LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

March 08, 2019

Chris Arnold
President
Alabama Coal Cooperative
P.O Box 1710
Cullman, AL 35056

RE: Draft Permit
Parrish Rail Loading Facility
NPDES Permit No. AL0083861
Walker County (127)

Dear Mr. Arnold:

Transmitted herein is a draft of the above referenced permit. Please review the enclosed draft permit carefully. If previously permitted, the draft may contain additions/revisions to the language in your current permit. Please submit any comments on the draft permit to the Department within 30 days from the date of receipt of this letter.

Since the Department has made a tentative decision to issue the above referenced permit, ADEM Admin. Code r. 335-6-6-.21 requires a public notice of the draft permit followed by a period of at least 30 days for public comment before the permit can be issued. The United States Environmental Protection Agency will also receive the draft permit for review during the 30-day public comment period.

Any mining, processing, construction, land disturbance, or other regulated activity proposed to be authorized by this draft permit is prohibited prior to the effective date of the formal permit. Any mining or processing activity within the drainage basin associated with each permitted outfall which is conducted prior to Departmental receipt of certification from a professional engineer licensed to practice in the State of Alabama, that the Pollution Abatement/Prevention Plan was implemented according to the design plan, or notification from the Alabama Surface Mining Commission that the sediment control structures have been certified, is prohibited.

The Department utilizes a web-based electronic environmental (E2) reporting system for electronic DMR submittal. Please read Part I.D of the permit carefully and visit https://e2.adem.alabama.gov/npdes.

Should you have any questions concerning this matter, please contact David Hearn by email at david.hearn@adem.alabama.gov or by phone at (334) 274-4231.

Sincerely,

Catherine A. McNeill, Chief
Mining and Natural Resource Section
Stormwater Management Branch
Water Division

CAM/dh File: DPER/

Enclosure

cc: David Hearn, ADEM
Environmental Protection Agency Region IV
Alabama Department of Conservation and Natural Resources
U.S. Fish and Wildlife Service
Alabama Historical Commission
Advisory Council on Historic Preservation
Alabama Surface Mining Commission

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

ADEM
Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM INDIVIDUAL PERMIT

PERMITTEE:	Alabama Coal Cooperative P.O. Box 1710 Cullman, AL 35056
FACILITY LOCATION:	Parrish Rail Loading Facility 9865 AL Hwy 269 Parrish, AL 35580 Walker County T15S, R7W, Sections 28, 33, 34
PERMIT NUMBER:	AL0083861

DSN	RECEIVING STREAM
001-1	Unnamed Tributary to Bryants Creek
033-1	Bryants Creek
034-1	Unnamed Tributary to Bryants Creek

In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1388 (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-17, 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:

EFFECTIVE DATE:

EXPIRATION DATE:

**** DRAFT ****

Alabama Department of Environmental Management

MINING AND NATURAL RESOURCE SECTION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

TABLE OF CONTENTS

PART I DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

1. Standard Limitations and Monitoring Requirements

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 each point source 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.	-------	9.0 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, Pimephales Acute[5] 61427	-------	-------	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.C. for pH Exemption Discharge Limitations.
[3] See Part IV.D. 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.

2. Post Mining Limitations and Monitoring Requirements[6]

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 each point source identified on Page 1 of this Permit and described more fully in the Permittee's application, if the outfalls have been constructed and certified. For those outfalls which the Department has granted written approval pursuant to Part IV.D., such discharge 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	1/Month
Sulfate (As S) 00154	-------	Report mg/L	Report mg/L	Grab	1/Month
pH 00400	6.0 s.u.	-------	9.0 s.u.	Grab	1/Month
Solids, Settleable 00545	-------	-------	0.5 mL/L	Grab	1/Month
Flow, In Conduit or Thru Treatment Plant[8] 50050	-------	Report MGD	Report MGD	Instantaneous	1/Month
Solids, Total Dissolved (TDS) 70296	-------	Report mg/L	Report mg/L	Grab	1/Quarter

B. REQUIREMENTS TO ACTIVATE A PROPOSED OUTFALL

1. Discharge from any point source identified on Page 1 of this Permit which is a proposed outfall is not authorized by this Permit until the outfall has been constructed and certification received by the Department from a professional engineer, registered in the State of Alabama, certifying that such facility has been constructed in accordance to good engineering practices and in accordance with the Pollution Abatement and/or Prevention (PAP) Plan.

2. Certification required by Part I.B.1. shall be submitted on a completed ADEM Form 432. The certification shall include the latitude and longitude of the constructed and certified outfall.

3. Discharge monitoring and Discharge Monitoring Report (DMR) reporting requirements described in Part I.C. of this Permit do not apply to point sources that have not been constructed and certified.

4. Upon submittal of the certification required by Part I.B.1. to the Department, all monitoring and DMR submittal requirements shall apply to the constructed and certified outfall.

C. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Sampling Schedule and Frequency

---

[6] See Part IV.B. for Post-Mining Discharge Limitations.
[7] See Part I.C.2. for further measurement frequency requirements.
[8] Flow must be determined at the time of sample collection by direct measurement, calculation, or other method acceptable to the Department.

a. Except as provided in Parts IV.B. and C., the Permittee shall collect samples of the discharge from each constructed and certified point source identified on Page 1 of this Permit and described more fully in the Permittee's application, at the frequency specified in Part I.A. Analysis of the samples shall be conducted for the parameters specified in Part I.A.

b. For each permitted, constructed, and certified point source which results from direct pumped drainage from the underground works of an underground coal mine or from surface drainage, if the final effluent is pumped in order to discharge (e.g. incised ponds, old highwall cuts, old pit areas or depressions), at least one grab sample from the permitted point source shall be obtained and analyzed each quarterly (three month) monitoring period if a discharge occurs at any time during the quarterly monitoring period.

c. The Permittee may increase the frequency of sampling listed in Parts I.C.1.a and I.C.1.b; however, all sampling results must be reported to the Department and included in any calculated results submitted to the Department in accordance with this Permit.

2. Measurement Frequency

Measurement frequency requirements found in Part I.A. shall mean:

a. A measurement frequency of one day per week shall mean sample collection on any day of discharge which occurs every calendar week.

b. A measurement frequency of two days per month shall mean sample collection on any day of discharge which occurs every other week, but need not exceed two sample days per month.

c. A measurement frequency of one day per month shall mean sample collection on any day of discharge which occurs during each calendar month.

d. A measurement frequency of one day per quarter shall mean sample collection on any day of discharge which occurs during each calendar quarter.

e. A measurement frequency of one day per six months shall mean sample collection on any day of discharge which occurs during the period of January through June and during the period of July through December.

f. A measurement frequency of one day per year shall mean sample collection on any day of discharge which occurs during each calendar year.

3. Monitoring Schedule

The Permittee shall conduct the monitoring required by Part I.A. in accordance with the following schedule:

a. MONITORING REQUIRED MORE FREQUENTLY THAN MONTHLY AND MONTHLY shall be conducted during the first full month following the effective date of coverage under this Permit and every month thereafter. More frequently than monthly and monthly monitoring may be done anytime during the month, unless restricted elsewhere in this Permit, but the results should be reported on the last Discharge Monitoring Report (DMR) due for the quarter (i.e., with the March, June, September, and December DMRs).

b. QUARTERLY MONITORING shall be conducted at least once during each calendar quarter. Calendar quarters are the periods of January through March, April through June, July through September, and October through December. The Permittee shall conduct the quarterly monitoring during the first complete calendar quarter following the effective date of this Permit and is then required to monitor once during each quarter thereafter. Quarterly monitoring may be done anytime during the quarter, unless restricted elsewhere in this Permit, but the results should be reported on the last DMR due for the quarter (i.e., with the March, June, September, and December DMRs).

c. SEMIANNUAL MONITORING shall be conducted at least once during the period of January through June and at least once during the period of July through December. The Permittee shall conduct the semiannual monitoring during the first complete semiannual calendar period following the effective date of this Permit and is then required to monitor once during each semiannual period thereafter. Semiannual monitoring may be done anytime during the semiannual period, unless restricted elsewhere in this Permit, but it should be reported on the last DMR due for the month of the semiannual period (i.e., with the June and December DMRs).

d. ANNUAL MONITORING shall be conducted at least once during the period of January through December. The Permittee shall conduct the annual monitoring during the first complete calendar annual period following the effective date of this Permit and is then required to monitor once during each annual period thereafter. Annual monitoring may be done anytime during the year, unless restricted elsewhere in this Permit, but it should be reported on the December DMR.

4. Sampling Location

Unless restricted elsewhere in this Permit, samples collected to comply with the monitoring requirements specified in Part I.A. shall be collected at the nearest accessible location just prior to discharge and after final treatment, or at an alternate location approved in writing by the Department.

5. Representative Sampling

Sample collection and measurement actions taken as required herein shall be representative of the volume and nature of the monitored discharge and shall be in accordance with the provisions of this Permit.

6. Test Procedures

For the purpose of reporting and compliance, Permittees shall use one of the following procedures:

a. For parameters with an EPA established Minimum Level (ML), report the measured value if the analytical result is at or above the ML and report "0" for values below the ML. Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136, guidelines published pursuant to Section 304(h) of the FWPCA, 33 U.S.C. Section 1314(h), and ADEM Standard Operating Procedures. If more than one method for analysis of a substance is approved for use, a method having a minimum level lower than the permit limit shall be used. If the minimum level of all methods is higher than the permit limit, the method having the lowest minimum level shall be used and a report of less than the minimum level shall be reported as zero and will constitute compliance, however should EPA approve a method with a lower minimum level during the term of this Permit the Permittee shall use the newly approved method.

b. For pollutant parameters without an established ML, an interim ML may be utilized. The interim ML shall be calculated as 3.18 times the Method Detection Level (MDL) calculated pursuant to 40 CFR Part 136, Appendix B.

Permittees may develop an effluent matrix-specific ML, where an effluent matrix prevents attainment of the established ML. However, a matrix specific ML shall be based upon proper laboratory method and technique. Matrix-specific MLs must be approved by the Department, and may be developed by the Permittee during permit issuance, reissuance, modification, or during compliance schedule.

In either case the measured value should be reported if the analytical result is at or above the ML and "0" reported for values below the ML.

c. For parameters without an EPA established ML, interim ML, or matrix-specific ML, a report of less than the detection limit shall constitute compliance if the detection limit of all analytical methods is higher than the Permit limit using the most sensitive EPA approved method. For the purpose of calculating a monthly average, "0" shall be used for values reported less than the detection limit.

The Minimum Level utilized for procedures identified in Parts I.C.6.a. and b. shall be reported on the Permittee's DMR. When an EPA approved test procedure for analysis of a pollutant does not exist, the Director shall approve the procedure to be used.

7. Recording of Results

For each measurement or sample taken pursuant to the requirements of this Permit, the Permittee shall record the following information:

a. The facility name and location, point source number, date, time, and exact place of sampling or measurements;

b. The name(s) of person(s) who obtained the samples or measurements;

c. The dates and times the analyses were performed;

d. The name(s) of the person(s) who performed the analyses;

e. The analytical techniques or methods used including source of method and method number; and

f. The results of all required analyses.

8. Routine Inspection by Permittee

a. The Permittee shall inspect all point sources identified on Page 1 of this Permit and described more fully in the Permittee's application and all treatment or control facilities or systems used by the Permittee to achieve compliance with the terms and conditions of this Permit at least as often as the applicable sampling frequency specified in Part I.C.1 of this Permit.

b. If required by the Director, the Permittee shall maintain a written log for each point source identified on Page 1 of this Permit and described more fully in the Permittee's application in which the Permittee shall record the following information:

(1) The date and time the point source and any associated treatment or control facilities or systems were inspected by the Permittee;

(2) Whether there was a discharge from the point source at the time of inspection by the Permittee;

(3) Whether a sample of the discharge from the point source was collected at the time of inspection by the Permittee;

(4) Whether all associated treatment or control facilities or systems appeared to be in good working order and operating as efficiently as possible, and if not, a description of the problems or deficiencies; and

(5) The name and signature of the person performing the inspection of the point source and associated treatment or control facilities or systems.

9. Records Retention and Production

a. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the above reports or the application for this Permit, for a period of at least three (3) years from the date of the sample collection, measurement, report, or application. This period may be extended by request of the Director at any time. If litigation or other enforcement action, under the AWPCA, AEMA, and/or the FWPCA, is ongoing which involves any of the above records, the records shall be kept until the litigation is resolved. Upon the written request of the Director, the Permittee shall provide the Director with a copy of any record required to be retained by this paragraph. Copies of these records should not be submitted unless requested.

b. All records required to be kept for a period of three (3) years shall be kept at the permitted facility or an alternate location approved by the Department in writing and shall be available for inspection.

10. Monitoring Equipment and Instrumentation

All equipment and instrumentation used to determine compliance with the requirements of this Permit shall be installed, maintained, and calibrated in accordance with the manufacturer's instructions or, in the absence of manufacturer's instructions, in accordance with accepted practices. The Permittee shall develop and maintain quality assurance procedures to ensure proper operation and maintenance of all equipment and instrumentation. The quality assurance procedures shall include the proper use, maintenance, and installation, when appropriate, of monitoring equipment at the plant site.

D. DISCHARGE REPORTING REQUIREMENTS

1. Requirements for Reporting of Monitoring

a. Monitoring results obtained during the previous three (3) months shall be summarized for each month on a Discharge Monitoring Report (DMR) Form approved by the Department, and submitted to the Department so that it is received by the Director no later than the 28th day of the month following the quarterly reporting period (i.e., on the 28th day of January, April, July, and October of each year).

b. The Department utilizes a web-based electronic environmental (E2) reporting system for submittal of DMRs. **Except as allowed by Part I.D.1.c. or d., the Permittee shall submit all DMRs required by Part I.D.1.a. by utilizing the E2 reporting system.** The

E2 reporting system Permittee Participation Package may be downloaded online at https://e2.adem.alabama.gov/npdes.

c. If the electronic environmental (E2) reporting system is down (i.e. electronic submittal of DMR data is unable to be completed due to technical problems originating with the Department's system; this could include entry/submittal issues with an entire set of DMRs or individual parameters), permittees are not relieved of their obligation to submit DMR data to the Department by the required submittal date. However, if the E2 system is down on the 28th day of the month or is down for an extended period of time as determined by the Department when a DMR is required to be submitted, the facility may submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include faxing, e-mailing, mailing, or hand-delivery of data such that they are received by the required reporting date. Within five calendar days of the E2 system resuming operation, the Permittee shall enter the data into the E2 reporting system unless an alternate timeframe is approved by the Department. An attachment should be included with the E2 DMR submittal verifying the original submittal date (date of the fax, copy of dated e-mail, or hand-delivery stamped date).

d. The permittee may submit a request to the Department for a temporary electronic reporting waiver for DMR submittals. The waiver request should include the permit number; permittee name; facility/site name; facility address; name, address, and contact information for the responsible official or duly authorized representative; a detailed statement regarding the basis for requesting such a waiver; and the duration for which the waiver is requested. Approved electronic reporting waivers are not transferrable. Permittees with an approved electronic reporting waiver for DMRs may submit hard copy DMRs for the period that the approved electronic reporting waiver request is effective. The Permittee shall submit the Department-approved DMR forms to the address listed in Part I.D.1.j.

e. If the Permittee, using approved analytical methods as specified in Part I.C.6., monitors any discharge from a point source identified on Page 1 of this Permit and describe more fully in the Permittee's application more frequently than required by this Permit; the results of such monitoring shall be included in the calculation and reporting of values on the DMR Form, and the increased frequency shall be indicated on the DMR Form.

f. In the event no discharge from a point source identified on Page 1 of this Permit and described more fully in the Permittee's application occurs during a monitoring period, the Permittee shall report "No Discharge" for such period on the appropriate DMR Form.

g. The Permittee shall report "No Discharge During Quarterly Monitoring Period" on the appropriate DMR Form for each point source receiving pumped discharges pursuant to Part I.C.1.b. provided that no discharge has occurred at any time during the entire quarterly (three month) monitoring period.

h. Each DMR Form submitted by the Permittee to the Department in accordance with Part I.D.1. must be legible and bear an original signature or electronic signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this Permit.

i. All reports and forms required to be submitted by this Permit, the AWPCA, and the Department's rules and regulations, shall be signed by a "responsible official" of the Permittee as defined in ADEM Admin. Code r. 335-6-6-.09 or a "duly authorized representative" of such official as defined in ADEM Admin. Code r. 335-6-6-.09 and shall bear the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

j. All DMRs, reports, and forms required to be submitted by this Permit, the AWPCA and the Department's rules and regulations, shall be addressed to:

Alabama Department of Environmental Management
Water Division, Mining and Natural Resource Section
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail shall be addressed to:

Alabama Department of Environmental Management
Water Division, Mining and Natural Resource Section
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2059

k. Unless authorized in writing by the Department, approved reporting forms required by this Permit or the Department are not to be altered, and if copied or reproduced, must be consistent in format and identical in content to the ADEM approved form. Unauthorized alteration, falsification, or use of incorrectly reproduced forms constitutes noncompliance with the requirements of this Permit and may significantly delay processing of any request, result in denial of the request, result in permit termination, revocation, suspension, modification, or denial of a permit renewal application, or result in other enforcement action.

l. If this Permit is a reissuance, then the Permittee shall continue to submit DMRs in accordance with the requirements of their previous permit until such time as DMRs are due as discussed in Part I.D.1.

