

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)

TYPE AND METHOD OF COAL MINING PROCEDURES

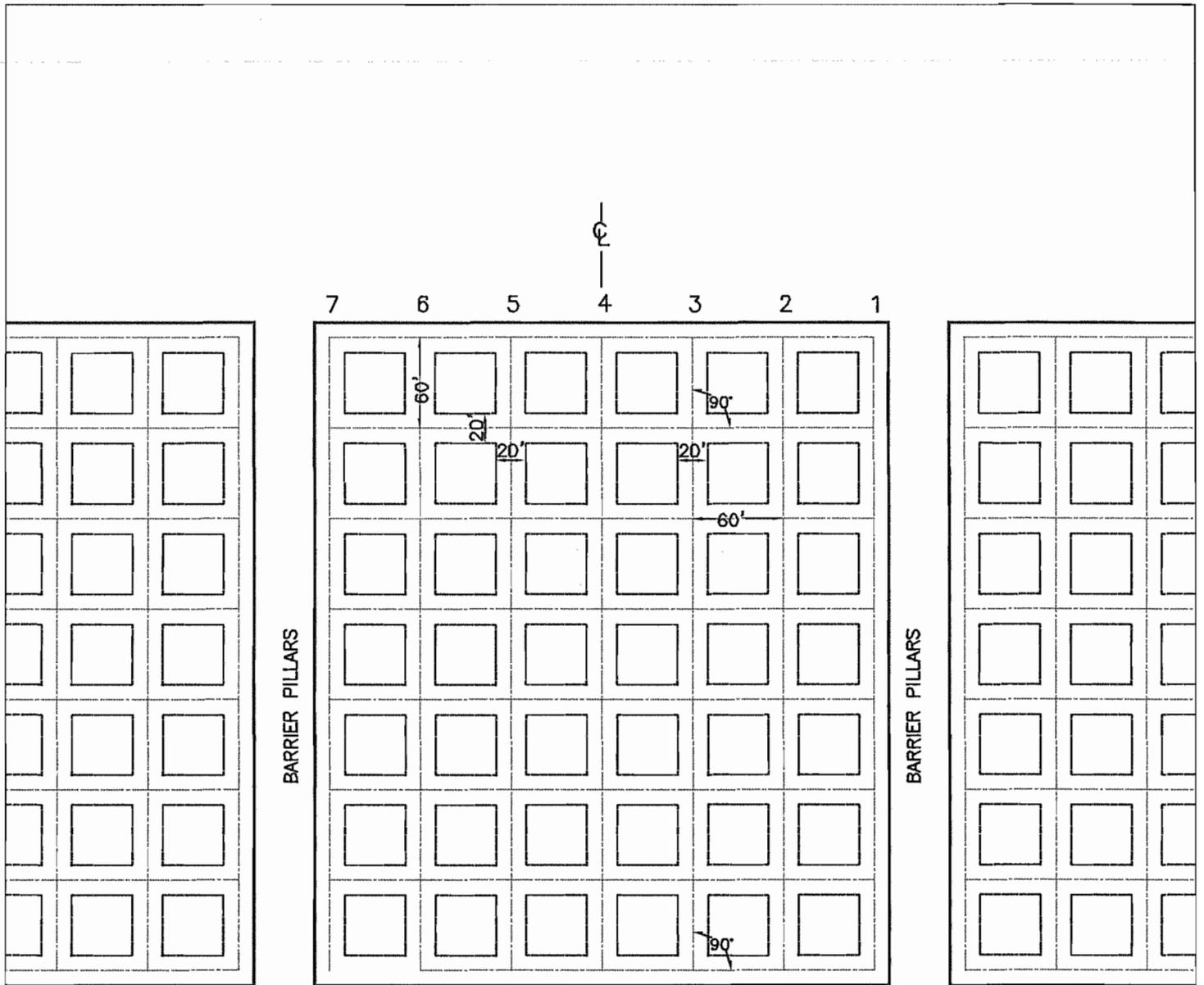
The room and pillar method of underground mining will be used at the Bledsoe Mine. Mining will begin by reopening the three existing entries created on Mid-south Mining, Inc.'s, Stevenson Mine ASMC Permit P-3515 and disposing of the material in the face up pit and mine entries created by AL Select, Inc. under ASMC Permit P-3760. Any concrete, steel, or other man made materials other than soil will be hauled to an approved landfill for disposal. The mine entries to be faced up and rehabilitated are located in the SW 1/4 of the SE 1/4 of Section 12, Township 1 South, Range 7 East as shown on the permit map.

After the initial reopening and mine mains rehabilitation work required by MSHA is completed, mining operations will advance in a northwesterly direction using a seven entry mining system as shown on the Operations Map. As fresh air is supplied continuously across the working faces, a combination of mining, roof bolting and timbering will be used to extract the coal safely. The main entries and cross cuts will be spaced on 60 foot centers and will be 20 feet wide. Pillars within the main entries will be 40 feet wide by 40 feet long. Panel entries driven off the main entry will be spaced the same as the main entry spacing. No pillar recovery is planned therefore these permanent pillars will be used to control subsidence. Coal removed from the mine will be loaded onto trucks and transported to the end user. No onsite processing will be done on this permit. Major equipment to be used includes but may not be limited to continuous miners, roof bolting machines, coal scoops, coal cutting machines, loaders, radial stacker(s), conveyors, pumps, fans, trucks, dozers, loaders, scrapers, compactors, and backhoes. This list may vary depending upon the needs of the operation.

See Attachment III-A-1 (7 Entry Conceptual Mine Plan Map).

See Attachment III-A-1 (Operations Map).

See Attachment III-A-8 (Underground projections & Old Works Location Map).



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PERC
ENGINEERING CO., INC.
 1606 Hwy. 78 West Jasper, AL 35001/P.O. Box 1712-35002
 (205) 384-3333 Office (205) 295-3114 Fax

ATTACHMENT III-A-1
Red Mesa Energy, LLC.
Bledsoe Mine
TYPICAL 7 ENTRY MINE LAYOUT
60' CENTERS

DWG NAME: RMBledsoeMine7EntryConcept	DATE: 03-06-2015
DRAWN BY: S.A.E.	SCALE: 1"=100'
APPROVED BY: R.E.P.	JOB NUMBER: 14-04402-004

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)

Increment No.	Acres	Date	
		From	To
1	25	Date of Issuance	60 Months
2	1	Date of Issuance	60 Months

The sequence of mining operations will be generally as follows:

- 1) Construction of sediment control structures
- 2) Site Preparation
- 3) Development
- 4) Mining
- 5) Site Reclamation and Revegetation

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; Additional Best Management Practices (BMP's) consisting of sumps, silt fences, hay bales and rock check dams will be used for sediment control of runoff from coal stockpiles prior to entering sediment basins. Sumps will be the Primary Method.
See Attachment III-A-3(a), BMP Typical

(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-B-2(a), Basin 001P Detailed Design Plans.

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 a deeper seam than is economically feasible to mine using surface mining methods.
- B) Processing and blending coal that in its "raw" condition would not have a market.

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expected.

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 approved offsite disposal area which meets Federal, State and local laws and ordinances for permanent disposal of such materials.

Attachment III-A-3

- 3.a) Coal will be transported from the mine and stockpiled onsite via conveyor belts. The coal will then be loaded onto trucks and transported off site. No coal processing will be done on this proposed permit.

Roads will be used to transport personnel, equipment, and supplies, and transport coal from the mine to market, and as access to all support facilities at the Bledsoe Mine. All primary roads shall be designed to the following minimum criteria and/or prudent engineering practice for the design of haulroads, except where said primary road is a public highway. The County Road ends at the Permit Boundary.

Primary Roads from the Bledsoe Mine will be constructed so as to minimize erosion, downstream sedimentation and flooding in an effort to prevent adverse effects to fish, wildlife and related environmental values. 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. The material will be placed in 12 inch lifts and compacted to ninety-five percent of the standard proctor density. 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 available gravel, rock, chert or other suitable material as approved by the state regulatory agency sufficiently durable for the anticipated volume of traffic weight and speed of vehicles to be used. The surface will be compacted until a desirable grade and surface is attained. No toxic or acid forming substances will be used in this surface material. 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 and only routine maintenance will be required to maintain the surface of roads such as periodic grading and resurfacing. Spot

seeding and mulching will take place as necessary to improve coverage of vegetation on side slopes and embankments. 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 pounds or more of various legumes and grasses.

Coal stockpiles, if determined necessary, will be located within the permitted and bonded area so that drainage from the area will be routed through the sediment basin. In general an area will be graded to a relatively level state. Upon completion of the sub-grade, 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 six 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 mine. The only modification to the stockpile areas may be to enlarge them if determined necessary and this operation, if undertaken, 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 by periodically grading and reshaping as necessary. Additional best management practices (BMP's) consisting of sumps, silt fences, hay bales and rock check dams will be used for sediment control of runoff from coal stockpiles prior to entering sediment basins (see Attachment III-A-3(a), BMP Typical Drawings). After the stockpile area has served its useful purpose the pad material that cannot meet market specifications will be disposed of onsite by covering it with a minimum of 4 feet of the best available non-toxic, non-combustible material, and non-acid forming material. The stockpile area base will be ripped or scarified as necessary. All disturbed areas will be vegetated with an appropriate combination of grasses and legumes as stated in the reclamation plan, fertilized, and mulched to ensure a permanent diverse vegetative cover.

- 3.b) It is proposed that material produced during the re-opening of the previous three entries at the Bledsoe Mine will be placed in the area disturbed by the face up and mine entries created by AL Select, Inc. under ASMC Permit P-3760.

No processing of the coal mined at the Bledsoe Mine is proposed and no coal waste product will be produced.

- 3.c) Mine facilities at the Bledsoe Mine will consist of offices, bathhouses, supply houses, equipment maintenance houses, conveyors, scale houses, ventilation fans, and power stations. The parking areas for the facilities will consist of an area graded to a flat slope and cover with a durable wearing surface. The wearing surface will consist of an non-erodible, non-toxic, and non-acid forming wearing surface. 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. Sediment control will be provided at all times during construction of the facilities. Sediment control will consist of sediment basins or silt fencing. Modifications to the mine facilities will be performed as necessary to upgrade and update the facilities during the life of the mine. Maintenance will consist of the lubrication of the various moving components and replacement of worn components when necessary. When no longer needed, the mine facilities will be disassembled and removed from the site. All concrete foundations will be removed and disposed of within an offsite disposal area which meets Federal, State and local laws and ordinances for permanent disposal of such materials. The sites will be graded to match the approximate original contour. All parking area 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 reuse. The parking area base will be ripped or scarified as necessary. All disturbed areas will be vegetated with an appropriate combination of grasses and legumes as stated in the reclamation plan, and will be fertilized, and mulched to ensure a permanent diverse vegetative cover.
- 3.d) Water pollution control facilities, sediment basins, berms, and drainage ditches shall be constructed prior to mine operation 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.

Drainage pipes and culverts will 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.

Modifications to the drainage structures will be performed as necessary to upgrade and update the facilities during the life of the mine. Maintenance will consist of cleaning out and replacing structures as necessary. When no longer needed, drainage structures will be removed from the site. The sites will be

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graded to match the approximate original contour. All disturbed areas will be vegetated with an appropriate combination of grasses and legumes as stated in the reclamation plan, fertilized, and mulched to ensure a permanent diverse vegetative cover.

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 dissipaters, vegetation or some other acceptable means. 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.

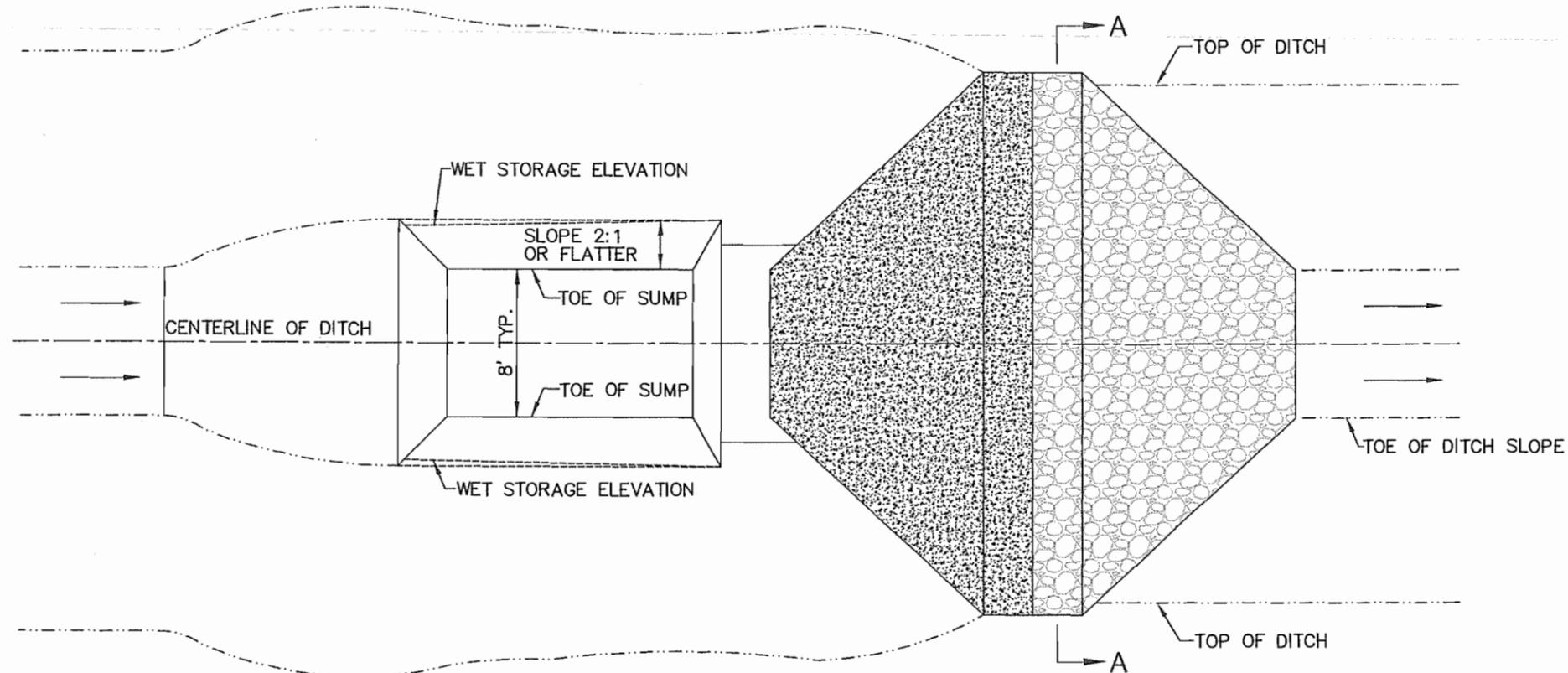
Routine maintenance of the sediment basin will consist of spot seeding, fertilization and mulching to insure that a good vegetative cover is maintained on the dam and areas around the pond, repair and stabilization of any rills and gullies which may develop, repairs to discharge structures and erosion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

Basin 001E was constructed under P-3760 and modification plans are included for 001P. 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 being done. Upon modifying the basin, the basin will be certified to the Regulatory Authority.

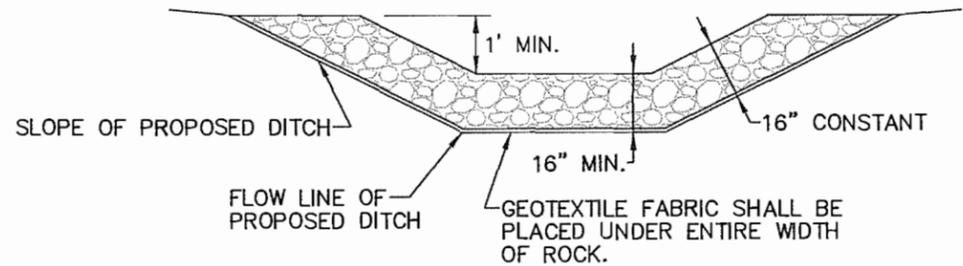
Upon completion of mining, successful reclamation and effluent standards being met, each sediment basin not remaining as a permanent water impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.) and reclaimed to approximate original contours by the following procedure: A permanent diversion channel (designed for a 10 year 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

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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 riprapped 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 a stated in the reclamation plan.

