HYDROLOGIC MONITORING PLAN

COMPANY NAME: WARRIOR MET COAL BC, LLC
MINE NAME: BLUE CREEK MINE NO. 1, P-3964 COUNTY: TUSCALOOSA
NPDES: AL0081477
*A MAP SHOWING ALL MONITORING POINTS MUST ACCOMPANY THIS PLAN

I. Surface Water Monitoring Program: (Discharge Points)

List each discharge point to be monitored and indicate the type or source of discharge	List parameters to be sampled for each discharge point	List frequency of sampling for each discharge point	Duration of Monitoring
Sediment Basin 010, 017, 018, 020, 022 023, 053, 054, 060, 061, 062, 063, 064, 067, 073, 075, 086, 087	See below	Twice monthly	Until joint approval by ASMC and ADEM. In no case sooner than ASMC approval of Phase II Bond release

Manganese will only be analyzed when required to be in accordance with the NPDES permit. Grab Samples from the primary spillway systems. See attached map for all monitoring site locations.

Note: If a sample is taken during or within 24 hours after an applicable precipitation event*, an exemption as allowed by the NPDES permit for Iron (total), Manganese (total) and Total Suspended Solids may be claimed and Settleable Solids, pH and Flow run and reported. The exemption is only applicable if the ADEM "New Source Coal Mine and Associated Discharge Limitations, Conditions and Requirements" are followed.
***An increase in discharge volume caused by an applicable 24-hour precipitation event.**

1. Active Mining Limitations and Monitoring Requirements

a. During the period beginning on the effective date of this Permit and lasting through the expiration date of this Permit, the Permittee is authorized to discharge from **Outfalls 001-1 through 004-1, 010-1 through 012-1, 018-1 through 032-1, 034-1, 037-1, 039-1 through 051-1, 054-1, 057-1, 058-1, 060-1 through 069-1, 075-1 through 077-1, 079-1, and 080-1** identified on Page 1 of this Permit and described more fully in the Permittee's application, if the outfalls have been constructed and certified. Except as provided in Parts I.A.2. and 3., discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitations			Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Sample Type	Measurement Frequency[1]
Specific Conductance 00095	-------	Report µS/cm	Report µS/cm	Grab	2/Month
Sulfate (As S) 00154	-------	Report mg/L	Report mg/L	Grab	2/Month
pH 00400	6.0 s.u.	-------	8.5 s.u.	Grab	2/Month
pH[2] 00400	6.0 s.u.	-------	10.5 s.u.	Grab	2/Month
Solids, Total Suspended 00530	-------	35.0 mg/L	70.0 mg/L	Grab	2/Month
Iron, Total (As Fe) 01045	-------	3.0 mg/L	6.0 mg/L	Grab	2/Month
Manganese, Total (As Mn)[3] 01055	-------	2.0 mg/L	4.0 mg/L	Grab	2/Month
Flow, In Conduit or Thru Treatment Plant[4] 50050	-------	Report MGD	Report MGD	Instantaneous	2/Month
Toxicity, Ceriodaphnia Acute[5] 61425	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Toxicity, Ceriodaphnia Chronic[6] 61426	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Toxicity, Pimephales Acute[5] 61427	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Toxicity, Ceriodaphnia Chronic[6] 61428	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Solids, Total Dissolved (TDS) 70296	-------	Report mg/L	Report mg/L	Grab	1/Quarter

1 See Part I.C.2. for further measurement frequency requirements.
2 See Part IV.D. for pH Exemption Discharge Limitations.
3 See Part IV.E. for Manganese Exemption Discharge Limitations.
4 Flow must be determined at the time of sample collection by direct measurement, calculation, or other method acceptable to the Department.
5 See Part IV.F. for Effluent Toxicity Limitations and Biomonitoring Requirements for Acute Toxicity.
6 See Part IV.F. for Effluent Toxicity Limitations and Biomonitoring Requirements for Chronic Toxicity.