2. Noncompliance Notification

a. The Permittee must notify the Department if, for any reason, the Permittee's discharge:

(1) Potentially threatens human health or welfare;

(2) Potentially threatens fish or aquatic life;

(3) Causes an in-stream water quality criterion to be exceeded;

(4) Does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA, 33 U.S.C. §1317(a);

(5) Contains a quantity of a hazardous substance which has been determined may be harmful to the public health or welfare under Section 311(b)(4) of the FWPCA, 33 U.S.C. §1321(b)(4); or

(6) Exceeds any discharge limitation for an effluent parameter as a result of an unanticipated bypass or upset.

The Permittee shall orally or electronically report any of the above occurrences, describing the circumstances and potential effects of such discharge to the Director within 24-hours after the Permittee becomes aware of the occurrence of such discharge. In addition to the oral or electronic report, the Permittee shall submit to the Director a written report as provided in Part I.D.2.c., no later than five (5) days after becoming aware of the occurrence of such discharge.

b. If for any reason, the Permittee's discharge does not comply with any limitation of this Permit, the Permittee shall submit a written report to the Director, as provided in Part I.D.2.c. This report must be submitted with the next Discharge Monitoring Report required to be submitted by Part I.D.1. of this Permit after becoming aware of the occurrence of such noncompliance.

c. Any written report required to be submitted to the Director in accordance with Parts I.D.2.a. and b. shall be submitted using a Noncompliance Notification Form (ADEM Form 421) available on the Department's website (http://adem.alabama.gov/DeptForms/Form421.pdf) and include the following information:

(1) A description of the discharge and cause of noncompliance;

(2) The period of noncompliance, including exact dates and times, or if not corrected, the anticipated time the noncompliance is expected to continue; and

(3) A description of the steps taken and/or being taken to reduce or eliminate the noncomplying discharge and to prevent its recurrence.

3. Reduction, Suspension, or Termination of Monitoring and/or Reporting Requirements

a. The Director may, with respect to any point source identified on Page 1 of this Permit and described more fully in the Permittee's application, authorize the Permittee to reduce, suspend, or terminate the monitoring and/or reporting required by this Permit upon the submission of a written request for such reduction, suspension, or termination by the Permittee provided:

(1) All mining, processing, or disturbance in the drainage basin(s) associated with the discharge has ceased and site access is adequately restricted or controlled to preclude unpermitted and unauthorized mining, processing, transportation, or associated operations/activity;

(2) Unless waived in writing by the Department, the Permittee has been granted, in writing, a 100% Bond Release, by the Alabama Surface Mining Commission for all areas mined or disturbed in the drainage basin(s) associated with the discharge;

(3) The Permittee has certified to the Director that the 100% Bond Release has been granted by the Alabama Surface Mining Commission for all areas disturbed in the drainage basin(s) associated with the discharge;

(4) All surface effects of the mining activity such as fuel or chemical tanks, preparation plants or equipment, old tools or equipment, junk or debris, etc.,

must be removed and disposed of according to applicable state and federal regulations;

(5) The Permittee's request for termination of monitoring and reporting requirements contained in this Permit has been supported by monitoring data covering a period of at least six consecutive months or such longer period as is necessary to assure that the data reflect discharges occurring during varying seasonal climatological conditions;

(6) The Permittee has stated in its request that the samples collected and reported in the monitoring data submitted in support of the Permittee's request for monitoring termination or suspension are representative of the discharge and were collected in accordance with all Permit terms and conditions respecting sampling times (e.g., rainfall events) and methods and were analyzed in accordance with all Permit terms and conditions respecting analytical methods and procedures;

(7) The Permittee has certified that during the entire period covered by the monitoring data submitted, no chemical treatment of the discharge was provided;

(8) The Permittee's request has included the certification required by Part I.D.1.d. of this Permit; and

(9) The Permittee has certified to the Director in writing as part of the request, its compliance with (1) through (8) above.

b. It remains the responsibility of the Permittee to comply with the monitoring and reporting requirements of this Permit until written authorization to reduce, suspend, or terminate such monitoring and/or reporting is received by the Permittee from the Director.

c. If monitoring reductions or releases have been granted by the Department for requirements under a previous permit version, permit requirements shall remain reduced or released for the approved outfalls. However, should any changes occur at the site or discharge conditions upon which the monitoring reduction or release was based, the Permittee is required to notify the Department in writing and immediately resume the monitoring and reporting requirements.

d. The Department may require the Permittee in writing to resume monitoring requirements for released outfalls pursuant to Part I.B of the NPDES Permit.

E. OTHER REPORTING AND NOTIFICATION REQUIREMENTS

1. Anticipated Noncompliance

The Permittee shall give the Director written advance notice of any planned changes or other circumstances regarding a facility which may result in noncompliance with permit requirements.

2. Termination of Discharge

The Permittee shall notify the Director, in writing, when all discharges from any point source(s) identified on Page 1 of this Permit and described more fully in the Permittee's application have permanently ceased.

3. Updating Information

a. The Permittee shall inform the Director of any change in the Permittee's mailing address or telephone number or in the Permittee's designation of a facility contact or officer(s) having the authority and responsibility to prevent and abate violations of the AWPCA, the AEMA, the Department's rules and regulations, and the terms and conditions of this Permit, in writing, no later than ten (10) days after such change. Upon request of the Director, the Permittee shall furnish the Director with an update of any information provided in the permit application.

b. If the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information with a written explanation for the mistake and/or omission.

4. Duty to Provide Information

a. The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, suspending, terminating, or revoking and reissuing this Permit, in whole or in part, or to determine compliance with this Permit. The Permittee shall also furnish to the Director upon request, copies of records required to be maintained by this Permit.

b. The Permittee shall furnish to the Director upon request, within a reasonable time, available information (name, phone number, address, and site location) which identifies offsite sources of material or natural resources (mineral, ore, or other material such as iron, coal, coke, dirt, chert, shale, clay, sand, gravel, bauxite, rock, stone, etc.) used in its operation or stored at the facility.

F. SCHEDULE OF COMPLIANCE

The Permittee shall achieve compliance with the discharge limitations specified in Part I.A. of this Permit in accordance with the following schedule:

Compliance must be achieved by the effective date of this Permit.

PART II OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES

A. OPERATIONAL AND MANAGEMENT REQUIREMENTS

1. Facilities Operation and Management

The Permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities only when necessary to achieve compliance with the conditions of this Permit.

2. Best Management Practices (BMPs)

a. Unless otherwise authorized in writing by the Director, the Permittee shall provide a means of subsurface withdrawal for any discharge from each point source identified on Page 1 of this Permit and described more fully in the Permittee's application. Notwithstanding the above provision, a means of subsurface withdrawal need not be provided for any discharge caused by a 24-hour precipitation event greater than a 10-year, 24-hour precipitation event.

b. Dilution water shall not be added to achieve compliance with discharge limitations except when the Director has granted prior written authorization for dilution to meet water quality requirements.

c. The Permittee shall minimize the contact of water with overburden, including but not limited to stabilizing disturbed areas through grading, diverting runoff, achieving quick growing stands of temporary vegetation, sealing acid-forming and toxic-forming materials, and maximizing placement of waste materials in back-fill areas.

d. The Permittee shall prepare, submit to the Department for approval, and implement a Best Management Practices (BMPs) Plan for containment of any or all process liquids or solids, in a manner such that these materials do not present a potential for discharge, if so required by the Director. When submitted and approved, the BMP Plan shall become a part of this Permit and all requirements of the BMP Plan shall become requirements of this Permit.

e. Spill Prevention, Control, and Management

The Permittee shall prepare, implement, and maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan acceptable to the Department that is prepared and certified by a Professional Engineer (PE), registered in the State of Alabama, for all onsite petroleum product or other pollutant storage tanks or containers as provided by ADEM Admin. Code r. 335-6-6-.08(j)5. The Plan shall describe and the Permittee shall implement appropriate structural and/or non-structural spill prevention, control, and/or management pursuant to ADEM Admin. Code r. 335-6-6-.12 (r) sufficient to prevent any spills of pollutants from entering a ground or surface water of the State or a publicly or privately owned treatment works. The Plan shall include at a minimum, the engineering requirements provided in 40 C.F.R. §§112.1. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and shall prevent the contamination of groundwater. Such containment systems shall be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided. The Plan shall list any

materials which the Permittee may utilize to contain and to absorb fuel and chemical spills and leaks. The Permittee shall maintain sufficient amounts of such materials onsite or have sufficient amounts of such materials readily available to contain and/or absorb fuel and chemical spills and leaks. Soil contaminated by chemical spills, oil spills, etc., must be immediately cleaned up or be removed and disposed of in a manner consistent with all State and federal regulations.

f. All surface drainage and storm water runoff which originate within or enters the Permittee's premises and which contains any pollutants or other wastes shall be discharged, if at all, from a point source identified on Page 1 of this Permit and described more fully in the Permittee's application.

g. The Permittee shall take all reasonable precautions to prevent any surface drainage or storm water runoff which originates outside the Permittee's premises and which contains any pollutants or other wastes from entering the Permittee's premises. At no time shall the Permittee discharge any such surface drainage or storm water runoff which enters the Permittee's premises if, either alone or in combination with the Permittee's effluent, the discharge would exceed any applicable discharge limitation specified in Part I.A. of this Permit.

3. Biocide Additives

a. The Permittee shall notify the Director in writing not later than sixty (60) days prior to instituting the use of any biocide corrosion inhibitor or chemical additive in any cooling or boiler system(s) regulated by this Permit. Notification is not required for additives that should not reasonably be expected to cause the cooling water or boiler water to exhibit toxicity as determined by analysis of manufacturer's data or testing by the Permittee. Such notification shall include:

(1) Name and general composition of biocide or chemical;

(2) 96-hour median tolerance limit data for organisms representative of the biota of the water(s) which the discharge(s) enter(s);

(3) Quantities to be used;

(4) Frequencies of use;

(5) Proposed discharge concentrations; and

(6) EPA registration number, if applicable.

b. The use of any biocide or chemical additive containing tributyl tin, tributyl tin oxide, zinc, chromium, or related compounds in any cooling or boiler system(s) regulated by the Permit is prohibited except as exempted below. The use of a biocide or additive containing zinc, chromium or related compounds may be used in special circumstances if (1) the permit contains limits for these substances, or (2) the applicant demonstrates during the application process that the use of zinc, chromium or related compounds as a biocide or additive will not pose a reasonable potential to violate the applicable State water quality standards for these substances. The use of any additive, not identified in this Permit or in the application for this Permit or not exempted from notification under this Permit is prohibited, prior to a determination by the Department that permit modification to control discharge of the additive is not required or prior to issuance of a permit modification controlling discharge of the additive.

4. Facility Identification

The Permittee shall clearly display prior to commencement of any regulated activity and until permit coverage is properly terminated, the name of the Permittee, entire NPDES permit number, facility or site name, and other descriptive information deemed appropriate by the Permittee at an easily accessible location(s) to adequately identify the site, unless approved otherwise in writing by the Department. The Permittee shall repair or replace the sign(s) as necessary upon becoming aware that the identification is missing or is unreadable due to age, vandalism, theft, weather, or other reason(s).

5. Removed Substances

Solids, sludges, filter backwash, or any other pollutants or other wastes removed in the course of treatment or control of wastewaters shall be disposed of in a manner that complies with all applicable Department rules and regulations.

6. Loss or Failure of Treatment Facilities

Upon the loss or failure of any treatment facility, including but not limited to the loss or failure of the primary source of power of the treatment facility, the Permittee shall, where necessary to maintain compliance with the discharge limitations specified in Part I.A. of this Permit or any other terms or conditions of this Permit, cease, reduce, or otherwise control production and/or discharges until treatment is restored.

7. Duty to Mitigate

The Permittee shall promptly take all reasonable steps to minimize or prevent any violation of this Permit or to mitigate and minimize any adverse impact to waters resulting from noncompliance with any discharge limitation specified in Part I.A. of this Permit, including such accelerated or additional monitoring of the discharge and/or the receiving waterbody as is necessary to determine the nature and impact of the noncomplying discharge.

B. BYPASS AND UPSET

1. Bypass

a. Any bypass is prohibited except as provided in Parts II.B.1.b. and c.

b. A bypass is not prohibited if:

(1) It does not cause any applicable discharge limitation specified in Part I.A. of this Permit to be exceeded;

(2) The discharge resulting from such bypass enters the same receiving water as the discharge from the permitted outfall;

(3) It is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system; and

(4) The Permittee monitors the discharge resulting from such bypass at a frequency, at least daily, sufficient to prove compliance with the discharge limitations specified in Part I.A. of this Permit.

c. A bypass is not prohibited and need not meet the discharge limitations specified in Part I.A. of this Permit if:

(1) It is unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the Permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The Permittee submits a written request for authorization to bypass to the Director at least ten (10) days, if possible, prior to the anticipated bypass or within 24 hours of an unanticipated bypass, the Permittee is granted such authorization, and Permittee complies with any conditions imposed by the Director to minimize any adverse impact to waters resulting from the bypass.

d. The Permittee has the burden of establishing that each of the conditions of Parts II.B.1.b. or c. have been met to qualify for an exception to the general prohibition against bypassing contained in Part II.B.1.a. and an exemption, where applicable, from the discharge limitations specified in Part I.A. of this Permit.

2. Upset

a. Except as provided in Parts II.B.2.b. and c., a discharge which results from an upset need not meet the applicable discharge limitations specified in Part I.A. of this Permit if:

(1) No later than 24-hours after becoming aware of the occurrence of the upset, the Permittee orally reports the occurrence and circumstances of the upset to the Director; and

(2) No later than five (5) days after becoming aware of the occurrence of the upset, the Permittee furnishes the Director with evidence, including properly signed, contemporaneous operating logs, design drawings, construction certification, maintenance records, weir flow measurements, dated photographs, rain gauge measurements, or other relevant evidence, demonstrating that:

(i) An upset occurred;

(ii) The Permittee can identify the specific cause(s) of the upset;

(iii) The Permittee's treatment facility was being properly operated at the time of the upset; and

(iv) The Permittee promptly took all reasonable steps to minimize any adverse impact to waters resulting from the upset.

b. Notwithstanding the provisions of Part II.B.2.a., a discharge which is an overflow from a treatment facility or system, or an excess discharge from a point source associated with a treatment facility or system and which results from a 24-hour precipitation event larger than a 10-year, 24-hour precipitation event is not exempted from the discharge limitations specified in Part I.A. of this Permit unless:

(1) The treatment facility or system is designed, constructed, and maintained to contain the maximum volume of wastewater which would be generated by the facility during a 24-hour period without an increase in volume from

precipitation and the maximum volume of wastewater resulting from a 10-year, 24-hour precipitation event or to treat the maximum flow associated with these volumes.

In computing the maximum volume of wastewater which would result from a 10-year, 24-hour precipitation event, the volume which would result from all areas contributing runoff to the individual treatment facility must be included (i.e., all runoff that is not diverted from the mining area and runoff which is not diverted from the preparation plant area); and

(2) The Permittee takes all reasonable steps to maintain treatment of the wastewater and minimize the amount of overflow or excess discharge.

c. The Permittee has the burden of establishing that each of the conditions of Parts II.B.2.a. and b. have been met to qualify for an exemption from the discharge limitations specified in Part I.A. of this Permit.

C. PERMIT CONDITIONS AND RESTRICTIONS

1. Prohibition against Discharge from Facilities Not Certified

a. Notwithstanding any other provisions of this Permit, if the permitted facility has not obtained or is not required to obtain a permit from the Alabama Surface Mining Commission, any discharge(s) from any point or nonpoint source(s) from the permitted facility which was not certified to the Department on a form approved by the Department by a professional engineer, registered in the State of Alabama, as being designed, constructed, and in accordance with plans and specifications reviewed by the Department is prohibited; or

b. Notwithstanding any other provisions of this Permit, if the permitted facility has obtained or is required to obtain a permit from the Alabama Surface Mining Commission, any discharge(s) from any point or nonpoint source(s) from the permitted facility which is associated with a treatment facility which was not constructed and certified to the Alabama Surface Mining Commission pursuant to applicable provisions of said Commission's regulations, is prohibited until the Permittee submits to the Alabama Surface Mining Commission, certification by a professional engineer, registered in the State of Alabama, certifying that such facility has been constructed in accordance with plans and specifications approved by the Alabama Surface Mining Commission. This requirement shall not apply to pumped discharges from the underground works of underground coal mines where no surface structure is required by the Alabama Surface Mining Commission, provided the Department is notified in writing of the completion or installation of such facilities, and the pumped discharges will meet permit effluent limits without treatment.