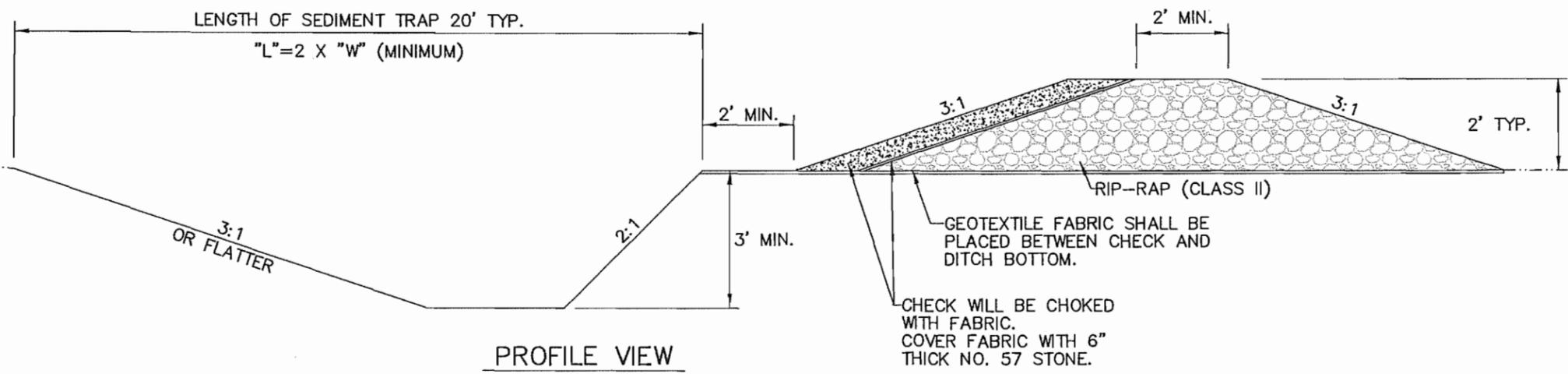


PLAN VIEW



SECTION A-A

- NOTES**
- 1) TO BE PLACED AT DRAIN LEADING TO SEDIMENT BASIN.
 - 2) COAL TO BE REMOVED AND PLACED BACK IN STOCKPILE
 - 3) IF STOCKPILE AREA IS RELOCATED THIS PLAN WILL BE UTILIZED FOR ALL STOCKPILE LOCATIONS.
 - 4) ALL STONE RIP-RAP OR GRAVEL WILL BE SANDSTONE OR LIMESTONE



PROFILE VIEW

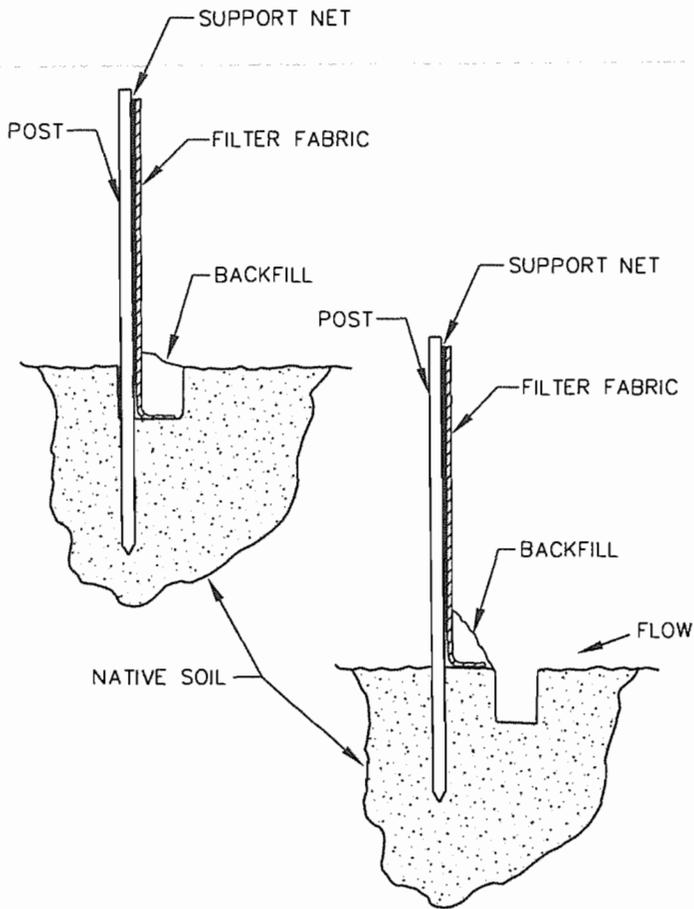
Attachment III-A-3(a)



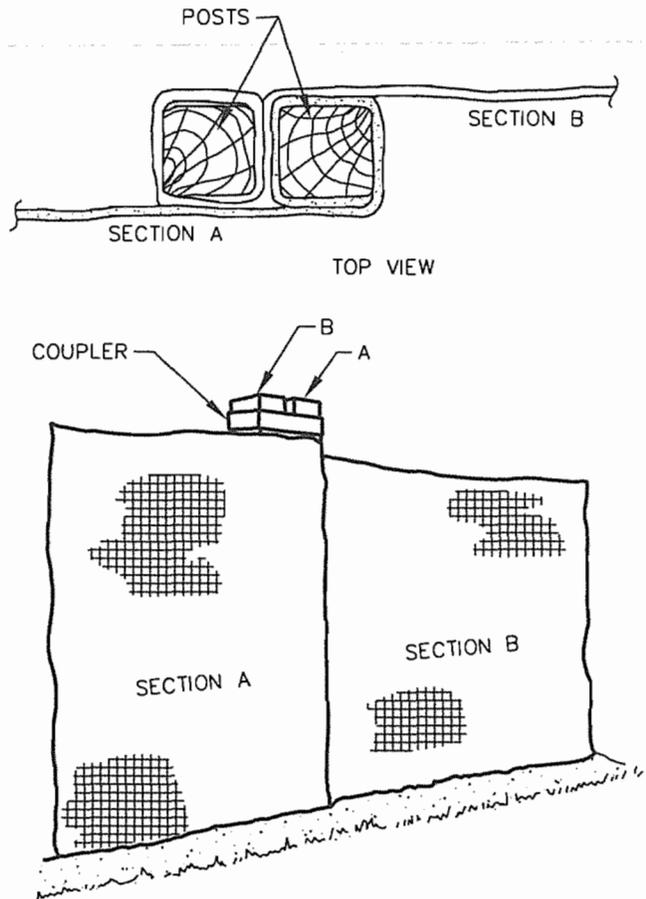
**RED MESA ENERGY, LLC
BLED SOE MINE
P-
COAL STOCKPILE AREA
ROCK CHECK DAM & SUMP**

DRAWN BY: S.W.L.	DATE: 4-27-2015
DWG. NAME: Rock Check Dam & Sump	
APPROVED BY: L.G.S.	SCALE: Not To Scale

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TOE-IN METHOD



JOINING SECTIONS OF SILT FENCE

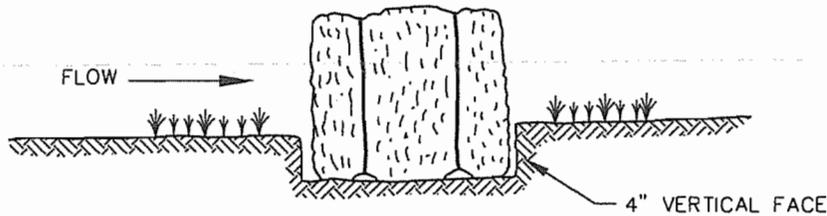
CONSTRUCTION SPECIFICATIONS

- 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.

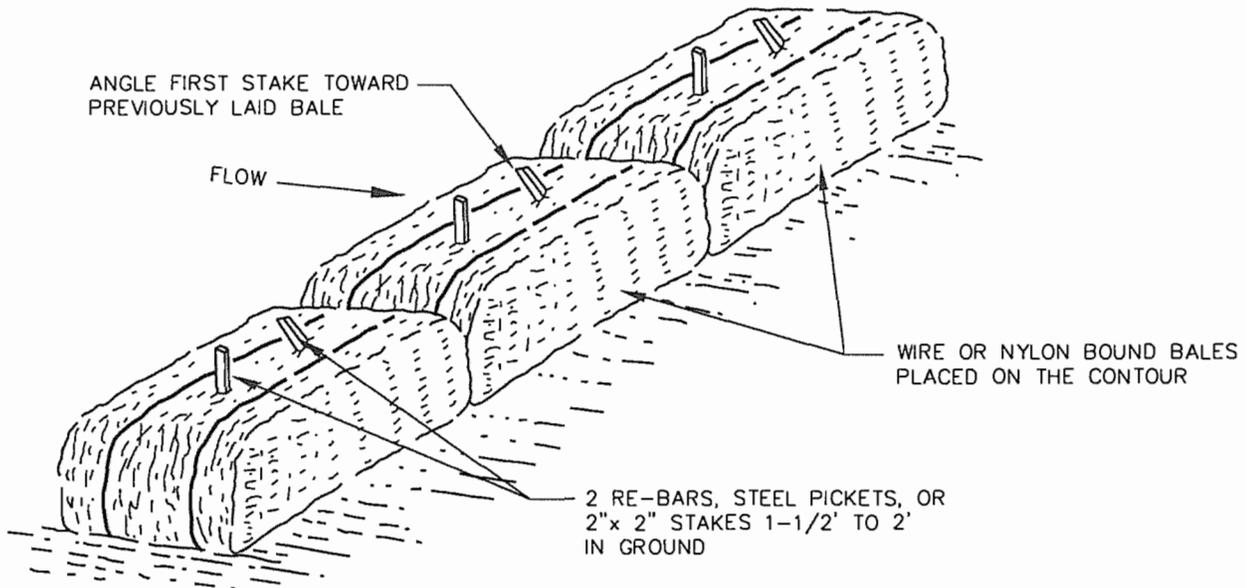


SILTFENCE TYPICAL

DRAWN BY: K.D.P.	DATE: 6-24-91
DWG. NAME: SILTFENC	
APPROVED BY: R.E.P.	SCALE: NONE



EMBEDDING DETAIL



CONSTRUCTION SPECIFICATIONS

- 1.) BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- 2.) EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
- 3.) BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
- 4.) INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.



HAY BALE BARRIER TYPICAL

DRAWN BY: K.D.P.	DATE: 4-24-2015
DWG. NAME: HAYDAM	
APPROVED BY: R.E.P.	SCALE: NONE

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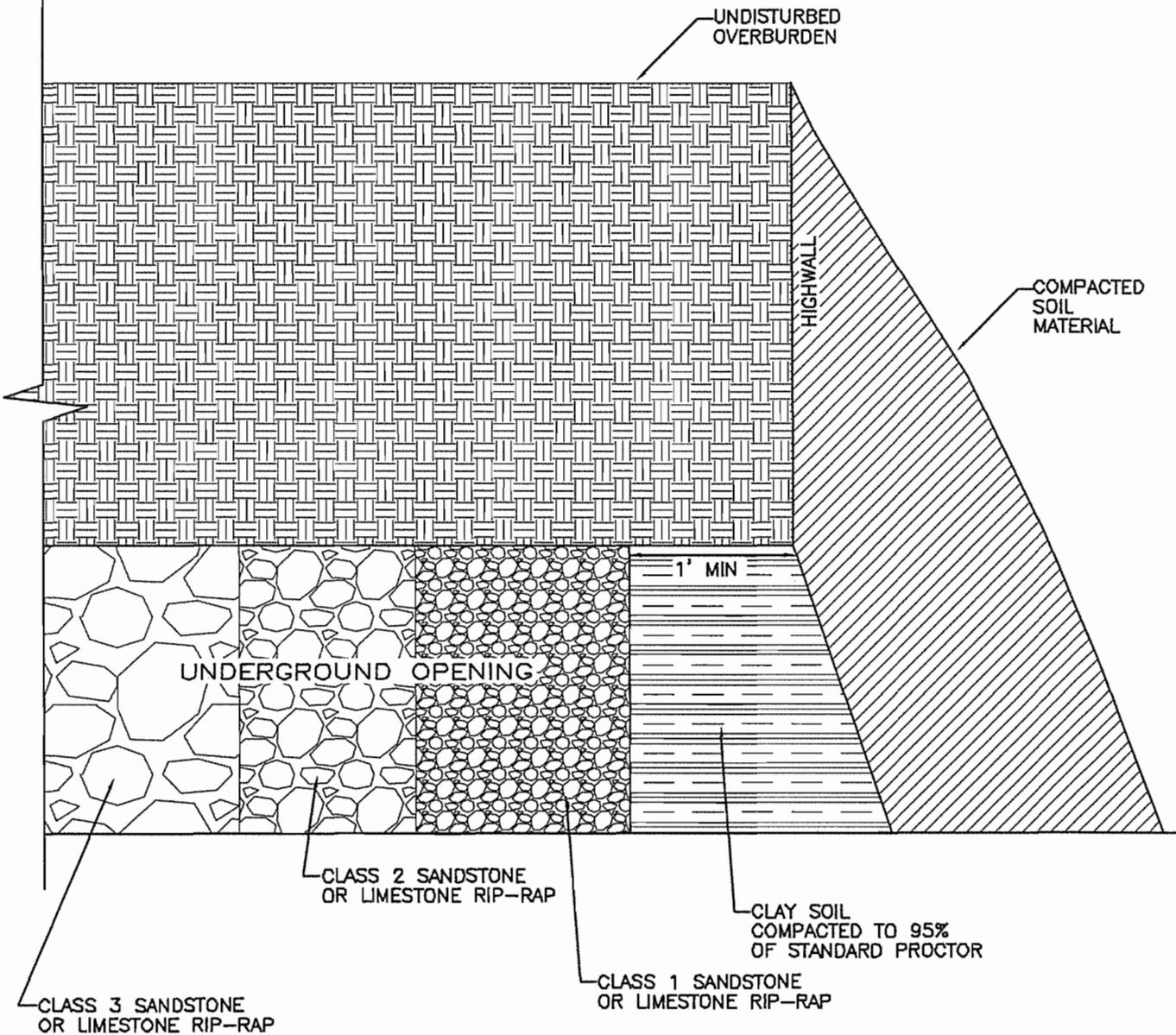
6. Give a description, including appropriate cross-sections and maps, of measures to be used to seal or manage mine openings, bore holes, wells and other openings within the proposed permit area. (780.18, 816.13-816.15)

Mine openings created by mining on this permit will be sealed after mining is completed by constructing concrete block walls and by utilizing other available material, in accordance with the requirements of the Mine Safety and Health Administration. If the opening is a wet opening, six inch diameter pipes will be inserted into the opening and covered with approximately 12 inches of soil along the outside of the opening. This covering of the pipes is to prevent crushing the pipes by equipment during the sealing operations. Upon the installation of the pipes, class 3 sandstone or limestone rip rap will be inserted into the opening using mobile equipment to push the stone into the opening as far as the material can be pushed. Class 2 and Class 1 rip rap and soil material will follow the Class 3 rip rap until the opening is sealed approximately three feet from the entrance of the opening. All material will be compacted using mobile equipment or hand tamps. At this time a 12 inch thick reinforced concrete block wall or a reinforced concrete wall will be constructed within the opening. If a block wall is constructed, concrete will be used as a filler around the perimeter of the wall. This is done in an effort to ensure a water tight seal of the wall. Upon the completion of the wall, soil material will be used to backfill the opening to a minimum of five feet above the opening, and compacted using mobile equipment or hand tamps. The remaining face-up highwall will be backfilled at this point. During this construction period, the six inch diameter pipes will be draining any accumulating water behind the seals within the openings. Upon the completion of the sealing operations, the pipes will be plugged with a device such as a gate valve. All disturbed areas will be fertilized, seeded and mulched as described in the reclamation plan. If the opening is a dry opening, class 3 sandstone or limestone rip rap will be inserted into the opening using mobile equipment to push the stone into the opening as far as the material can be pushed. Class 2 and Class 1 rip rap and soil material will follow the Class 3 rip rap until the opening is sealed approximately 3 feet from the entrance of the opening. All material will be compacted using mobile equipment or handtamps. At this time a 12 inch thick reinforced concrete block wall or a reinforced concrete wall will be constructed within the opening. If a block wall is constructed, concrete will be used as a filler around the perimeter of the wall. This is done in an effort to ensure a water tight seal of the wall. Upon the completion of the wall, soil material will be used to backfill the opening to a minimum of 5 feet above the opening, and compacted using mobile equipment or hand tamps. The remaining face-up highwall will be backfilled at this

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point. All disturbed areas will be fertilized, seeded and mulched as detailed in the reclamation plan.

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'. Withdrawal and injection wells will be sealed by filling the wells with concrete. The affected surface area will be graded, fertilized, seeded with a seed mixture approved in the reclamation plan, and mulched to ensure a permanent diverse vegetative cover. See Attachment III-A-6 for typical illustration of methods to be used to seal and/or manage wells and mine openings.



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

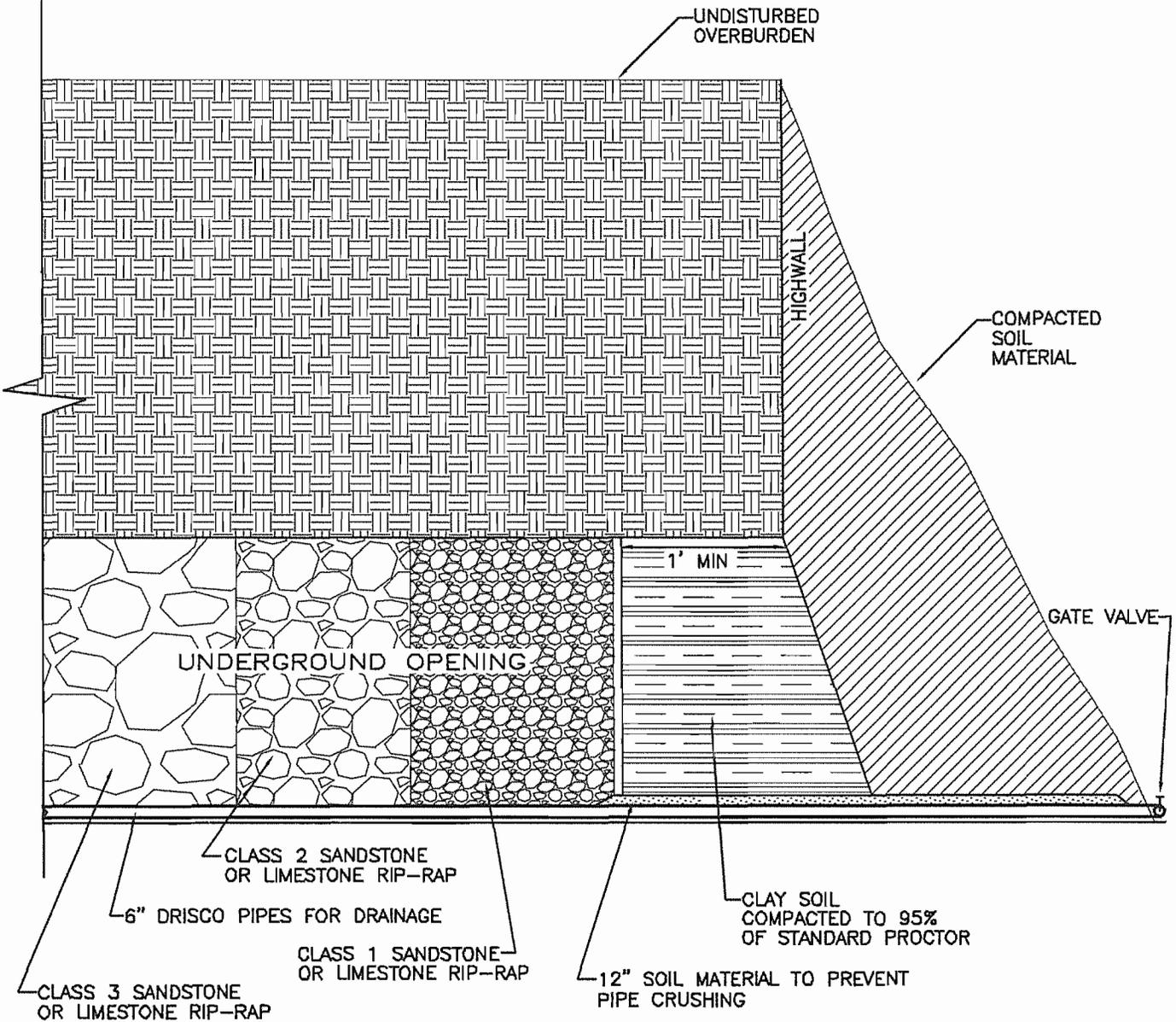
ATTACHMENT III. - A. - 6.