b. During the period beginning on the effective date of this Permit and lasting through the expiration date of this Permit, the Permittee is authorized to discharge from **Outfalls 005-1, 006-1, 008-1, 009-1, 013-1 through 017-1, 033-1, 035-1, 036-1, 038-1, 052-1, 053-1, 055-1, 056-1, 059-1, 070-1, 074-1, 078-1, and 082-1** identified on Page 1 of this Permit and described more fully in the Permittee's application, if the outfalls have been constructed and certified. Except as provided in Parts I.A.2. and 3., discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitations			Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Sample Type	Measurement Frequency[7]
Specific Conductance 00095	-------	Report µS/cm	Report µS/cm	Grab	2/Month
Sulfate (As S) 00154	-------	Report mg/L	Report mg/L	Grab	2/Month
pH 00400	6.0 s.u.	-------	9.0 s.u.	Grab	2/Month
pH[8] 00400	6.0 s.u.	-------	10.5 s.u.	Grab	2/Month
Solids, Total Suspended 00530	-------	35.0 mg/L	70.0 mg/L	Grab	2/Month
Iron, Total (As Fe) 01045	-------	3.0 mg/L	6.0 mg/L	Grab	2/Month
Manganese, Total (As Mn)[9] 01055	-------	2.0 mg/L	4.0 mg/L	Grab	2/Month
Flow, In Conduit or Thru Treatment Plant[10] 50050	-------	Report MGD	Report MGD	Instantaneous	2/Month
Toxicity, Ceriodaphnia Acute[11] 61425	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Toxicity, Ceriodaphnia Chronic[12] 61426	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Toxicity, Pimephales Acute[11] 61427	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Toxicity, Ceriodaphnia Chronic[12] 61428	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Solids, Total Dissolved (TDS) 70296	-------	Report mg/L	Report mg/L	Grab	1/Quarter

[7] See Part I.C.2. for further measurement frequency requirements.
[8] See Part IV.D. for pH Exemption Discharge Limitations.
[9] See Part IV.E. for Manganese Exemption Discharge Limitations.
[10] Flow must be determined at the time of sample collection by direct measurement, calculation, or other method acceptable to the Department.
[11] See Part IV.F. for Effluent Toxicity Limitations and Biomonitoring Requirements for Acute Toxicity.
[12] See Part IV.F. for Effluent Toxicity Limitations and Biomonitoring Requirements for Chronic Toxicity.

d. During the period beginning on the effective date of this Permit and lasting through the expiration date of this Permit, the Permittee is authorized to discharge from **Outfalls 083-1 through 090-1** identified on Page 1 of this Permit and described more fully in the Permittee's application, if the outfalls have been constructed and certified. Except as provided in Parts I.A.2. and 3., discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitations			Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Sample Type	Measurement Frequency[18]
Specific Conductance 00095	-------	Report µS/cm	Report µS/cm	Grab	2/Month
Sulfate (As S) 00154	-------	Report mg/L	Report mg/L	Grab	2/Month
pH 00400	6.0 s.u.	-------	8.5 s.u.	Grab	2/Month
pH[19] 00400	6.0 s.u.	-------	10.5 s.u.	Grab	2/Month
Solids, Total Suspended 00530	-------	35.0 mg/L	70.0 mg/L	Grab	2/Month
Iron, Total (As Fe) 01045	-------	3.0 mg/L	6.0 mg/L	Grab	2/Month
Manganese, Total (As Mn)[20] 01055	-------	2.0 mg/L	4.0 mg/L	Grab	2/Month
Flow, In Conduit or Thru Treatment Plant[21] 50050	-------	Report MGD	Report MGD	Instantaneous	2/Month
Toxicity, Ceriodaphnia Acute[22] 61425	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Toxicity, Ceriodaphnia Chronic[23] 61426	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Toxicity, Pimephales Acute[22] 61427	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Toxicity, Ceriodaphnia Chronic[23] 61428	-------	-------	0 pass(0)/fail(1)	Grab	1/Quarter
Solids, Total Dissolved (TDS) 70296	-------	Report mg/L	Report mg/L	Grab	1/Quarter

[18] See Part I.C.2. for further measurement frequency requirements.
[19] See Part IV.D. for pH Exemption Discharge Limitations.
[20] See Part IV.E. for Manganese Exemption Discharge Limitations.
[21] Flow must be determined at the time of sample collection by direct measurement, calculation, or other method acceptable to the Department.
[22] See Part IV.F. for Effluent Toxicity Limitations and Biomonitoring Requirements for Acute Toxicity.
[23] See Part IV.F. for Effluent Toxicity Limitations and Biomonitoring Requirements for Chronic Toxicity.

