



August 5, 2016

Mr. Stephen Miles, P.E.
Alabama Surface Mining Commission
P. O. Box 2390
Jasper, AL 35502-2390

RE: Warrior Met Coal Mining, LLC
Mine No. 4, P-3260, Revision No. 41
Reservoir Shaft 4-7

Dear Mr. Miles:

I hereby certify the enclosed detailed design plans for the Reservoir at Shaft 4-7 for the above referenced mine are in accordance with the Regulations of the Alabama Surface Mining Commission as adopted by Act 81-435 of December 18, 1981 and as amended to date and that the information used in the enclosed basin design plans is true and correct to the best of my knowledge and belief.

If you have any questions or need additional information, please do not hesitate to contact our office.

Sincerely,

McGehee Engineering Corp.

A handwritten signature in black ink, appearing to read "Robert W. Usher", is written over the company name.

Robert W. Usher, P.E.
Alabama Reg. No. 15917



**WARRIOR MET COAL MINING, LLC
MINE NO. 4, P-3260**

INTRODUCTION

The Reservoir at Shaft 4-7 was originally permitted by Revision No. 26. It was addressed that the site held water and was to be used to store freshwater from pump age to the pool area. The water would be transferred via wells into the underground mine for the purposes of dust and fire suppression. No detail plans were addressed to be submitted. This was approved and Warrior Met Coal Mining, LLC (WMCM) has been using the facility since that time as stated.

The site is a water impoundment created by road fills and spoil from coal bed methane access and surface mining in the 1980's. There is no discharge structure in the impoundment. The access road is the lowest point around the structure. Review of old aerial photographs show the pool level has maintained the current level for many years. Even with WMCM pumping water to the pool there is no evidence that the structure has ever discharged.

ASMC has requested that design plans for this structure. These plans address the as-built configuration. WMCM proposes to install 2 – 8" high density poly pipes to serve as the primary and emergency spillways. No other work is proposed to the structure. This structure will not treat disturbed runoff from mine related activities. Therefore it is not designed as a sediment control structure and does not have an NPDES permitted outfall.

SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS

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

1. **EMBANKMENT REQUIREMENTS**
 - A) The minimum width of the top of the embankment will under no circumstance be less than twelve (12) feet.
 - B) The embankment will have a minimum front and back slope no steeper than the slopes listed on the detailed design sheet.
 - C) The foundation area of the embankment will be cleared and grubbed of all organic matter with no surface slope steeper than 1 horizontal to 1 vertical. The entire wet area, as measured from the upstream toe of the embankment to the normal pool level, will be cleared of trees and large brush.
 - D) A core will be constructed in a cutoff trench along the centerline of the embankment. The cutoff trench will be of suitable depth and width to attain relatively impervious material.
 - E) The embankment construction material will be free of sod, roots, stumps, rocks, etc., which exceed six (6") inches in diameter. The embankment material will be placed in layers of twelve (12") inches or less and compacted to ninety five (95%) percent of the standard proctor density, as set forth in ASTM.
 - F) The embankment, foundation and abutments will be designed and constructed to be stable under normal construction and operating conditions, with a minimum static safety factor of 1.3 at normal pool level with steady seepage saturation conditions.
 - G) The actual constructed height of the embankment will be a minimum of five (5%) percent higher than the design height to allow for settling over the life of the embankment.
 - H) The design embankment height for temporary impoundments will be a minimum of one (1) foot above the maximum water level anticipated from a 10 Year - 24 Hour or a 25 Year - 6 Hour precipitation event (whichever is greater). The design embankment height for permanent impoundments will be a minimum of one (1) foot above the maximum water level anticipated from a 10 Year - 24 Hour or a 25 Year - 6 Hour precipitation event (whichever is greater).