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

DRAWN BY: S.A.E.	DATE: 03-09-15
DWG. NAME: TYP-UMS-A-II-A-6	
APPROVED BY: R.E.P.	SCALE: NONE

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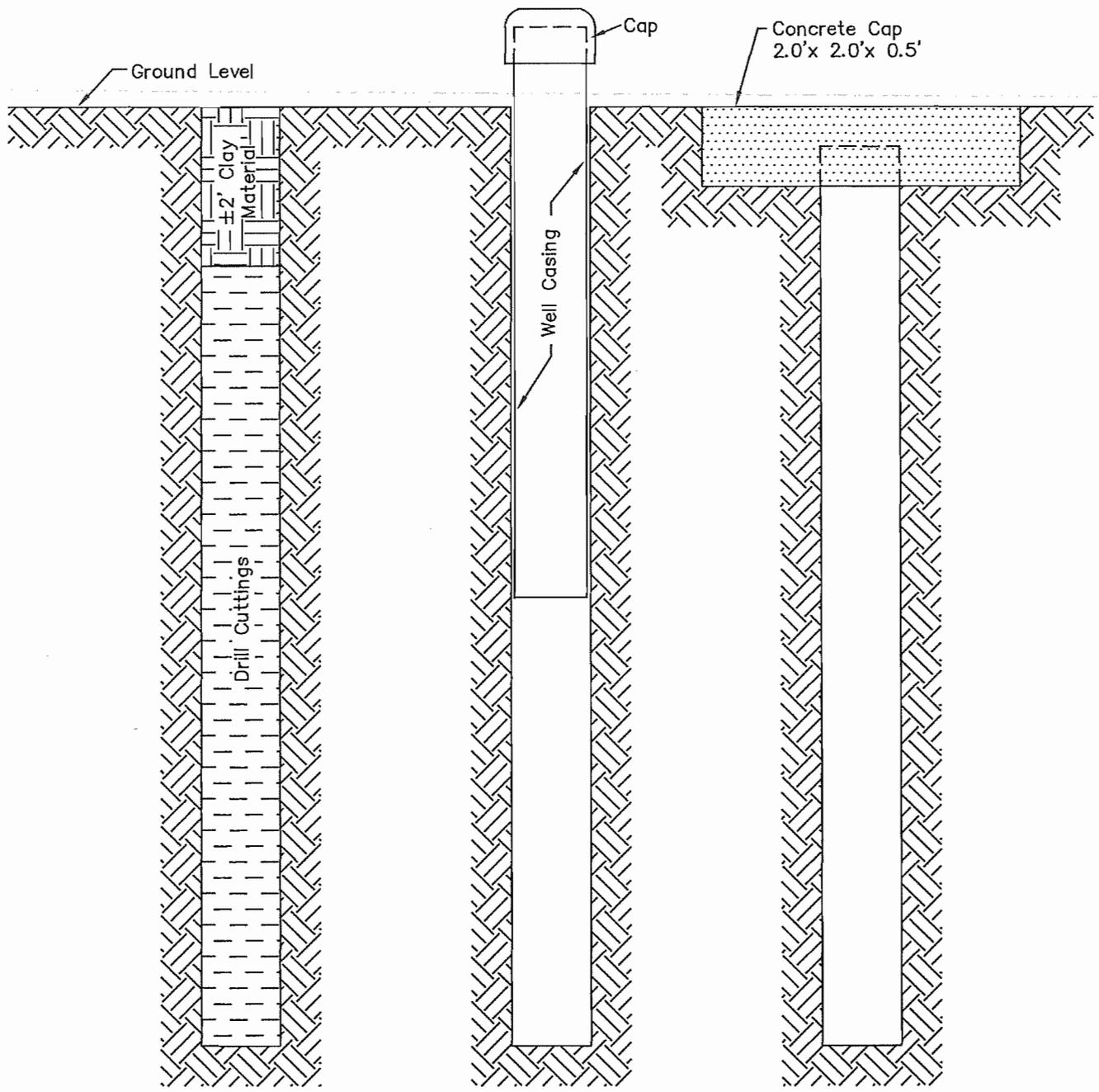
See response to III. - A. - 6 for sealing details.

ATTACHMENT III. - A. - 6.



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

DRAWN BY: S.A.E.	DATE: 03-09-15
DWG. NAME: TYP-UMS-A-II-A-6	
APPROVED BY: R.E.P.	SCALE: NONE



EXPLORATION HOLE

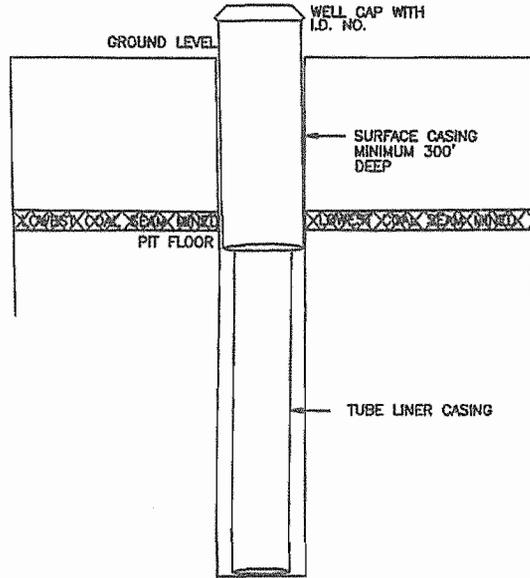
ACTIVE MONITORING WELL

ABANDONED MONITORING WELL

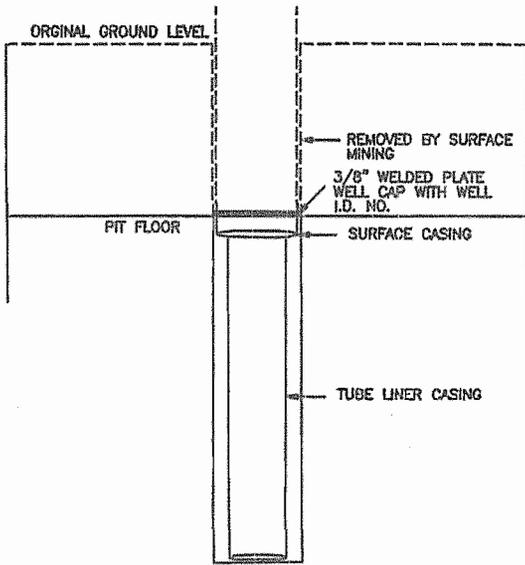
ATTACHMENT III-A-6

	<p>PERC ENGINEERING CO., INC.</p>	
	<p>MONITORING WELL AND EXPLORATION HOLE MAINTENANCE AND SEALING DETAILS</p>	
<p>DRAWN BY: R.E.P.</p>	<p>DATE: 6-28-89</p>	
<p>APPROVED BY:</p>	<p>SCALE: NONE</p>	

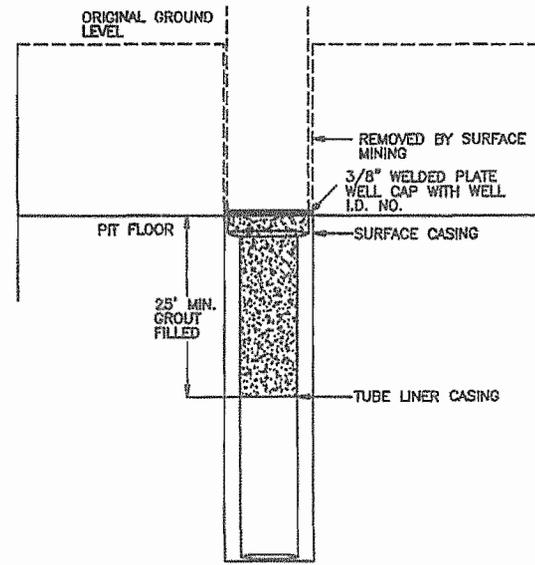
ABANDONED GAS OR OIL WELL
TYPICAL CROSS-SECTION



SEALING OF ABANDONED GAS OR OIL WELL
TYPICAL CROSS-SECTION STEEL CASING



SEALING OF ABANDONED GAS OR OIL WELL
TYPICAL CROSS-SECTION NON-STEEL CASING



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

DRAWN BY: K.E.P.	DATE: 11/13/2008
DWG. NAME: TYPPLUGG	
APPROVED BY: S.D.M.	SCALE: NO SCALE

Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

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 personnel certified by the Mine Safety and Health Administration. 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.

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Mine Name: Bledsoe Mine
Permit Number: P-_____

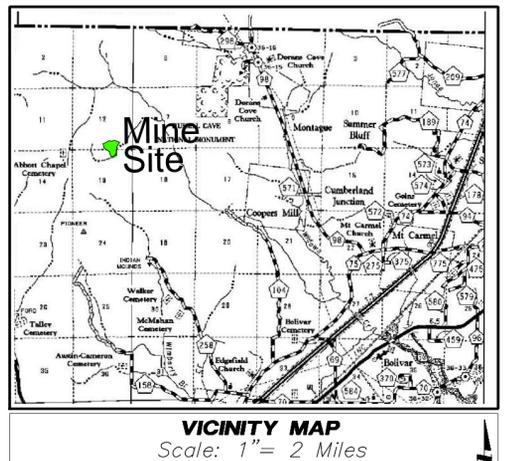
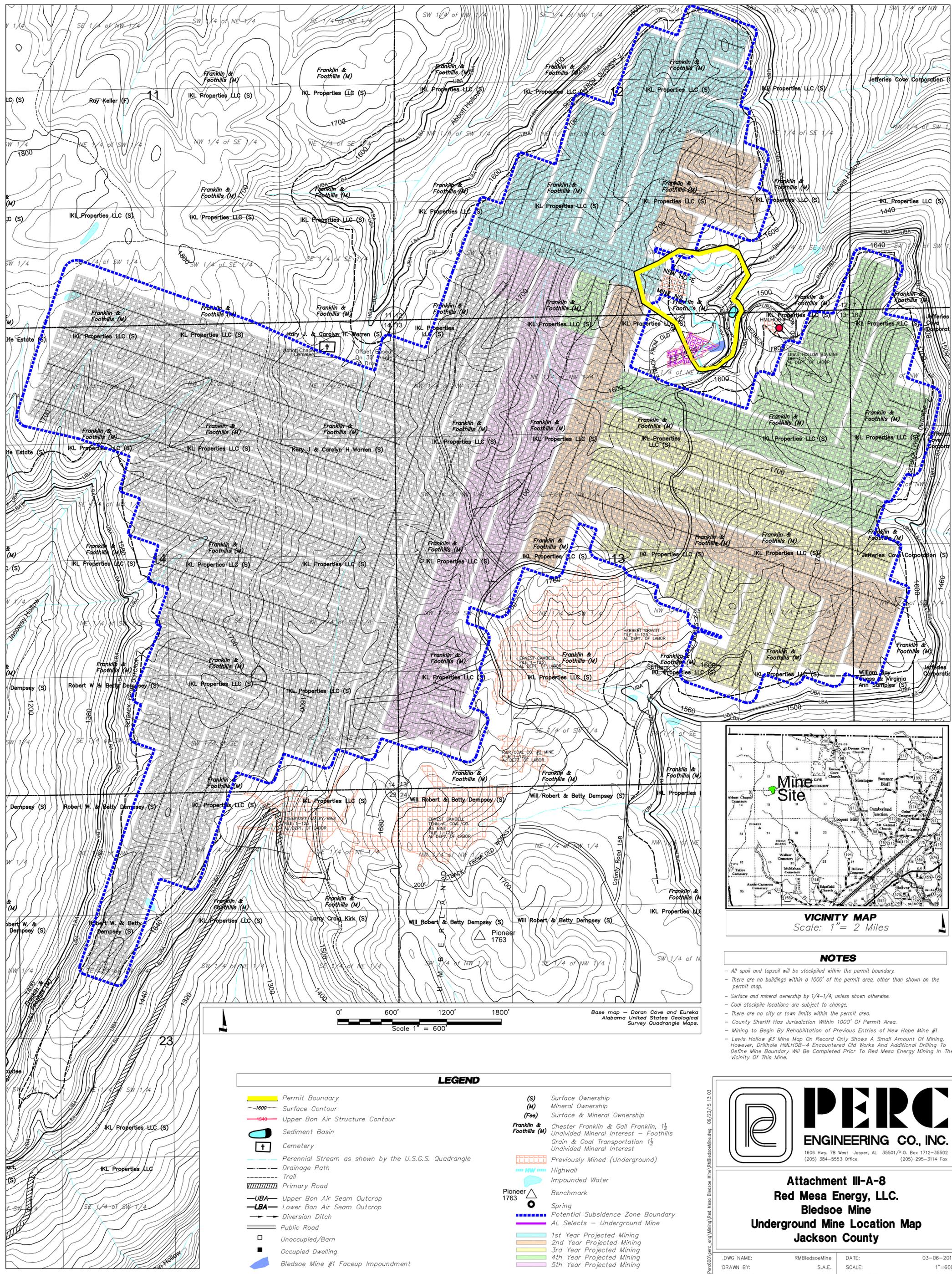
8. Is surface mining to be conducted within 500 feet of an underground mine? (780.27, 816.79) (X) Yes () No

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.

There will be no surface mining conducted within 500 feet of an active underground mine. The proposed entry to be faced up for the Bledsoe Mine is north of the workings of the old AL Select, Inc. Bledsoe Mine #1, ASMC Permit P-3760. The mining operations proposed for this permit will enter through the openings created by the New Hope Mine No. 1 operations. The previously created openings will be rehabilitated in accordance with MSHA requirements and with MSHA approval which is forthcoming.

See Attachment III-A-8 for the location of previous underground mines which are adjacent to the coal recovery area for this proposed mining operation. The mining operations are known as:

Bledsoe Mine No. 1
New Hope Mine No. 1
Lewis Hollow No. 3 Mine
Herbert Gravitt Mine
Ernest Campbell Mine
R & R Coal Company #2 Mine
Ernest Campbell Tenn-AL Coal Company #5 Mine
Tennessee Valley Mine



NOTES

- All spoil and topsoil will be stockpiled within the permit boundary.
- There are no buildings within a 1000' of the permit area, other than shown on the permit map.
- Surface and mineral ownership by 1/4-1/4, unless shown otherwise.
- Coal stockpile locations are subject to change.
- There are no city or town limits within the permit area.
- County Sheriff Has Jurisdiction Within 1000' Of Permit Area.
- Mining to Begin By Rehabilitation of Previous Entries of New Hope Mine #1
- Lewis Hollow #3 Mine Map On Record Only Shows A Small Amount Of Mining. However, Drillhole HMLHOB-4 Encountered Old Works And Additional Drilling To Define Mine Boundary Will Be Completed Prior To Red Mesa Energy Mining In The Vicinity Of This Mine.

LEGEND

	Permit Boundary		Potential Subsidence Zone Boundary
	Surface Contour		AL Selects - Underground Mine
	Upper Bon Air Structure Contour		1st Year Projected Mining
	Sediment Basin		2nd Year Projected Mining
	Cemetery		3rd Year Projected Mining
	Perennial Stream as shown by the U.S.G.S. Quadrangle		4th Year Projected Mining
	Drainage Path		5th Year Projected Mining
	Trail		Benchmark
	Primary Road		Spring
	Upper Bon Air Seam Outcrop		Pioneer 1763
	Lower Bon Air Seam Outcrop		Highwall
	Diversion Ditch		Impounded Water
	Public Road		Impounded Water
	Unoccupied/Barn		Impounded Water
	Occupied Dwelling		Impounded Water
	Bledsoe Mine #1 Faceup Impoundment		Impounded Water

PERC ENGINEERING CO., INC.
 1606 Hwy. 78 West Jasper, AL 35501/P.O. Box 1712-35502
 (205) 384-5553 Office (205) 295-3114 Fax

**Attachment III-A-8
 Red Mesa Energy, LLC.
 Bledsoe Mine
 Underground Mine Location Map
 Jackson County**

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.

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? (X) Yes () No

If yes, complete the following:

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

Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

CERTIFICATION STATEMENT:

I hereby certify that Attachment III-B.-2.-(a) prepared for Red Mesa Energy, LLC's Bledsoe Mine, 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, information and belief.