A. Reporting and Recording Specifications:

a) NPDES outfalls:

Reporting as required for NPDES permit to Alabama Department of Environmental Management plus a simultaneous copy to ASMC containing the following:

1) Name of Company
2) Name of Mine
3) ASMC permit number
4) NPDES number
5) Sampling period covered by report
6) List of the discharge points sampled and analysis results

b) Other:

B. Non-Compliant Discharge Reporting:

Reporting as required by the NPDES permit to Alabama Department of Environmental Management plus simultaneous copy (indicating ASMC permit number) to ASMC.

II. Other Surface Water Monitoring

Bodies of water receiving discharges from the mine: **Little Yellow Creek & Big Yellow Creek**

Site ID	Description	Parameters Sampled	Minimum Sample Frequency	Duration of Monitoring
LYC-SW1	Downstream – Little Yellow Creek	See Table 1	See Table 1	Life of Mine*
LYC-SW2	Downstream/Upstream – Little Yellow Creek	See Table 1	See Table 1	Life of Mine*
UTBYC-SW1	Downstream – U.T. to Big Yellow Creek	See Table 1	See Table 1	Life of Mine*
WOC-SW1	Downstream – White Oak Creek	See Table 1	See Table 1	Life of Mine*

TABLE 1 – LIST OF PARAMETERS TO BE SAMPLED AND FREQUENCY

Parameter	Minimum Sample Frequency	Symbol	Total or Dissolved	Units
Flow Rate	Quarterly	Disch.		CFS
pH	Quarterly	-	-	-
Total Suspended Solids	Quarterly	TSS	Total	mg/l
Iron	Quarterly	Fe	Total	mg/l
Manganese	Quarterly	Mn	Total	mg/l
Specific Conductance	Quarterly	SpC	Total	µs/cm
Aluminum	Quarterly	Al	Dissolved	µg/l
Antimony	Quarterly	Sb	Dissolved	µg/l
**Arsenic	Quarterly	As	Dissolved	µg/l
Beryllium	Quarterly	Be	Dissolved	µg/l
Cadmium	Quarterly	Cd	Dissolved	µg/l
Chromium	Quarterly	Cr	Dissolved	µg/l
Copper	Quarterly	Cu	Dissolved	µg/l
Mercury	Quarterly	Hg	Total	µg/l
Nickel	Quarterly	Ni	Dissolved	µg/l
Selenium	Quarterly	Se	Total	µg/l
Silver	Quarterly	Ag	Dissolved	µg/l
Thallium	Quarterly	Tl	Dissolved	µg/l
Zinc	Quarterly	Zn	Dissolved	µg/l

* The duration of monitoring for the additional parameters (Aluminum, Arsenic, Beryllium, Cadmium, Chromium, Copper, Mercury, Nickel, Selenium, Silver, Thallium, Zinc) will be reported quarterly for the first year, then if determined upon request for evaluation to be reduced to bi-annually. These parameters will be monitored until a phase II bond release or approved monitoring termination by the regulatory authority.

** If arsenic is detected, arsenic speciation must be conducted.

A. Reporting and Recording Specifications:

1) Frequency of Reporting: Quarterly

2) Contents of Report: Name of company, mine name, ASMC permit number and for all monitoring locations, the dates samples were taken and sample results for each parameter and who collected and analyzed the samples.

III. Monitoring requirements for removal of sediment ponds and other treatment facilities:

One sample of inflow collected within 48 hours after commencement of a 24 hour precipitation event. Monitoring data will be submitted to ASMC with application to remove the facility.

Monitoring sites shall be located to sample water entering the facility. (i.e., untreated drainage).

Show proposed locations on the monitoring location map. Parameters to be sampled shall be those required by the NPDES permit.

