, starting at the lowest point of the foundation, in layers not to exceed 12 inches in thickness. Construction of the fill shall be undertaken only at such times as the moisture content of the fill material will permit satisfactory compaction in accordance with paragraph 13.
15. The berm and all disturbed areas shall be seeded with both perennial and annual grasses in order to insure that erosion is minimized. Hay bales or rip-rap may be placed at the toe of the berm immediately upon completion of construction.
16. All berms shall be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary.

See Attachment III-B.-2.(a) (Watershed Map).

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

N/A

- (d) Enclose approvals of other government agencies, where required.
None required

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

4. Disposal of excess spoil. (780.35, 816.71)

Are excess spoil fills proposed?

() Yes (XXX) No

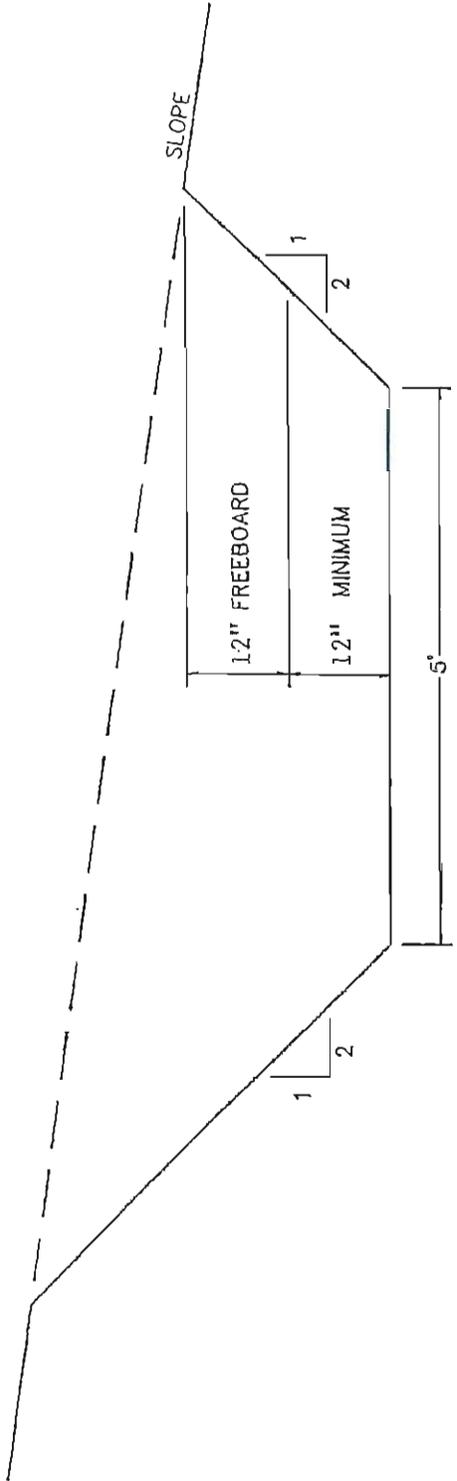
If yes, complete the following:

- (a) Show on a map the location of all proposed fills and provide cross-sections of the proposed site and the design of the disposal structures.
- (b) Include the results of the geotechnical investigation showing:
 - (1) A description of physical characteristics of bedrock and geological conditions in the disposal area; and
 - (2) A determination of possible adverse affects from subsidence due to past, present or future underground mining.
 - (3) Location of springs, seeps, or other ground water observed or anticipated in the disposal area.
 - (4) A technical description of the rock to be used in construction of rock chimney cores or rock drainage blankets, if applicable.
 - (5) Results of stability analyses including strength parameters, pore pressures and long term seepage conditions; and
 - (6) Engineering design assumptions, calculations, and any alternatives considered.
- (c) Describe the construction, operation, maintenance and removal (if applicable) of the structure.
- (d) Include a surface water drainage and control plan for the fill.
- (e) Are rock-toe buttresses or keyway cuts to be used?

() Yes (XXX) No

If yes, describe or show:

- (1) The number, location and depth of test borings or test pits used in describing subsurface conditions; and
- (2) Engineering specifications used in the design.