Leslie G. Stephens
Leslie G. Stephens, P.E., P.L.S
AL Registration No. 14117-E

03/09/2013
Date



Attachment III-B-2(a)

GENERAL PLAN

The general plan consists of one (1) sediment basin(Basins 001P). Basin 001P is to be a Permanent Impoundment. All data required for the approval of Basin 001P as a Permanent Impoundment Fish & Wildlife Habitat 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).

Basin 001P is currently permitted as 001E, under bond forfeiture and was constructed under P-3760 and will be modified and used under this Permit P- to utilize and control drainage from all disturbed areas. The drainage from the entire Permit area will be routed through Basin 001P through a combination of diversion ditches and berms. See Attachment III-B-3 for typical berm/diversion detail and typical diversion ditch detail.

Geologic investigations of the revision area indicate alternating sequences of shale and sandstone with minor amounts of bituminous coal and underclay. 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 a Unnamed tributary of a Unnamed Tributary to Widows Creek .

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

See Attachment III-B-2(a), Basin 001P Detailed Modification Design Plans.

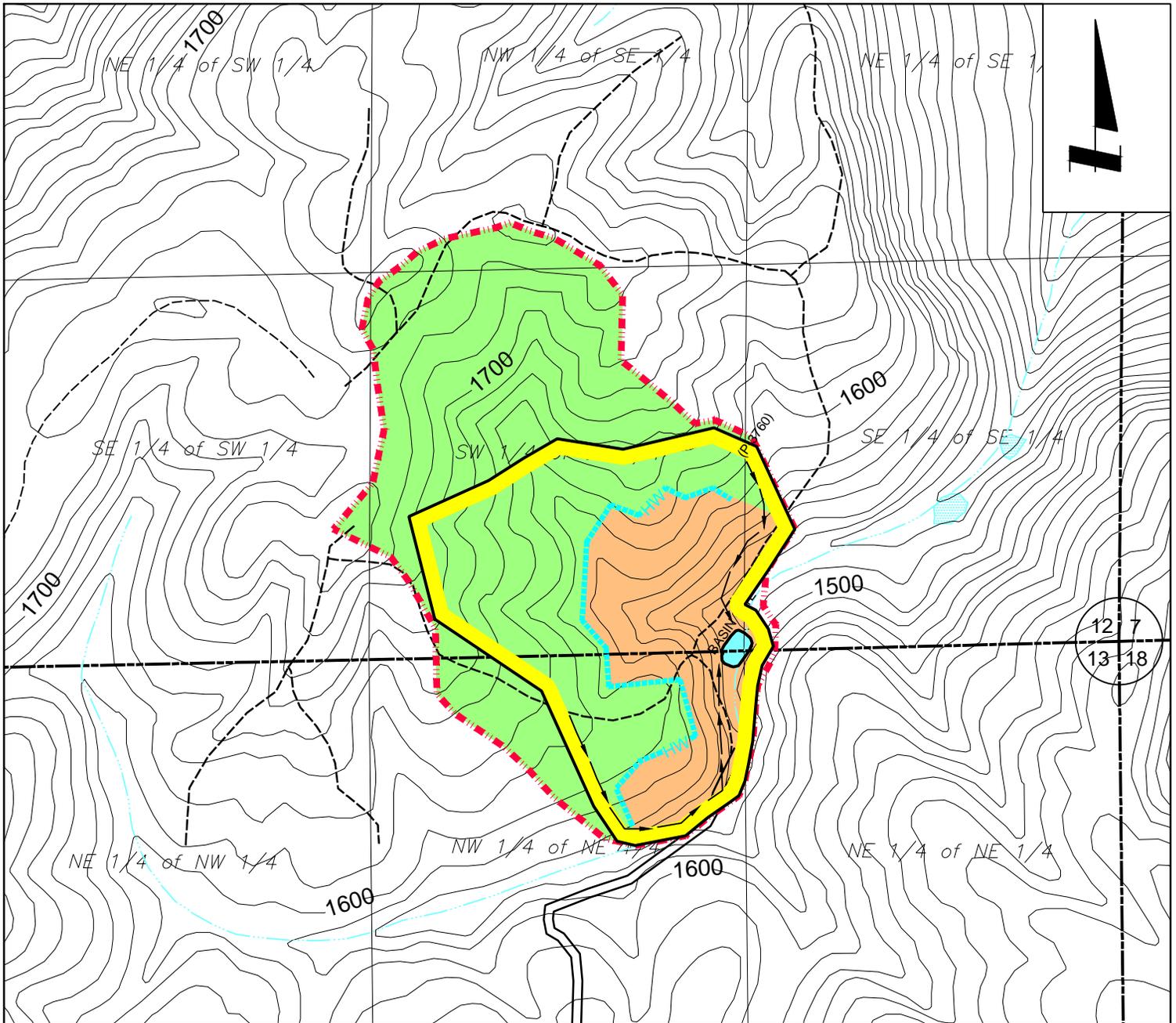
Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

Attachment III-B-2(a)

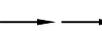
GENERAL SEDIMENT BASIN DATA

Basin No.	Location	Drainage Area
001P /	NE 1/4 of NE 1/4 of Section 13	45.3 Acres
001E(P-3760)	NW 1/4 of NE 1/4 of Section 13	
	SE 1/4 of SE 1/4 of Section 12	
	SW 1/4 of SE 1/4 of Section 12	

Located in Township 1 South, Range 7 East, Jackson County, Alabama, as shown on the Doran Cove, Alabama United States Geological Survey Quadrangle Map.



LEGEND

-  Existing Impoundment
-  Permit Boundary
-  Sediment Basin
-  Drainage Divide
-  Diversion Ditch
-  Highwall
-  Perennial Stream
-  Surface Contour with Elevation above Mean Sea Level, National Geodetic Vertical Datum 1929
-  Jeep Trail

All in Township 1 South, Range 7 East, Jackson County, Alabama

LAND USE & CURVE NUMBER INFORMATION

-  Previously Disturbed, Curve Number, 68
-  Sediment Basin, Curve Number, 100
-  Unmanaged Timberland, Curve Number, 70

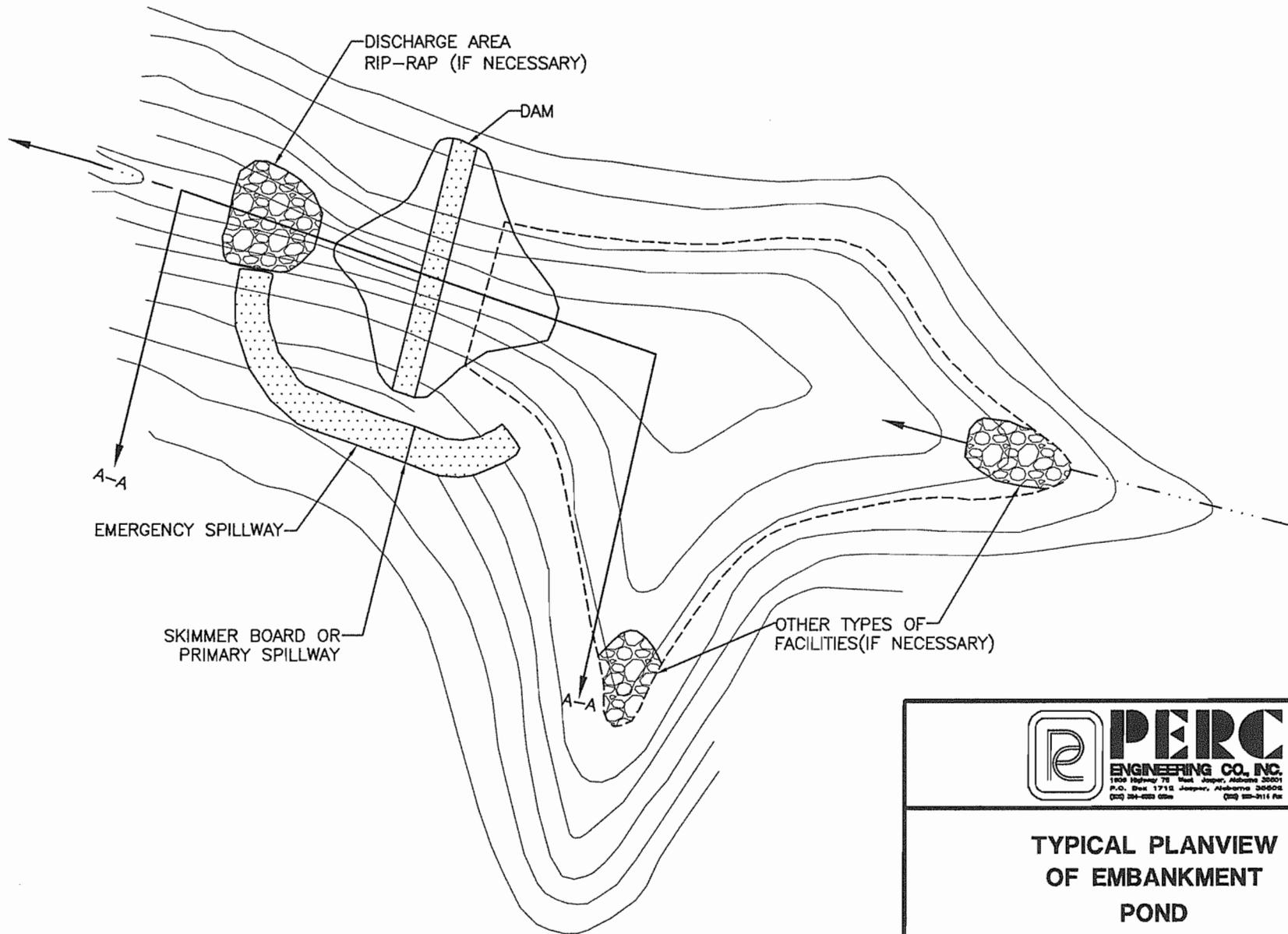
1640 BASE MAP - DORAN COVE AND EUREKA ALABAMA UNITED STATES GEOLOGICAL SURVEY QUADRANGLE MAPS.



**Red Mesa Energy, LLC.
Bledsoe Mine
Attachment III-B-2(a)
Watershed Map**

DRAWN BY: S.A.E.	DATE: 06-23-2015
DWG. NAME: RMBledsoeMine	
APPROVED BY: L.G.S.	SCALE: 1"=500'

\\perc000\perc_eng\Mining\Red Mesa Bledsoe Mine\RMBlBledsoeMine.dwg 06/23/15 13:03



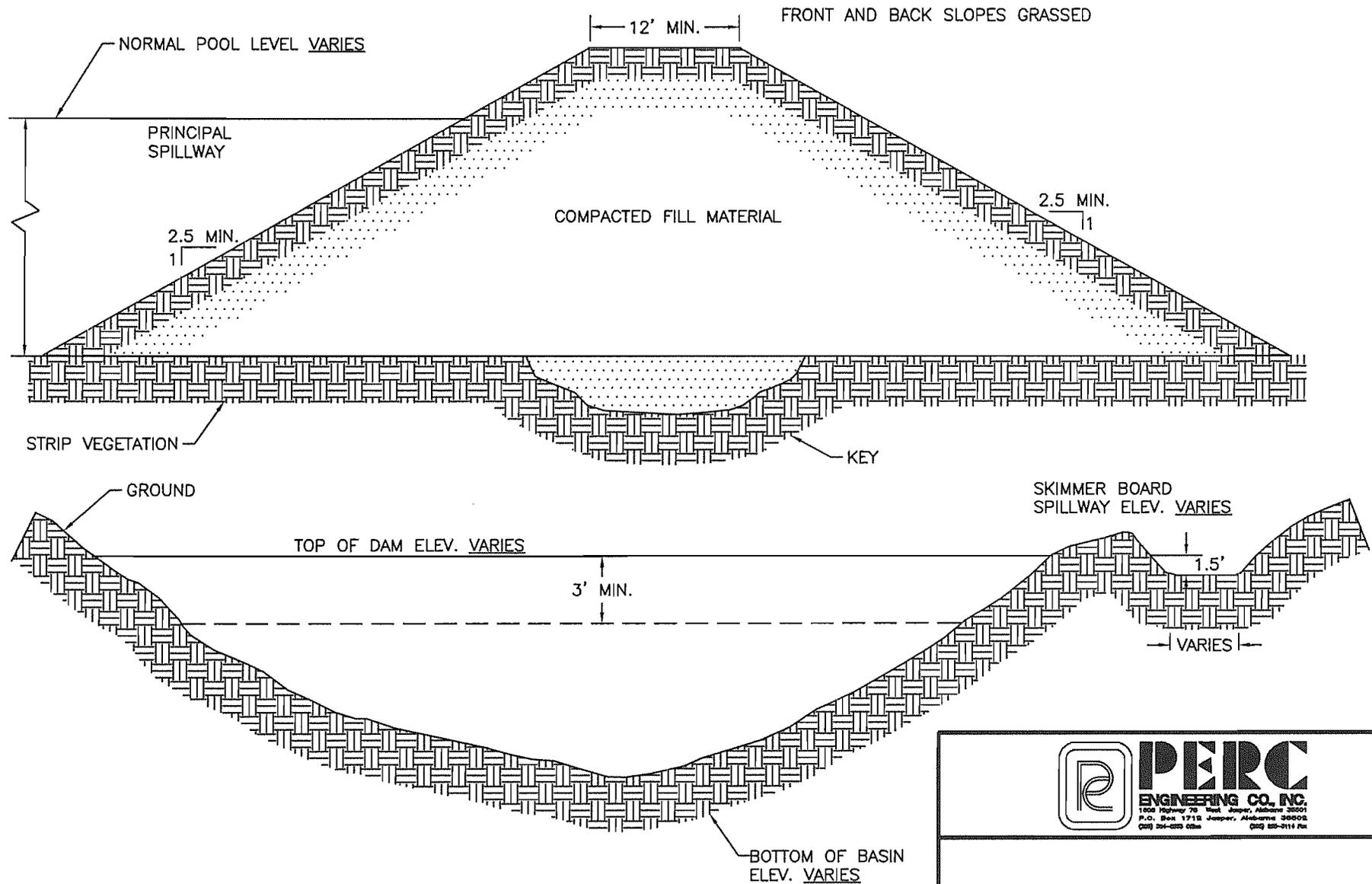
PLANVIEW OF EMBANKMENT POND

ATTACHMENT III-B-2-A



**TYPICAL PLANVIEW
OF EMBANKMENT
POND**

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



TYPICAL DAM DETAIL
NO SCALE



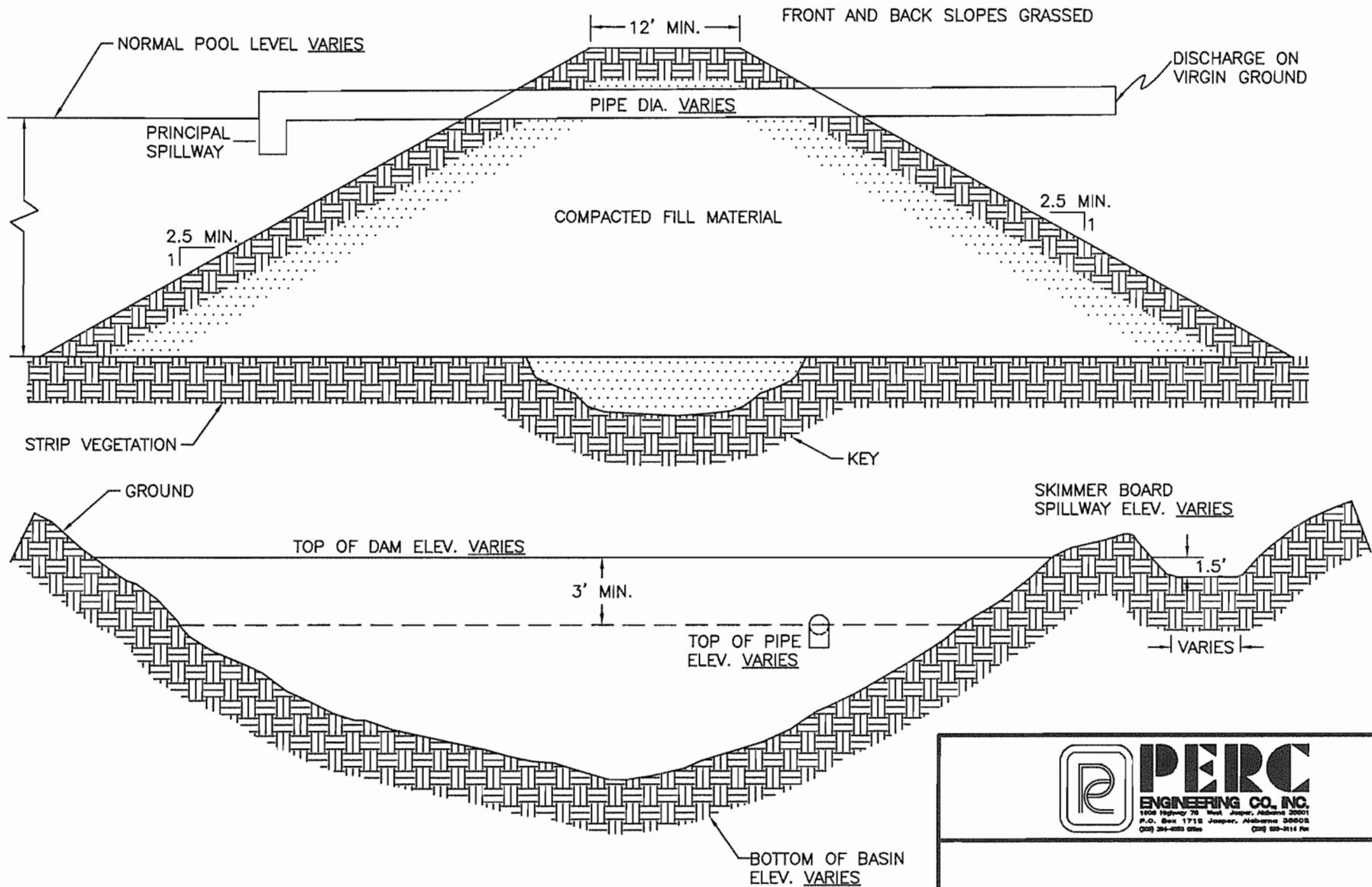
TYPICAL DAM DETAIL

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

DATE: 8-10-05

APPROVED BY: W.K.M.