WARRIOR MET COAL MINING, LLC
MINE NO. 4, P-3260

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

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

2. DISCHARGE STRUCTURE REQUIREMENTS

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

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

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

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

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

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

WARRIOR MET COAL MINING, LLC
MINE NO. 4, P-3260

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

3. INSPECTION, MAINTENANCE AND CERTIFICATION REQUIREMENTS

- A) Inspections will be conducted regularly during construction of the sediment basin by a qualified registered professional engineer or other qualified person under the direction of a professional engineer. Upon completion of construction, the sediment basin will be certified, by a qualified registered professional engineer, to the Regulatory Authority as having been constructed in accordance with the approved detailed design plans.
- B) Sediment basins will be inspected semi-monthly for erosion, instability, etc., with maintenance performed as necessary, until the removal of the structure or until a Phase III Bond Release is granted.
- C) Sediment basins will be examined quarterly for structural weakness, instability, erosion, slope failure, or other hazardous conditions with maintenance performed as necessary.
- D) Formal inspections will be made annually, by a qualified registered professional engineer or other qualified person under the direction of a professional engineer, including any reports or modifications, in accordance with 880-X- 10C- .20[1(j)] of the Alabama Surface Mining Regulations.
- E) Retained sediment will be removed from each sediment basin when the accumulated sediment reaches the maximum allowable sediment volume as set forth in the detailed design plans.

4. BASIN REMOVAL REQUIREMENTS

- A) Upon completion of mining, reclamation, restabilization and effluent standards being met, each sediment basin not proposed as a permanent water impoundment will be dewatered in a controlled manner by either pumping or siphoning. Upon successful dewatering, a determination will be made as to the retained sediment level in the basin. After determining the retained sediment level, a channel will be cut into the embankment down to the retained sediment level on the side of the embankment deemed most suitable to reach natural ground without encountering prohibiting rock. The embankment material removed from this newly constructed channel will be spread and compacted over the previous impoundment (wet area) area to prevent erosion and ensure restabilization. The newly constructed channel will be of adequate width (minimum 30 feet) and sloped to a grade (approximately 1% to 3%) which will cause all surface drainage to travel across this area in sheet flow, minimizing the possibility of erosion. Also, where necessary, hay dams will be installed in strategic locations across the width of the channel to retain sediment and slow the water velocity to a favorable rate. Upon removal of the

WARRIOR MET COAL MINING, LLC
MINE NO. 4, P-3260

embankment section, all disturbed areas will be graded in such a manner to ensure slope stability, successful restabilization and to minimize erosion. All disturbed areas will be seeded with a mixture of annual and perennial grasses, fertilized and mulched. No slope, existing or created in the removal of the sediment basin, will be left on a grade that will slip or slough.

5. PERMANENT WATER IMPOUNDMENT REQUIREMENTS

- A) Prior to a request for a Phase II Bond Release, all sediment basins being left as permanent water impoundments will have supplemental data submitted to the Regulatory Authority concerning water quality, water quantity, size, depth, configuration, postmining land use, etc.
- B) Final grading slopes of the entire permanent water impoundment area will not exceed a slope of 2 Horizontal to 1 Vertical to provide for safety and access for future water users.

**WARRIOR MET COAL MINING, LLC
MINE NO. 4, P-3260**

**DETAILED DESIGN PLANS
RESERVOIR SHAFT 4-7**

WARRIOR MET COAL MINING, LLC SHAFT 4-7 WATER RESERVIOR

Elevation-Area-Capacity Table

Elevation (ft)	Area (ac)	Capacity (ac-ft)
616.00	0.240	0.000
616.50	0.348	0.146
617.00	0.475	0.351
617.50	0.623	0.625
618.00	0.790	0.977
618.50	0.867	1.391
619.00	0.948	1.845
619.50	1.032	2.340
620.00	1.120	2.877
620.50	1.185	3.453
621.00	1.251	4.062
621.50	1.320	4.705
622.00	1.390	5.383
622.50	1.469	6.097
623.00	1.551	6.852
623.50	1.634	7.648
624.00	1.720	8.487
624.50	1.790	9.364
625.00	1.862	10.277
625.50	1.935	11.227
626.00	2.010	12.213
626.50	2.074	13.234
627.00	2.138	14.287
627.50	2.204	15.372
628.00	2.270	16.490
628.50	2.338	17.642
629.00	2.408	18.829
629.50	2.478	20.050
630.00	2.550	21.308
630.50	2.626	22.601
631.00	2.703	23.934
631.50	2.781	25.304
632.00	2.860	26.715
632.50	2.938	28.164
633.00	3.018	29.653

Elevation (ft)	Area (ac)	Capacity (ac-ft)
633.50	3.098	31.182
634.00	3.180	32.752
634.50	3.275	34.366
635.00	3.372	36.027
635.50	3.470	37.738
636.00	3.570	39.498
636.50	3.641	41.301
637.00	3.714	43.140
637.50	3.786	45.015
638.00	3.860	46.926

WARRIOR MET COAL MINING, LLC
MINE NO. 4, P-3260

**HYDROLOGY AND SEDIMENTOLOGY PREDICTION
10 YEAR - 24 HOUR PRECIPITATION EVENT
RESERVOIR SHAFT 4-7**

Warrior Met Coal Mining, LLC
Mine No. 4, P-3260
Shaft 4-7 Water Reservoir

10yr-24hr event

Robert W. Usher, P.E.