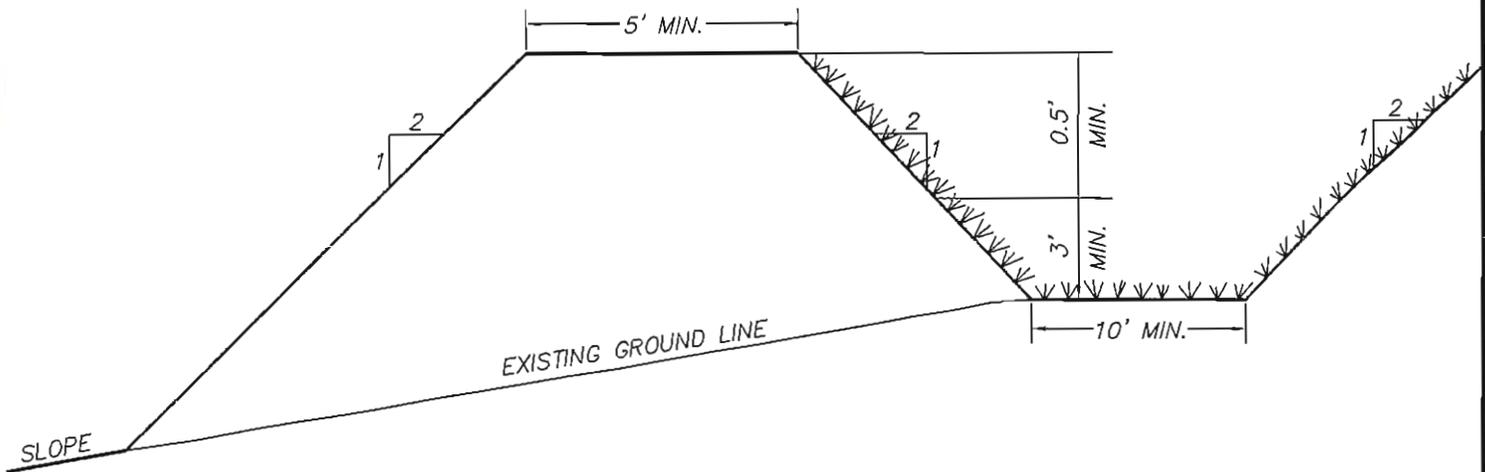


DIVERSION DITCH

TYPICAL DIVERSION CROSS-SECTION
NO SCALE
CHANNEL LINING TO CONSIST OF A MIXTURE OF FESCUE AND BERMUDA GRASS

DIVERSION/BERM DETAIL

DIVERSION A-A'



TYPICAL DIVERSION/BERM CROSS SECTION

CHANNEL LINING TO CONSIST OF A MIXTURE OF BERMUDA AND FESCUE GRASSES

Note: The berm material is to consist of a clay material. The Material will be placed in 6 inch lifts and compacted to 95% of the standard proctor density. The standard proctor density will be determined prior to the placement of the material.



Typical Diversion Berm Detail

DRAWN BY: S.D.M.
DWG. NAME: BRMTYP1

DATE: 12/5/2008

APPROVED BY: L.G.S.

SCALE: NONE

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

5. Transportation Facilities (780.33, 780.37)

The portions of Primary Road 1P proposed to be mined within Increment No. 2 will not be replaced once the road is mined through.

- (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) Safety berms will be constructed adjacent to roadways to be disturbed to contain traffic.
 - 2) Proper signs, informing the traveling public of the disturbance, will be posted along the road right-of-ways 500 feet from the beginning of the disturbance.
 - 3) All safety requirements of the appropriate public health and safety, will be followed.
- (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, Primary Road 1P and 2P detailed design plans.

See Attachments III-B-5, Primary Road Location Map.

- (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.

Roads will be constructed with the required ditching for proper drainage. Roads will be maintained with a dozer and motor grader patrol as required. Water will be used to reduce erosion and dust emissions. Roads will be located on ridge tops where possible or on the most stable slopes to minimize erosion. Vegetation will not be cleared except as necessary for roadway and ditch construction. After construction of the roads is complete, vegetation will be established on cut and fill slopes that exist along the all roads. To the extent possible, roads will be located above the sediment basins to be constructed for the mining operation in an effort to control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area and to comply with State and Federal water quality standards applicable to receiving waters and avoid the alteration of the normal flow of water in streambeds or drainage channels while preventing or controlling damage to public or private property. Where it is not possible or is impractical to locate roads in this

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

manner, sediment control devices such as silt fencing, hay bale check dams and rock filter check dams will be used as necessary to maintain water quality. Roads not required for fire and sediment basin access will be reclaimed. See Attachment III-B-5, Attachment III-B-5(b), and Specifications for the construction, maintenance, and reclamation of ancillary roads.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

**SPECIFICATIONS FOR THE CONSTRUCTION, MAINTENANCE
AND RECLAMATION OF ANCILLARY ROADS**

1. To the extent possible, roads will be located on ridges or on the most stable available slopes to prevent or minimize erosion, downstream sedimentation and flooding in an effort to prevent adverse effects to fish, wildlife and related environmental values.
2. To the extent possible, roads will be located above the sediment basins to be constructed for the mining operation in an effort to control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area and to comply with State and Federal water quality standards applicable to receiving waters and avoid the alteration of the normal flow of water in streambeds or drainage channels while preventing or controlling damage to public or private property. Where it is not possible or is impractical to locate roads in this manner, sediment control devices such as silt fencing, hay bale check dams and rock filter check dams will be used as necessary to maintain water quality.
3. Prior to construction, the roadway will be cleared, grubbed and will have the topsoil removed. The clearing limits will be kept to the minimum necessary to accommodate the roadbed and associated ditch construction.
4. Roads will be constructed of suitable subgrade material compacted to ninety-five percent of the standard proctor density and will have a minimum width of ten feet and a maximum width necessary to accommodate the largest equipment traveling the road.
5. Roadbeds will be cut to consolidated non-erodible material or will be surfaced with durable non-toxic, non-acid forming substances. It is anticipated that durable sandstone overburden on site will be utilized as surfacing material. If there should not be adequate sandstone on site, then a durable sandstone material, chert, crushed limestone, crushed concrete, crushed asphalt, red rock, iron-ore refuse, gravel, or other durable non-toxic, non-acid forming material approved by the Regulatory Authority will be hauled in from off site and placed on the roadbed to a depth of two inches.
6. No sustained grades will exceed ten percent unless deemed necessary, in which case appropriate sediment control facilities will be constructed. If grades in excess of fifteen percent are required, cross drains, ditch relief drains and road drain ways will be located at a minimum distance of three-hundred feet.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

7. Roads will be constructed so as to have adequate drainage utilizing ditches, cross drains and ditch relief drains. Roads will not be located in the channel of an intermittent or perennial stream unless specifically approved by the Alabama Surface Mining Commission. Additionally, no relocation and/or alteration of an intermittent or perennial stream will be done unless specifically approved by the Alabama Surface Mining Commission. In the event that it becomes evident that any drainage structures including culverts, bridges and/or low water crossings will be required in order to cross an intermittent or perennial stream, the structure will be designed in accordance with Alabama Surface Mining Commission requirements and prudent engineering practice and the approval of the design(s) will be acquired prior to the commencement of construction. Hay bale check dams and silt fences will be used at strategic locations when necessary to control sediment runoff. Immediately upon completion of construction, the side slopes of the road embankments and/or cuts will be fertilized, seeded with annual and perennial grasses and mulch will be added to aid in the prevention of erosion and to enhance seed germination. The seed mix will consist of, but is not limited to, some combination of the following species: bermuda grass, fescue, lespedeza, rye grass, brown top millet, clover and vetch. The particular species to be planted will vary with the planting season at the time of seed application.