IV. A. <u>Monitoring requirements for Phase II bond release</u>:

List each discharge point to be monitored and indicate the type or source of discharge	List parameters to be sampled for each discharge point	List frequency of sampling for each discharge point	Duration of Monitoring
Sediment Basins: 010, 017, 018, 020, 022, 023, 053, 054, 060, 061, 062, 063, 064, 067, 073, 075, 086, 087	pH Iron (Fe) Total Suspended Solids (TSS) Manganese	Monthly	No less than monthly for the previous 6 months prior to application for Phase II Bond release.
If no flow to basins during 6 month period:	Same as above.		In pond Sample

Inflow sample will be taken within 48 hours after commencement of a 24 hour precipitation event.
If the basin has not discharged during the 6 month period, an in pond sample will be taken.

B. Reporting:

Reports shall be submitted with application for Phase II Bond Release indicating: Sample location number, monitoring period, analysis results, date for each sample, sampling and analytical data and a map showing location of the sample sites.

V. Groundwater Monitoring

List Monitoring Points and indicate type or describe location	List Parameters to be sampled	Frequency Minimum Quarterly	Duration of Monitoring
N/A	N/A	N/A	N/A

Groundwater will not be monitored due to this permit being only for construction and development of underground mine facilities.

If, according to the results of the PHC, it is determined that groundwater monitoring may not be necessary, the applicant shall submit with the permit application sufficient documentation, including geologic and hydrologic relations, to enable the Commission to make a decision regarding a waiver of the monitoring of the groundwater.

A. Reporting and Recording:

Reports to be filed with ASMC quarterly supplying the following information: Company name, mine name, permit number, and for each monitoring site, the date and sample results for each parameter, including sampling and analytical information for all samples.

VI. Maintenance of records and Availability for Inspection:

Reports will be filed with ASMC quarterly, indicating company name, mine name, permit
number, date of sample, and analysis results.

VII. Describe how the data obtained from performance monitoring may be used to determine the impacts of the operation upon the hydrologic balance. Describe how parameters to be monitored relate to the suitability of the surface and ground water for current and approved post mining land use.

The performance monitoring as described above will provide an excellent gauge for determining most alterations in the hydrologic balance that are caused by this mining operation.

Surface water-monitoring site LYC-SW1 is located downstream (Little Yellow Creek), LYC-SW2 is located downstream/upstream (Little Yellow Creek), and UTBYC-SW1 is located downstream (U.T. to Big Yellow Creek) of any mining to be conducted by Blue Creek Energy, Inc. Results of the analysis from the pre-mine analysis of this stations can be compared to the post mining results during mining to determine the impact to the receiving stream once mining begins.

No other parameters are deemed necessary at this time. However, if, during the coarse of the mining operation, it is determined through the performance monitoring that problems exist, additional parameters may be monitored and the hydrologic monitoring plan will be revised (in consultation with ASMC) to reflect such changes.

VIII. Please NOTE: ALL PERFORMANCE MONITORING REPORTS should be submitted in duplicate as one hard copy and one digital copy. For companies with multiple permits, each permit should have a corresponding monitoring report. Sites serving multiple permits should be included in all pertinent monitoring reports.

IX. If a waiver is requested for a particular water-bearing stratum, give details. 880-X-8H.06(1)(h)(2)

I. Plans For Recording and Reporting Data (779.13)

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

All samples shall be taken according to Standard Methods 1060 and "Collection and Preservation of Samples" or other equally valid approved methods.

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 methods.

The pH of all samples will be measured in the field (within 2 hours). The sample will be stored in ice or near 4º C and all other parameters will be analyzed within 24 hours. If samples cannot be analyzed within 24 hours, after the pH has been measured, the pH will be adjusted to 2.0 s.u. or less with Nitric Acid (about 2 mL per liter) which allows samples to be stored up to 6 months at room temperature. Prior to analyzing other parameters, the pH will be re-adjusted to between 4.0 and 5.0 s.u. with 0.1 N Sodium Hydroxide. All other parameters will be adjusted for volume addition. Samples for TSS and sulfates that were not run within 24 hours were refrigerated near 4ºC and TSS analyzed within 7 days and sulfates within 28 days. Sample preservation if used was in accordance with Table 1060:I (Summary of Special Sampling or Handling Requirements) from Standard Methods for the Examination of Water and Wastewater 17th Edition 1989 (page1-37).