2. Permit Modification, Suspension, Termination, and Revocation

a. This Permit may be modified, suspended, terminated, or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:

(1) The violation of any term or condition of this Permit;

(2) The obtaining of this Permit by misrepresentation or the failure to disclose fully all relevant facts;

(3) The submission of materially false or inaccurate statements or information in the permit application or reports required by the Permit;

(4) The need for a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

(5) The existence of any typographical or clerical errors or of any errors in the calculation of discharge limitations;

(6) The existence of material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;

(7) The threat of the Permittee's discharge on human health or welfare; or

(8) Any other cause allowed by ADEM Admin. Code ch. 335-6-6.

b. The filing of a request by the Permittee for modification, suspension, termination, or revocation and reissuance of this Permit, in whole or in part, does not stay any Permit term or condition of this Permit.

3. Automatic Expiration of Permits for New or Increased Discharges

a. Except as provided by ADEM Admin. Code r. 335-6-6-.02(h) and 335-6-6-.05, if this Permit was issued for a new discharger or new source, it shall expire eighteen months after the issuance date if construction has not begun during that eighteen month period.

b. Except as provided by ADEM Admin. Code r. 335-6-6-.02(h) and 335-6-6-.05, if any portion of this Permit was issued or modified to authorize the discharge of increased quantities of pollutants to accommodate the modification of an existing facility, that portion of this Permit shall expire eighteen months after this Permit's issuance if construction of the modification has not begun within eighteen month period.

c. Construction has begun when the owner or operator has:

(1) Begun, or caused to begin as part of a continuous on-site construction program:

(i) Any placement, assembly, or installation of facilities or equipment; or

(ii) Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

(2) Entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under the paragraph. The entering into a lease with the State of Alabama for exploration and production of hydrocarbons shall also be considered beginning construction.

d. The automatic expiration of this Permit for new or increased discharges if construction has not begun within the eighteen month period after the issuance of this Permit may be tolled by administrative or judicial stay.

e. If this permit was issued for a "new discharger" or "new source" associated with a "surface coal mine" it shall expire eighteen months after issuance if "construction" has not begun during that eighteen-month period, unless the Permittee has not started "construction" pending issuance of a permit by the "ASMC" and at the time the NPDES permit was issued had complied with the application requirements of the "ASMC" Administrative Code Title 880. In such cases, the NPDES permit shall expire 18 months after issuance of the "ASMC" permit if "construction" has not begun during that eighteen-month period. This period shall be tolled by any administrative request for hearing or an administrative or judicial stay.

4. Transfer of Permit

This Permit may not be transferred or the name of the Permittee changed without notice to the Director and subsequent modification or revocation and reissuance of this Permit to identify the new Permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership, or control of the Permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership, or control of the Permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership, or control, he may decide not to modify the existing Permit and require the submission of a new permit application.

5. Groundwater

Unless authorized on page 1 of this Permit, this Permit does not authorize any discharge to groundwater. Should a threat of groundwater contamination occur, the Director may require groundwater monitoring to properly assess the degree of the problem, and the Director may require that the Permittee undertake measures to abate any such discharge and/or contamination.

6. Property and Other Rights

This Permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of Federal, State, or local laws or regulations, nor does it authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any waters of the State or of the United States.

D. RESPONSIBILITIES

1. Duty to Comply

a. The Permittee must comply with all terms and conditions of this Permit. Any permit noncompliance constitutes a violation of the AWPCA, AEMA, and the FWPCA and is grounds for enforcement action, for permit termination, revocation and reissuance, suspension, modification, or denial of a permit renewal application.

b. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the FWPCA for toxic pollutants within the time provided in the

regulations that establish these standards or prohibitions, even if this Permit has not yet been modified to incorporate the effluent standard, prohibition or requirement.

c. For any violation(s) of this Permit, the Permittee is subject to a civil penalty as authorized by the AWPCA, the AEMA, the FWPCA, and Code of Alabama 1975, §§22-22A-1 et. seq., as amended, and/or a criminal penalty as authorized by Code of Alabama 1975, §22-22-1 et. seq., as amended.

d. The necessity to halt or reduce production or other activities in order to maintain compliance with the conditions of this Permit shall not be a defense for a Permittee in an enforcement action.

e. Nothing in this Permit shall be construed to preclude or negate the Permittee's responsibility or liability to apply for, obtain, or comply with other ADEM, Federal, State, or local government permits, certifications, licenses, or other approvals.

f. The discharge of a pollutant from a source not specifically identified in the permit application for this Permit and not specifically included in the description of an outfall in this Permit is not authorized and shall constitute noncompliance with this Permit.

g. The Permittee shall take all reasonable steps, including cessation of production or other activities, to minimize or prevent any violation of this Permit or to minimize or prevent any adverse impact of any permit violation.

2. Change in Discharge

a. The Permittee shall apply for a permit modification at least 180 days in advance of any facility expansion, production increase, process change, or other action that could result in the discharge of additional pollutants, increase the quantity of a discharged pollutant, or that could result in an additional discharge point. This requirement also applies to pollutants that are not subject to discharge limitations in this Permit. No new or increased discharge may begin until the Director has authorized it by issuance of a permit modification or a reissued permit.

b. The Permittee shall notify the Director as soon as it knows or has reason to believe that it has begun or expects to begin to discharge any pollutant listed as a toxic pollutant pursuant to Section 307(a) of the FWPCA, 33 U.S.C. §1317(a), any substance designated as a hazardous substance pursuant to Section 311(b)(2) of the FWPCA, 33 U.S.C. §1321(b)(2), any waste listed as a hazardous waste pursuant to Code of Alabama 1975, §22-30-10, or any other pollutants or other wastes which is not subject to any discharge limitations specified in Part I.A. of this Permit and was not reported in the Permittee's application, was reported in the Permittee's application in concentrations or mass rates lower than that which the Permittee expects to begin to be discharged, or has reason to believe has begun to be discharged.

3. Compliance with Toxic or Other Pollutant Effluent Standard or Prohibition

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Sections 301(b)(2)(C),(D),(E) and (F) of the FWPCA, 33 U.S.C. §1311(b)(2)(C),(D),(E), and (F); 304(b)(2) of the FWPCA, 33 U.S.C. §1314(b)(2); or 307(a) of the FWPCA, 33 U.S.C. §1317(a), for a toxic or other pollutant discharged by the Permittee, and such standard or prohibition is more stringent than any discharge limitation on the pollutant specified in Part I.A. of this Permit or controls a pollutant not limited in Part I.A. of this Permit, this Permit shall be modified to conform to the toxic or other pollutant effluent standard or prohibition and the Permittee shall be notified of such modification. If this Permit has not been modified to conform to the toxic or other pollutant effluent standard or

prohibition before the effective date of such standard or prohibition, the authorization to discharge in this Permit shall be void to the extent that any discharge limitation on such pollutant in Part I.A. of this Permit exceeds or is inconsistent with the established toxic or other pollutant effluent standard or prohibition.

4. Compliance with Water Quality Standards and Other Provisions

a. On the basis of the Permittee's application, plans, or other available information, the Department has determined that compliance with the terms and conditions of this Permit will assure compliance with applicable water quality standards. However, this Permit does not relieve the Permittee from compliance with applicable State water quality standards established in ADEM Admin. Code ch. 335-6-10, and does not preclude the Department from taking action as appropriate to address the potential for contravention of applicable State water quality standards which could result from discharges of pollutants from the permitted facility.

b. Compliance with Permit terms and conditions notwithstanding, if the Permittee's discharge(s) from point source(s) identified on Page 1 of this Permit cause(s) or contribute(s) to a condition in contravention of State water quality standards, the Department may require abatement action to be taken by the Permittee, modify the Permit pursuant to the Department's rules and regulations, or both.

c. If the Department determines, on the basis of a notice provided pursuant to Part II.C.2. of this Permit or any investigation, inspection, or sampling, that a modification of this Permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification and, in cases of emergency, the Director may prohibit the noticed act until the Permit has been modified.

5. Compliance with Statutes and Rules

a. This Permit has been issued under ADEM Admin. Code div. 335-6. All provisions of this division, that are applicable to this Permit, are hereby made a part of this Permit. A copy of this division may be obtained for a small charge from the Office of General Counsel, Alabama Department of Environmental Management, 1400 Coliseum Blvd., Montgomery, AL 36110-2059.

b. This Permit does not authorize the noncompliance with or violation of any Laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws. FWPCA, 33 U.S.C. Section 1319, and Code of Alabama 1975, Section 22-22-14.

6. Right of Entry and Inspection

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the Permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by the AWPCA, any substances or parameters at any location.

7. Duty to Reapply or Notify of Intent to Cease Discharge

a. If the Permittee intends to continue to discharge beyond the expiration date of this Permit, the Permittee shall file with the Department a complete permit application for reissuance of this Permit at least 180 days prior to its expiration.

b. If the Permittee does not desire to continue the discharge(s) allowed by this Permit, the Permittee shall notify the Department at least 180 days prior to expiration of this Permit of the Permittee's intention not to request reissuance of this Permit. This notification must include the information required in Part I.D.4.a and be signed by an individual meeting the signatory requirements for a permit application as set forth in ADEM Admin. Code r. 335-6-6-.09.

c. Failure of the Permittee to submit to the Department a complete application for reissuance of this Permit at least 180 days prior to the expiration date of this Permit will void the automatic continuation of this Permit as provided by ADEM Admin. Code r. 335-6-6-.06, and should this Permit not be reissued for any reason, any discharge after the expiration of this Permit will be an unpermitted discharge.

PART III ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS

A. CIVIL AND CRIMINAL LIABILITY

1. Tampering

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained or performed under this Permit shall, upon conviction, be subject to penalties and/or imprisonment as provided by the AWPCA and/or the AEMA.

2. False Statements

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties and/or imprisonment as provided by the AWPCA and/or the AEMA.

3. Permit Enforcement

This NPDES Permit is a Permit for the purpose of the AWPCA, the AEMA, and the FWPCA, and as such all terms, conditions, or limitations of this Permit are enforceable under State and Federal law.

4. Relief From Liability

Except as provided in Part II.B.1. (Bypass) and Part II.B.2. (Upset), nothing in this Permit shall be construed to relieve the Permittee of civil or criminal liability under the AWPCA, AEMA, or FWPCA for noncompliance with any term or condition of this Permit.

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject to under Section 311 of the FWPCA, 33 U.S.C. §1321.

C. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Code of Alabama 1975, §22-22-9(c), all reports prepared in accordance with the terms of this Permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential. Knowingly making any false statement in any such report may result in the imposition of criminal penalties as provided for in Section 309 of the FWPCA, 33 U.S.C. §1319, and Code of Alabama 1975, §22-22-14.

D. DEFINITIONS

1. Acid or ferruginous mine drainage - means mine drainage which, before any treatment, either has a pH of less than 6 or a total iron concentration equal to or greater than 10 mg/l.

2. Alabama Environmental Management Act (AEMA) - means Code of Alabama 1975, §§22-22A-1 et. seq., as amended.

3. Alabama Water Pollution Control Act (AWPCA) - means Code of Alabama 1975, §§22-22-1 et. seq., as amended.

4. Alkaline mine drainage - means mine drainage which, before any treatment, has a pH equal to or greater than 6.0 and total iron concentration of less than 10 mg/l.

5. Average monthly discharge limitation - means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

6. Arithmetic Mean - means the summation of the individual values of any set of values divided by the number of individual values.

7. BOD - means the five-day measure of the pollutant parameter biochemical oxygen demand

8. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.

9. CBOD - means the five-day measure of the pollutant parameter carbonaceous biochemical oxygen demand.

10. Coal Mine - means an area, on or beneath land, used or disturbed in activities related to the extraction, removal, or recovery of coal from natural or artificial deposits, including active mining and reclamation.

11. Coal Preparation Plant - means a facility where coal is subjected to cleaning, concentrating, or other processing or preparation in order to separate coal from its impurities and then is loaded for transit to a consuming facility.

12. Coal Preparation Plant Associated Areas - means the coal preparation plant yards, immediate access roads, coal refuse piles and coal storage piles and facilities.

13. Coal Preparation Plant Water Circuit - means all pipes, channels, basins, tanks, and all other structures and equipment that convey, contain, treat, or process any water that is used in coal preparation processes within a coal preparation plant.

14. Coal Refuse Disposal Pile - means any coal refuse deposited on the earth and intended as permanent disposal or long-term storage (greater than 180 days) of such material, but does not include coal refuse deposited within the active mining area or coal refuse never removed from the active mining area.

15. Controlled Surface Mine Drainage – means any surface mine drainage that is pumped or siphoned from the active mining area.

16. Daily discharge - means the discharge of a pollutant measured during any consecutive 24-hour period in accordance with the sample type and analytical methodology specified by the discharge permit.

17. Daily maximum - means the highest value of any individual sample result obtained during a day.

18. Daily minimum - means the lowest value of any individual sample result obtained during a day.

19. Day - means any consecutive 24-hour period.

20. Department - means the Alabama Department of Environmental Management.

21. Director - means the Director of the Department or his authorized representative or designee.

22. Discharge - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other waste into waters of the state." Code of Alabama 1975, §22-22-1(b)(8).

23. Discharge monitoring report (DMR) - means the form approved by the Director to accomplish monitoring report requirements of an NPDES permit.

24. DO - means dissolved oxygen.

25. E. coli – means the pollutant parameter Escherichia coli.

26. 8HC - means 8-hour composite sample, including any of the following:

    a. The mixing of at least 5 equal volume samples collected at constant time intervals of not more than 2 hours over a period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

    b. A sample continuously collected at a constant rate over period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

27. EPA - means the United States Environmental Protection Agency.

28. Federal Water Pollution Control Act (FWPCA) - means 33 U.S.C. §§1251 et. seq., as amended.

29. Flow – means the total volume of discharge in a 24-hour period.

30. Geometric Mean - means the Nth root of the product of the individual values of any set of values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered one (1).

31. Grab Sample - means a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the discharge.

32. Indirect Discharger - means a nondomestic discharger who discharges pollutants to a publicly owned treatment works or a privately owned treatment facility operated by another person.

33. Industrial User - means those industries identified in the Standard Industrial Classification manual, Bureau of the Budget 1967, as amended and supplemented, under the category "Division D – Manufacturing" and such other classes of significant waste producers as, by regulation, the Director deems appropriate.

34. mg/L - means milligrams per liter of discharge.

35. MGD - means million gallons per day.

36. Monthly Average - means, other than for E. coli bacteria, the arithmetic mean of all the composite or grab samples taken for the daily discharges collected in one month period. The monthly average for E. coli bacteria is the geometric mean of daily discharge samples collected in a one month period. The monthly average for flow is the arithmetic mean of all flow measurements

taken in a one month period. (Zero discharges shall not be included in the calculation of monthly averages.)

37. New Discharger - means a person owning or operating any building, structure, facility or installation:
    a. From which there is or may be a discharge of pollutants;
    b. From which the discharge of pollutants did not commence prior to August 13, 1979, and which is not a new source; and
    c. Which has never received a final effective NPDES permit for dischargers at that site.

38. New Source - means:
    a. A new source as defined for coal mines by 40 CFR Part 434.11 (1994); and
    b. Any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
        (1) After promulgation of standards of performance under Section 306 of FWPCA which are applicable to such source; or
        (2) After proposal of standards of performance in accordance with Section 306 of the FWPCA which are applicable to such source, but only if the standards are promulgated in accordance with Section 206 within 120 days of their proposal.

39. NH3-N - means the pollutant parameter ammonia, measured as nitrogen.

40. 1-year, 24-hour precipitation event - means the maximum 24-hour precipitation event with a probable recurrence interval of once in one year as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.

41. Permit application - means forms and additional information that are required by ADEM Admin. Code r. 335-6-6-.08 and applicable permit fees.

42. Point Source - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. §1362(14).

43. Pollutant - includes for purposes of this Permit, but is not limited to, those pollutants specified in Code of Alabama 1975, §22-22-1(b)(3) and those effluent characteristics, excluding flow, specified in Part I.A. of this Permit.

44. Pollutant of Concern - means those pollutants for which a water body is listed as impaired or which contribute to the listed impairment.

45. Preparation, Dry - means a dry preparation facility within which the mineral/material is cleaned, separated, or otherwise processed without use of water or chemical additives before it is shipped to the customer or otherwise utilized. A dry preparation plant includes all ancillary operations and structures necessary to clean, separate, or otherwise process the mineral/material, such as storage areas and loading facilities. Dry preparation also includes minor water spray(s) used solely for dust suppression on equipment and roads to minimize dust emissions.

46. Preparation, Wet - means a wet preparation facility within which the mineral/material is cleaned, separated, or otherwise processed using water or chemical additives before it is shipped to the customer or otherwise utilized. A wet preparation plant includes all ancillary operations and structures necessary to clean, separate, or otherwise process the mineral/material, such as storage areas and loading facilities. Wet preparation also includes mineral extraction/processing by dredging, slurry pumping, etc.