8. Routine maintenance will be required to assure that the road continually meets performance standards and will consist of periodic grading, resurfacing, dust suppression and maintenance of sediment control facilities. Dust suppression will consist of the application of water, chemical binders and/or other dust suppressants. No oil will be utilized in this process. Spot seeding, fertilizing and mulching will be performed as necessary to improve vegetative cover on roadway slopes. A road damaged by a catastrophic event shall be repaired as soon as practicable after the damage has occurred.

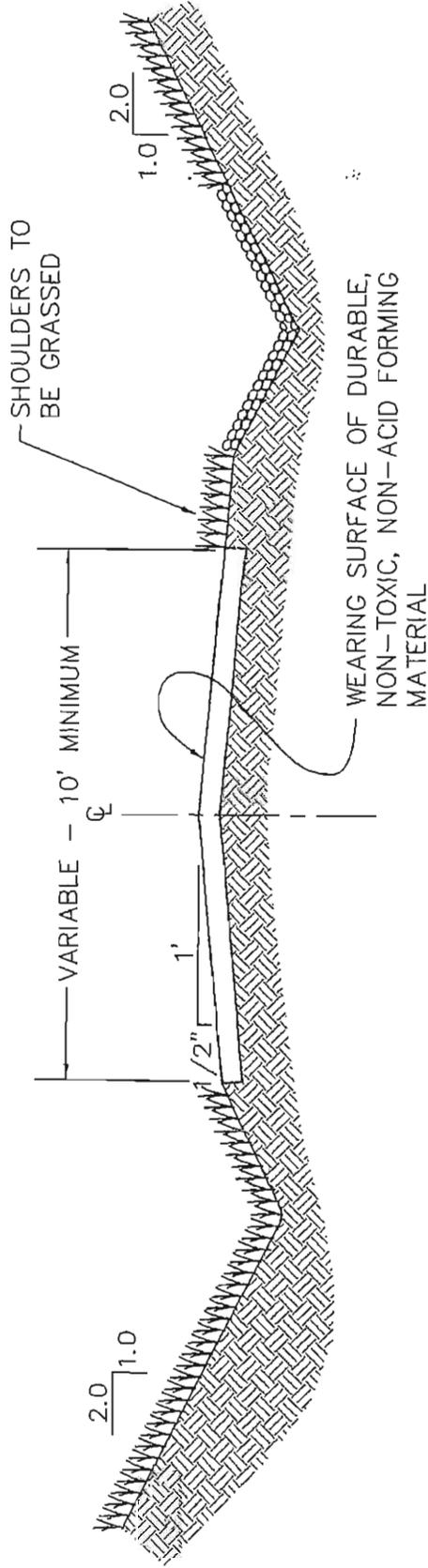
Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

9. Roads not to be retained as part of the post mine land use shall be reclaimed in accordance with the approved reclamation plan for this permit as soon as practicable after they are no longer needed as part of the mining and reclamation operation, using the following procedures:
 - a. The road will be closed to traffic.
 - b. All bridges, culverts and other drainage structures not approved as part of the post mine land use will be removed.
 - c. All road surfacing materials that are not compatible with the post mine land use or revegetation requirements will be properly disposed of on-site or removed from the site for re-use.
 - d. Roadway cut and fill slopes shall be regraded and reshaped to be compatible with the post mine land use and to compliment the natural drainage pattern of the surrounding terrain.
 - e. The natural drainage patterns shall be protected from surface runoff and erosion utilizing the installation of dikes and/or cross drains as necessary.
 - f. The roadbed shall be ripped or scarified as necessary, the topsoil or substitute or approved growing medium shall be replaced and revegetated in accordance with the approved reclamation plan for this permit.