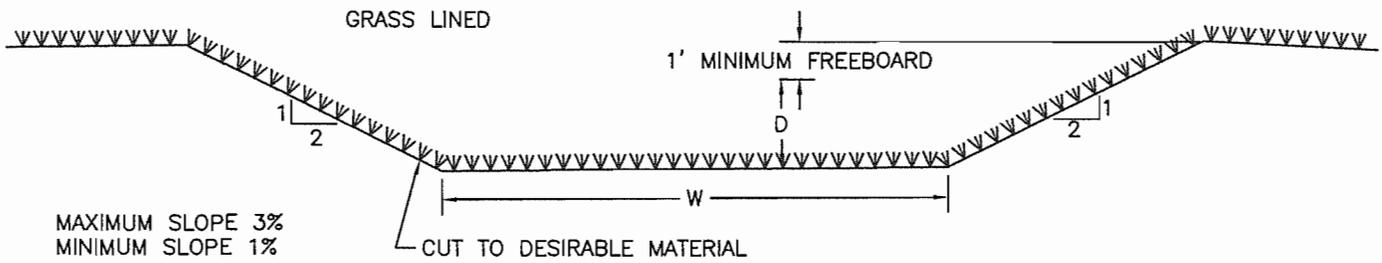
SCALE: NONE



TYPICAL DAM DETAIL
NO SCALE

ATTACHMENT III-B-2-A

 <p>PERC ENGINEERING CO., INC. 1908 Highway 78 West Jasper, Alabama 36001 P.O. Box 17712 Jasper, Alabama 36002 (205) 284-6222 ext. 2000 (205) 284-3114 Fax</p>	
TYPICAL DAM DETAIL	
DRAWN BY: P.T.O.	DATE: 8-10-05
DWG. NAME: TYPICALS	
APPROVED BY: W.K.M.	SCALE: NONE



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

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

* GRASS LINING: FESCUE, BERMUDA, RYE GRASS

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 8.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-15	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)
0-25	0.5
25-90	1.0
90-180	1.5
180-300	2.0
300-450	2.5



TYPICAL PERMANENT DIVERSION FOR BASIN DISPOSAL

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

DATE: 1/4/2011

APPROVED BY: L.G.S.

SCALE: NONE

Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

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 six 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 primary decant system when consisting of a pipe shall be installed according to Class C pipe installation for embankment bedding.

9. 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.
10. A splash pad or riprap may be required under the discharge of the primary decant system where necessary to insure that the discharge does not erode the embankment.
11. 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 riprap, 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.
12. Sediment basins using a single spillway system shall be an open channel of non-erodible construction consisting of concrete, durable rock riprap or its being constructed in consolidated non-erodible material as specified in the detailed design plans.
13. 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).
14. If basins are built in series, then the combined decant system for each shall be designed to accommodate the entire contributing drainage area.
15. The dam and all disturbed areas shall be seeded with both perennial and annual grasses, fertilized and mulched in order

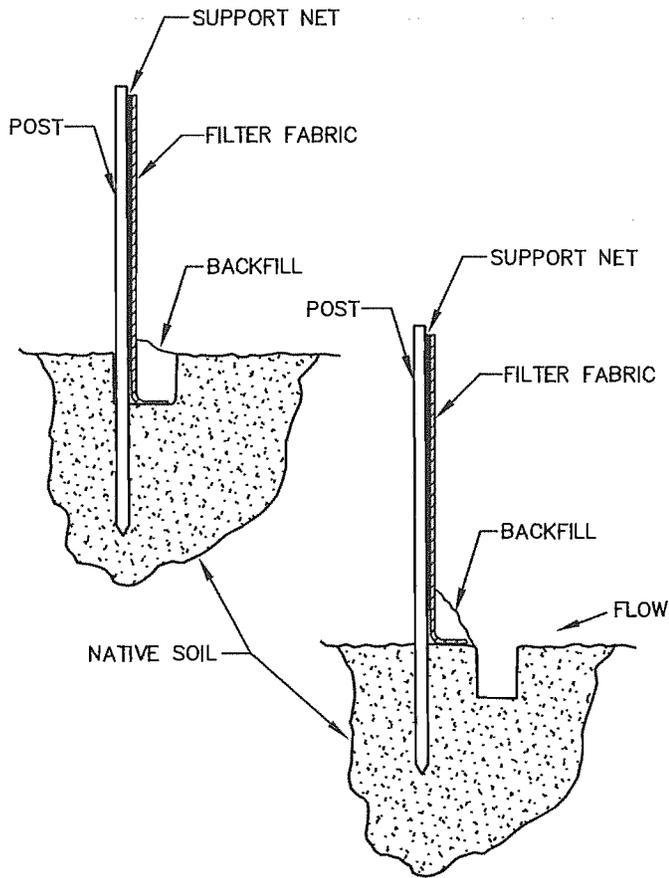
Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

- to insure erosion is minimized. Hay bales or rip rap may be placed at the toe of the dam immediately upon completion of construction.
16. 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.
 17. 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.
 18. Prior to Phase II bond release, additional data concerning water quality, water quantity, depth, size, configuration, post mining land use, etc., for each proposed permanent water impoundment, shall be submitted to the Regulatory Authority for permanent water impoundment approval.
 19. 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.
 20. 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.
 21. 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[1(j)] of the Alabama Surface Mining Commission Regulations.
 22. Sediment will be removed from each pond when the accumulated sediment reaches the sediment storage volume as shown on the detailed design sheet.
 23. 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

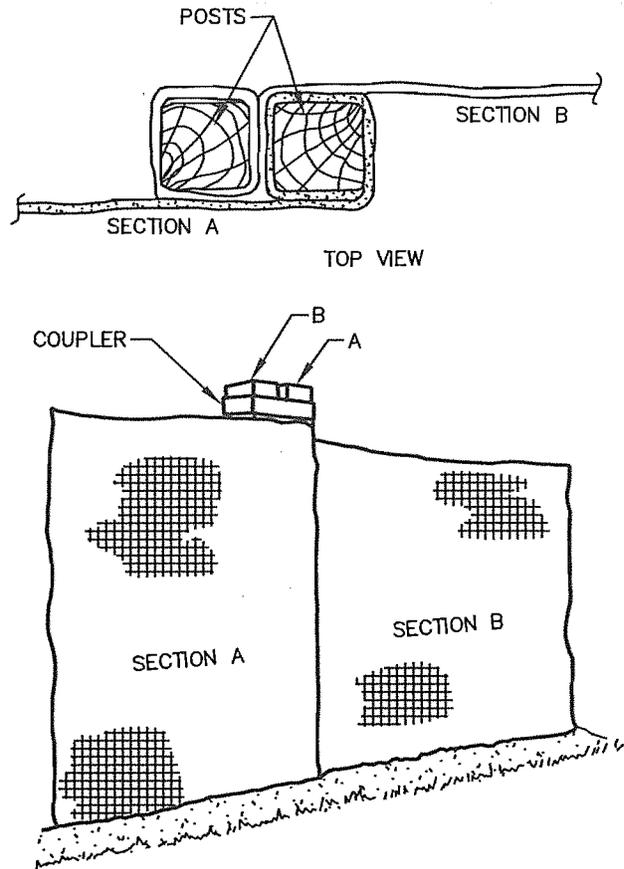
Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

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.

24. 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.
25. 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. Describe in detail the proposed diversion and include plans, maps and cross-sections which comply with 816.43 and 816.44.



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.



SILTFENCE TYPICAL

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

DATE: 6-24-91

APPROVED BY: R.E.P.

SCALE: NONE

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 bi-monthly 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.



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM INDIVIDUAL PERMIT

PERMITTEE: Red Mesa Energy, LLC
1830 Fountain Dr. Unit 607
Reston, Virginia 20190

FACILITY LOCATION: Bledsoe Mine No. 1
573 County Road 85
Stevenson, AL 35772
Jackson County
T1S, R7E, Sections 12 & 13

PERMIT NUMBER: AL0069647

DSN Receiving Water
001-1 Unnamed Tributary to Widows 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.

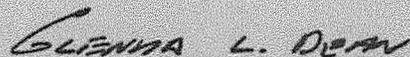
ISSUANCE DATE: August 31, 2007

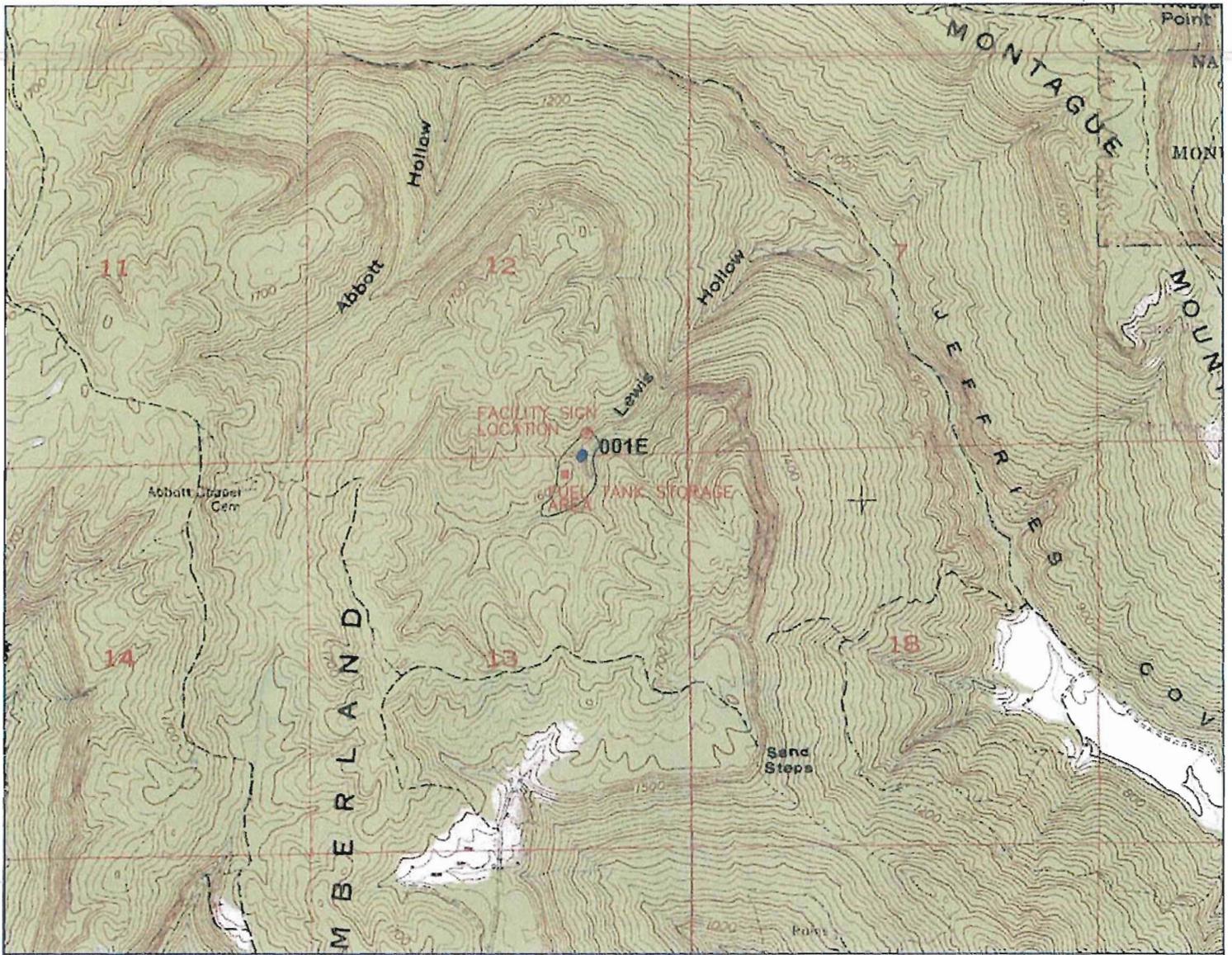
EFFECTIVE DATE: September 1, 2007

EXPIRATION DATE: August 31, 2012

MODIFICATION ISSUANCE DATE: May 2, 2014

MODIFICATION EFFECTIVE DATE: May 2, 2014


Alabama Department of Environmental Management



AL SELECT, INC.
 BLEDSOE MINE

NPDES PERMIT AL0069647

SECTIONS 12 & 13, TOWNSHIP 1 SOUTH,
 RANGE 7 EAST, JACKSON COUNTY, ALABAMA
 BASE MAP: DORAN COVE U.S.G.S. QUAD.
 SCALE: 1" = 2000'

 NPDES PERMIT BOUNDARY





Pete Parrish <pparrish@percengineering.com>

Fwd: Bledsoe NPDES Permit Question

1 message

Trey Glenn <trey@blueridgeconsultinginc.com>

Tue, Jun 2, 2015 at 9:21 AM

To: Pete Parrish <pparrish@percengineering.com>

Cc: "P.R. Rishi" <prishi@yahoo.com>, sam magruder <rhenergy7@gmail.com>, Ronald Thompson <rthompson@secllc.net>, William Vaughan <wvaughan@secllc.net>, David Burton <dburton@secllc.net>

Pete,

Here is an email for the file in case ASMC questions the validity of the Bledsoe NPDES permit.

----- Forwarded message -----

From: **Dean, Glenda** <GLD@adem.state.al.us>

Date: Tue, Jun 2, 2015 at 9:20 AM

Subject: RE: Bledsoe NPDES Permit Question

To: Trey Glenn <trey@blueridgeconsultinginc.com>, "P.R. Rishi" <prishi@yahoo.com>, sam magruder <rhenergy7@gmail.com>

Cc: "McNeill, Catherine" <CMcNeill@adem.state.al.us>, "Kitchens, Jeff" <JWK@adem.state.al.us>

Trey,

Your understanding is correct. If there are any further questions, please feel free to contact me or Catherine McNeil.

Glenda L. Dean, Chief

Water Division

Alabama Department of Environmental Management

Post Office Box 301463

Montgomery, Alabama 36130-1463

(334) 271-7823

www.adem.alabama.gov

gld@adem.state.al.us



Did you know you can submit your DMRs and SSOs online using our newly enhanced E2 DMR/SSO Reporting System? To sign up and learn more, please visit the Department's E2 Reporting System webpage [here](#).

From: Trey Glenn [mailto:trey@blueridgeconsultinginc.com]

Sent: Thursday, May 28, 2015 9:25 AM

To: P.R. Rishi; Dean, Glenda; sam magruder

Subject: Bledsoe NPDES Permit Question

PR/Sam,

I spoke to Glenda Dean (Water Division Chief at ADEM) to confirm my explanation of the dates associated with the Bledsoe NPDES permit (AL0069647).

Your current active NPDES permit for Bledsoe was issued in 2007 and set to expire in 2012. However a renewal application was received six months prior to the expiration of the permit, so by ADEM rule the permit was administratively extended.

Therefore on May 2, 2014 you were transferred an active permit. If it were not a valid/active permit, ADEM would have had nothing to transfer. The NPDES permit that you hold is an administratively extended permit that is in full force and effect.

I did make Glenda aware that y'all have submitted an updated renewal application and are in the process of working with the ADEM staff on the renewal.

Glenda, please let me know if this is an accurate description of our discussion and of this this permit status?

Thanks, Trey

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

Temporary diversions required for the Bledsoe Mine 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 Red Mesa Energy, 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, referenced Guidelines.

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.

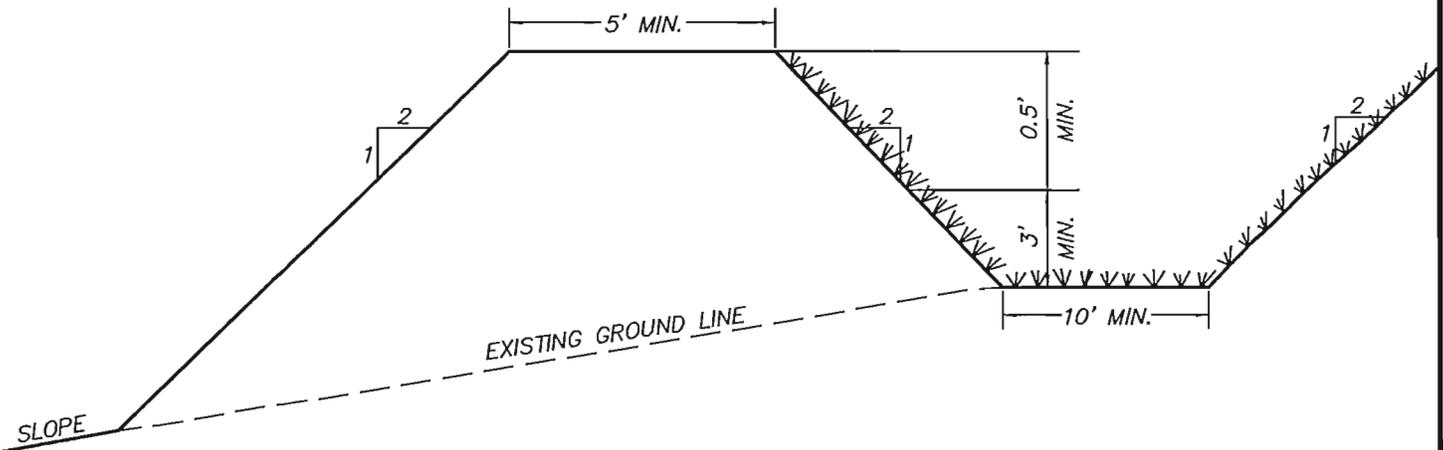
See Attachment III-B.-3.