47. Privately Owned Treatment Works - means any devices or system which is used to treat wastes from any facility whose operator is not the operator of the treatment works, and which is not a "POTW".

48. Publicly Owned Treatment Works (POTW) - means a wastewater collection and treatment facility owned by the State, municipality, regional entity composed of two or more municipalities, or another entity created by the State or local authority for the purpose of collecting and treating municipal wastewater.

49. Receiving Stream - means the "waters" receiving a "discharge" from a "point source".

50. Severe property damage - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

51. 10-year, 24-hour precipitation event - means that amount of precipitation which occurs during the maximum 24-hour precipitation event with a probable recurrence interval of once in ten years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.

52. TKN - means the pollutant parameter Total Kjeldahl Nitrogen.

53. TON - means the pollutant parameter Total Organic Nitrogen.

54. TRC - means Total Residual Chlorine.

55. TSS -- means the pollutant parameter Total Suspended Solids

56. Total Year-to-Date discharge limitation - means the sum of the discharge mass flow rates of a pollutant on all previous days within a calendar year. For days when data has not been collected, the mass flow rates shall be assumed to be equal to the most recent calculated daily mass flow rate.

57. Treatment facility and treatment system - means all structures which contain, convey, and as necessary, chemically or physically treat mine and/or associated preparation plant drainage, which remove pollutants limited by this Permit from such drainage or wastewater. This includes all pipes, channels, ponds, tanks, and all other equipment serving such structures.

58. 24HC - means 24-hour composite sample, including any of the following:

    a. The mixing of at least 12 equal volume samples collected at constant time intervals of not more than 2 hours over a period of 24 hours;

    b. A sample collected over a consecutive 24-hour period using an automatic sampler composite to one sample. As a minimum, samples shall be collected hourly and each shall be no more than one twenty-fourth (1/24) of the total sample volume collected; or

c. A sample collected over a consecutive 24-hour period using an automatic composite sampler composited proportional to flow.

59. 24-hour precipitation event - means that amount of precipitation which occurs within any 24-hour period.

60. 2-year, 24-hour precipitation event - means the maximum 24-hour precipitation event with a probable recurrence interval of once in two years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.

61. Upset - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate facilities, lack of preventive maintenance, or careless or improper operation.

62. Waters - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the State, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership, or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, §22-22-1(b)(2). "Waters" include all "navigable waters" as defined in §502(7) of the FWPCA, 33 U.S.C. §1362(7), which are within the State of Alabama.

63. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.

64. Weekly (7-day and calendar week) Average – is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week is defined as beginning on Sunday and ending on Saturday. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for the calendar week shall be included in the data for the month that contains the Saturday.

E. SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not be affected thereby.

F. PROHIBITIONS AND ACTIVIES NOT AUTHORIZED

1. Discharges from disposal or landfill activities as described in ADEM Admin. Code div. 335-13 are not authorized by this Permit unless specifically approved by the Department.

2. Relocation, diversion, or other alteration of a water of the State is not authorized by this Permit unless specifically approved by the Department.

3. Lime or cement manufacturing or production and discharge of process waters from such manufacturing or production is not authorized by this Permit unless specifically approved by the Department.

4. Concrete or asphalt manufacturing or production and discharge of process waters from such manufacturing or production is not authorized by this Permit unless specifically approved by the Department.

5. The discharge of wastewater, generated by any process, facility, or by any other means not under the operational control of the Permittee or not identified in the application for this Permit or not identified specifically in the description of an outfall in this Permit is not authorized by this Permit.

PART IV SPECIAL REQUIREMENTS, RESTRICTIONS, AND LIMITATIONS

A. DISCHARGES TO IMPAIRED WATERS

1. This Permit does not authorize new sources or new discharges of pollutants of concern to impaired waters unless consistent with an EPA-approved or EPA-established Total Maximum Daily Load (TMDL) and applicable State law, or unless compliance with the limitations and requirements of the Permit ensure that the discharge will not contribute to further degradation of the receiving stream. Impaired waters are those that do not meet applicable water quality standards and are identified on the State of Alabama's §303(d) list or on an EPA-approved or EPA-established TMDL. Pollutants of concern are those pollutants for which the receiving water is listed as impaired or contribute to the listed impairment.

2. Facilities that discharge into a receiving stream which is listed on the State of Alabama's §303(d) list of impaired waters, and with discharges that contain the pollutant(s) for which the waters are impaired, must within six (6) months of the Final §303(d) list approval, document in its BMP plan how the BMPs will control the discharge of the pollutant(s) of concern, and must ensure that there will be no increase of the pollutants of concern. A monitoring plan to assess the effectiveness of the BMPs in achieving the allocations must also be included in the BMP plan.

3. If the facility discharges to impaired waters as described above, it must determine whether a TMDL has been developed and approved or established by EPA for the listed waters. If a TMDL is approved or established during this Permit cycle by EPA for any waters into which the facility discharges, the facility must review the applicable TMDL to see if it includes requirements for control of any water discharged by the Permittee. Within six (6) months of the date of TMDL approval or establishment, the facility must notify the Department on how it will modify its BMP plan to include best management practices specifically targeted to achieve the allocations prescribed by the TMDL, if necessary. Any revised BMP plans must be submitted to the Department for review. The facility must include in the BMP plan a monitoring component to assess the effectiveness of the BMPs in achieving the allocations.

B. POST-MINING DISCHARGE LIMITATIONS

1. Excluding discharges from the underground workings of an underground coal mine, any discharge shall be exempt from the discharge limitations specified in Part I.A.1., provided that:

   a. All mining in the drainage basin(s) associated with the discharge has ceased;

   b. Revegetation has been established on all areas mined in the drainage basin(s) associated with the discharge;

   c. The Permittee has been granted, in writing, a Phase II Bond Release, if applicable, by the ASMC for all areas mined in the drainage basin(s) associated with the discharge;

   d. The Permittee has certified to the Director, in writing, its compliance with Parts IV.C.1.a. through c.; and

   e. The Permittee's request for post-mining discharge limitations has been approved by the Department in writing.

2. Any discharge, which pursuant to Part IV.C.1. is exempt from the discharge limitations specified in Part I.A.1., shall be limited and monitored by the Permittee as specified in Part I.A.3.

C. pH EXEMPTION DISCHARGE LIMITATIONS

Where the application of neutralization and sedimentation treatment technology results in the Permittee's inability to comply with applicable total manganese discharge limitations, the daily maximum discharge limitation for pH shall be 10.5 s.u. However, the discharge shall not cause the in-stream pH values to deviate more than 1.0 s.u. from the normal or natural pH, nor be less than 6.0 s.u., nor greater than 8.5 s.u. Use of this exemption must be noted on the DMR Form when submitted for each eligible outfall. Documentation justifying the necessity for the exemption must be also be submitted at the time of the associated DMR submittal.

D. MANGANESE EXEMPTION DISCHARGE LIMITATIONS

Limitations and monitoring requirements for total manganese do not apply if the drainage, before any treatment, has a pH equal to or more than 6.0 s.u. and a total iron concentration of less than 10.0 mg/l. Use of this exemption must be noted on the Discharge Monitoring Report (DMR) form when submitted for each eligible outfall. Documentation of alkaline drainage before treatment must also be submitted at the time of or prior to the associated DMR submittal.

E. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS FOR ACUTE TOXICITY

Except as provided below, the Permittee shall perform 48-hour acute toxicity screening tests on the discharges required to be tested for acute toxicity in Part I.A. of this Permit.

The Permittee may certify, in writing, that the activities at the site at the time of sample collection will result in representative discharges, and therefore perform the toxicity tests on only the samples collected from the representative outfalls. The certification must be signed by a responsible official of the Permittee as defined in ADEM Admin Code r. 335-6-6-.09 and include the following statement:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

1. Test Requirements

a. The tests shall be performed using undiluted effluent.

b. Any test where survival in the effluent concentration is less than 90% and statistically lower than the control indicates acute toxicity and constitutes noncompliance with this Permit.

2. General Test Requirements

a. A grab sample shall be obtained for use in above biomonitoring tests. The holding time for each sample shall not exceed 36 hours. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-012 or most current edition or another control water selected by the Permittee and approved by the Department.

b. Effluent toxicity tests in which the control survival is less than 90% or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the Permittee shall rerun the tests as soon as practical within the monitoring period.

c. In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are reported with an explanation of the tests performed and results.

d. Should results from five consecutive testing periods indicate that the effluent does not exhibit acute toxicity, the Permittee may request, in writing, that the Toxicity monitoring and reporting requirements be suspended. It remains the responsibility of the Permittee to comply with the Toxicity monitoring and reporting requirements until written authorization to suspend the monitoring and reporting is received by the Permittee from the Director.

3. Reporting Requirements

a. The Permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).

b. Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. In accordance with Section 6. of this part, an effluent toxicity report containing the information in Section 6. shall be included with the DMR. Two copies of the test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.

4. Additional Testing Requirements

a. If acute toxicity is indicated (noncompliance with permit limit), the Permittee shall perform two additional valid acute toxicity tests in accordance with these procedures. The toxicity tests shall be performed on new samples collected during the first discharge event after becoming aware of the acute toxicity. The additional samples shall be collected a minimum of 12 hours apart, or sooner if the discharge is not expected to continue for 12 hours. In the event that the discharge ceases prior to collection of the second additional sample, the sample shall be collected during the beginning of the next discharge event. The results of these tests shall be submitted no later than 28 days following the month in which the tests were performed. Additional testing sample collection and analysis timeframes may be extended, as necessary, to obtain the samples during discharges.

b. After evaluation of the results of the additional tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The Permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600/R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.).

5. Test Methods

The tests shall be performed in accordance with the latest edition of the "EPA Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" and shall be performed using the fathead minnow (*Pimephales promelas*) and the cladoceran (*Ceriodaphnia dubia*).

6. Effluent Toxicity Testing Reports

The following information shall be submitted with each discharge monitoring report unless otherwise directed by the Department. The Department may at any time suspend or reinstate this requirement or may increase or decrease the frequency of submittals.

a. Introduction

(1) Facility Name, location and county

(2) Permit number

(3) Toxicity testing requirements of permit

(4) Name of receiving water body

(5) Contract laboratory information (if tests are performed under contract)

(i) Name of firm

(ii) Telephone number

(iii) Address

(6) Objective of test

b. Plant Operations

(1) Discharge operating schedule (if other than continuous)

(2) Volume of discharge during sample collection to include Mean daily discharge on sample collection date (MGD, CFS, GPM)

c. Source of Effluent Water and Dilution Water

(1) Effluent samples

(i) Sample point

(ii) Sample collection dates and times

(iii) Sample collection method

(iv) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)

(v) Sample temperature when received at the laboratory

(vi) Lapsed time from sample collection to delivery

(vii) Lapsed time from sample collection to test initiation

(2) Dilution Water samples

(i) Source

(ii) Collection date(s) and time(s) (where applicable)

(iii) Pretreatment (if applicable)

(iv) Physical and chemical characteristics (pH, hardness, water temperature, alkalinity, specific conductivity, etc.)

d. Test Conditions

(1) Toxicity test method utilized

(2) End point(s) of test

(3) Deviations from referenced method, if any, and reason(s)

(4) Date and time test started

(5) Date and time test terminated

(6) Type and volume of test chambers

(7) Volume of solution per chamber

(8) Number of organisms per test chamber

(9) Number of replicate test chambers per treatment

(10) Test temperature, pH and dissolved oxygen as recommended by the method (to include ranges)

(11) Feeding frequency, and amount and type of food

(12) Light intensity (mean)

e. Test Organisms

(1) Scientific name

(2) Life stage and age

(3) Source

(4) Disease treatment (if applicable)

f. Quality Assurance

(1) Reference toxicant utilized and source

(2) Date and time of most recent acute reference toxicant test(s), raw data, and current cusum chart(s)

(3) Results of reference toxicant test(s) (LC50, etc.), report concentration-response relationship and evaluate test sensitivity. The most recent reference toxicant test shall be conducted within 30-days of the routine.

(4) Physical and chemical methods utilized

g. Results

(1) Provide raw toxicity data in tabular form, including daily records of affected organisms in each concentration (including controls) and replicate

(2) Provide table of endpoints: LC50, NOAEC, Pass/Fail (as required in the applicable NPDES permit)

(3) Indicate statistical methods used to calculate endpoints

(4) Provide all physical and chemical data required by method

(5) Results of test(s) (LC50, NOAEC, Pass/Fail, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD)

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits

(2) Action to be taken

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER DIVISION

NPDES INDIVIDUAL PERMIT RATIONALE

Company Name:	Alabama Coal Cooperative
Facility Name:	Parrish Rail Loading Facility
County:	Walker
Permit Number:	AL0083861
Prepared by:	David Hearn
Date:	February 11, 2019
Receiving Waters:	Bryants Creek and Unnamed Tributaries to Bryants Creek
Permit Coverage:	Transportation and Storage of Coal, Reclamation, and Associated Areas
SIC Code:	4491

The Department has made a tentative determination that the available information is adequate to support issuance of this permit.

The area to be covered by this proposed permit is currently covered under NPDES Permit No. AL0072184 – Choctaw Mine with Permittee Cedar Lake Mining, Inc. This proposed permit is to cover a portion of the property for the transportation and storage of coal, reclamation, and associated areas. No mining is occurring in the proposed permitted area.

This proposed permit authorizes treated discharges into stream segments, other State waters, or local watersheds that currently have a water quality use classification of Fish & Wildlife (F&W) (ADEM Admin. Code ch. 335-6-11). However, the stream segments flow into a State water with the water quality use classification of Public Water Supply (PWS). If the requirements of the proposed permit are fully implemented, the facility will not discharge pollutants at levels that will cause or contribute to a violation of the PWS or F&W classifications.

Full compliance with the proposed permit terms and conditions is expected to be protective of instream water quality and ensure consistency with applicable instream State water quality standards (WQS) for the receiving streams.

The discharge limitations for the daily maximum and minimum of pH, and the monthly average and daily maximum of Total Suspended Solids (TSS), Total Iron as Fe, and Total Manganese as Mn are based on the New Source Performance Standards (NSPS) Effluent Limit Guidelines (ELGs) found in 40 CFR Part 434.35 for acid or ferruginous mine drainage.

However, the Permittee may submit documentation that discharges from the site are alkaline in nature (*i.e.*, the drainage prior to treatment has a pH equal to or more than 6.0 s.u. and a Total Fe concentration of less than 10.0 mg/L). Part IV.D. of the proposed permit provides that limitations and monitoring requirements for Total Manganese as Mn do not apply if the Permittee has provided the documentation of alkaline drainage. In such a case, the standard discharge limitations for the daily maximum and minimum of pH and Total Iron as Fe are based on the NSPS ELGs found in 40 CFR Part 434.45 for alkaline mine drainage.

The instream water quality standards for pH in streams classified as PWS and F&W are 6.0 – 8.5 s.u. per ADEM Admin. Code r. 335-6-10-.09. However, due to the fact that discharges are expected only in response to rain events, it is the opinion of the Department that discharges with an allowable pH daily maximum of 9.0 s.u. will not adversely affect the instream pH based on the low discharge/stream flow ratio.

The ELGs of 40 CFR Part 434.62 allow the pH level in the final discharge to exceed 9.0 s.u. when neutralization and sedimentation treatment technology results in the Permittee's inability to comply with the applicable total manganese limitations. The acidity and metals composition of each discharge is unique and sometimes a pH value of 10.5 is necessary for the removal of manganese. However, the discharge shall not cause the in-stream pH to deviate more than 1.0 s.u. from the normal or natural pH, nor be less than 6.0 s.u., nor greater than 8.5 s.u. in accordance with ADEM Admin. Code r. 335-6-10-.09.

Post-mining discharge limitations are included in addition to the standard limitations due to the fact that mining has previously occurred onsite and all areas have obtained, at a minimum, a Phase II Bond Release. The post-mining discharge limitations are based on 40 CFR Part 434, Subpart E. This permit is more restrictive than the BAT Guidelines in that the Permittee, in order to have qualified for the post-mining discharge limitations, must have received a Phase II Bond Release from the Alabama Surface Mining Commission for all areas mined in the drainage basin(s) associated with the discharge. The reason a Phase II Bond Release is required for post-mining limitations rather than a Phase I Bond Release is that topsoil replacement and the commencement of revegetation are frequently important factors in controlling the effluent quality from a coal mine. The Department has determined that tying the post-mining discharge limitations to the Phase II Bond Release will effectively protect water quality in Alabama as it relates to coal mining.

Additional effluent monitoring for Specific Conductance, Sulfate as S, Total Dissolved Solids (TDS), and Acute Whole Effluent Toxicity (WET) testing is required so that future determinations can be made as to whether or not a reasonable potential to cause or contribute to an excursion of numeric or narrative WQS exists from this and similar discharges.