10. The following drawings illustrate typical roadbed configurations for ancillary roads.

TYPICAL HAUL ROAD CUT SECTION

NO SCALE



TYPICAL CUT SECTION ANCILLARY HAUL ROAD

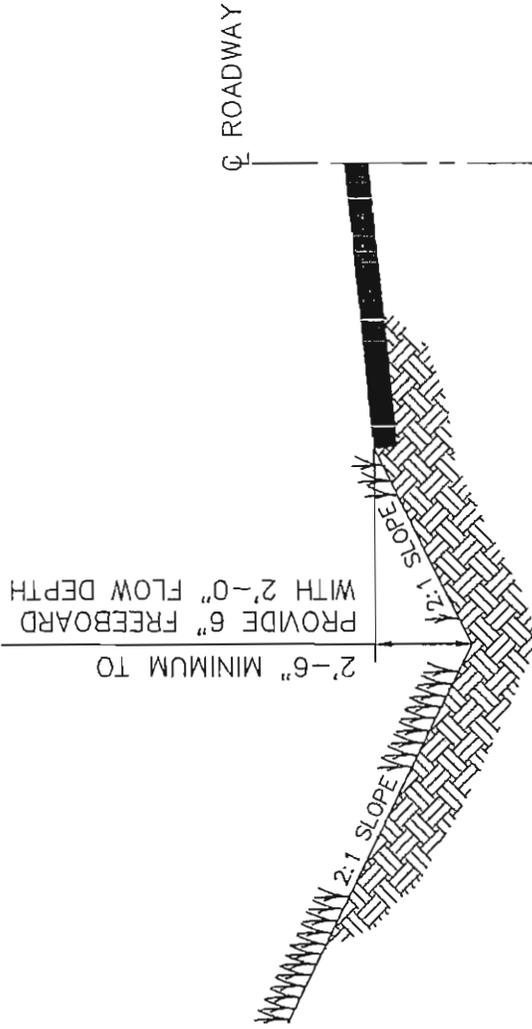
DRAWN BY: K.D.P.
DWG. NAME: TYPHAULB

DATE: 2-3-97

APPROVED BY: S.R.J.

SCALE: NONE

ATTACHMENT III.-B.-5.



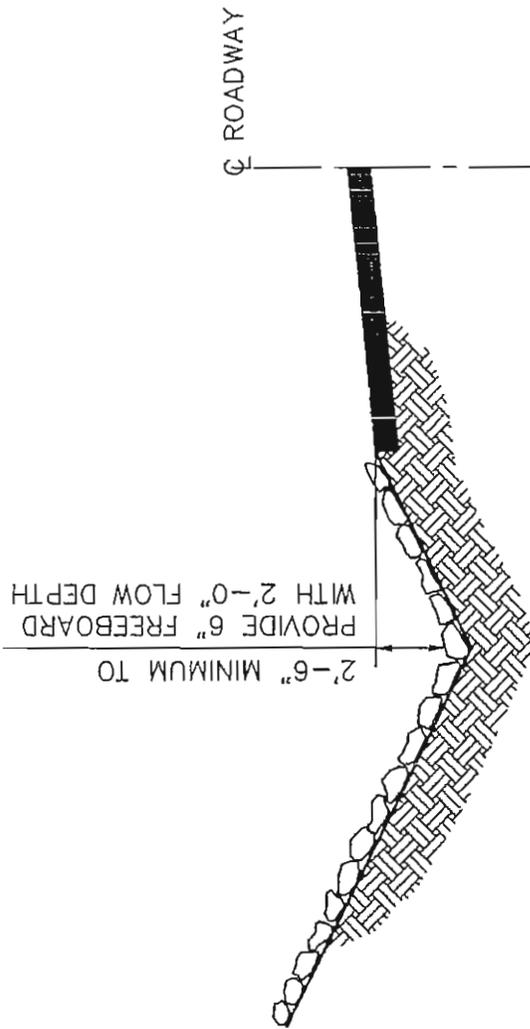
MINIMUM DITCH GRADIENT = 1%
 MAXIMUM DITCH GRADIENT = 5%

DITCH CHANNEL TO BE VEGETATED WITH
 A MIXTURE OF BERMUDA GRASS, FESCUE,
 AND LESPEDEZA TO CONFORM TO CLASS
 "D" RETARDANT CLASS.



TYPICAL ANCILLARY ROADWAY DITCH CROSS SECTION

DRAWN BY: K.D.P.	DATE: 2-4-97
DWG. NAME: ANCIROAD	
APPROVED BY: R.E.P.	SCALE: NONE



DITCH GRADIENT 5% TO 10%

DITCH CHANNEL TO BE LINED WITH NON-ERODIBLE NON-TOXIC, NON-ACID FORMING SANDSTONE OR LIMESTONE RIP-RAP. THE RIP-RAP WILL BE "CLASS 1" RIP-RAP AND HAVE A MINIMUM THICKNESS OF 12".



PERC
 ENGINEERING CO., INC.
 1000 W. 17th Street, Suite 100
 P.O. Box 1718, Aurora, Colorado 80012
 (303) 733-1111 FAX (303) 733-1112

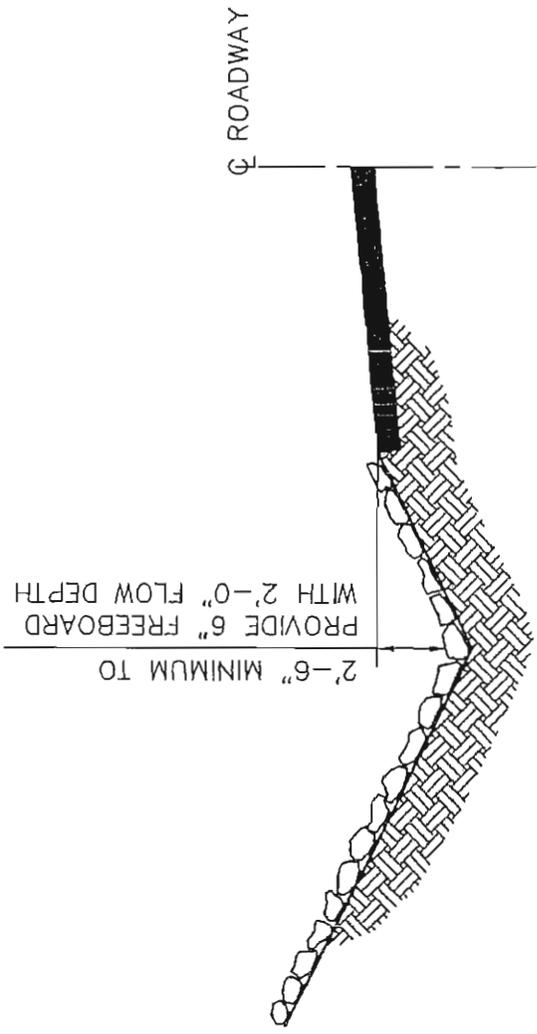
TYPICAL ANCILLARY ROADWAY DITCH CROSS SECTION

DRAWN BY: K.D.P.
 DWG. NAME: PRIMRD1

DATE: 2-4-97

APPROVED BY: R.E.P.