General Information

Storm Information:

Storm Type:	DRN 58
Design Storm:	10 yr - 24 hr
Rainfall Depth:	6.000 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Pond	#1	==>	End	0.000	0.000	Shaft 4-7 Water Reservoir



Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#1 In	11.800	11.800	9.78	2.39
Out			1.20	2.19

Structure Detail:

Structure #1 (Pond)

Shaft 4-7 Water Reservoir

Pond Inputs:

Initial Pool Elev:	628.50 ft
Initial Pool:	17.62 ac-ft

Straight Pipe

Barrel Diameter (in)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev (ft)	Entrance Loss Coefficient	Tailwater Depth (ft)
8.00	120.00	2.00	0.0130	628.50	0.90	0.00

Straight Pipe

Barrel Diameter (in)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev (ft)	Entrance Loss Coefficient	Tailwater Depth (ft)
8.00	120.00	2.00	0.0130	628.50	0.90	0.00

Pond Results:

Peak Elevation:	629.06 ft
Dewater Time:	0.90 days

Dewatering time is calculated from peak stage to lowest spillway

Elevation-Capacity-Discharge Table

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)
616.00	0.240	0.000	0.000	
616.50	0.346	0.146	0.000	
617.00	0.471	0.349	0.000	
617.50	0.616	0.620	0.000	
618.00	0.780	0.968	0.000	
618.50	0.859	1.378	0.000	
619.00	0.942	1.828	0.000	
619.50	1.029	2.321	0.000	
620.00	1.120	2.858	0.000	

SEDCAD 4 for Windows

Copyright 1998-2010 Pamela J. Schwab

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)
620.50	1.185	3.434	0.000	
621.00	1.251	4.043	0.000	
621.50	1.320	4.686	0.000	
622.00	1.390	5.363	0.000	
622.50	1.469	6.078	0.000	
623.00	1.551	6.833	0.000	
623.50	1.634	7.629	0.000	
624.00	1.720	8.468	0.000	
624.50	1.790	9.345	0.000	
625.00	1.862	10.258	0.000	
625.50	1.935	11.207	0.000	
626.00	2.010	12.194	0.000	
626.50	2.074	13.215	0.000	
627.00	2.138	14.267	0.000	
627.50	2.204	15.353	0.000	
628.00	2.270	16.471	0.000	
628.50	2.338	17.623	0.000	Spillway #1 Spillway #2
629.00	2.408	18.810	1.025	14.01*
629.06	2.417	18.960	1.202	7.65 Peak Stage
629.50	2.478	20.031	2.466	
630.00	2.550	21.288	3.312	
630.50	2.626	22.582	3.638	
631.00	2.703	23.914	3.965	
631.50	2.781	25.285	4.256	
632.00	2.860	26.695	4.456	
632.50	2.941	28.146	4.656	
633.00	3.023	29.636	4.856	
633.50	3.106	31.169	5.056	
634.00	3.190	32.742	5.246	
634.50	3.283	34.361	5.411	
635.00	3.377	36.026	5.576	
635.50	3.473	37.738	5.740	
636.00	3.570	39.499	5.905	
636.50	3.641	41.302	6.070	
637.00	3.714	43.140	6.230	
637.50	3.786	45.015	6.370	
638.00	3.860	46.927	6.510	

*Designates time(s) to dewater have been extrapolated beyond the 50 hour hydrograph limit.