Groundwater samples shall be taken by the “grab” method.

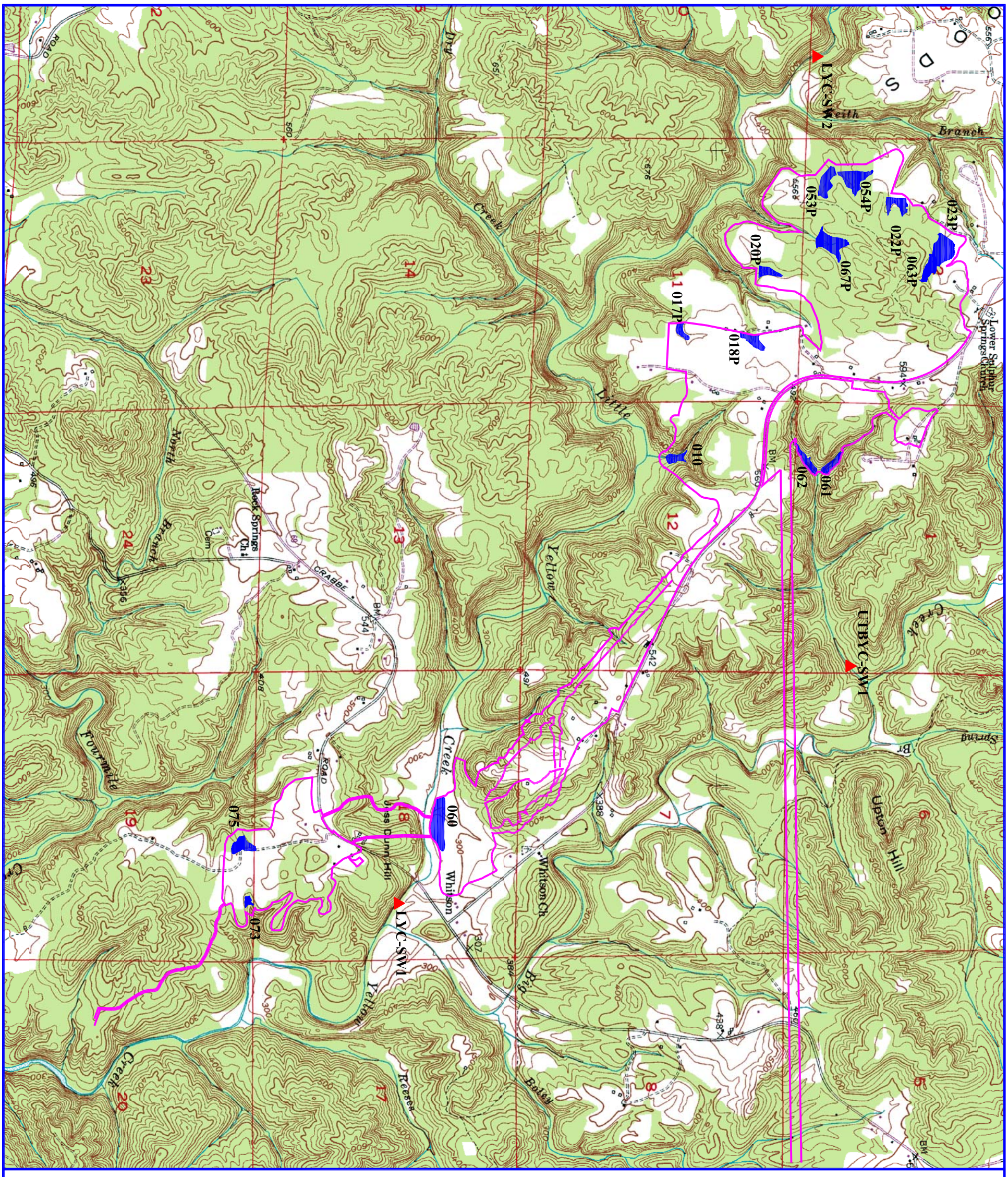
The quantity of the water will be determined by comparing the depth to the bottom of the well and the depth to the water.