SCALE: NONE



DITCH CHANNEL TO BE LINED WITH NON-ERODIBLE NON-TOXIC, NON-ACID FORMING SANDSTONE OR LIMESTONE RIP-RAP. THE RIP-RAP WILL BE "CLASS 2" RIP-RAP AND HAVE A MINIMUM THICKNESS OF 16".



TYPICAL ANCILLARY ROADWAY DITCH CROSS SECTION

DRAWN BY: K.D.P.	DATE: 2-4-97
DWG. NAME: PRIMRD2	
APPROVED BY: R.E.P.	SCALE: NONE

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

SPECIFICATIONS FOR THE CONSTRUCTION, MAINTENANCE
AND RECLAMATION OF PRIMARY ROADS

1. Primary roads shall be designed by or under the direction of a registered professional engineer in accordance with the Alabama Surface Mining Commission rules and regulations and prudent engineering practice.
2. Each roadway embankment will be designed and constructed so as to have a minimum static safety factor of 1.3.
3. To the extent possible, roads will be located on ridges or on the most stable available slopes to prevent or minimize erosion, downstream sedimentation and flooding in an effort to prevent adverse effects to fish, wildlife and related environmental values.
4. To the extent possible, roads will be located above the sediment basins to be constructed for the mining operation in an effort to control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area and to comply with State and Federal water quality standards applicable to receiving waters and avoid the alteration of the normal flow of water in streambeds or drainage channels while preventing or controlling damage to public or private property. Where it is not possible or is impractical to locate roads in this manner, sediment control devices such as silt fencing, hay bale check dams and rock filter check dams will be used as necessary to maintain water quality. No fording of intermittent or perennial streams will be conducted unless specifically approved by the Alabama Surface Mining Commission as temporary routes to be used during road construction.
5. Prior to construction, the roadway will be cleared, grubbed and will have the topsoil removed. The clearing limits will be kept to the minimum necessary to accommodate the roadbed and associated ditch construction.
6. Roads will be constructed of suitable compacted subgrade material and will have a minimum width of eighteen feet and a maximum width necessary to accommodate the largest equipment traveling the road.
7. Roadbeds will be cut to consolidated non-erodible material or will be surfaced with durable non-toxic, non-acid forming substances. The wearing surface will consist of durable sandstone, chert, crushed limestone, crushed concrete, crushed asphalt, red rock, iron ore refuse, gravel, or other durable non-toxic, non-acid forming material approved by the Regulatory Authority. The wearing surface will be placed on the roadbed to a depth of four inches.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

8. No sustained grades will exceed ten percent unless deemed necessary, in which case appropriate sediment control facilities will be constructed. If grades in excess of fifteen percent are required, cross drains, ditch relief drains and road drain ways will be located at a minimum distance of three-hundred feet.

9. Roads will be constructed so as to have adequate drainage utilizing ditches, culverts, cross drains and ditch relief drains designed to safely pass the peak runoff from a ten year, six hour precipitation event. Drainage pipes and culverts shall be installed as designed and will be maintained in a free and operating condition to prevent and control erosion at inlets and outlets. Culverts have been designed to support the load of the heaviest equipment to travel the road and are based on the Handbook of Steel Drainage and Highway Construction Products by the American Iron and Steel Institute and the equipment specifications. Drainage ditches will be constructed and maintained in accordance with the approved design to prevent uncontrolled drainage over the road surface and embankment. Roads will not be located in the channel of an intermittent or perennial stream unless specifically approved by the Alabama Surface Mining Commission. Additionally, no relocation and/or alteration of an intermittent or perennial stream will be done unless specifically approved by the Alabama Surface Mining Commission. In the event that it becomes evident that any drainage structures including culverts, bridges and/or low water crossings will be required in order to cross an intermittent or perennial stream, the structure will be designed and constructed in accordance with Alabama Surface Mining Commission requirements and prudent engineering practice and the approval of the design(s) will be acquired prior to the commencement of construction. Hay bale check dams and silt fences will be used at strategic locations when necessary to control sediment runoff. Immediately upon completion of construction, the side slopes of the road embankments and/or cuts will be fertilized, seeded with annual and perennial grasses and mulch will be added to aid in the prevention of erosion and to enhance seed germination. The seed mix will consist of, but is not limited to, some combination of the following species: bermuda grass, fescue, lespedeza, rye grass, brown top millet, clover and vetch. The particular species to be planted will vary with the planting season at the time of seed application. Upon completion of construction of each phase of the roadway the construction will be certified to the Alabama Surface Mining Commission as having been done in accordance with the approved plans for the roadway and associated facilities.