- (d) Enclose approvals of other government agencies, where required.

None required.

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.



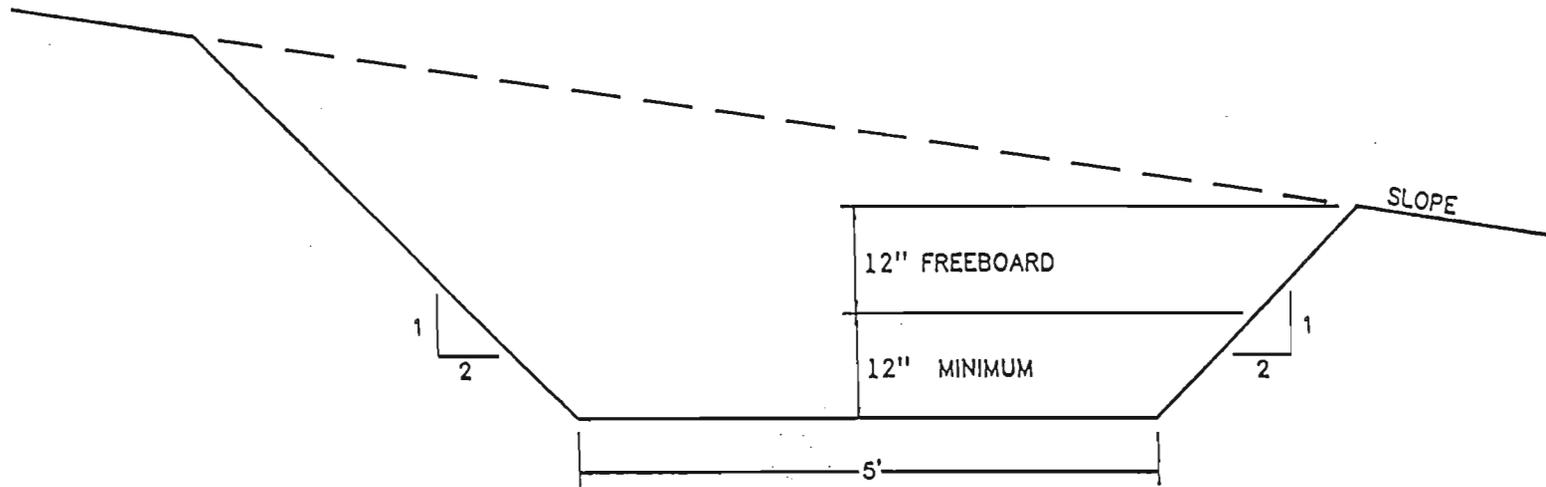
Typical Diversion Berm Detail

DRAWN BY: J.J.H.
DWG. NAME: BRMTYP1

DATE: 1-23-97

APPROVED BY: S.R.I.

SCALE: NONE



DIVERSION DITCH

TYPICAL DIVERSION CROSS-SECTION
NO SCALE

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

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, topsoiled, and revegetated in accordance with Rules 880-X-10C-.10, 880-X-10C-.11, 880-X-10C-.52 - 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 dissipater 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.
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.

D. Surface and Groundwater Drainage Control Plan. (779.13)

The permit application shall contain a plan describing how the applicant intends to control surface and groundwater drainage into, through and from the proposed permit area in accordance with Part 316 with the required plans complying with Section 730.10(b).

All runoff from the disturbed area will pass through approved sediment control facilities designed and constructed in accordance with Part III of this permit application. The following controlled procedures will also be used to control sedimentation.

1) Vegetation, 2) Diversions in some areas to route water to sediment ponds. 3) Pumping from pits to ponds to increase detention time. 4) On site sediment control to prevent sediment from entering ponds. Ground water drainage from underground mine will be pumped to approved sediment control facilities. Ground water quality as shown from Part II presents no water quality problem in this mine area.

E. Surface Water Treatment Plan. (779.13)

When the PHC determination indicates the need for the treatment of surface water leaving the proposed permitted area, the applicant shall submit a plan for such treatment will be accomplished to meet the applicable State and Federal effluent limitation standards.

In the event quality problems should arise, the following procedures may include, but will not be limited to the following, if needed.

- 1) Lime or caustic soda to raise a low pH.
- 2) Potassium permanganate to decrease manganese levels if the pH is too high.
- 3) Alum to decrease total suspended solid concentrations.

F. Plans For Recording and Reporting Data (779.13)

Describe how surface and groundwater quantity and quality data will be collected, recorded, and reported to the Regulatory Authority according to Section 816.52.

Surface water samples shall be taken by the 'grab method. Flowrate measurement of surface water samples shall be according to ASTM D3858 "Standard Practice for Open Channel Flow Measurement of Water by Velocity - Area Method" or other equally valid approved

Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

methods. Groundwater samples shall be taken according to Standard Methods 105 "Collection and Preservation of Samples" and 906A "Collection" or other equally valid approved methods. pH of all samples will be measured in the field. The sample will be stored in ice and all other parameters will be analyzed within 24 hours. Sampling will be recorded and reported to the Regulatory Authority as outlined in Part III-D & E of this application.

4. Surface disposal of excess spoil and underground development waste.
(784.19, 784.35, 817.71)

Is excess spoil proposed to be stored in surface fills?

() Yes. (XX) 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 design plans of the disposal site. See the attached Permit Map.
- (b) Include the results of the geotechnical investigation showing:
- (1) A description of physical characteristics of bedrock and geologic conditions in the disposal area;
 - (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 sores or rock drainage blankets, if applicable;
 - (5) Results of stability analyses including strength parameters, pore pressures and long term seepage conditions;
 - (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 (XX) No

If yes, describe or show:

(1) The number, location and depth of test borings or test pits used in describing subsurface conditions; and

Not Applicable.

(2) Engineering specifications used in the design.

5. Underground disposal of coal processing waste, excess spoil and underground development waste.

Is coal processing waste, excess spoil and/or underground development waste proposed to be disposed of in underground fills?

() Yes (XX) No

If yes, complete the following:

- (a) Show on a map the location of the proposed fill(s) including a flow diagram showing the source of the material.
- (b) Describe in detail the design, operation and maintenance of the proposed fill.
- (c) Describe the quality of the material to be stored and identify any potentially acid-forming and toxic-forming materials.
- (d) Describe the area to be backfilled, percent of the mine void to be filled, and method of constructing retaining walls, if required.
- (e) Describe the influence of the backfilling operation on active underground mine operations.
- (f) Describe the surface area to be supported by the backfill and any anticipated surface effects following backfilling.
- (g) Describe the source of the hydrologic transport mediums and the method of dewatering the backfill, if applicable. If water is to be released to the surface, describe treatment plans.
- (h) Describe the anticipated effect of the backfill on the hydrologic regime.
- (i) Describe each permanent monitoring well, if required, to be located in the backfilled area, the stratum underlying the mined coal, and gradient from the backfilled area.

Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

(j) Attach a copy of MSHA approval of the proposed fill.

6. Transportation Facilities. (780.33, 784.37)

The County Road ends at the Permit Boundary in the NW 1/4 of NE 1/4 of Section 13, Township 1 South, Range 7 East, Jackson County, Alabama. See Permit Map

- (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.

No disturbance is planned within 100 feet of a public road right-of-way except where the haul road connects to the County Road.

- (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.

No Primary Roads Required.

- (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

Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

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. Roads not required for fire and sediment basin access will be reclaimed. See the Specifications for the construction, maintenance, and reclamation of primary roads.

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 compacted subgrade material 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, ironore 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 drainways will be located at a minimum distance of three-hundred feet.

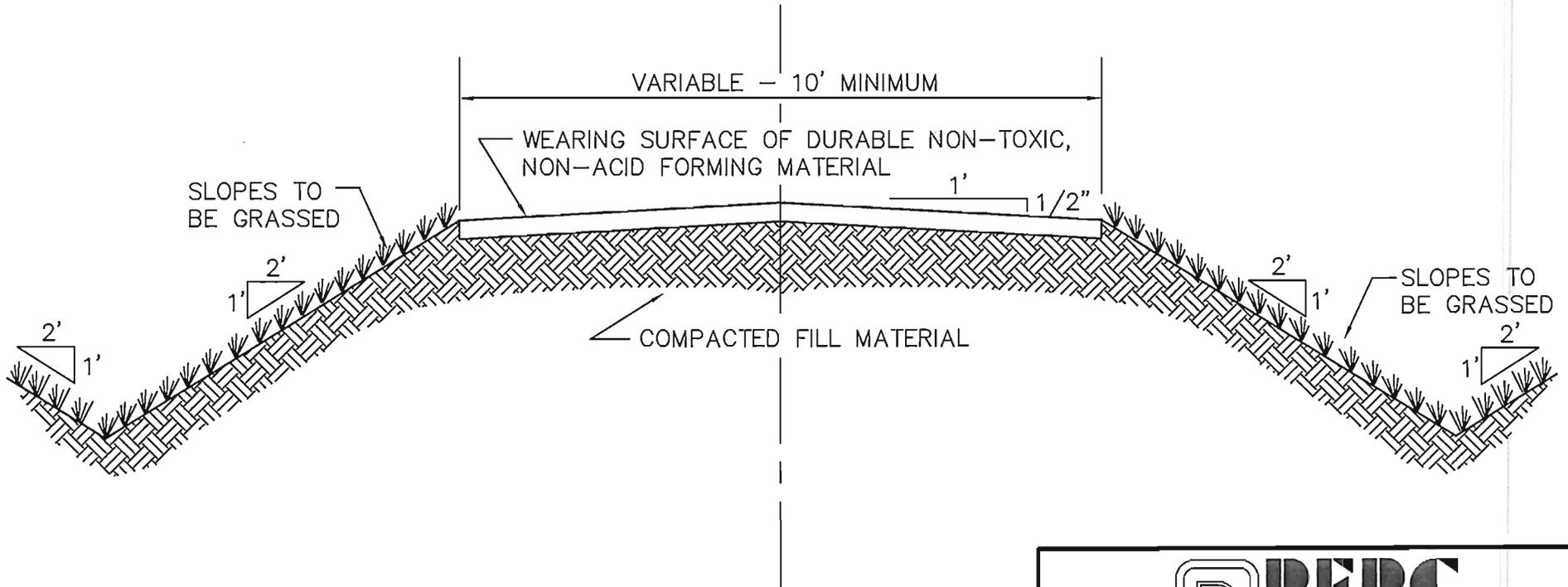
7. Roads will be constructed so as to have adequate drainage utilizing ditches, cross drains and ditch relief drains. Roads will not be located in the channel of an intermittent or perennial stream unless specifically approved by the Alabama Surface Mining Commission. Additionally, no relocation and/or 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.

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 ANCILLARY ROAD FILL SECTION

NO SCALE



TYPICAL FILL SECTION
ANCILLARY ROAD

DRAWN BY: S.W.L.

DWG. NAME: TypAncillaryRoad

DATE: 6-19-15

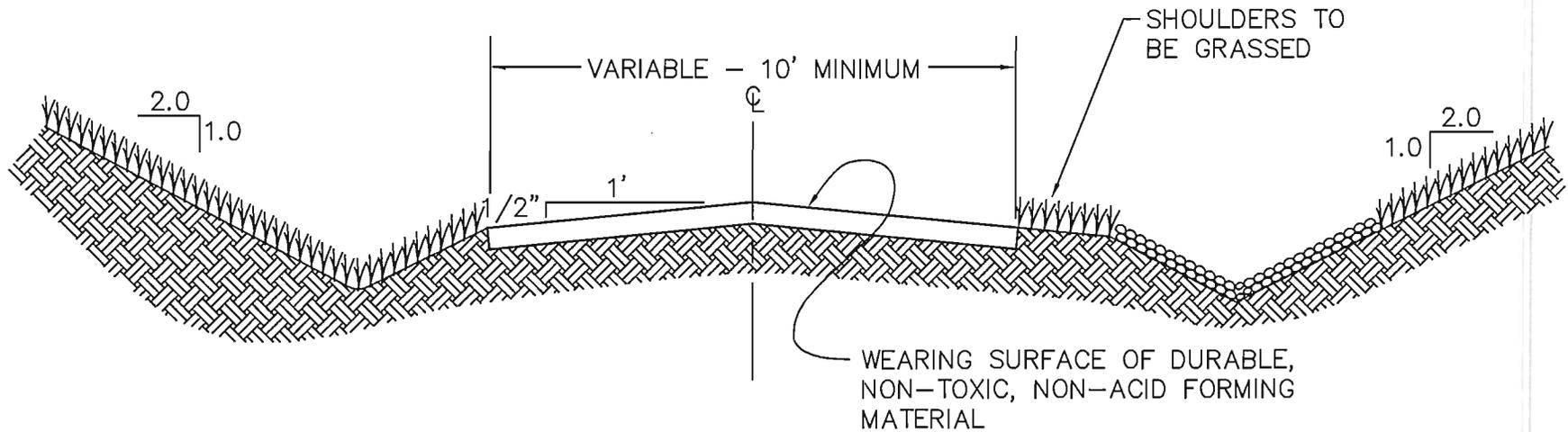
APPROVED BY: L.G.S.

SCALE: NONE

ATTACHMENT III - B. - 5.

TYPICAL ANCILLARY ROAD CUT SECTION

NO SCALE

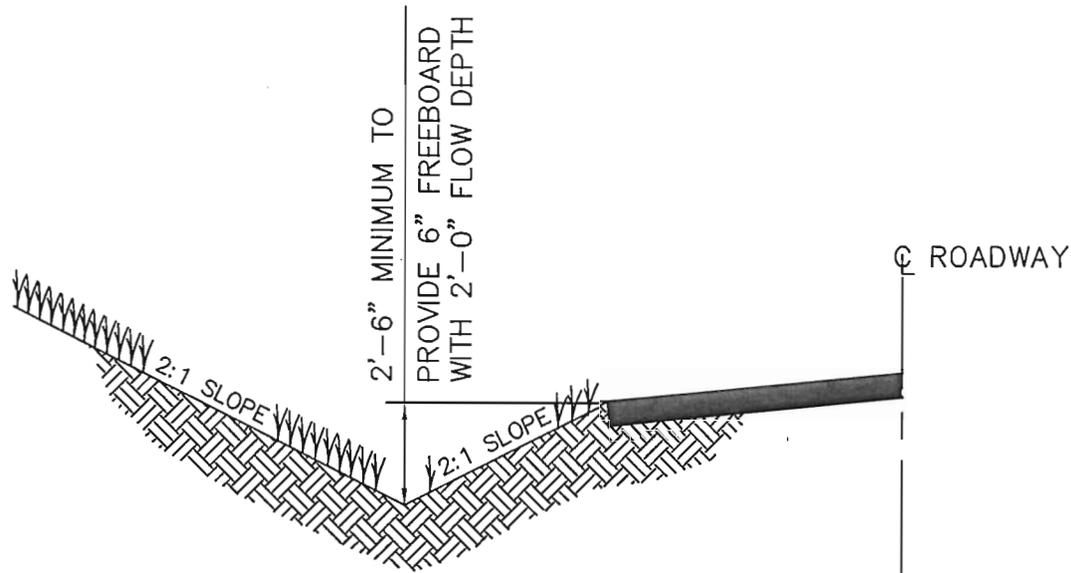


TYPICAL CUT SECTION
ANCILLARY ROAD

DRAWN BY: S.W.L.	DATE: 6-19-15
DWG. NAME: TypAncillaryRoad	
APPROVED BY: L.G.S.	SCALE: NONE

ATTACHMENT III.-B.-5.