Detailed Discharge Table

Elevation (ft)	Straight Pipe (cfs)	Straight Pipe (cfs)	Combined Total Discharge (cfs)
616.00	0.000	0.000	0.000
616.50	0.000	0.000	0.000
617.00	0.000	0.000	0.000
617.50	0.000	0.000	0.000
618.00	0.000	0.000	0.000
618.50	0.000	0.000	0.000
619.00	0.000	0.000	0.000
619.50	0.000	0.000	0.000
620.00	0.000	0.000	0.000
620.50	0.000	0.000	0.000
621.00	0.000	0.000	0.000
621.50	0.000	0.000	0.000
622.00	0.000	0.000	0.000
622.50	0.000	0.000	0.000
623.00	0.000	0.000	0.000
623.50	0.000	0.000	0.000
624.00	0.000	0.000	0.000
624.50	0.000	0.000	0.000
625.00	0.000	0.000	0.000
625.50	0.000	0.000	0.000
626.00	0.000	0.000	0.000
626.50	0.000	0.000	0.000
627.00	0.000	0.000	0.000
627.50	0.000	0.000	0.000
628.00	0.000	0.000	0.000
628.50	0.000	0.000	0.000
629.00	(3)>0.512	(3)>0.512	1.025
629.50	(5)>1.233	(5)>1.233	2.466
630.00	(5)>1.656	(5)>1.656	3.312
630.50	(5)>1.819	(5)>1.819	3.638
631.00	(6)>1.982	(6)>1.982	3.965
631.50	(6)>2.128	(6)>2.128	4.256
632.00	(6)>2.228	(6)>2.228	4.456
632.50	(6)>2.328	(6)>2.328	4.656
633.00	(6)>2.428	(6)>2.428	4.856
633.50	(6)>2.528	(6)>2.528	5.056
634.00	(6)>2.623	(6)>2.623	5.246
634.50	(6)>2.705	(6)>2.705	5.411

Elevation (ft)	Straight Pipe (cfs)	Straight Pipe (cfs)	Combined Total Discharge (cfs)
635.00	(6)>2.788	(6)>2.788	5.576
635.50	(6)>2.870	(6)>2.870	5.740
636.00	(6)>2.953	(6)>2.953	5.905
636.50	(6)>3.035	(6)>3.035	6.070
637.00	(6)>3.115	(6)>3.115	6.230
637.50	(6)>3.185	(6)>3.185	6.370
638.00	(6)>3.255	(6)>3.255	6.510

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	11.800	0.130	0.000	0.000	72.000	M	9.78	2.392
Σ		11.800						9.78	2.392

WARRIOR MET COAL MINING, LLC
MINE NO. 4, P-3260

HYDROLOGY AND SEDIMENTOLOGY PREDICTION
25 YEAR - 6 HOUR PRECIPITATION EVENT
RESERVOIR SHAFT 4-7

Warrior Met Coal Mining, LLC
Mine No. 4, P-3260
Shaft 4-7 Water Reservoir

25yr-6hr event

Robert W. Usher, P.E.

General Information

Storm Information:

Storm Type:	SCS 6 Hour
Design Storm:	25 yr - 6 hr
Rainfall Depth:	5.000 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Pond	#1	==>	End	0.000	0.000	Shaft 4-7 Water Reservoir

#1 Pond

Structure Summary:

		Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#1	In	11.800	11.800	17.94	1.76
	Out			1.36	1.69

Structure Detail:

Structure #1 (Pond)

Shaft 4-7 Water Reservoir

Pond Inputs:

Initial Pool Elev:	628.50 ft
Initial Pool:	17.62 ac-ft

Straight Pipe

Barrel Diameter (in)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev (ft)	Entrance Loss Coefficient	Tailwater Depth (ft)
8.00	120.00	2.00	0.0130	628.50	0.90	0.00

Straight Pipe

Barrel Diameter (in)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev (ft)	Entrance Loss Coefficient	Tailwater Depth (ft)
8.00	120.00	2.00	0.0130	628.50	0.90	0.00

Pond Results:

Peak Elevation:	629.12 ft
Dewater Time:	0.71 days

Dewatering time is calculated from peak stage to lowest spillway

Elevation-Capacity-Discharge Table

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)
616.00	0.240	0.000	0.000	
616.50	0.346	0.146	0.000	
617.00	0.471	0.349	0.000	
617.50	0.616	0.620	0.000	
618.00	0.780	0.968	0.000	
618.50	0.859	1.378	0.000	
619.00	0.942	1.828	0.000	
619.50	1.029	2.321	0.000	
620.00	1.120	2.858	0.000	