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-</u>

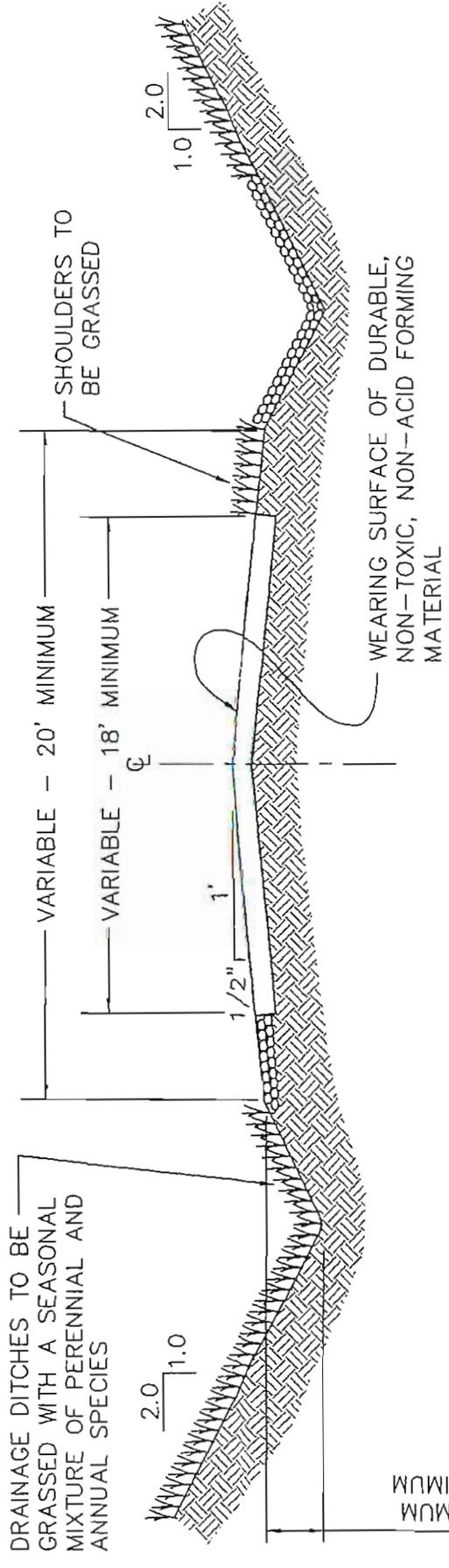
10. Routine maintenance will be required to assure that the road continually meets performance standards and will consist of periodic grading, resurfacing, dust suppression and maintenance of sediment control facilities. Dust suppression will consist of the application of water, chemical binders and/or other dust suppressants. No oil will be utilized in this process. Spot seeding, fertilizing and mulching will be performed as necessary to improve vegetative cover on roadway slopes. A road damaged by a catastrophic event shall be repaired as soon as practicable after the damage has occurred.

11. Roads not to be retained as part of the post mine land use shall be reclaimed in accordance with the approved reclamation plan for this permit as soon as practicable after they are no longer needed as part of the mining and reclamation operation, using the following procedures:
 - a. The road will be closed to traffic.
 - b. All bridges, culverts and other drainage structures not approved as part of the post mine land use will be removed.
 - c. All road surfacing materials that are not compatible with the post mine land use or revegetation requirements will be properly disposed of on-site or removed from the site for re-use.
 - d. Roadway cut and fill slopes shall be regraded and reshaped to be compatible with the post mine land use and to compliment the natural drainage pattern of the surrounding terrain.
 - e. The natural drainage patterns shall be protected from surface runoff and erosion utilizing the installation of dikes and/or cross drains as necessary.
 - f. The roadbed shall be ripped or scarified as necessary, the topsoil or substitute or approved growing medium shall be replaced and revegetated in accordance with the approved reclamation plan for this permit.

12. The drawings and data contained in the specific design plans illustrate typical roadbed configurations for primary roads as well as site specific design of drainage structures, stability analysis and ditch sections.

TYPICAL HAUL ROAD CUT SECTION

NO SCALE



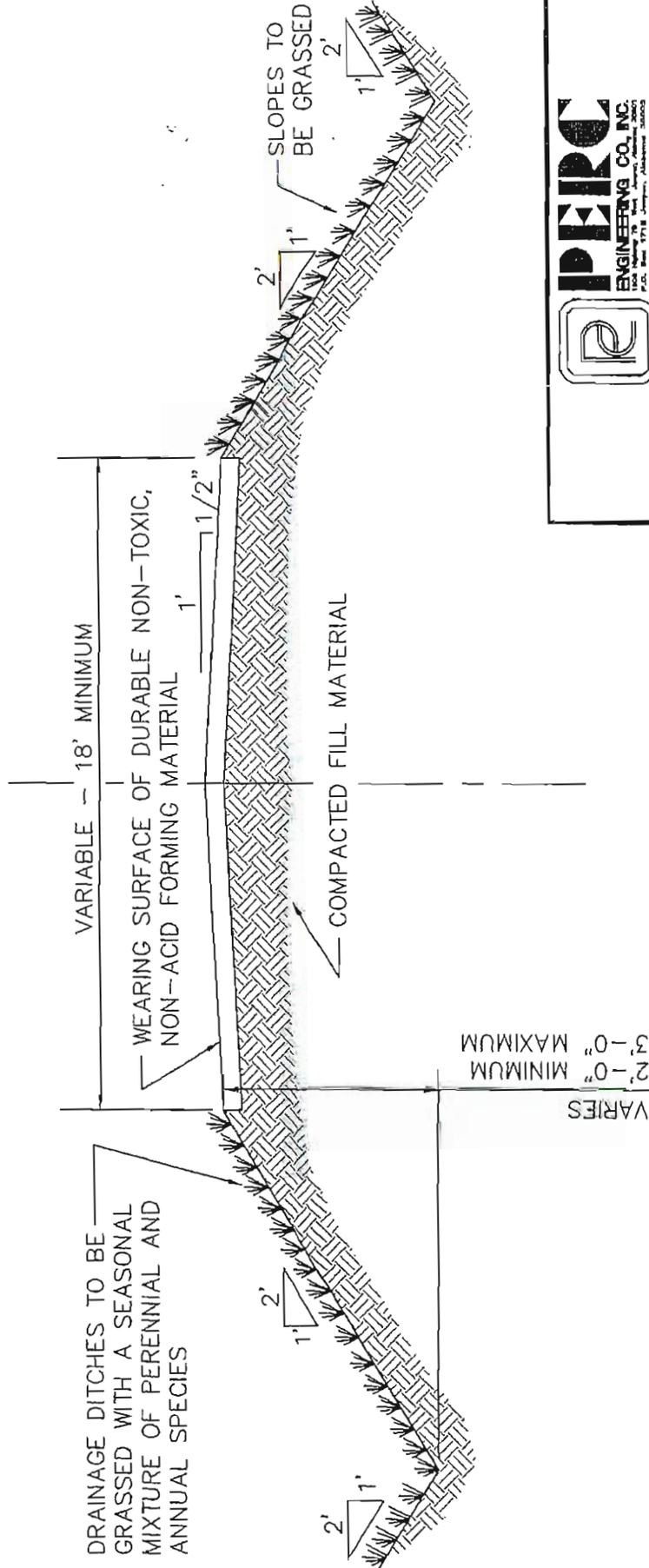
**TYPICAL CUT SECTION
PRIMARY HAUL ROAD**