K:\Working\TypicalDrawings\SAUCPermitt\TypAncillaryRoad.dwg 06/19/15 15:06



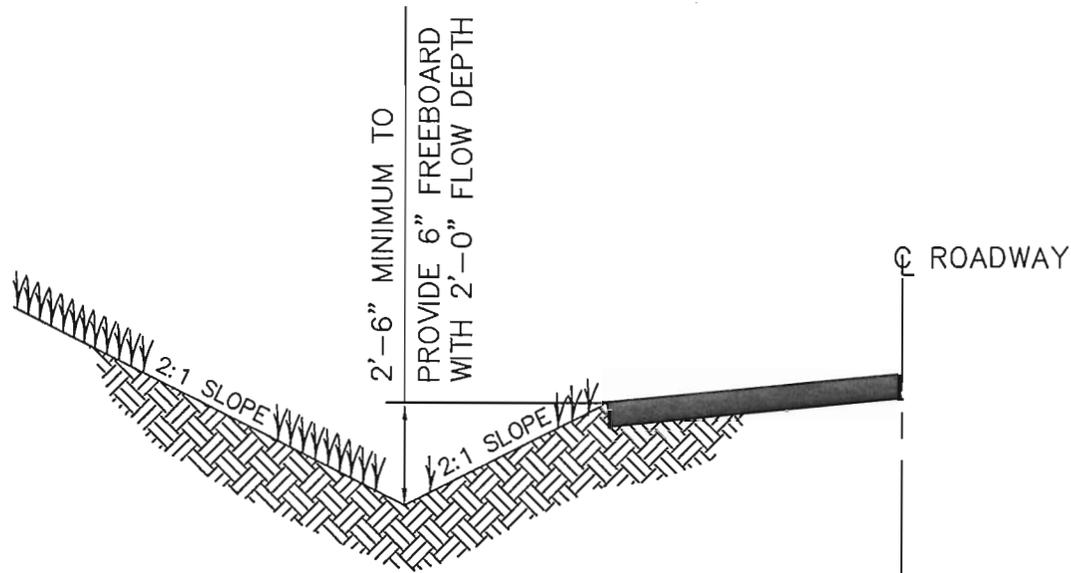
MINIMUM DITCH GRADIENT = 1%
 MAXIMUM DITCH GRADIENT = 5%

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: S.W.L.	DATE: 6-19-15
DWG. NAME: TypAncillaryRoad	
APPROVED BY: L.G.S.	SCALE: NONE



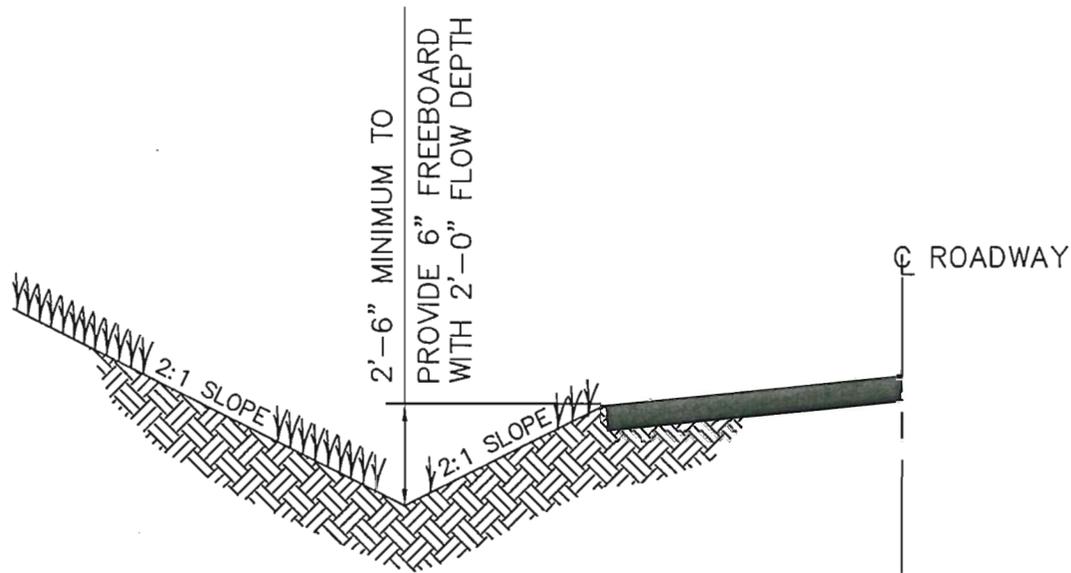
MINIMUM DITCH GRADIENT = 6%
 MAXIMUM DITCH GRADIENT = 10%

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 ANCILLARY ROADWAY DITCH
 CROSS SECTION

DRAWN BY: S.W.L.	DATE: 6-19-15
DWG. NAME: TypAncillaryRoad	
APPROVED BY: L.G.S.	SCALE: NONE



MINIMUM DITCH GRADIENT = 11%
 MAXIMUM DITCH GRADIENT = 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 ANCILLARY ROADWAY DITCH
 CROSS SECTION

DRAWN BY: S.W.L.	DATE: 6-19-15
DWG. NAME: TypAncillaryRoad	
APPROVED BY: L.G.S.	SCALE: NONE

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 ten 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, ironore 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.
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 drainways 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

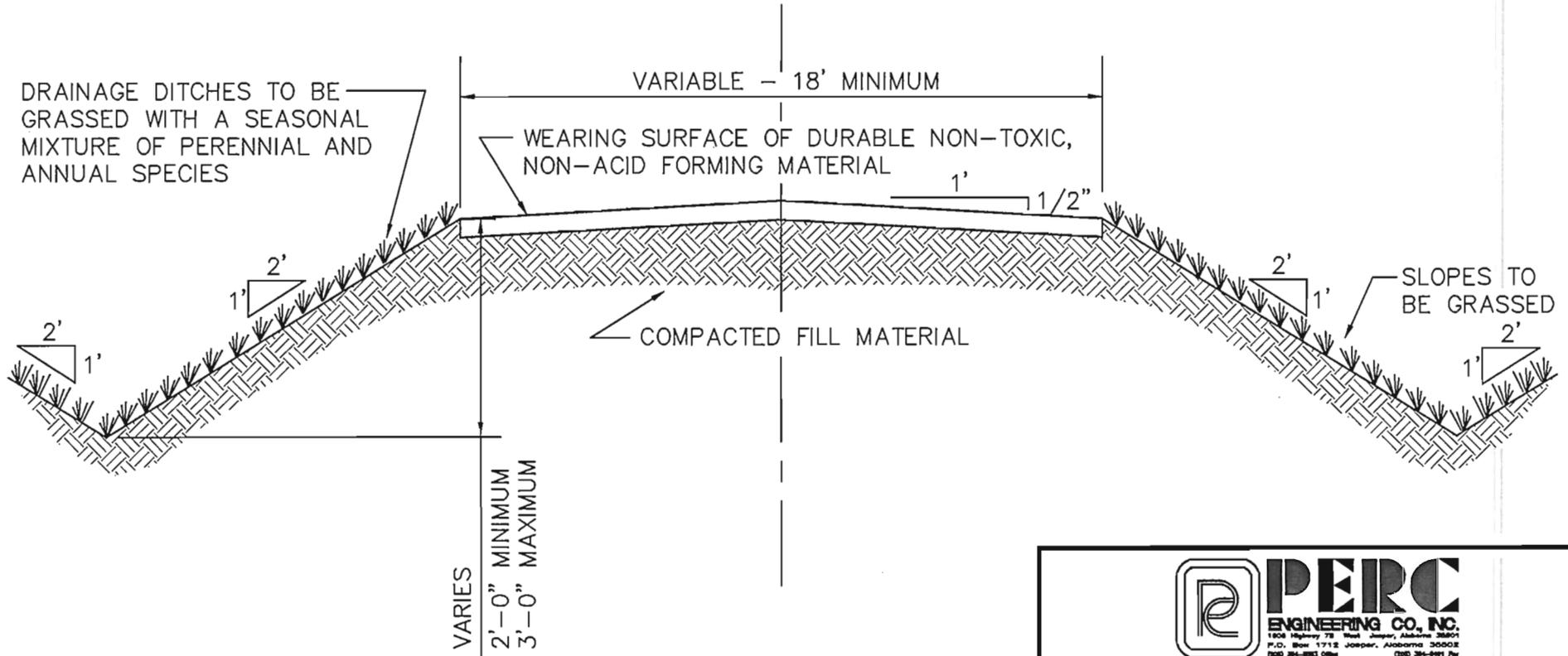
necessary to control sediment runoff. Immediately upon completion of construction, the side slopes of the road embankments and/or cuts will be fertilized, seeded with annual and perennial grasses and mulch will be added to aid in the prevention of erosion and to enhance seed germination. The seed mix 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.

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.

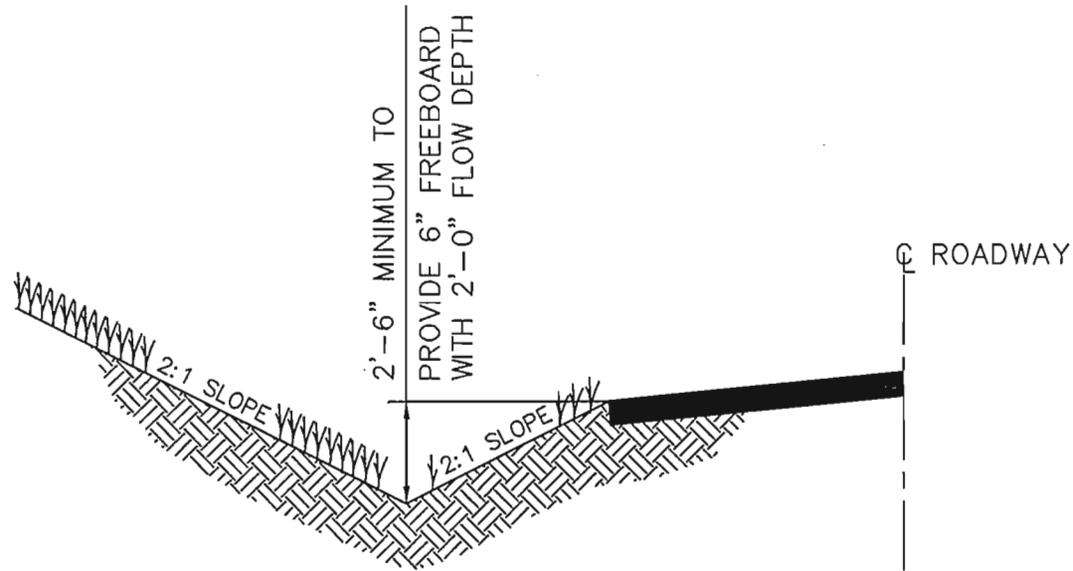
TYPICAL HAUL ROAD FILL SECTION

NO SCALE



TYPICAL FILL SECTION PRIMARY HAUL ROAD

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



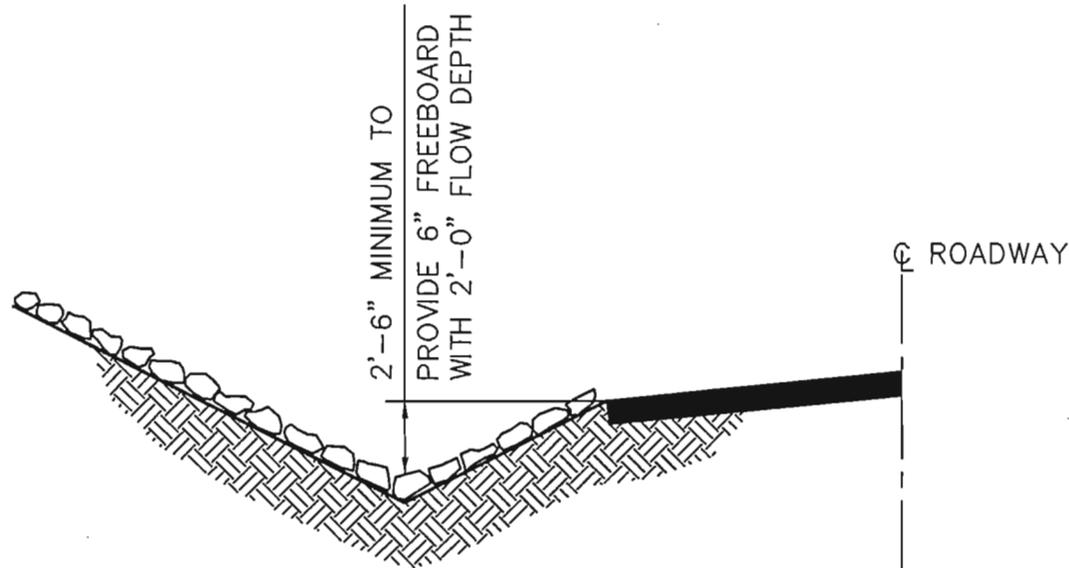
MINIMUM DITCH GRADIENT = 1%
 MAXIMUM DITCH GRADIENT = 5%

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



TYPICAL PRIMARY ROADWAY DITCH CROSS SECTION

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



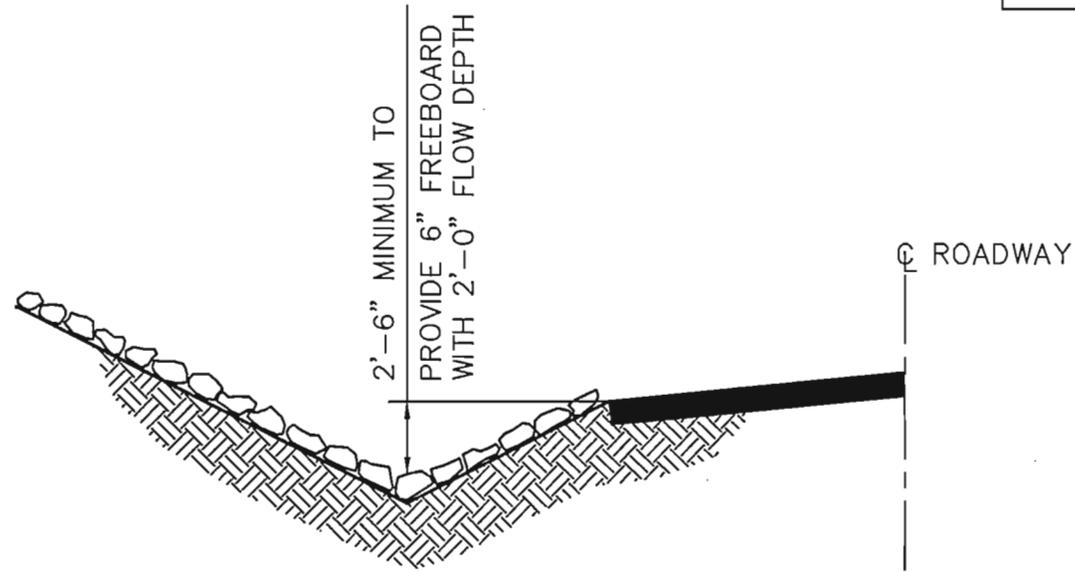
DITCH GRADIENT 5% TO 10%

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.	DATE: 2-4-97
DWG. NAME: PRIMRD1	
APPROVED BY: R.E.P.	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

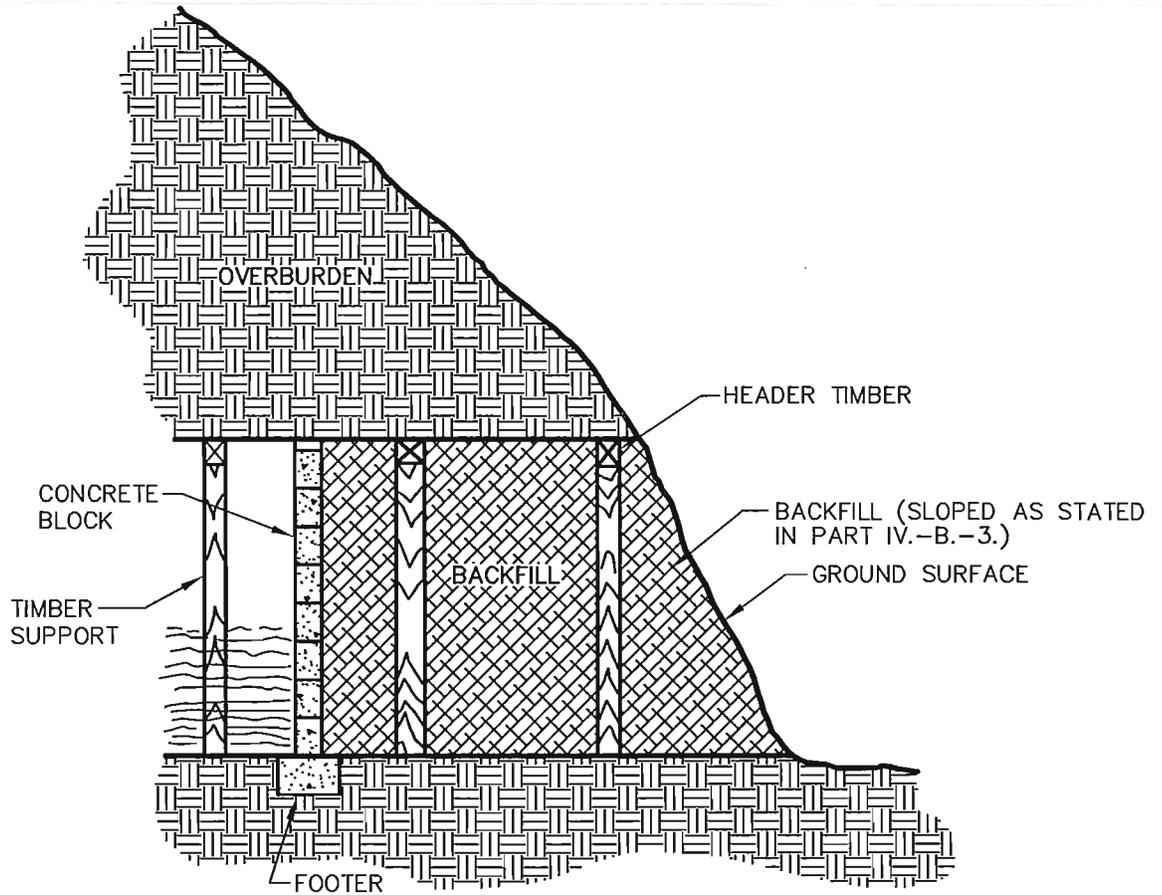
DRAWN BY: K.D.P.	DATE: 2-4-97
DWG. NAME: PRIMRD2	
APPROVED BY: R.E.P.	SCALE: NONE

Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

G. Permanent Entry Seals and Down Slope Barriers. (783.13)

Describe, in detail, with appropriate maps, plans, and cross sections permanent entry seals and down slope barriers used to ensure hydraulic stability after mining has ceased. 783.13(g) (3)

See Attachment III-G



Mine Openings – After mining is completed the openings will be sealed by constructing concrete block walls or by utilizing other available material, in accordance with the requirements of M.S.H.A. Upon completion of the sealing of the openings the surface disturbance will be regraded as described in the reclamation plan.



**Typical Cross Section
of
Single Bulkhead Seal**

DRAWN BY: J.J.H.	DATE: 1-21-97
DWG. NAME: BULKHEAD	
APPROVED BY: R.E.P.	SCALE: NONE

4-11-97 PERC BULKHEAD DWG. 09-50

H. Subsidence Control Plan (784.20)

1. Include a survey which shows what structures or renewable resource lands exist within the proposed permit and adjacent area and whether subsidence, if it occurred, could cause material damage or diminution of reasonably foreseeable use of such structures or renewable resource lands. If it is determined that no material damage will occur to surface structures or renewable resource lands from subsidence, the application shall include supporting evidence of such a finding.

See the Permit Map and Attachment III-H.