SEDCAD 4 for Windows

Copyright 1998-2010 Pamela I. Schwab

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)
620.50	1.185	3.434	0.000	
621.00	1.251	4.043	0.000	
621.50	1.320	4.686	0.000	
622.00	1.390	5.363	0.000	
622.50	1.469	6.078	0.000	
623.00	1.551	6.833	0.000	
623.50	1.634	7.629	0.000	
624.00	1.720	8.468	0.000	
624.50	1.790	9.345	0.000	
625.00	1.862	10.258	0.000	
625.50	1.935	11.207	0.000	
626.00	2.010	12.194	0.000	
626.50	2.074	13.215	0.000	
627.00	2.138	14.267	0.000	
627.50	2.204	15.353	0.000	
628.00	2.270	16.471	0.000	
628.50	2.338	17.623	0.000	Spillway #1 Spillway #2
629.00	2.408	18.810	1.025	14.01*
629.12	2.425	19.092	1.358	3.05 Peak Stage
629.50	2.478	20.031	2.466	
630.00	2.550	21.288	3.312	
630.50	2.626	22.582	3.638	
631.00	2.703	23.914	3.965	
631.50	2.781	25.285	4.256	
632.00	2.860	26.695	4.456	
632.50	2.941	28.146	4.656	
633.00	3.023	29.636	4.856	
633.50	3.106	31.169	5.056	
634.00	3.190	32.742	5.246	
634.50	3.283	34.361	5.411	
635.00	3.377	36.026	5.576	
635.50	3.473	37.738	5.740	
636.00	3.570	39.499	5.905	
636.50	3.641	41.302	6.070	
637.00	3.714	43.140	6.230	
637.50	3.786	45.015	6.370	
638.00	3.860	46.927	6.510	

**Designates time(s) to dewater have been extrapolated beyond the 50 hour hydrograph limit.*

Detailed Discharge Table

Elevation (ft)	Straight Pipe (cfs)	Straight Pipe (cfs)	Combined Total Discharge (cfs)
616.00	0.000	0.000	0.000
616.50	0.000	0.000	0.000
617.00	0.000	0.000	0.000
617.50	0.000	0.000	0.000
618.00	0.000	0.000	0.000
618.50	0.000	0.000	0.000
619.00	0.000	0.000	0.000
619.50	0.000	0.000	0.000
620.00	0.000	0.000	0.000
620.50	0.000	0.000	0.000
621.00	0.000	0.000	0.000
621.50	0.000	0.000	0.000
622.00	0.000	0.000	0.000
622.50	0.000	0.000	0.000
623.00	0.000	0.000	0.000
623.50	0.000	0.000	0.000
624.00	0.000	0.000	0.000
624.50	0.000	0.000	0.000
625.00	0.000	0.000	0.000
625.50	0.000	0.000	0.000
626.00	0.000	0.000	0.000
626.50	0.000	0.000	0.000
627.00	0.000	0.000	0.000
627.50	0.000	0.000	0.000
628.00	0.000	0.000	0.000
628.50	0.000	0.000	0.000
629.00	(3)>0.512	(3)>0.512	1.025
629.50	(5)>1.233	(5)>1.233	2.466
630.00	(5)>1.656	(5)>1.656	3.312
630.50	(5)>1.819	(5)>1.819	3.638
631.00	(6)>1.982	(6)>1.982	3.965
631.50	(6)>2.128	(6)>2.128	4.256
632.00	(6)>2.228	(6)>2.228	4.456
632.50	(6)>2.328	(6)>2.328	4.656
633.00	(6)>2.428	(6)>2.428	4.856
633.50	(6)>2.528	(6)>2.528	5.056
634.00	(6)>2.623	(6)>2.623	5.246
634.50	(6)>2.705	(6)>2.705	5.411

Elevation (ft)	Straight Pipe (cfs)	Straight Pipe (cfs)	Combined Total Discharge (cfs)
635.00	(6)>2.788	(6)>2.788	5.576
635.50	(6)>2.870	(6)>2.870	5.740
636.00	(6)>2.953	(6)>2.953	5.905
636.50	(6)>3.035	(6)>3.035	6.070
637.00	(6)>3.115	(6)>3.115	6.230
637.50	(6)>3.185	(6)>3.185	6.370
638.00	(6)>3.255	(6)>3.255	6.510