DRAWN BY: K.D.P.	DATE: 2-3-97
DWG. NAME: TYPHAULC	
APPROVED BY: S.R.I.	SCALE: NONE

ATTACHMENT III - B. - 5.

TYPICAL HAUL ROAD FILL SECTION

NO SCALE



TYPICAL FILL SECTION PRIMARY HAUL ROAD

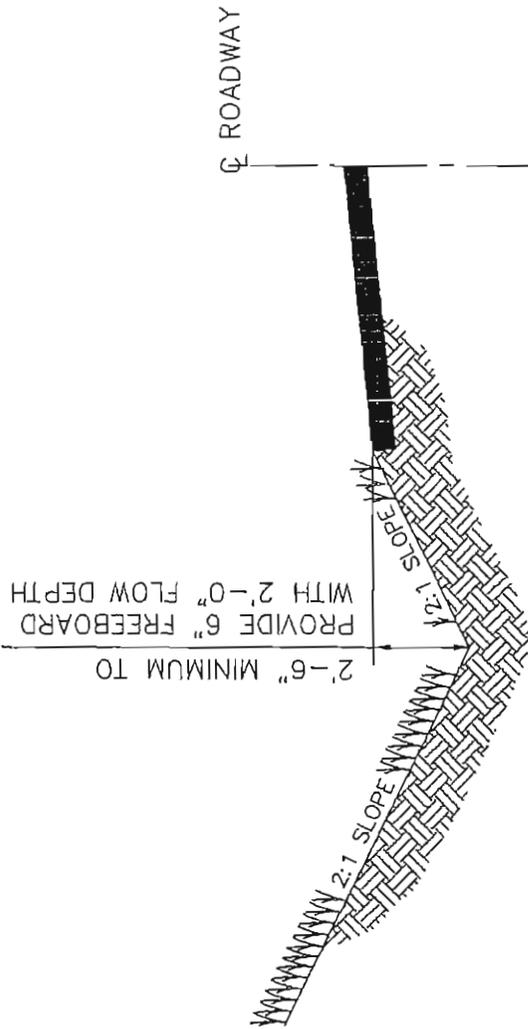
DRAWN BY: K.D.P.
DWG. NAME: TYPHAULF

DATE: 2-3-97

APPROVED BY: S.R.I.

SCALE: NONE

ATTACHMENT III - B. - 5.



MINIMUM DITCH GRADIENT = 1%
 MAXIMUM DITCH GRADIENT = 5%

DITCH CHANNEL TO BE VEGETATED WITH
 A MIXTURE OF BERMUDA GRASS, FESCUE,
 AND LESPEDEZA TO CONFORM TO CLASS
 "D" RETARDANT CLASS.



PERC
 ENGINEERING CO., INC.
 1100 Highway 77, Suite 200, Houston, Texas 77058
 P.O. Box 1100, Houston, Texas 77058
 (713) 861-1100
 (713) 861-1101
 (713) 861-1102

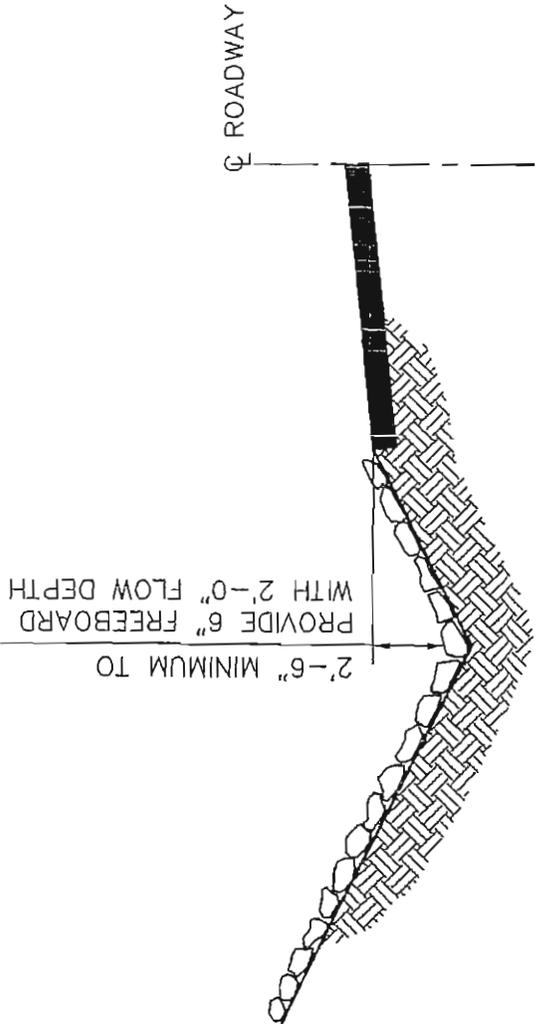
TYPICAL PRIMARY ROADWAY DITCH CROSS SECTION