The sampling methods for pH, Fe, Mn and SO_4 are to be sampled in accordance to Hach Water Analysis Handbook. These methods are EPA approved and are adapted from Standard Methods for the Examination of Water and Wastewater.

Sampling will be recorded and reported to the Regulatory Authority as outlined in Part III-D & E of this application.

Monitoring Site Information

Site ID	Site Type	Latitude	Longitude	Receiving Stream
010	Basin/Outfall	33º 34' 50"	87º 26' 17"	U.T. to Little Yellow Creek
060	Basin/Outfall	33º 34' 04"	87º 24' 52"	Little Yellow Creek
017P	Basin/Outfall	33º 34' 53"	87º 26' 49"	U.T. to Little Yellow Creek
018P	Basin/Outfall	33º 35' 07"	87º 26' 46"	U.T. to Little Yellow Creek
020P	Basin/Outfall	33º 35' 09"	87º 27' 01"	U.T. to Little Yellow Creek
022P	Basin/Outfall	33º 35' 36"	87º 27' 19"	U.T. to Keith Branch
023P	Basin/Outfall	33º 35' 46"	87º 27' 09"	U.T. to Keith Branch
053P	Basin/Outfall	33º 35' 20"	87º 27' 24"	Little Yellow Creek
054	Basin/Outfall	33º 35' 26"	87º 27' 27"	Keith Branch
061	Basin/Outfall	33º 35' 21"	87º 26' 14"	U.T. to Big Yellow Creek
062	Basin/Outfall	33º 35' 20"	87º 26' 14"	U.T. to Big Yellow Creek
063P	Basin/Outfall	33º 35' 43"	87º 27' 03"	U.T. to Keith Branch
064	Basin/Outfall	33º 35' 37"	87º 27' 16"	U.T. to Keith Branch
067P	Basin/Outfall	33º 35' 21"	87º 27' 09"	U.T. to Little Yellow Creek
069P	Basin/Outfall	33º 35' 21"	87º 26' 48"	U.T. to Little Yellow Creek
073P	Basin/Outfall	33º 33' 28"	87º 24' 32"	Big Yellow Creek
075P	Basin/Outfall	33º 33' 25"	87º 24' 47"	U.T. to Fourmile Creek
086P	Basin/Outfall	33º 31' 58"	87º 16' 51"	U.T. to White Oak Creek
087P	Basin/Outfall	33º 31' 51"	87º 16' 50"	U.T. to White Oak Creek
LYC-SW1 Downstream Little Yellow Creek	Surface Water Monitoring Site	33º 33' 59"	87º 24' 30"	Not Applicable
LYC-SW2 Downstream/Upstream Little Yellow Creek	Surface Water Monitoring Site	33º 34' 47"	87º 26' 19"	Not Applicable
UTBYC-SW1 Downstream Big Yellow Creek	Surface Water Monitoring Site	33º 35' 26"	87º 25' 29"	Not Applicable
WOC-SW1 Downstream White Oak Creek	Surface Water Monitoring Site	33º 32' 18"	87º 17' 02"	Not Applicable



WARRIOR MET COAL BC, LLC - BLUE CREEK MINE NO. 1
P-3964, R-20
HYDROLOGIC MONITORING MAP
SHEET 1 OF 2

SECTIONS 7, 18 & 19
TOWNSHIP 17 SOUTH, RANGE 8 WEST,
SECTIONS 1, 2, 11 & 12
TOWNSHIP 17 SOUTH, RANGE 9 WEST,
IN TUSCALOOSA COUNTY, ALABAMA.
BASE MAP: WILEY U.S.G.S. QUADS.