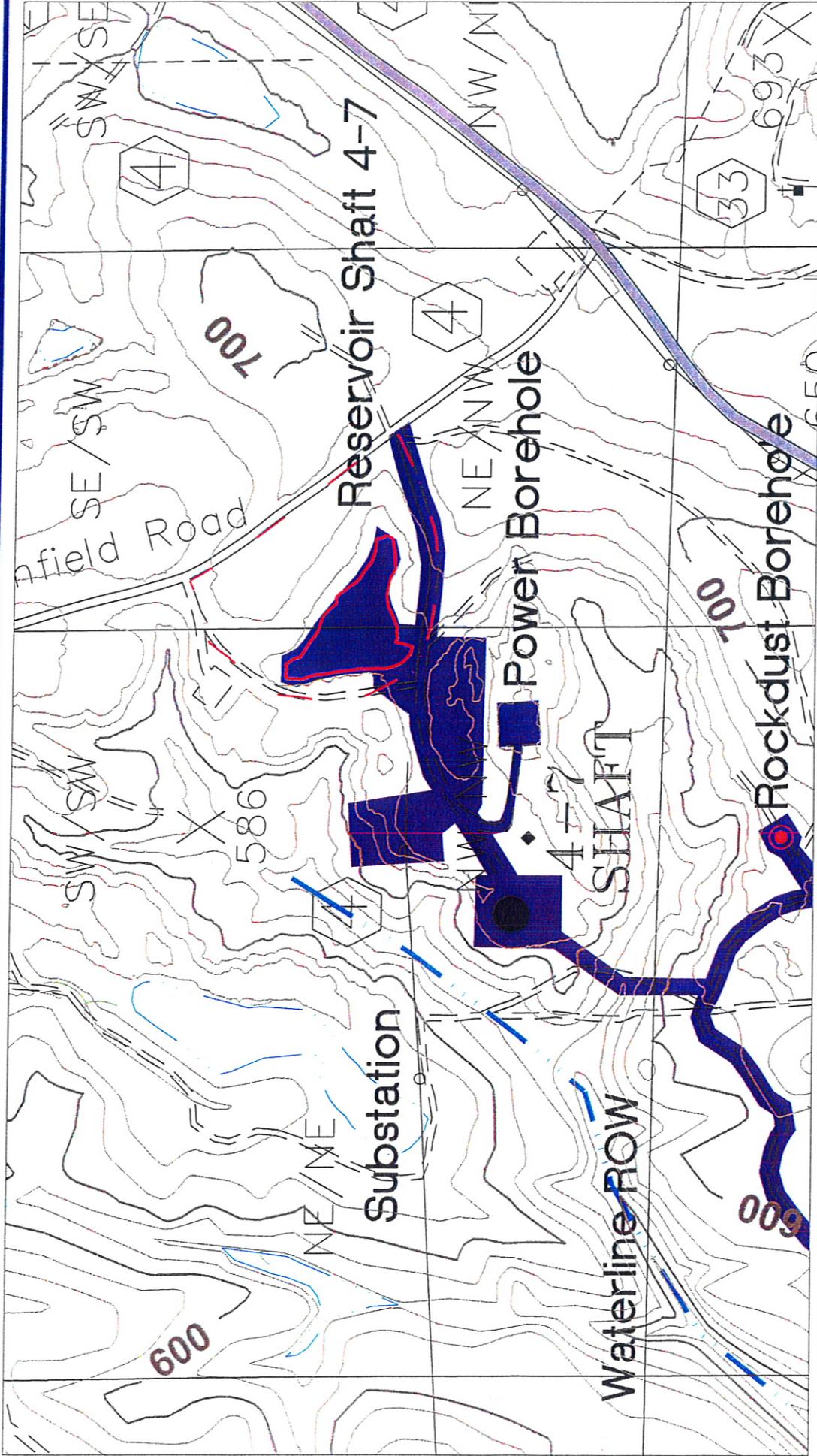
Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	11.800	0.130	0.000	0.000	72.000	M	17.94	1.756
	Σ	11.800						17.94	1.756

**WARRIOR MET COAL MINING, LLC
MINE NO. 4, P-3260**

STABILITY ANALYSIS PROCEDURE

The road fill along the pool area has been in place since the 1980's. The slopes are fairly mild with a wide top width. No signs of seepage, piping or instability have been found. Based on the current condition no stability analysis was performed.



THE ENTIRE WATERSHED IS RECLAIMED SURFACE MINE AREAS WITH TREES - CN 60, WITH
 THE EXCEPTION OF THE POOL AREA - CN 100, AND ROADS - CN 81.