The applicant has, in accordance with 40 CFR Part 122.21 and their NPDES permit application, submitted representative effluent and background stream data for metals, cyanide, and total phenols as part of the application. The Department has acknowledged that the other Part A, B, and C pollutants listed in EPA Form 2C and 2D are not believed to be present in the waste stream due to the processes involved in the regulated activity. Therefore, testing for the other Part A, B, and C pollutants listed in EPA Form 2C and 2D is not required. The Department has reviewed available data in ALAWADR, ADEM's water quality database, and found nothing to contradict the data submitted by the applicant.

The Department completed a reasonable potential analysis (RPA) of the discharges based on the laboratory data provided in the application and in Discharge Monitoring Reports (DMRs) for Choctaw Mine. The RPA indicates whether or not pollutants in treated effluent have the potential to contribute to excursions of Alabama's in-stream WQS. Based on the analytical data submitted by the Permittee, the RPA indicates that there was no reasonable potential for instream WQS to be exceeded.

Pursuant to ADEM Admin. Code r. 335-6-6-.12(r) this permit requires the Permittee to design and implement a Spill Prevention Control and Countermeasures (SPCC) plan for all stored chemicals, fuels and/or stored pollutants that have the potential to discharge to a water of the State. This plan must meet the minimum engineering requirements as defined in 40 CFR Part 112 and must provide for secondary containment adequate to control a potential spill.

In accordance with ADEM Admin. Code r. 335-6-3-.07 the design professional engineer (PE), as evidenced by their seal and/or signature on the application, has accepted full responsibility for the effectiveness of the waste treatment facility to treat the Permittee's effluent to meet NPDES permit limitations and requirements, and to fully comply with Alabama's WQS, when such treatment facilities are properly operated.

The Pollution Abatement/Prevention (PAP) plan for this facility has been prepared by a PE registered in the State of Alabama and is designed to ensure reduction of pollutants in the waste stream to a level that, if operated properly, the discharge will not contribute to or cause a violation of applicable State WQS. The proposed permit terms and conditions are predicated on the basis of ensuring a reduction of pollutants in the discharge to a level that reduces the potential of contributing to or causing a violation of applicable State WQS.

If there is a reasonable potential that a pollutant present in the treated discharges from a facility could cause or contribute to a contravention of applicable State WQS above numeric or narrative criteria, 40 CFR § 122 requires the Department to establish effluent limits using calculated water quality criterion, establish effluent limits on a

case-by-case basis using criteria established by EPA, or establish effluent limits based on an indicator parameter. Based on available information, potential pollutants discharged from this facility, if discharged within the concentrations allowed by this permit, would not have a reasonable potential to cause or contribute to a contravention of applicable State WQS.

The applicant is not proposing discharges into a stream segment or other State water that is included on Alabama's current CWA §303(d) list.

The applicant is not proposing discharges of pollutant(s) to a water of the State with an approved Total Maximum Daily Load (TMDL).

The applicant is not proposing discharges of pollutant(s) to an ADEM identified Tier I water.

The proposed permit does not authorize new or increased discharges of pollutants to a Tier II water. The outfalls covered under this proposed permit have been constructed and certified previously under NPDES Permit AL0072184; therefore, the Antidegradation Policy, ADEM Admin Code 335-6-10.04 has already been applied.

Facility Name: Alabama Coal Cooperative - Parrish Rail Loading Facility

NPDES No.: AL0083861 Outfalls 001 & 034 [12345]

				Freshwater PWS classification.			Freshwater Acute (ug/l) Q_s =1Q10					Freshwater Chronic (ug/l) Q_s = 7Q10					Human Health Consumption Fish & Water (µg/l) Carcinogen Q_s = Annual Average Non-Carcinogen Q_s = 7Q10				Human Health Consumption Fish only (µg/l) Carcinogen Q_s = Annual Average Non-Carcinogen Q_s = 7Q10			
ID	Pollutant	RP?	Carcinogen yes	Background Instream (Cs) Daily Max	Max Daily Discharge as reported by Applicant[4] (C_{dmax})	Water Quality Criteria (C_i)	Draft Permit Limit (C_{dmax})	20% of Draft Permit Limit	RP?	Background Instream (Cs) Monthly Ave	Avg Daily Discharge as reported by Applicant (C_{davg})	Water Quality Criteria (C_i)	Draft Permit Limit (C_{davg})	20% of Draft Permit Limit	RP?	Water Quality Criteria (C_i)	Draft Permit Limit (C_d)	20% of Draft Permit Limit	RP?	Water Quality Criteria (C_i)	Draft Permit Limit (C_d)	20% of Draft Permit Limit	RP?
1	Antimony			0	0	-	-	-	-	0	0	-	-	-	-	5.52E+00	5.52E+00	1.10E+00	No	3.73E+02	3.73E+02	7.47E+01	No
2	Arsenic		YES	0	0	592.334	592.334	118.466899	No	0	0	261.324	261.324	52.264908	No	2.10E-01	4.25E-01	8.49E-02	No	5.28E-01	1.07E+00	2.14E-01	No
3	Beryllium			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
4	Cadmium			0	0	8.533	8.533	1.70654934	No	0	0	1.042	1.042	0.2084715	No	-	-	-	-	-	-	-	-
5	Chromium/ Chromium III			0	0	2713.159	2713.159	542.63198	No	0	0	352.926	352.926	70.585259	No	-	-	-	-	-	-	-	-
6	Chromium/ Chromium VI			0	0	16.000	16.000	3.2	No	0	0	11.000	11.000	2.2	No	-	-	-	-	-	-	-	-
7	Copper			0	0	34.637	34.637	6.92737797	No	0	0	23.082	23.082	4.6163867	No	3.35E+03	3.35E+03	6.70E+02	No	3.35E+03	3.35E+03	6.70E+02	No
8	Lead			0	0	138.290	138.290	27.6579793	No	0	0	5.389	5.389	1.0777917	No	-	-	-	-	-	-	-	-
9	Mercury			0	0	2.400	2.400	0.48	No	0	0	0.012	0.012	0.0024	No	1.39E-01	1.39E-01	2.78E-02	No	1.40E-01	1.40E-01	2.81E-02	No
10	Nickel			0	7.3	927.200	927.200	185.439913	No	0	7.3	102.993	102.993	20.596649	No	8.13E+02	8.13E+02	1.63E+02	No	1.97E+03	1.97E+03	3.93E+02	No
11	Selenium			0	3.36	20.000	20.000	4	No	0	0.443	5.000	5.000	1	No	1.63E+02	1.63E+02	3.26E+01	No	2.43E+03	2.43E+03	4.86E+02	No
12	Silver			0	0	3.217	3.217	0.64335145	No	0	0	-	-	-	-	-	-	-	-	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	-	-	-	-	1.74E-01	1.74E-01	3.47E-02	No	2.74E-01	2.74E-01	5.47E-02	No
14	Zinc			0	0	355.092	355.092	71.0184571	No	0	0	357.997	357.997	71.599365	No	1.87E+04	1.87E+04	3.73E+03	No	4.51E+04	4.51E+04	9.03E+03	No
15	Cyanide			0	0	22.000	22.000	4.4	No	0	0	5.200	5.200	1.04	No	1.38E+02	1.38E+02	2.76E+01	No	9.33E+03	9.33E+03	1.87E+03	No
16	Total Phenolic Compounds			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
17	Hardness (As CaCO3)			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-

[1]Outfalls 001 & 034 discharge to a UT of Bryants Creek. The 7Q10 for the receiving stream is 0 cfs. The mean annual flow is 1.11 cfs. This is the receiving stream flow value used in the calculations.

[2]Outfall 001 is reported to have the highest discharge flow rate of 0.701 MGD. This is the discharge flow rate used in the calculations.

[3]A hardness of 100 mg/L was used in the calculations based on expected stream hardness in this portion of the state.

[4]Discharge data for all parameters are the the results of samples obtained from AL0072184's's Outfall 030-1 on June 9, 2017.

[5]Discharge data for Selenium is the result of 48 samples obtained from Choctaw Mine from January 1, 2014 to December 31, 2018.

Facility Name: Alabama Coal Cooperative - Parrish Rail Loading Facility

NPDES No.: AL0083861 Outfall 033 [1][2]

				Freshwater PWS classification.							Freshwater Acute ($\mu g/l$) Q_s =1Q10						Freshwater Chronic ($\mu g/l$) Q_s = 7Q10						Human Health Consumption Fish & Water ($\mu g/l$) Carcinogen Q_s = Annual Average Non-Carcinogen Q_s = 7Q10				Human Health Consumption Fish only ($\mu g/l$) Carcinogen Q_s = Annual Average Non-Carcinogen Q_s = 7Q10			
ID	Pollutant	RP?	Carcinogen yes	Background Instream (Cs) Daily Max	Max Daily Discharge as reported by Applicant[4] (C_{dmax})	Water Quality Criteria (C_i)	Draft Permit Limit (C_{dmax})	20% of Draft Permit Limit	RP?	Background Instream (Cs) Monthly Ave	Avg Daily Discharge as reported by Applicant (C_{davg})	Water Quality Criteria (C_i)	Draft Permit Limit (C_{davg})	20% of Draft Permit Limit	RP?	Water Quality Criteria (C_i)	Draft Permit Limit (C_d)	20% of Draft Permit Limit	RP?	Water Quality Criteria (C_i)	Draft Permit Limit (C_d)	20% of Draft Permit Limit	RP?
1	Antimony		YES	0	0	-	-	-	-	0	0	-	-	-	-	5.52E+00	5.52E+00	1.10E+00	No	3.73E+02	3.73E+02	7.47E+01	No
2	Arsenic			0	0	592.334	592.334	118.466899	No	0	0	261.324	261.324	52.264808	No	2.10E-01	1.48E+00	2.96E-01	No	5.26E-01	3.72E+00	7.43E-01	No
3	Beryllium			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
4	Cadmium			0	0	8.533	8.533	1.70654934	No	0	0	1.042	1.042	0.2084715	No	-	-	-	-	-	-	-	-
5	Chromium/ Chromium III			0	0	2713.159	2713.159	542.63188	No	0	0	352.926	352.926	70.585259	No	-	-	-	-	-	-	-	-
6	Chromium/ Chromium VI			0	0	16.000	16.000	3.2	No	0	0	11.000	11.000	2.2	No	-	-	-	-	-	-	-	-
7	Copper			0	0	34.637	34.637	6.92737797	No	0	0	23.082	23.082	4.6163667	No	3.35E+03	3.35E+03	6.70E+02	No	3.35E+03	3.35E+03	6.70E+02	No
8	Lead			0	0	138.290	138.290	27.6579793	No	0	0	5.389	5.389	1.0777917	No	-	-	-	-	-	-	-	-
9	Mercury			0	0	2.400	2.400	0.48	No	0	0	0.012	0.012	0.0024	No	1.39E-01	1.39E-01	2.78E-02	No	1.40E-01	1.40E-01	2.81E-02	No
10	Nickel			0	7.3	927.200	927.200	185.439913	No	0	7.3	102.983	102.983	20.596649	No	8.13E+02	8.13E+02	1.63E+02	No	1.97E+03	1.97E+03	3.93E+02	No
11	Selenium			0	0	20.000	20.000	4	No	0	0	5.000	5.000	1	No	1.63E+02	1.63E+02	3.26E+01	No	2.43E+03	2.43E+03	4.86E+02	No
12	Silver			0	0	3.217	3.217	0.64335145	No	0	0	-	-	-	-	-	-	-	-	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	-	-	-	-	1.74E-01	1.74E-01	3.47E-02	No	2.74E-01	2.74E-01	5.47E-02	No
14	Zinc			0	0	355.092	355.092	71.0184571	No	0	0	357.997	357.997	71.599385	No	1.87E+04	1.87E+04	3.73E+03	No	4.51E+04	4.51E+04	9.03E+03	No
15	Cyanide			0	0	22.000	22.000	4.4	No	0	0	5.200	5.200	1.04	No	1.39E+02	1.39E+02	2.76E+01	No	9.33E+03	9.33E+03	1.87E+03	No
16	Total Phenolic Compounds			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
17	Hardness (As CaCO3)			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-

[1]Outfall 033 discharges to Bryants Creek. The 7Q10 for the receiving stream is 0 cfs. The mean annual flow is 0.57 cfs. This is the receiving stream flow value used in the calculations.

[2]Outfall 033 is reported to have the highest discharge flow rate of 0.061 MGD. This is the discharge flow rate used in the calculations.

[3]A hardness of 100 mg/L was used in the calculations based on expected stream hardness in this portion of the state.

[4]Discharge data for all parameters are the the results of samples obtained from AL0072184's's Outfall 030-1 on June 9, 2017.

mcgehee engineering corp

December 10, 2018

Field Operations – MNPS
Alabama Department of Environmental Management
ATTN: Mr. David Hearn
1400 Coliseum Boulevard
Montgomery, AL 36110-2059

RE: **Alabama Coal Cooperative**
Parrish Rail Loading Facility
NPDES Permit Application

Dear Mr. Hearn:

Enclosed please find an NPDES permit application along with an $7,430.00 check (application fee) for the above referenced facility.

If you should have any questions please feel free to contact our office.

Sincerely,

McGehee Engineering Corp.

Jonathan Whitlock

Post Office Box 3431 • 450 19th Street West • Jasper, Alabama 35502-3431 • 205-221-0686 • Fax 205-221-7721 • staff@mcgehee.org

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM)
NPDES INDIVIDUAL PERMIT APPLICATION

SURFACE & UNDERGROUND MINERAL & ORE OR MINERAL PRODUCT MINING, QUARRYING, EXCAVATION, BORROWING, HYDRAULIC MINING, STORAGE, PROCESSING, PREPARATION, RECOVERY, HANDLING, LOADING, STORING, OR DISPOSING ACTIVITIES AND ASSOCIATED AREAS INCLUDING PRE-MINING SITE DEVELOPMENT, CONSTRUCTION, EXCAVATION, CLEARING, DISTURBANCE, RECLAMATION, AND ASSOCIATED AREAS

INSTRUCTIONS: PLEASE READ THE ACCOMPANYING INSTRUCTIONS CAREFULLY BEFORE COMPLETING THIS FORM. COMPLETE ALL QUESTIONS. RESPOND WITH "N/A" AS APPROPRIATE. INCOMPLETE OR INCORRECT ANSWERS OR MISSING SIGNATURES WILL DELAY PROCESSING. ATTACH ADDITIONAL COMMENTS OR INFORMATION AS NEEDED. IF SPACE IS INSUFFICIENT, CONTINUE ON AN ATTACHED SHEET(S) AS NECESSARY. COMMENCEMENT OF ACTIVITIES APPLIED FOR AS DETAILED IN THIS APPLICATION ARE NOT AUTHORIZED UNTIL PERMIT COVERAGE HAS BEEN ISSUED BY THE DEPARTMENT.

PLEASE TYPE OR PRINT IN INK ONLY.