DRAWN BY: K.D.P.
 DWG. NAME: PRIMROAD

DATE: 2-4-97

APPROVED BY: R.E.P.

SCALE: NONE



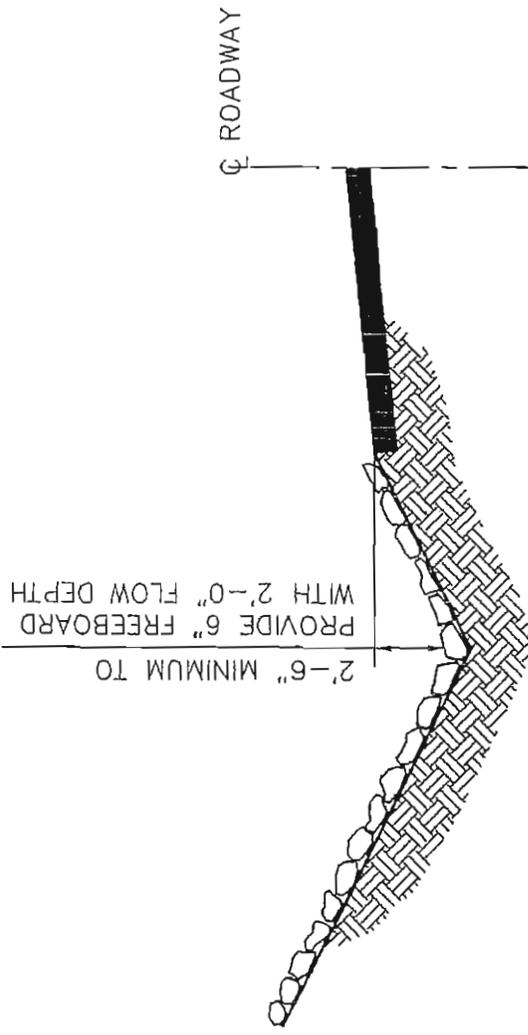
DITCH GRADIENT 5% TO 10%

DITCH CHANNEL TO BE LINED WITH NON-ERODIBLE
 NON-TOXIC, NON-ACID FORMING SANDSTONE OR
 LIMESTONE RIP-RAP. THE RIP-RAP WILL BE "CLASS 1"
 RIP-RAP AND HAVE A MINIMUM THICKNESS OF 12".



**TYPICAL PRIMARY ROADWAY DITCH
 CROSS SECTION**

DRAWN BY: K.D.P. DWG. NAME: PRIMRD1	DATE: 2-4-97
APPROVED BY: R.E.F.	SCALE: NONE



DITCH GRADIENT 11% TO 17%

DITCH CHANNEL TO BE LINED WITH NON-ERODIBLE NON-TOXIC, NON-ACID FORMING SANDSTONE OR LIMESTONE RIP-RAP. THE RIP-RAP WILL BE "CLASS 2" RIP-RAP AND HAVE A MINIMUM THICKNESS OF 16".



**TYPICAL PRIMARY ROADWAY DITCH
CROSS SECTION**

DRAWN BY: K.D.P.	DATE: 2-4-97
DWG. NAME: PRIMRD2	
APPROVED BY: R.E.P.	SCALE: NONE

Applicant: Warrior 282 LLC
Mine Name: Warrior Mine No. 1
Permit Number: P-

PART III - OPERATION PLAN

Section C: Blasting Plan

Warrior 282, LLC

Warrior Mine No. 1

Alabama Certified Blaster Number _____

Applicant: <u>Warrior 282 LLC</u>
Mine Name: <u>Warrior Mine No. 1</u>
Permit Number: <u>P-3953</u>

III. C. Blasting Plans

1. Ground vibrations and air blast control

(a) Check which of the following procedures will be used to limit ground vibration.

___ Maximum Peak Particle Velocity

Distance from Shot to Site	Maximum Peak Velocity
0 - 300 feet	1.25 Inches/Sec.
301 - 5000 feet	1.00 Inches/Sec.
5001 - Beyond	0.75 Inches/Sec.

All shots must be seismographed.

___ Scaled Distance Factor

Distance from Shot to Site	SD Factor
0 - 300 feet	50
301 - 5000 feet	55
5001 - Beyond	65

Seismograph Monitoring is not required.

___ Modified Scale Distance Factor, approval from the Commission is required before this method can be used.

___ Blasting-level chart, approval from the Commission is required before this method can be used.

Note: Blasting will not occur at Warrior 282, LLC's Warrior Mine No. 1 until a detailed blasting plan is submitted for review and approved by the Regulatory Authority.

See Attachment III-C-1 for an acknowledgment from the Managing Member of Warrior 282, LLC.