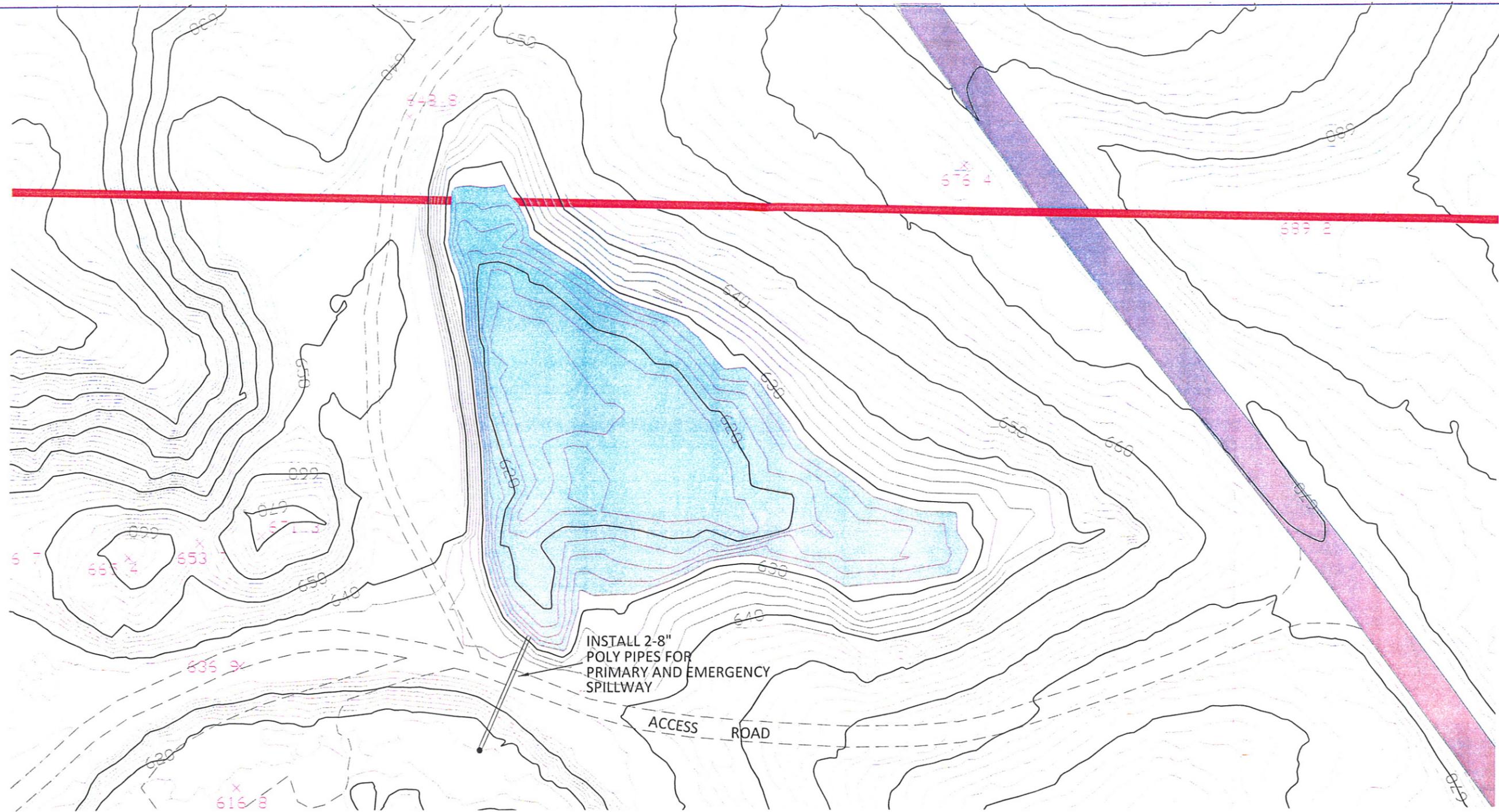
- ATTACHMENT III-B-2(A)
- EXISTING PERMIT AREA
- DRAINAGE BOUNDARY
- RESERVOIR



WARRIOR MET COAL MINING, LLC

MINE NO. 4, P-3260, R-41
 WATERSHED MAP
 RESERVOIR SHAFT 4-7
 SCALE: 1" = 500'
 CONTOUR INTERVAL 20 FEET

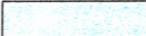
MEC
 mechoe engineering corp
 post office box 2431
 Jasper, Alabama 35002-2431
 telephone: (205) 221-6866 fax: 221-7721
 email: mec@mechoe.com