R# 19-47782
$7,430.00

PURPOSE OF THIS APPLICATION

- ☒ Initial Permit Application for New Facility
- ☐ Initial Permit Application for Existing Facility (e.g. facility previously permitted less than 5 acres)
- ☐ Modification of Existing Permit
- ☐ Reissuance of Existing Permit
- ☐ Reissuance & Modification Existing Permit
- ☐ Reissuance & Transfer of Existing Permit
- ☐ Revocation and Reissuance of Existing Permit
- ☐ Other _____

I. GENERAL INFORMATION

RECEIVED
DEC 12 2018
STORM WATER MANAGEMENT BRANCH

NPDES Permit Number (Not applicable if initial permit application):	County(s) in which Facility is Located:
AL00 83861	Walker

Company/Permittee Name:	Facility Name (*e.g.*, Mine Name, Pit Name, *etc.*):
Alabama Coal Cooperative	Parrish Rail Loading Facility
Mailing Address of Company/Permittee:	Physical Address of Facility (as near as possible to entrance):
P. O. Box 1710	9865 AL Hwy 269
City: Cullman State: AL Zip: 35056	City: Parrish State: AL Zip: 35580

Permittee Phone Number:	Permittee Fax Number:	Latitude and Longitude of entrance:
(256) 736-5888	(256) 736-5848	Lat - 33° 41' 43", Lon - 87° 15' 03"

Responsible Official (as described on page 13 of this application):	Responsible Official Title:
Chris Arnold	President
Mailing Address of Responsible Official:	Physical Address of Responsible Official:
P. O. Box 1710	300 2nd Ave SW
City: Cullman State: AL Zip: 35056	City: Cullman State: AL Zip: 35055

Phone Number of Responsible Official:	Fax Number of Responsible Official:	Email Address of Responsible Official:
(256) 736-5888	(256) 736-5848	carnold@alcoalcoop.com

Facility Contact:	Facility Contact Title:	
Chris Arnold	President	
Physical Address of Facility Contact:	Phone Number of Facility Contact:	Fax Number of Facility Contact:
3323 Alabama Hwy 157, Suite C	N/A	(256) 736-5848
City: Cullman State: AL Zip: 35058	Email Address of Facility Contact: cahabaresources@bellsouth.net	

II. MEMBER INFORMATION

A. Identify the name, title/position, and unless waived in writing by the Department, the residence address of every officer, general partner, LLP partner, LLC member, investor, director, or person performing a function similar to a director, of the applicant, and each person who is the record or beneficial owner of 10 percent or more of any class of voting stock of the applicant, or any other responsible official(s) of the applicant with legal or decision making responsibility or authority for the facility:

Name:	Title/Position:	Physical Address of Residence (P.O. Box is Not Acceptable)
Chris Arnold	President	3323 Alabama Hwy 157, Suite C, Cullman, AL 35058

B. Other than the "Company/Permittee" listed in Part I., identify the name of each corporation, partnership, association, and single proprietorship for which any individual identified in Part II.A. is or was an officer, general partner, LLP partner, LLC member, investor, director, or individual performing a function similar to a director, or principal (10% or more) stockholder, that had an Alabama NPDES permit at any time during the five year (60 month) period immediately preceding the date on which this form is signed:

Name of Corporation, Partnership, Association, or Single Proprietorship:	Name of Individual from Part II.A.:	Title/Position in Corporation, Partnership, Association, or Single Proprietorship:
None		

III. LEGAL STRUCTURE OF APPLICANT

A. Indicate the legal structure of the "Company/Permittee" listed in Part I:

☒ Corporation ☐ Association ☐ Individual ☐ Single Proprietorship ☐ Partnership ☐ LLP ☐ LLC

☐ Government Agency: _____ ☐ Other: _____

B. If not an individual or single proprietorship, is the "Company/Permittee" listed in Part I. properly registered and in good standing with the Alabama Secretary of State's Office? (If the answer is "No," attach a letter of explanation.) ☒ Yes ☐ No

C. Parent Corporation and Subsidiary Corporations of Applicant, if any: None

D. Land Owner(s): See Permit Map

E. Mining Sub-contractor(s)/Operator(s), if known: None

IV. COMPLIANCE HISTORY

A. Has the applicant ever had any of the following:

	Yes	No
(1) An Alabama NPDES, SID, or UIC permit suspended or terminated?	☐	☒
(2) An Alabama license to mine suspended or revoked?	☐	☒
(3) An Alabama or federal mining permit suspended or terminated?	☐	☒
(4) A reclamation bond, or similar security deposited in lieu of a bond, or portion thereof, forfeited?	☐	☒
(5) A bond or similar security deposited in lieu of a bond, or portion thereof, the purpose of which was to secure compliance with any requirement of the Alabama Water Improvement Commission or Alabama Department of Environmental Management, forfeited?	☐	☒

(If the response to any item of Part IV.A. is "Yes," attach a letter of explanation.)

B. Identify every Warning Letter, Notice of Violation (NOV), Administrative Action, or litigation issued to the applicant, parent corporation, subsidiary, general partner, LLP partner, or LLC member and filed by ADEM or EPA during the three year (36 months) period preceding the date on which this form is signed. Indicate the date of issuance, briefly describe alleged violations, list actions (if any) to abate alleged violations, and indicate date of final resolution: See attachment IV-B

V. OTHER PERMITS/AUTHORIZATIONS

A. List any other NPDES or other environmental permits (including permit numbers), authorizations, or certifications that have been applied for or issued within the State by ADEM, EPA, Alabama Surface Mining Commission (ASMC), Alabama Department of Industrial Relations (ADIR), or other agency, to the applicant, parent corporation, subsidiary, or LLC member for this facility whether presently effective, expired, suspended, revoked, or terminated:

None

B. List any other NPDES or other ADEM permits (including permit numbers), authorizations, or certifications that have been applied for or issued within the State by ADEM, EPA, ASMC, or ADIR, to the applicant, parent corporation, subsidiary, or LLC member for other facilities whether presently effective, expired, suspended, revoked, or terminated:

None

VI. PROPOSED SCHEDULE

Anticipated Activity Commencement Date: February 2019 Anticipated Activity Completion Date: February 2024

VII. ACTIVITY DESCRIPTION & INFORMATION

A. Proposed Total Area of the Permitted Site: 133 acres Proposed Total Disturbed Area of the Permitted Site: 133 acres

B. Township(s), Range(s), Section(s): T15S, R7W, SECTION 28, 33 & 34

C. Detailed Directions to Site: From intersection of Segco Rd and AL Hwy 269, travel west on Segco Rd approx. 2.5 miles to the facility.

D. Is/ will this facility:

		Yes	No
(1)	an existing facility which currently results in discharges to State waters?	☒	☐
(2)	a proposed facility which will result in a discharge to State waters?	☐	☒
(3)	be located within any 100-year flood plain?	☐	☒
(4)	discharge to Municipal Separate Storm Sewer?	☐	☒
(5)	discharge to waters of or be located in the Coastal Zone?	☐	☒
(6)	need/have ADEM UIC permit coverage?	☐	☒
(7)	be located on Indian/ historically significant lands?	☐	☒
(8)	need/have ADEM SID permit coverage?	☐	☒
(9)	need/have ASMC permit coverage?	☐	☒
(10)	need/have ADIR permit coverage?	☐	☒
(11)	generate, treat, store, or dispose of hazardous or toxic waste ? (If "Yes," attach a detailed explanation.)	☐	☒
(12)	be located in or discharge to a Public Water Supply (PWS) watershed or be located within ½ mile of any PWS well?	☐	☒

VIII. MATERIAL TO BE REMOVED, PROCESSED, OR TRANSLOADED

List relative percentages of the mineral(s) or mineral product(s) that are proposed to be and/or are currently mined, quarried, recovered, prepared, processed, handled, transloaded, or disposed at the facility. **If more than one mineral is to be mined, list the relative percentages of each mineral by tonnage for the life of the mine.**

____Dirt &/or Chert	____Sand &/or Gravel	____Chalk	____Talc	____Crushed rock (other)
____Bentonite	____Industrial Sand	____Marble	____Shale &/or Common Clay	____Sandstone
100 % Coal	____Kaolin	____Coal fines/refuse recovery	____Coal product, coke	____Slag, Red Rock
____Fire clay	____Iron ore	____Dimension stone	____Phosphate rock	____Granite
____Bauxitic Clay	____Bauxite Ore	____Limestone, crushed limestone and dolomite		

____ Gold, other trace minerals:_____ ____Other:_____

____Other:_____ _____Other:_____

____Other:_____ ____Other:_____

IX. PROPOSED ACTIVITY TO BE CONDUCTED

A. Type(s) of activity presently conducted at applicant's existing facility or proposed to be conducted at facility (check all that apply):

- ☐ Surface mining
- ☐ Underground mining
- ☐ Quarrying
- ☐ Auger mining
- ☐ Hydraulic mining
- ☐ Within-bank mining
- ☐ Solution mining
- ☒ Mineral storing
- ☐ Lime production
- ☐ Cement production
- ☐ Synthetic fuel production
- ☐ Alternative fuels operation
- ☐ Mineral dry processing (crushing & screening)
- ☐ Mineral wet preparation
- ☐ Other beneficiation & manufacturing operations
- ☒ Mineral loading
- ☐ Chemical processing or leaching
- ☐ Construction related temporary borrow pits/areas
- ☒ Mineral transportation X rail ___ barge X truck
- ☐ Preparation plant waste recovery
- ☐ Hydraulic mining, dredging, instream or between stream-bank mining
- ☒ Grading, clearing, grubbing, *etc.*
- ☐ Pre-construction ponded water removal
- ☒ Excavation
- ☒ Pre-mining logging or land clearing
- ☐ Waterbody relocation or other alteration
- ☐ Creek/stream crossings
- ☒ Onsite construction debris or equipment storage/disposal
- ☐ Onsite mining debris or equipment storage/disposal
- ☒ Reclamation of disturbed areas
- ☐ Chemicals used in process or wastewater treatment (coagulant, biocide, etc.)
- ☐ Adjacent/associated asphalt/concrete plant(s)
- ☐ Low volume sewage treatment package plant
- ☐ Other: _____

B. Primary SIC Code: 4491 Description: Coal Loading Facility

Secondary SIC Code(s): _____ Description: _____

C. Narrative Description of the Activity: This operation is a coal loading facility performing such activities as storing and loading for transportation via railroad. There will be no mining or preparation operations associated with this facility.

X. FUEL – CHEMICAL HANDLING, STORAGE & SPILL PREVENTION CONTROL & COUNTERMEASURES (SPCC) PLAN

A. Will fuels, chemicals, compounds, or liquid waste be used or stored onsite? ☒ Yes ☐ No

B. If "Yes," identify the fuel, chemicals, compounds, or liquid waste and indicate the volume of each:

Volume	*Contents*	*Volume*	*Contents*	*Volume*	*Contents*
1-6,000 gallons	Off-road Diesel Fuel	_____ gallons	_____		
_____ gallons	_____	_____ gallons	_____	_____ gallons	_____

C. If "Yes," a detailed SPCC Plan with acceptable format and content, including diagrams, must be attached to application in accordance with ADEM Admin. Code R. 335-6-6-.12(r). Unless waived in writing by the Department on a programmatic, categorical, or individual compound/chemical basis, Material Safety Data Sheets (MSDS) for chemicals/compounds used or proposed to be used at the facility must be included in the SPCC Plan submittal.

XI. POLLUTION ABATEMENT & PREVENTION (PAP) PLAN

A. For non-coal mining facilities, a PAP Plan in accordance with ADEM Admin. Code r. 335-6-9-.03 has been completed and is attached as part of this application. ☒ Yes ☐ No

B. For coal mining facilities, a detailed PAP Plan has been submitted to ASMC according to submittal procedures for ASMC regulated facilities. ☐ Yes ☐ No

(1) If "Yes" to Part XI.B., provide the date that the PAP Plan was submitted to ASMC:

(2) If "No" to Part XI.B., provide the anticipated date that the PAP Plan will be submitted to ASMC: _____

XII. ASMC REGULATED ENTITIES

A. Is this coal mining operation regulated by ASMC? ☐ Yes ☒ No

B. If "Yes", provide copies as part of this application of any pre-mining hydrologic sampling reports and Hydrologic Monitoring Reports which have been submitted to ASMC within the 36 months prior to submittal of this application.

XIII. TOPOGRAPHIC MAP SUBMITTAL

Attach to this application a 7.5 minute series U.S.G.S. topographic map(s) or equivalent map(s) no larger than, or folded to a size of 8.5 by 11 inches (several pages may be necessary), of the area extending to at least one mile beyond property boundaries. The topographic or equivalent map(s) must include a caption indicating the name of the topographic map, name of the applicant, facility name, county, and township, range, & section(s) where the facility is located. Unless approved in advance by the Department, the topographic or equivalent map(s), at a minimum, must show:

(a) An outline of legal boundary of entire property (property lines and lease boundaries)
(b) An outline of the facility
(c) All existing and proposed disturbed areas
(d) Location of discharge areas
(e) Proposed and existing discharge points
(f) Perennial, intermittent, and ephemeral streams
(g) Lakes, springs, water wells, wetlands
(h) All known facility dirt/improved access/haul roads
(i) All surrounding unimproved/improved roads
(j) High-tension power lines and railroad tracks
(k) Buildings and structures, including fuel/water tanks
(l) Contour lines, township-range-section lines
(m) Drainage patterns, swales, washes
(n) All drainage conveyance/treatment structures (ditches, berms, etc.)
(o) Any other pertinent or significant feature

XIV. DETAILED FACILITY MAP SUBMITTAL

Attach to this application a 1:500 scale or better, detailed auto-CAD map(s) or equivalent map(s) no larger than, or folded to a size of 8.5 by 11 inches (several pages may be necessary), of the facility. The facility map(s) must include a caption indicating the name of the facility, name of the applicant, facility name, county, and township, range, & section(s) where the facility is located. Unless approved in advance by the Department, the facility or equivalent map(s), at a minimum, must show:

(a) Information listed in Item XII (a) – (o) above
(b) If noncoal, detailed, planned mining progression
(c) If noncoal, location of topsoil storage areas
(d) Location of ASMC bonded increments (if applicable)
(e) Location of mining or pond cleanout waste storage/disposal areas
(f) Other information relevant to facility or operation
(g) Location of facility sign showing Permittee name, facility name, and NPDES Number

XV. RECEIVING WATERS

List the requested permit action for each outfall (issue, reissue, add, delete, move, etc.), outfall designation including denoting "E" for existing and "P" for proposed outfalls, name of receiving water(s), whether or not the stream is included in a TMDL, latitude and longitude (to seconds) of location(s) that run-off enters the receiving water, distance of receiving water from outfall in feet, number of disturbed acres, the number of drainage acres which will drain through each treatment system, outfall, or BMP, and if the outfall discharges to an ADEM listed CWA Section 303(d) waterbody segment at the time of application submittal.

Action	Outfall E/P	Receiving Water	Latitude	Longitude	Distance to Rec. Water	Disturbed Acres	Drainage Acres	ADEM WUC	303(d) Segment (Y/N)	TMDL Segment* (Y/N)
Issue	001E	UT to Bryants Creek	33° 42' 27"	87° 16' 30"	Directly	180	374.4	F & W	N	N
Issue	033E	Bryants Creek	33° 42' 55"	87° 16' 26"	100'	31.5	32.6	F & W	N	N
Issue	034E	UT to Bryants Creek	33° 43' 00"	87° 16' 07"	100'	14	17	F & W	N	N

*If a TMDL Compliance Schedule is requested, the following should be attached as supporting documentation: (1) Justification for the requested Compliance Schedule (e.g. time for design and installation of control equipment, etc.); (2) Monitoring results for the pollutant(s) of concern which have not previously been submitted to the Department (sample collection dates, analytical results (mass and concentration), methods utilized, MDL/ML, etc. should be reported as available); (3) Requested interim limitations, if applicable; (4) Date of final compliance with the TMDL limitations; and (5) Any other additional information available to support the requested compliance schedule.

XVI. DISCHARGE CHARACTERIZATION

A. Modified EPA Form 2C Submittal

☒ Yes, pursuant to 40 CFR 122.21, the applicant requests a waiver for completion of the modified EPA Form 2C and certifies that the operating facility will discharge treated stormwater only, unless waived in writing by the Department on a programmatic, categorical, or individual compound/chemical basis that chemical/compound additives are not used, and that there are no process, manufacturing, or other industrial operations or wastewaters, including but not limited to lime or cement production, synfuel operations, *etc.*, and that coal and coal products are not mined nor stored onsite.

☐ No, the applicant does not request a waiver and a complete modified EPA Form 2C is attached.

B. The applicant is required to supply the following information separately for every P or E outfall. If necessary, attach extra sheets. List expected average daily discharge flow rate in cfs and gpd, frequency of discharge in hours per day and days per month, average summer and winter temperature of discharge(s) in degrees centigrade (C), average pH in standard units, average daily discharge in pounds per day of BOD_5, Total Suspended Solids, Total Iron, Total Manganese, and Total Aluminum (if bauxite or bauxitic clay):

Outfall E/P	Information Source - # of Samples	Flow cfs	Flow gpd	Frequency hours/day	Frequency days/mth	Sum/Win Temp, °C	pH s.u.	BOD_5 lbs/day	TSS lbs/day	Tot Fe lbs/day	Tot Mn lbs/day	Tot Al lbs/day
001E	4 DMRs	1.082	0.701	Precipitation	Precipitation	26/7	7.00	25.084	6.841	0.877	8.771	n/a
033E	4 DMRs	0.094	0.061	Precipitation	Precipitation	26/7	7.00	2.184	0.713	0.092	0.764	n/a
034E	B.P.E.	0.049	0.032	Precipitation	Precipitation	26/7	7.00	1.073	0.665	0.049	0.398	n/a

C. The applicant is required to supply the following information separately for every P or E outfall. If necessary, attach extra sheets. Identify and list expected average daily discharge in pounds per day of any other pollutant(s) listed in EPA Form 2C, Item V – Intake And Effluent Characteristics, Parts A, B, & C that are not referenced in Part XV.B., that you know is present or have reason to believe could be present in the discharge(s) at levels of concern:

Outfall E/P	Reason Believed Present	Information Source - # of Samples									
			lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day

XVII. DISCHARGE STRUCTURE DESCRIPTION & POLLUTANT SOURCE

The applicant is required to supply outfall number(s) as it appears on the map(s) required by this application [if this application is for a modification to an existing permit do not change the numbering sequence of the permitted outfalls], describe each, (*e.g.*, pipe, spillway, channel, tunnel, conduit, well, discrete fissure, or container), and identify the origin of pollutants. The response must be precise for each outfall. If the discharge of pollutants from any outfall is the result of commingling of waste streams from different origins, each origin must be completely described.