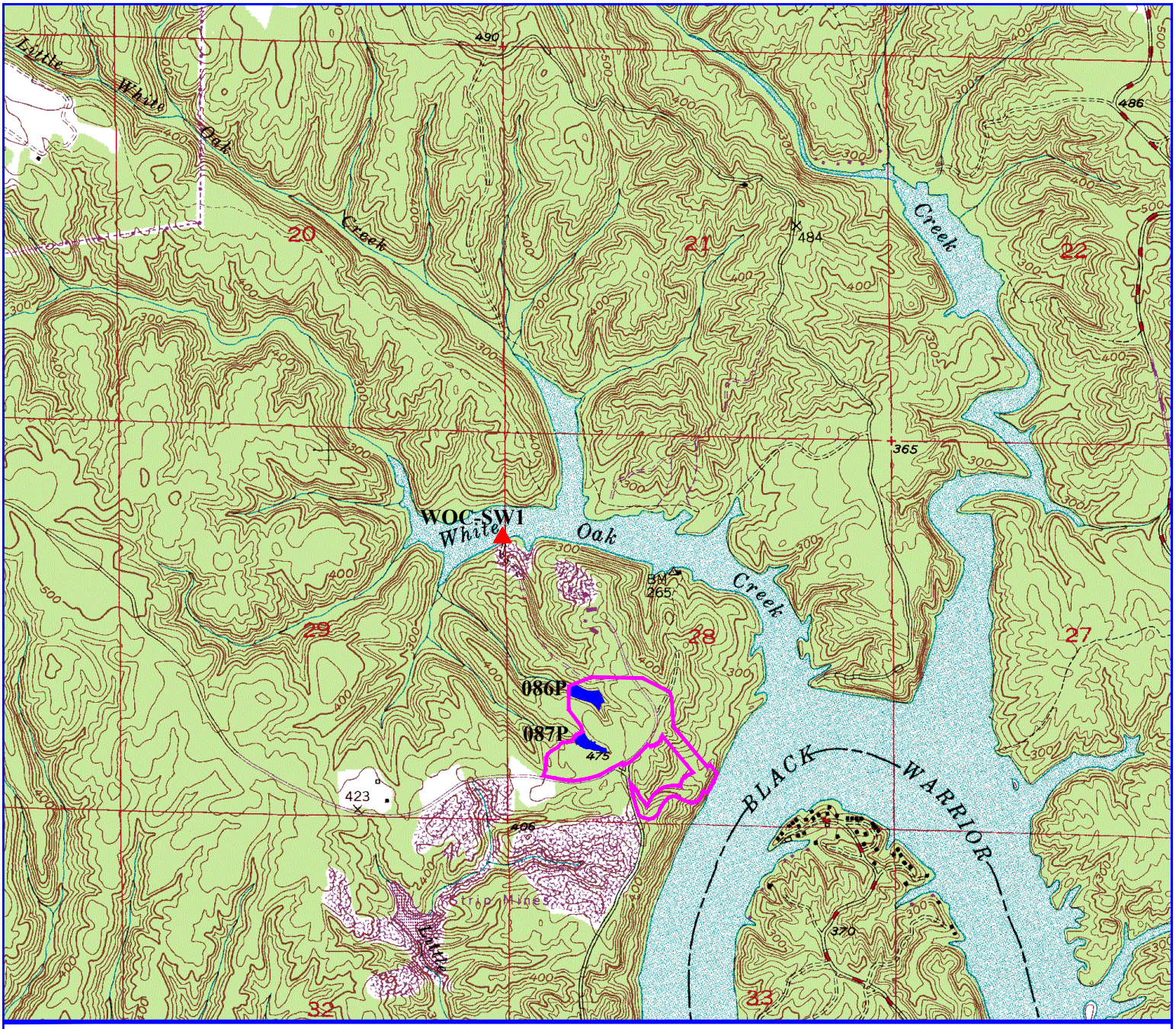
SCALE: 1" = 2000'

PERMIT AREA

SEDIMENT BASINS

LYC-SW1 SURFACE WATER MONITORING SITES

mcgehee engineering corp
post office box 3431 - 450 19th street
jasper, alabama 35502-3431
telephone: (205) 221-0686 fax: 221-7721
email: staff@mcgehee.org



WARRIOR MET COAL BC, LLC - BLUE CREEK MINE NO. 1
P-3964, R-7
HYDROLOGIC MONITORING MAP
SHEET 2 OF 2

SECTION 28,
TOWNSHIP 17 SOUTH, RANGE 7 WEST,
IN WALKER COUNTY, ALABAMA.
BASE MAP: TUTWILER SCHOOL U.S.G.S. QUAD.

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PERMIT AREA

SEDIMENT BASINS

SCALE: 1" = 2000'

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