2. If the study shows the structures or renewable resource lands could be adversely effected by subsidence, the applicant shall address the following:

Within the survey area, does the applicant intend to implement planned subsidence? () Yes (X) No

If yes, provide information requested under "Planned Subsidence", Subsection (a).

If no, provide information requested under "Unplanned Subsidence", Subsection (b).

(a) Planned Subsidence.

- (1) Using maps, plans, or cross-sections, as needed, locate the area(s) where planned subsidence is occurring or is intended to occur. Clearly show on a map and correlate the information and the relationship to critical surface features, renewable, resources lands and structures called for in Parts (i-v) below:

- (i) Provide a detailed mine plan map. Describe the method of mining used to implement planned subsidence, such as longwall, room and pillar - high extraction (pillar removal), or other methods.

- (ii) Locate extraction panels, give geometric sizes, dimensions and orientation, and include details of length, width and height of panels. Give percent of coal left as support in ratio to percent of coal removed within the extraction panel. Include similar information concerning any secondary recovery that is planned.
 - (iii) Provide details locating all permanent coal block and barrier pillars outside the actual extraction panels. Give geometric shapes, dimensions and orientation of these blocks and barrier pillars.
 - (iv) Give anticipated date (month/year) in which mining will be conducted in each area and/or panel within the planned subsidence area(s).
 - (v) Show areas that will be affected by subsidence. Provide details on the horizontal extent and vertical drop of the surface as it relates to the effectiveness of the proposed Subsidence Control Plan. Supply information detailing expected subsidence profiles.
- (2) Provide a detailed description of measures to be taken to prevent planned subsidence from causing material damage or lessening the value or reasonable foreseeable use of the surface. Locate and describe in detail how, when, and where measures, if any, are to be applied. Include the following information:
- (i) Locate areas in which coal removal is not planned, including its relationship to overlying area(s) to be protected by leaving coal in place.
 - (ii) Describe measures to be taken on the surface to prevent material damage to diminution of the value or reasonable foreseeable use of the surface, including, but not limited to:

- (A) Reinforcement of sensitive structures or features.
 - (B) Installation of footers or other techniques designed to reduce damage caused by movement.
 - (C) Change of location of pipelines, utility lines or other features.
 - (D) Relocation of moveable improvements to sites outside the angle of draw.
 - (E) Monitoring, to determine the commencement and degree of subsidence so that appropriate measures can be taken to prevent or reduce damage.
 - (F) Describe any other prevention measures taken.
- (3) Provide a detailed description of measures that are to be taken to mitigate the effects of any material damage or diminution of value or reasonable foreseeable use of lands which may be caused by planned subsidence. Describe how these measures are to be promptly applied in accordance with 817.124. Measures include, but are not limited to, one or more of the following:
- (i) Restoration or rehabilitation of damaged structures including surface and underground agricultural drainage systems, features and lands after subsidence to a condition capable of supporting and suitable for foreseeable use, including restoration of approximate land surface contours to premining conditions in order to assure proper surface drainage.
 - (ii) Replacement of structures, including surface and underground agricultural drainage systems destroyed or damaged by subsidence.
 - (iii) Purchase of structures prior to mining or purchase of damaged structures after subsidence at pre-subsidence value.

- (iv) Purchase of non-cancellable insurance policies as described in 817.124(c), payable to surface owners in full amount of the possible material damage or other comparable measures.
 - (v) Describe other mitigation measures that are to be taken.
- (4) Provide a detailed description of measures to be taken to determine the degree of material damage or diminution of value or foreseeable use of the surface, including, but not limited to, such measures as:
- (i) Conducting pre-subsidence surveys and inventories of all structures and surface features which might be materially damaged by subsidence.
 - (ii) Monitoring to measure deformations near specified structures or features or otherwise appropriate locations.
- (b) Unplanned Subsidence. See Attachment III.-H and Permit Map.
- (1) Using maps, plans, and cross sections, as needed, locate the areas where coal extraction is to take place and where subsidence, if incurred, cannot be considered planned subsidence. Clearly show on a map the relationship of parts (i-v) below to critical surface features, renewable resource lands, and structures.
- (i) Provide a detailed mine plan map. Describe the methods of mining used, such as room and pillar, checker board, blind room or other methods.
 - (ii) Locate extraction panels, give geometric sizes, dimensions and orientation, and include details of length, width and height of panels. Give percent of coal left as support in ratio to percent of coal removed within the extraction panel. Provide information on crosscut and room dimensions, and both driven on what centers. Include similar

information concerning any secondary recovery that is planned.

- (iii) Provide details locating all permanent coal blocks and barrier pillars outside the actual extraction panels. Give geometric shapes, dimensions, and orientation of these blocks and barrier pillars.

ATTACHMENT III.-H.
Subsidence Control Plan

The Red Mesa Energy, LLC - Bledsoe Mine surface facilities are located in parts of Sections 12 and 13, Township 1 South, Range 7 East, Jackson County, Alabama which are shown on the Doran Cove, Alabama United States Geological Survey Quadrangle Map. The mine site will consist of approximately 27 acres of proposed surface disturbance, of which approximately 13 acres has been previously disturbed by surface mining and surface disturbance from a previous underground coal mine. The coal recovery area will consist of approximately 990 acres for the proposed five year mine plan. See Subsidence Control map in Attachment III.-H.-1 Subsidence Control Map, along with Part I.-C.-1 of the application for a list of surface owners over the proposed underground mine area as well as the proposed mine workings for the reserve area with the first five years mining defined by yearly increments. A detailed mine plan layout is shown on the Subsidence Control Map, Attachment III.-H.1. It is anticipated that continuous miners, bridges or scoops and continuous haulage will be used for room and pillar mining.

The mine faceup area is located in the SW 1/4 of the SE 1/4 of Section 12, Township 1 South, Range 7 East. Three entries were previous driven in a northwesterly direction by previous mining operation for a depth of approximately 300 feet and will be rehabilitated and utilized by this operation. The initial (main) entries were approximately 20 feet wide and spaced on approximate 60 foot centers. Red Mesa proposes to use a seven entry system with 20 foot width on 60 foot centers and cross cuts of 20 foot width and spaced on 60 foot centers throughout its mining operations on the Bledsoe Permit. This spacing will produce pillars of 40 feet wide and 40 feet long and coal recovery of approximately 55%, see the drawing following this sheet for typical seven entry mine layout using 60 foot centers and 60 foot spacings, Attachment III-H-1. No secondary pillar recovery is planned for this operation.

The Bledsoe Mine will recover coal from the Upper Bon Air Seam. The Upper Bon Air Seam averages approximately 72 inches thick and is stratigraphically located from 30' to 70' above the Lower Bon Air Seam. Local drilling shows the separation of the two seams in the vicinity of the Face-up to be 38'. The Dip of the Upper Bon Air Seam in the Face-up area is approximately 25 degrees East of North

Applicant: Red Mesa Energy, LLC
Mine Name: Bledsoe Mine
Permit Number: P-_____

at an average of approximately 2 degrees. There is a small anti-cline just Southwest of the Entry's from the Face-up that roll over at an elevation in the vicinity of 1560' above sea level. The Dip then progresses Southwest to an elevation of 1520' near the outcrop on the Southwest side of the Mountain approximately 1 mile away lying 10' to 300' below the surface. More specific geologic information is contained in the Hydrologic-Geologic Report prepared with this Permit application, including generalized cross sections which show the lithology through the mine recovery area.

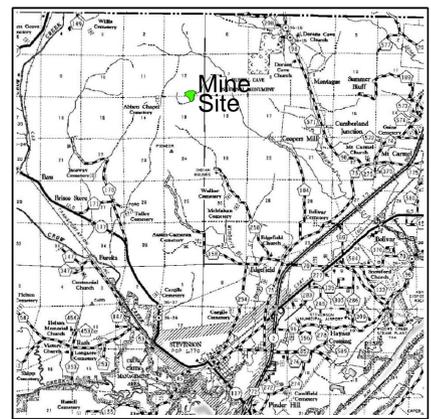
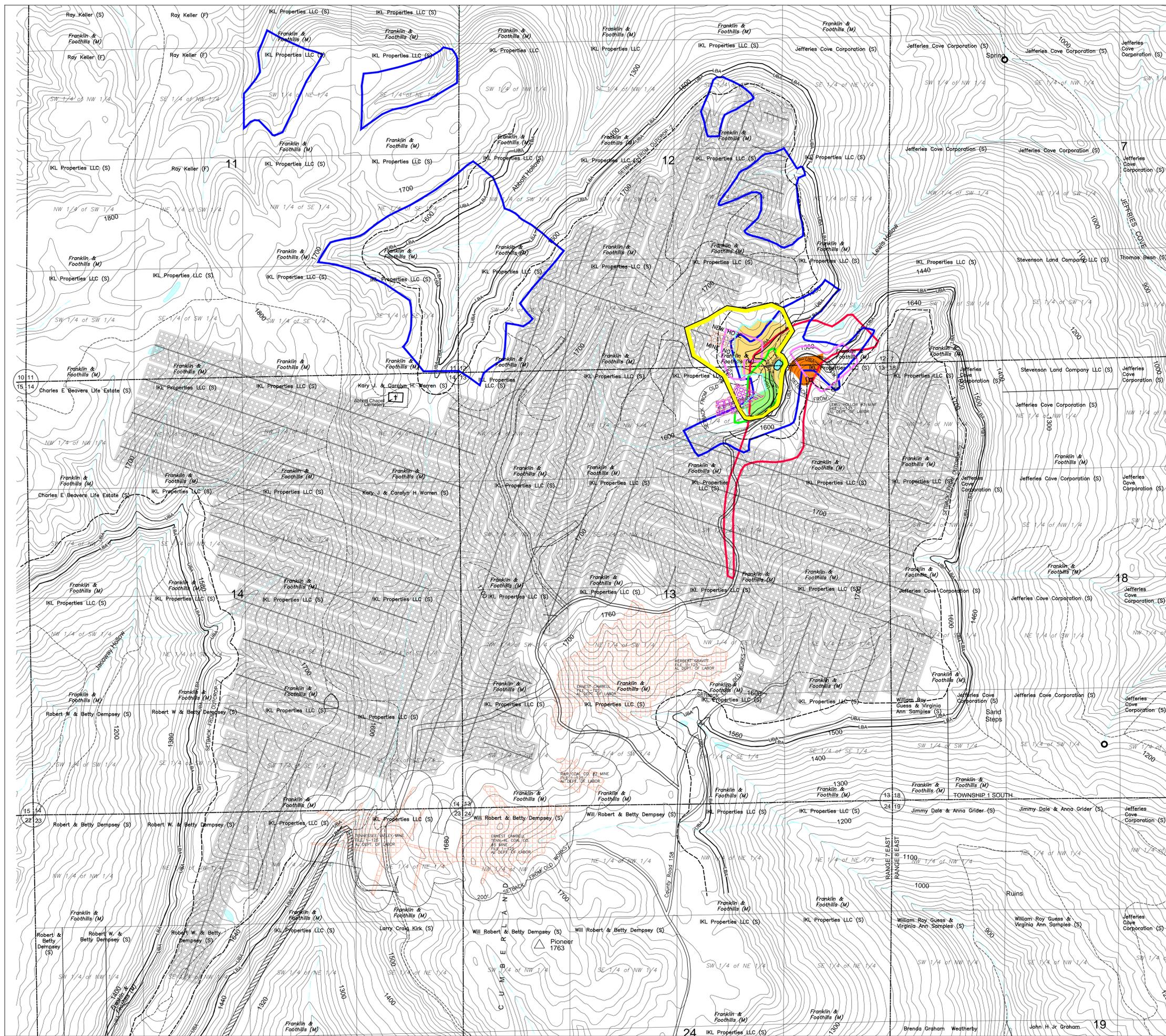
There has been some mining in the vicinity of this reserve area. Previous underground mining, in the reserve area, is shown on Attachment III-H-1 Subsidence Control Map which also shows a 200' setback from the old underground mine locations.

The premine landuse of the area comprising the coal recovery area is predominately unmanaged forest with no current use. According to the Soil Survey of Jackson County, Alabama, there are no prime farmland soils within the permit boundary.

If unplanned subsidence should occur and cause damage to any surface feature, Red Mesa Energy, LLC will, to the extent required by law, restore, rehabilitate, or remove and replace each damaged structure or feature to the condition that would exist if no subsidence had occurred, promptly after the damage has occurred and subsidence is complete, or they will purchase the damaged structure or feature for its fair market, presubsidence value. If unplanned subsidence should occur and cause adverse impacts to water supplies adjacent to the mine, those supplies will be replaced or restored in accordance with regulatory requirements.

- (iv) Give anticipated date (month/year) in which mining will be conducted in each area and/or panel.
 - (v) Characterize variations in claystone layers immediately below the extracted coal seam(s). Include data on varying claystone thickness throughout the area covered by the subsidence control plan. Provide assurances that measures have been adopted concerning the maximization of mine stability as it relates to claystone flood conditions.
- (2) Provide a detailed description of measures to be taken to prevent unplanned subsidence from causing material damage or lessening the value or reasonable foreseeable use of the surface. Describe how these measures are to be applied. Include the following information.
- (i) Locate area(s) in which coal removal is not planned, including its relationship to overlying area(s) to be protected by leaving coal in place.
 - (ii) Locate area(s) to be backfilled or backstowed.
 - (iii) Describe measures to be taken on the surface to prevent material damage or diminution of the value or reasonable foreseeable use of the surface including, but not limited to:
 - (A) Reinforcement of sensitive structures or features;
 - (B) Installation of footers or other techniques designed to reduce damage caused by movement;
 - (C) Change of location of pipelines, utility lines or other features;
 - (D) Relocation of moveable improvements to sites outside the potential angle-of-draw;
 - (E) Monitoring to determine the commencement and degree of subsidence so that appropriate measures can be taken to prevent or reduce damage; and
 - (F) Describe any other prevention measures to be taken.
- (3) Provide a detailed description of measures that are to be taken to mitigate the effect of any material damage or diminution of value or foreseeable use of lands which may occur as a result of unplanned subsidence. Describe how these measures are to be promptly applied in accordance with 817.124. Measures include, but are not limited to, one or more of the following:

- (i) Restoration or rehabilitation of damaged structures (including surface and underground agricultural drainage systems), features and lands after subsidence to a condition capable of supporting and suitable for foreseeable use including restoration of approximate land surface contours to premining conditions in order to assure proper surface drainage.
 - (ii) Replacement of structures, including surface and underground agricultural drainage systems destroyed or damaged by subsidence.
 - (iii) Purchase of structures prior to mining or purchase of damaged structures at pre-subsidence value.
 - (iv) Purchase of non-cancellable insurance policies, as described in 817.124(c), payable to the surface owner in the full amount of the possible material damage or other comparable measures.
 - (v) Describe other mitigation measures to be taken.
- (4) Provide a detailed description of measures to be taken to determine the degree of material damage or diminution of value or foreseeable use of the surface, including, but not limited to such measures as:
- (i) Conducting of pre-subsidence surveys of all structures and surface features which might be materially damaged by subsidence.
 - (ii) Monitoring to measure deformation near specified structures or features or other appropriate locations.



VICINITY MAP
Scale: 1" = 2 Miles

- NOTES**
- All spoil and topsoil will be stockpiled within the permit boundary.
 - There are no buildings within a 1000' of the permit area, other than shown on the permit map.
 - Surface and mineral ownership by 1/4-1/4, unless shown otherwise.
 - Coal stockpile locations are subject to change.
 - There are no city or town limits within the permit area.
 - County Sheriff Has Jurisdiction Within 1000' of Permit Area.
 - Mine Map On Record Only Shows Projections, However, Drillhole HMLHOB-4 Encountered Old Works And Additional Drilling To Define Mine Boundary Will Be Completed Prior To Red Mesa Energy Mining In The Vicinity Of This Mine.

- LEGEND**
- Permit Boundary
 - 6000 Surface Contour
 - 6400 Upper Bon Air Structure Contour
 - Sediment Basin
 - Cemetery
 - Perennial Stream as shown by the U.S.G.S. Quadrangle
 - Drainage Path
 - Trail
 - Primary Road
 - UBA Upper Bon Air Seam Outcrop
 - LBA Lower Bon Air Seam Outcrop
 - Diversion Ditch
 - Public Road
 - Unoccupied/Barn
 - Occupied Dwelling
 - (S) Surface Ownership
 - (M) Mineral Ownership
 - (Fee) Surface & Mineral Ownership
 - Franklin & Foothills (M) Chester Franklin & Gail Franklin, 1/4 Undivided Mineral Interest - Foothills
 - Grain & Coal Transportation 1/4 Undivided Mineral Interest
 - Previously Mined (Underground)
 - Highwall
 - Impounded Water
 - Pioneer 1763 Benchmark
 - Spring
 - Previously Disturbed (P-3515)
 - Previously Disturbed (P-3760)
 - Previously Disturbed
 - P-2805
 - Black Panther Coal Company, Inc. P-3429 Stevenson Mine
 - P-3515
 - P-3760
 - AL Selects - Underground Mine

- BOND LEGEND**
- Area Bonded Under Increment No. 1, 25 Acres. 25 Acres Mining Area and Diversions
 - Area Bonded Under Increment No. 2, 1 Acre. 1 Acre Basins 001P
- Total Permitted Area..... 26 Acres.

I, Leslie G. Stephens, a Registered Professional Engineer and Land Surveyor, hereby certify this map to be true and correct to the best of my knowledge, information and belief.

Leslie G. Stephens, P.E./P.L.S. Date
AL Reg. #14117-E

PERC ENGINEERING CO., INC.
1606 Hwy. 78 West Jasper, AL 35501/P.O. Box 1712-35502
(205) 384-5553 Office (205) 295-3114 Fax

Red Mesa Energy, LLC.
Bledsoe Mine Permit Map
Part of Sections 12, 13, 14, & 23
Township 1 South, Range 7 East
Jackson County