Outfall	Discharge structure Description	Description of Origin Of pollutants	Surface Discharge	Groundwater Discharge	Wet Prep -Other Production Plant	Pumped or Controlled Discharge	Low Volume STP	Other
001E	Spillway	9 & 10	X			X		
033E	Pipe	9 & 10	X			X		
034E	Pipe	9 & 10	X			X		

Origin of Pollutants – typical examples: **(1)** Discharge of drainage from the underground workings of an underground coal mine, **(2)** Discharge of drainage from a coal surface mine, **(3)** Discharge of drainage from a coal preparation plant and associated areas, **(4)** Discharge of process wastewater from a gravel-washing plant, **(5)** Discharge of wastewater from an existing source coal preparation plant, **(6)** Discharge of drainage from a sand and gravel pit, **(7)** Pumped discharge from a limestone quarry, **(8)** Controlled surface mine drainage (pumped or siphoned), **(9)** Discharge of drainage from mine reclamation, **(10) Other:** Discharge of drainage from a coal loading facility and associated areas.

XVIII. PROPOSED NEW OR INCREASED DISCHARGES

A. Pursuant to ADEM Admin. Code Chapter 335-6-10-.12(9), responses to the following questions must be provided by the applicant requesting NPDES permit coverage for new or expanded discharges of pollutant(s) to Tier 2 waters (except discharges eligible for coverage under general permits). As part of the permit application review process, the Department is required to consider, based on the applicant's demonstration, whether the proposed new or increased discharge to Tier 2 waters is necessary for important economic or social development in the area in which the waters are located.

☐ Yes. New/increased discharges of pollutant(s) or discharge locations to Tier 2 waters are proposed.

☒ No. New/increased discharges of pollutants(s) or discharge locations to Tier 2 waters are not proposed.

B. If "Yes," complete this Part (XVII.B.), Part XVIII, and XIX.

(1) What environmental or public health problem will the discharge be correcting?

(2) How much will the discharger be increasing employment (at its existing facility or as a result of locating a new facility)?

(3) How much reduction in employment will the discharger be avoiding?

(4) How much additional state or local taxes will the discharger be paying?

(5) What public service to the community will the discharger be providing?

(6) What economic or social benefit will the discharger be providing to the community?

XIX. POLLUTION ABATEMENT PLAN (PAP) SUMMARY

Outfall(s): All Outfalls

Y	N	N/A	
XX			Runoff from all areas of disturbance is controlled
XX			Drainage from pit area, stockpiles, and spoil areas directed to a sedimentation pond
	XX		Sedimentation basin at least 0.25 acre/feet for every acre of disturbed drainage
	XX		Sedimentation basin cleaned out when sediment accumulation is 60% of design capacity
XX			Trees, boulders, and other obstructions removed from pond during initial construction
XX			Width of top of dam greater than 12'
	XX		Side slopes of dam no steeper than 3:1
XX			Cutoff trench at least 8' wide
XX			Side slopes of cutoff trench no less than 1:1
XX			Cutoff trench located along the centerline of the dam
XX			Cutoff trench extends at least 2' into bedrock or impervious soil
XX			Cutoff trench filled with impervious material
XX			Embankments and cutoff trench 95% compaction standard proctor ASTM
XX			Embankment free of roots, tree debris, stones >6" diameter, etc.
XX			Embankment constructed in lifts no greater than 12"
XX			Spillpipe sized to carry peak flow from a one year storm event
XX			Spillpipe will not chemically react with effluent
XX			Subsurface withdrawal
	XX		Anti-seep collars extend radially at least 2' from each joint in spillpipe
XX			Splashpad at the end of the spillpipe
	XX		Emergency Spillway sized for peak flow from 25-yr 24-hr event if discharge not into PWS classified stream
	XX		Emergency spillway sized for peak flow from 50-yr 24-hr event if discharge is into PWS classified stream
XX			Emergency overflow at least 20' long
XX			Side slopes of emergency spillway no steeper than 2:1
	XX		Emergency spillway lined with riprap or concrete
XX			Minimum of 1.5' of freeboard between normal overflow and emergency overflow
	XX		Minimum of 1.5' of freeboard between max. design flow of emergency spillway and top of dam
XX			All emergency overflows are sized to handle entire drainage area for ponds in series
XX			Dam stabilized with permanent vegetation
XX			Sustained grade of haul road <10%
XX			Maximum grade of haul road <15% for no more than 300'
XX			Outer slopes of haul road no steeper than 2:1
XX			Outer slopes of haul road vegetated or otherwise stabilized
	XX		Detail drawings supplied for all stream crossings
XX			Short-Term Stabilization/Grading And Temporary Vegetative Cover Plans
XX			Long-Term Stabilization/Grading And Permanent Reclamation or Water Quality Remediation Plans

XX	The applicant has completed the surface water discharge alternatives analysis and has supporting documentation, including annualized costs for each technically feasible alternative available for review upon request

IDENTIFY AND PROVIDE DETAILED EXPLANATION FOR ANY "N" OR "N/A" RESPONSE(s):

Sediment Basins provide sediment storage volume of 0.10 acre-feet per acre disturbed in addition to sufficient calculated and designed detention volume to meet 0.50 ml/l settable solids.

Sediment Basins are cleaned out when the accumulated sediment reaches the specified sediment storage volume set forth on the detailed design plans.

Upstream and downstream slopes of the dam are no less than 2.5H to 1V and are designed to provide stability with a minimum static safety factor of 1.3. This design is determined using the actual tested strength characteristics of the foundation and embankment material.

The emergency spillway is designed based on the anticipated flows, flow velocities, and whether the spillway is expected to carry continuous, sustained flows. in the case of a primary spillway pipe, the secondary or emergency spillway may be set at an elevation above the maximum anticipated peak flow elevation. in such a case, a vegetated emergency spillway is adequate.

XX. POLLUTION ABATEMENT PLAN (PAP) REVIEW CHECKLIST

Y	N	N/A	
X			PE Seal with License #
X			Name and Address of Operator
X			Legal Description of Facility
			General Information:
X			Name of Company
X			Number of Employees
X			Products to be Mined
X			Hours of Operation
X			Water Supply and Disposition
			Topographic Map:
X			Mine Location
		X	Location of Prep Plant
X			Location of Treatment Basins
X			Location of Discharge Points
X			Location of Adjacent Streams
			1"- 500' or Equivalent Facility Map:
X			Drainage Patterns
X			Mining Details
X			All Roads, Structures Detailed
X			All Treatment Structures Detailed
			Detailed Design Diagrams:
X			Plan Views
X			Cross-section Views
X			Method of Diverting Runoff to Treatment Basins
			Narrative of Operations:
X			Raw Materials Defined
X			Processes Defined
X			Products Defined
			Schematic Diagram:
X			Points of Waste Origin
X			Collection System
X			Disposal System
			Post Treatment Quantity and Quality of Effluent:
X			Flow
X			Suspended Solids
X			Iron Concentration
X			pH
			Description of Waste Treatment Facility:
X			Pre-Treatment Measures
X			Recovery System
X			Expected Life of Treatment Basin
X			Schedule of Cleaning and/or abandonment
			Other:
X			Precipitation/Volume Calculations/Diagram Attached
X			BMP Plan for Haul Roads
X			Measures for Minimizing Impacts to Adjacent Stream i.e., Buffer Strips, Berms, etc.
X			Methods for Minimizing Nonpoint Source Discharges
X			Facility Closure Plans
X			PE Rationale(s) For Alternate Standards, Designs or Plans

IDENTIFY AND PROVIDE DETAILED EXPLANATION FOR ANY "N" OR "N/A" RESPONSE(s):

No preparation plant is proposed at this facility.

XXI. INFORMATION

Contact the Department prior to submittal with any questions or to request acceptable alternate content/format. Be advised that you are not authorized to commence regulated activity until this application can be processed, publicly noticed, and approval to proceed is received in writing from the Department.

EPA Form(s) 1 and 2F need not be submitted unless specifically required by the Department. EPA Form(s) 2C and/or 2D are required to be submitted unless the applicant is eligible for a waiver and the Department grants a waiver.

Planned/proposed mining sites that are greater than 5 acres, that mine/process coal or metallic mineral/ore, or that have wet or chemical processing, must apply for and obtain coverage under and Individual NPDES Permit prior to commencement of any land disturbance. Such coverage may be requested via this ADEM Form 315.

The applicant is advised to contact:

(1) The Alabama Surface Mining Commission (ASMC) if coal, coal fines, coal refuse, or other coal related materials are mined, transloaded, processed, *etc.*;
(2) The Alabama Department of Industrial Relations (ADIR) if conducting non-coal mining operations;
(3) The Alabama Historical Commission for requirements related to any potential historic or culturally significant sites;
(4) The Alabama Department of Conservation and Natural Resources (ADCNR) for requirements related to potential presence of threatened/endangered species; and
(5) The US Army Corps of Engineers, Mobile or Nashville Districts, if this project could cause fill to be placed in federal waters or could interfere with navigation.

The Department must be in receipt of a completed version of this form, including any supporting documentation, and the appropriate processing fee (including Greenfield Fee and Biomonitoring & Toxicity Limits fee(s), if applicable), prior to development of a draft NPDES permit. Send the completed form, supporting documentation, and the appropriate fees to:

Water Division
Alabama Department of Environmental Management
Post Office Box 301463
Montgomery, Alabama 36130-1463
Phone: (334) 271-7823
Fax: (334) 279-3051
h2omail@adem.state.al.us
www.adem.alabama.gov

XXII. PROFESSIONAL ENGINEER (PE) CERTIFICATION

A detailed, comprehensive Pollution Abatement/Prevention Plan (PAP) must be prepared, signed, and certified by a professional engineer (PE), registered in the State of Alabama as follows:

"I certify on behalf of the applicant, that I have completed an evaluation of discharge alternatives (Item XVIII) for any proposed new or increased discharges of pollutant(s) to Tier 2 waters and reached the conclusions indicated. I certify under penalty of law that technical information and data contained in this application, and a comprehensive PAP Plan including any attached SPCC plan, maps, engineering designs, etc. acceptable to ADEM, for the prevention and minimization of all sources of pollution in stormwater and authorized related process wastewater runoff has been prepared under my supervision for this facility utilizing effective, good engineering and pollution control practices and in accordance with the provisions of ADEM Admin. Code Division 335-6 , including Chapter 335-6-9 and Appendices A & B. If the PAP plan is properly implemented and maintained by the Permittee, discharges of pollutants can reasonably be expected to be effectively minimized to the maximum extent practicable and according to permit discharge limitations and other permit requirements. The applicant has been advised that appropriate pollution abatement/prevention facilities and structural & nonstructural management practices or Department approved equivalent management practices as detailed in the PAP plan must be fully implemented and regularly maintained as needed at the facility in accordance with good sediment, erosion, and other pollution control practices, permit requirements, and other ADEM requirements to ensure protection of groundwater and surface water quality."

Address P.O. Box 3431 Jasper, AL 35502-3431 PE Registration # 17067

Name and Title (type or print) C. W. McGehee Phone Number (205) 221-0686

Signature _____ Date Signed 11-21-18

XXIII. RESPONSIBLE OFFICIAL SIGNATURE*

This application must be signed by a Responsible Official of the applicant pursuant to ADEM Admin. Code Rule 335-6-6-.09 who has overall responsibility for the operation of the facility.

"I certify under penalty of law that this document, including technical information and data, the PAP plan, including any SPCC plan, maps, engineering designs, and all other attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the PE and other person or persons under my supervision who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment for knowing violations.

A comprehensive PAP Plan to prevent and minimize discharges of pollution to the maximum extent practicable has been prepared at my direction by a PE for this facility utilizing effective, good engineering and pollution control practices and in accordance with the provisions of ADEM Admin. Code Division 335-6, including Chapter 335-6-9 and Appendices A & B, and information contained in this application, including any attachments. I understand that regular inspections must be performed by, or under the direct supervision of, a PE and all appropriate pollution abatement/prevention facilities and structural & nonstructural management practices or Department approved equivalent management practices identified by the PE must be fully implemented prior to and concurrent with commencement of regulated activities and regularly maintained as needed at the facility in accordance with good sediment, erosion, and other pollution control practices and ADEM requirements. I understand that the PAP plan must be fully implemented and regularly maintained so that discharges of pollutants can reasonably be expected to be effectively minimized to the maximum extent practicable and according to permit discharge limitations and other requirements to ensure protection of groundwater and surface water quality. I understand that failure to fully implement and regularly maintain required management practices for the protection of groundwater and surface water quality may subject the Permittee to appropriate enforcement action.

I certify that this form has not been altered, and if copied or reproduced, is consistent in format and identical in content to the ADEM approved form.

I further certify that the discharges described in this application have been tested or evaluated for the presence of non-stormwater discharges and any non-mining associated beneficiation/process pollutants and wastewaters have been fully identified."

Name (type or print) Chris Arnold Official Title President

Signature _____ Date Signed 11/21/18

*335-6-6-.09 Signatories to Permit Applications and Reports.

(1) The application for an NPDES permit shall be signed by a responsible official, as indicated below:
   (a) In the case of a corporation, by a principal executive officer of at least the level of vice president, or a manager assigned or delegated in accordance with corporate procedures, with such delegation submitted in writing if required by the Department, who is responsible for manufacturing, production, or operating facilities and is authorized to make management decisions which govern the operation of the regulated facility;
   (b) In the case of a partnership, by a general partner;
   (c) In the case of a sole proprietorship, by the proprietor; or
   (d) In the case of a municipal, state, federal, or other public entity by either a principal executive officer, or ranking elected official.

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

Prepared for:

Alabama Department of Environmental Management

ALABAMA COAL COOPERATIVE

PARRISH RAIL LOADING FACILITY

NPDES Permit

Prepared by:

MCGEHEE ENGINEERING CORP.
P. O. Box 3431
Jasper, Alabama 35502-3431
Telephone (205) 221-0686

Location: Sections 28, 33 & 34, Township 15 South, Range 7 West, Walker County, Alabama.

Facility Phone Number: **(256) 736-5888**

Facility Contact and Address:

Chris Arnold, 3323 Alabama Hwy 157, Suite C, Cullman AL, 35058

1. This is an existing facility.

2. The containment structures will be located in an area that is not subject to periodic flooding.

3. This plan provides for the containment of the following:

No. Of Tanks	Total Capacity	Material
1	6,000 gal	Diesel Fuel

4. The nearest surface water of the State is UT to Bryant Creek.

5. The containment structure around the tanks consists of a concrete slab and concrete walls. There is a 2" minimum pipe with a manual gate valve, which allows rainwater discharge when it is needed. The valve remains closed at all times and is to be locked until the containment structure collects enough rainwater to require draining. After an inspection of the water to determine if any pollutants are present, the valve is opened to allow the proper drainage, and then immediately closed again and re-locked. The containment system is located such that rainwater released through normal de-watering drains to a permitted treatment structure. If pollutants (oil) are present in the rainwater, the pollutants will be removed from the water prior to draining the water. Pollutants will be disposed of in accordance with existing State and Federal regulations. In addition, a log will be maintained which indicates the date when the containment structure was de-watered, the person conducting the de-watering, and a brief description of the water (i.e., oily sheen, clear, slightly turbid, oily smell, etc.).

6. If a spill should occur, the usable fuel oil within the diked area shall immediately be pumped into tanker trucks for transporting to another storage tank. Oil absorbent material will be kept available to contain any spills. The unusable fuel oil and the contaminated soil in the area will be excavated and disposed of in accordance with existing State and Federal regulations.

7. A written record shall be maintained by the Division Manager of any spill which occurs, and the actions taken to properly dispose of all spilled material and the cleanup procedures.

8. All unloading of transport vehicles to fill the tanks will meet minimum requirements and regulations established by the Department of Transportation. The tanks will be attended while filling to prevent overflow, and to note visible leaks from seams, gaskets, valves, etc. The Operations Manager of the facility will make periodic inspections of the unloading area to detect signs of minor spills. If spills are evident the contaminated soil will be disposed of in accordance with existing State and Federal regulations. If the spills continue, a paved unloading ramp equipped with an oil-water separator will be constructed.

9. All personnel who are in any way connected with unloading transport vehicles, use of fuel oil, maintenance of the facility, or responsible for storm water drainage and spill cleanup will be made familiar with this plan, and a copy of this plan will be posted and readily available to all personnel at the facility.

Potential Sources of Spills:

A. Tank or Tank Valve Rupture:
Prevention: Tanks, valves, and fittings will be properly maintained and kept in good condition. A visual inspection of all tanks, valves, and fittings will be conducted periodically for leaks, and tank foundations for cracks and unusual settling.

B. Tank Overfill:
Prevention: Truck drivers should follow correct operating procedures when unloading diesel fuel and stay with the equipment at all times during unloading operations. Key personnel will be present when fuel and/or other chemicals are delivered to assure that the delivery personnel follow proper procedures. Any spillage will be immediately cleaned-up or mitigated in accordance with this plan.

C. Hose Rupture During Unloading and Spillage from Hoses after Disconnection:
Prevention: Periodic 'inspections will be conducted of all hoses and replacement hoses will be kept at the facility office. In addition, personnel will use the proper hose drainage procedure.