RESERVOIR

UPSTREAM TOE ELEV.: 616'
 PRIMARY SPILLWAY ELEV.: 628.5'
 EMERGENCY SPILLWAY ELEV.: 628.5'
 **MAXIMUM WATER ELEV.: 629.12'
 MIN TOP OF ACCESS ROAD ELEV.: 630.2' DESIGN

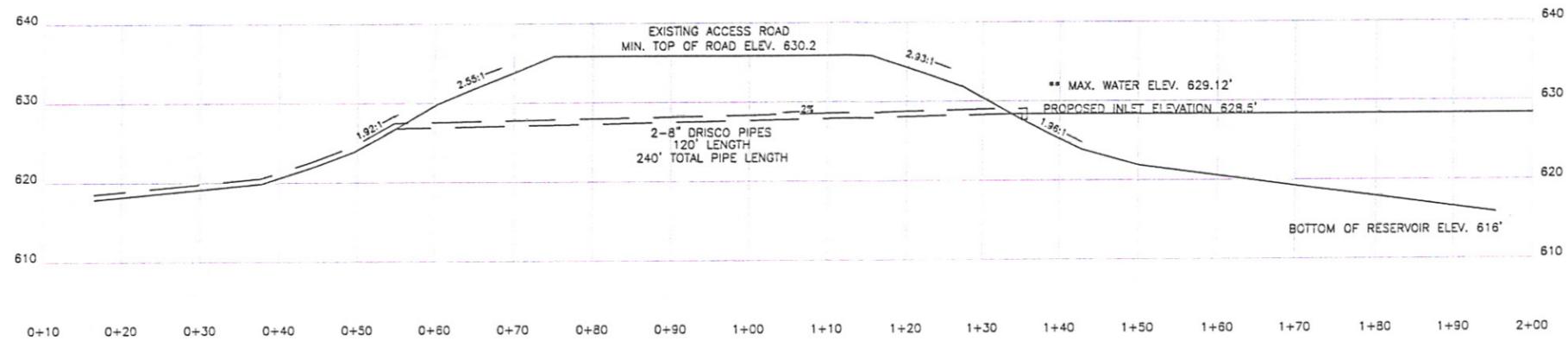
WARRIOR MET COAL MINING, LLC
 MINE NO. 4
 P-3260
 RESERVOIR PLAN VIEW
 SCALE: 1"=100'

 POOL LEVEL AT PIPES
 ENERGY DISSIPATER (CLASS II SANDSTONE RIPRAP)
 ** 25 YEAR - 6 HOUR PRECIPITATION EVENT.
 ENERGY DISSIPATER (CLASS II SANDSTONE RIPRAP)



COMPANY: WARRIOR MET COAL MINING, LLC
 MINE NAME: MINE NO. 4
 PERMIT #: P-3260
 BASIN I.D. #: RESERVOIR

PROFILE VIEW
 SCALE: 1'=20' H&V



KEY BASIN PARAMETERS

DRAINAGE AREA	<u>11.8</u>	ACRES
DISTURBED AREA	<u>2.3</u>	ACRES
SEDIMENT STORAGE	<u>NA</u>	AC.FT.
DETENTION STORAGE	<u>NA</u>	AC.FT.
PERMANENT POOL CAPACITY	<u>17.62</u>	AC.FT.
* TOTAL BASIN STORAGE CAPACITY	<u>18.96</u>	AC.FT.
** PEAK INFLOW	<u>17.94</u>	C.F.S.
** PEAK OUTFLOW	<u>1.36</u>	C.F.S.

NA = NOT APPLICABLE. THIS FACILITY IS TO BE USED FOR WATER RETENTION TO BE USED IN THE MINE, NOT SEDIMENT CONTROL.

NOTE: ALL ELEVATIONS ASSUMED.
 * 10 YEAR - 24 HOUR PRECIPITATION EVENT.
 ** 25 YEAR - 6 HOUR PRECIPITATION EVENT.



post office box 3431
 jasper, alabama 35502-3431
 telephone: (205) 221-0686 fax: 221-7721
 email: cw@mcgehee.org