10. Notification

In the event of a reportable quantity spill, immediately call:

The National Response Center
1-800-424-8802

The Alabama Emergency Management Agency
1-800-843-0699

Alabama Department of Environmental Management Water Division
1400 Coliseum Boulevard Montgomery, Alabama 36110
Telephone Number: (334) 271-7700

Report the following information:

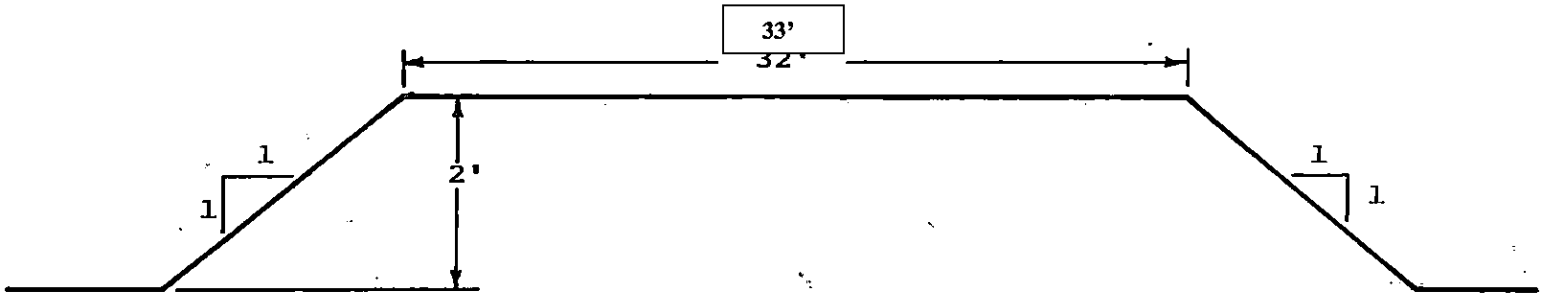
1. Name, address and telephone number of person reporting spill
2. Exact location of facility and spill
3. Company name, number and location
4. Material spilled
5. Estimated quantity
6. Source of spill
7. Cause of spill
8. Nearest downstream body of water to receive spill
9. Request actions to take for containment and cleanup

II. The facility will be kept gated and locked to prevent vandalism or theft whenever company personnel are not present.

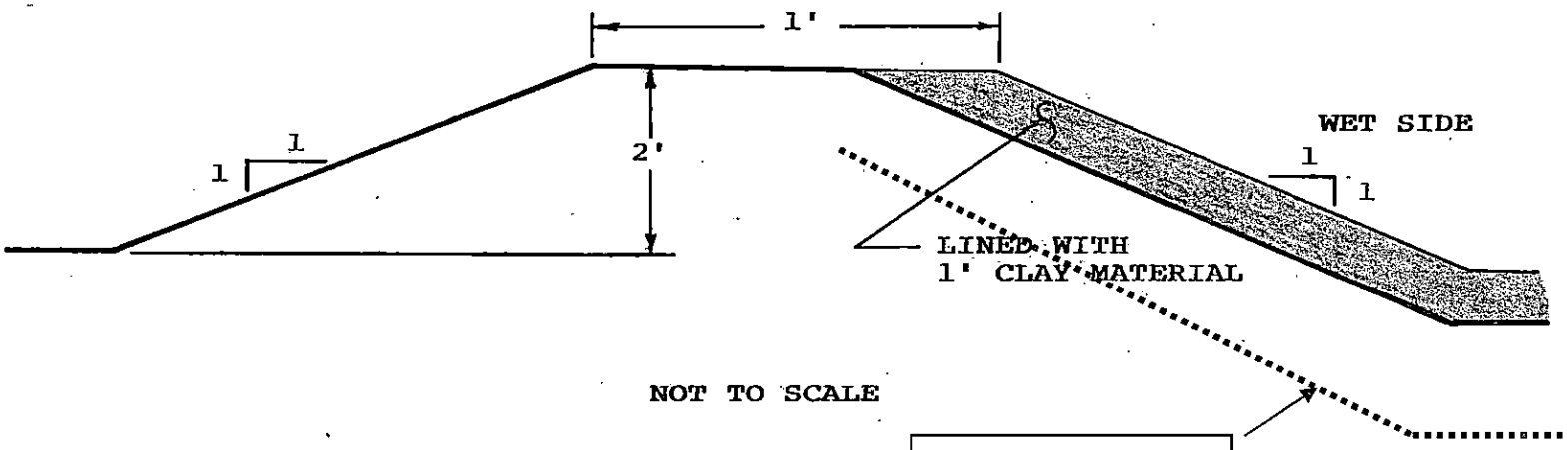
All key personnel will be fully trained in all aspects of this plan, the proper use of personal protective gear, and all reporting and record keeping procedures. All non-key personnel will be made familiar with the plan and will be instructed on personal safety.

BERM DESIGN
TYPICAL SECTIONS

FRONT VIEW



SIDE VIEW

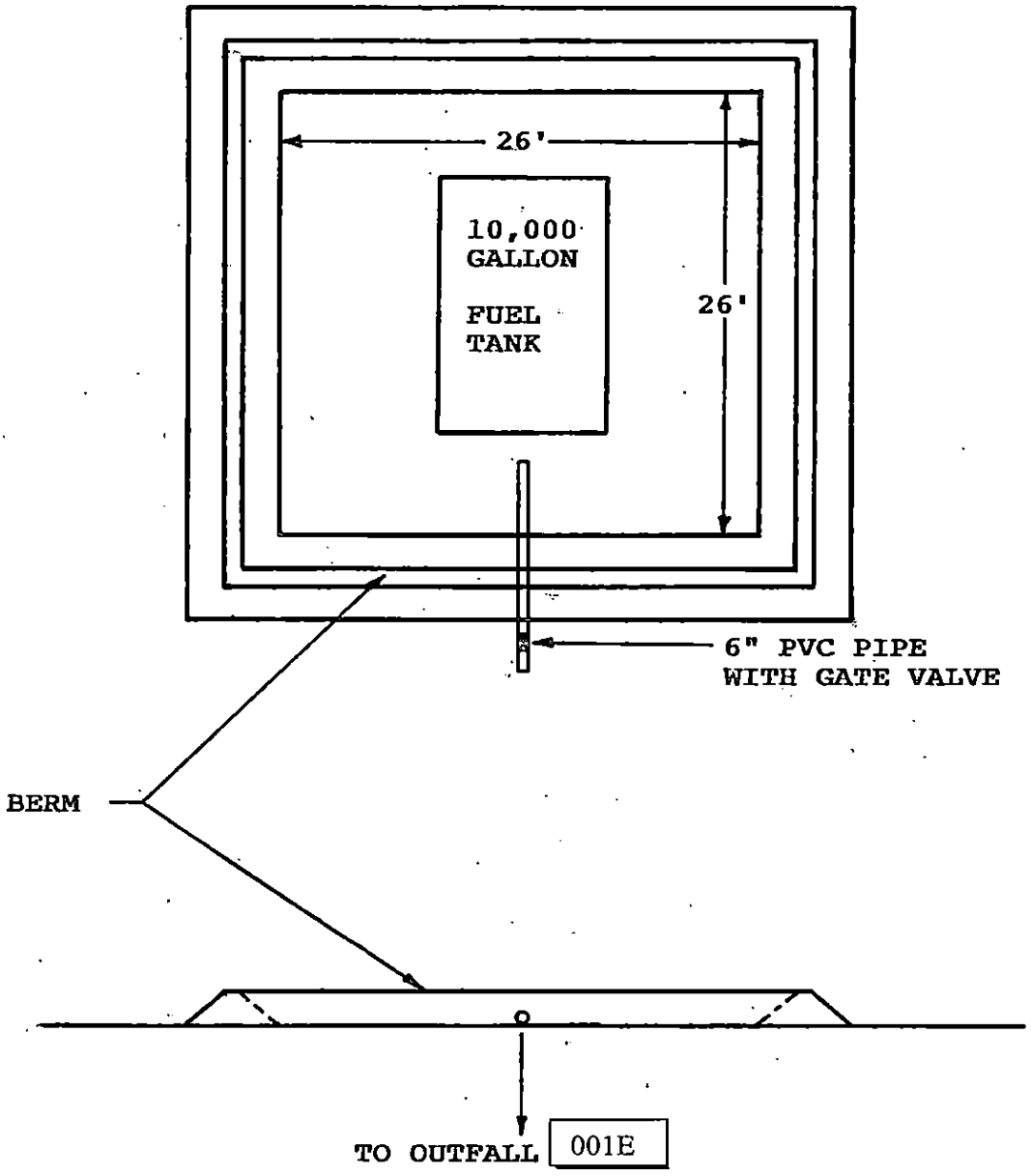


NOT TO SCALE

Impervious Plastic Liner

Berm to be lined with 12 inches of clay material with a permeability of 1 x 10-6 cm/sec or less. Interior to be lined with impermeable plastic liner beneath clay liner.

TYPICAL BERM DETAIL



SCALE: 1" = 10'

POLLUTION ABATEMENT PLAN

Prepared for:

Alabama Department of Environmental Management

ALABAMA COAL COOPERATIVE

PARRISH RAIL LOADING FACILITY

NPDES Permit Application

Prepared by:

MCGEHEE ENGINEERING CORP.
P. O. Box 3431
Jasper, Alabama 35502-3431
Telephone: (205) 221-0686
Fax: (205) 221-7721

INTRODUCTION

This document is an application for an N.P.D.E.S. Permit. The Alabama Coal Cooperative, Parrish Rail Loading Facility is located in Sections 27, 28, 33 & 34, Township 15 South, Range 7 West all located in Walker County, Alabama. This application was prepared in accordance with the rules and regulations of the Alabama Department of Environmental Management.

The "Pollution Abatement Plan" is presented in two parts, which include a brief narrative and the "Pollution Abatement Plan" both presented herein. The narrative is intended to address the format as outlined by the ADEM Water Division - Water Quality and Control Program, rules and regulations, as well as present the basis for the design as further detailed in the "Pollution Abatement Plan". The drawings as presented in the "Pollution Abatement Plan" were derived from rules and regulations from ADEM as well as from other generally accepted design data sources primarily from the U.S. Department of Agriculture Soil Conservation Service. Generally, the narrative will follow the outline of Chapter 6 - 9 - .03, Surface Mining Rules and Regulations from the ADEM rules and regulations.

OPERATOR

The operator of this Barge Loading Facility is Alabama Coal Cooperative, which has its home office business address as follows:

Alabama Coal Cooperative
3323 Alabama Hwy 157, Suite C
Cullman, AL 35058

The Parrish Rail Loading Facility is located within the following quarter/quarter description:

The NW/NW & SW/NW of Section 27, the NE/NE, SE/NE, SW/NE, NW/NE, SW/SE, NW/SE, NE/SW, SE/SW & SE/NW of Section 28, NE/NE, SW/NE, NW/NE, NE/NW & SE/NW of Section 33, SE/NW, SW/NW & NW/NW of Section 34, all in Township 21 South, Range 10 West in Walker County, Alabama, as found on the Parrish U.S.G.S. Quadrangle.

GENERAL INFORMATION

Alabama Coal Cooperative proposes to operate a rail loading facility. As part of these operations, coal will be hauled to the site by truck and loaded onto the rail for shipment. All surface drainage water will be drained into the existing sedimentation ponds. All water will then be discharged into the Bryants Creek or the UT to Bryants Creek.

TOPOGRAPHIC MAP.

Design plans submitted with this document provide an existing contour map as taken from the Parrish U.S.G.S., 7 - 1/2 minute, Quadrangle. The map shows the layout of the rail loading facility, drainage patterns and outfalls. All surface drainage from the loading facility drains naturally into the sedimentation ponds, permitted outfalls 001E, 033E & 034E.

SURFACE WATER DIVERSIONS

The enclosed topographic map shows the contour of the land and general drainage patterns. All disturbed surface drainage will gravity drain through the existing sediment basins.

In the event that diversion ditch construction is necessary, diversion ditches will be constructed in accordance with the "Attached Diversion Ditch Criteria".

QUALITY AND CHARACTERISTICS OF WASTE PRODUCTS

The only waste products produced at this rail loading facility will be silts from the operation (transfer of materials from stockpile to rail) of the rail loading facility. The silts will be trapped and settle when passing through the sediment basins. The sediment basins will be cleaned out as needed to provide adequate sediment retention volume for incoming materials. The pH, total iron, manganese, oil and grease, barium, titanium chromium, copper, lead, zinc and benzene, because of the nature of the operation, should pose no problem and should remain in compliance with the N.P.D.E.S. parameter requirements.

SOLID OR LIQUID WASTE DISPOSAL PLAN

The sediment basins will be cleaned out when the capacity of said basins reach sixty (60%) percent of their design capacity. The sediment basins will be cleaned out in an environmentally safe manner (loader, backhoe, etc.). Sediment removed from the basins will be placed on site, away from drains or erodible slopes and revegetated.

SEDIMENT CONTROL FOR HAULROADS AND INCIDENTALS

Haulroads, existing or created for this operation, will be ditched and stabilized by planting a grass mixture suitable for seasonal conditions, fertilizing and mulching all cut, fill, and borrow areas to minimize erosion and enhance restabilization. In small areas where incidental drainage cannot be diverted through the sediment basins, silt fences will be constructed to control runoff. Silt fences will be constructed in accordance with the attached "Silt Fence Design and Construction Specifications".

LOCATION OF ADJACENT STREAMS

Included in the preceding N.P.D.E.S. Application is a map (Scale: 1" = 2000') showing the location of all adjacent streams and the receiving water of this operation.

NON-POINT SOURCE DISCHARGE CONTROL

Because all disturbed areas are graded in such a manner as to route all drainage through the sediment basins, all drainage from the Rail Loading Facility should carry all sediment (silts, clay, etc.) into the approved point source discharge outfalls. See the attached Sediment Basin Design Plans for Sediment Basins 001E, 033E & 034E. These basins were designed, constructed and certified by other qualified professional engineers.

PUBLIC WATER SUPPLIES

The receiving waters from the existing Rail Loading Facility is to Bryants Creek or the UT to Bryants Creek. Bryants Creek is not a public water supply.

APPENDIX A

SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS

SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS

Proposed 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 3 horizontal to 1 vertical.

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.

D) A core will be constructed in a cutoff trench along the centerline of the embankment. The cutoff trench will be at least eight (8) feet wide with the side slope steepness to be no greater than 1 horizontal to 1 vertical. The material placed in the cutoff trench will be compacted to ninety-five (95%) percent of the standard proctor density, as set forth in ASTM.

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

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

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

H) All basins will have a minimum of 1.5 feet of freeboard between the normal overflow and the emergency spillway and a minimum 1.5 feet of freeboard between the height of the maximum design flow and the top of the dam anticipated from a 25 Year - 24 Hour precipitation event.

SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS (continued)

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 cannot be achieved, additional design and construction specifications will be submitted in the Detailed Basin Design Plans.

J) The embankment and all areas disturbed in the construction of the embankment will be seeded with a mixture of perennial and annual grasses, fertilized and mulched to prevent erosion and ensure re-stabilization. Hay dams, silt fences, and 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 25 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 - 24 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. The emergency spillway in the control section will be at least 20 feet in length; the side slopes will be no steeper than 2:1, and the percent slope from the entrance to the exit section of the emergency spillway will be no greater than that stated in the design plans.

B) Channel linings, for single channel spillway systems, will be riprap or concrete.

C) When consisting of pipe, the primary spillway will be installed according to Class "C" pipe installation for embankment bedding. Where exposed above ground along the backslope of the embankment, the pipe will have an anti-seep collar installed at each joint of the discharge pipe to radiate at least two (2) feet from the pipe in all directions.

D) Sediment basins with a single spillway system, such as a skimmer board, will be a trapezoidal open channel constructed in consolidated, non-erodible material and lined with riprap, concrete, asphalt or durable rock.

SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS (continued)

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

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

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

3. INSPECTION, MAINTENANCE AND CERTIFICATION REQUIREMENTS

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

B) Sediment basins will be inspected semi-monthly for erosion, instability, etc., until the removal of the structure or an NPDES Permit is no longer required at this site.

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

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

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

SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS (continued)

F) Retained sediment will be removed from each sediment basin when the accumulated sediment reaches sixty (60%) percent of its design capacity.

4. BASIN REMOVAL REQUIREMENTS

A) Upon completion of mining, reclamation, restabilization and effluent standards being met, the operator will submit to ADEM a request in writing to abandon, remove, or permanently leave the sediment basin(s) and measures that will be taken to comply with applicable ADEM regulations.

B) Once the operator has received approval from ADEM, each sediment basin not proposed as a permanent water impoundment will be de-watered 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 re-stabilization. The newly constructed channel will be of adequate width (minimum 30 feet) and sloped to a grade (approximately 1% to 3%) which will cause all surface drainage to travel across this area in sheet flow, minimizing the possibility of erosion. Also, where necessary, hay dams will be installed in strategic locations across the width of the channel to retain sediment and slow the water velocity to a favorable rate. Upon removal of the embankment section, all disturbed areas will be graded in such a manner to ensure slope stability, successful re-stabilization 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) All sediment basins remaining 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.

APPENDIX B

DIVERSION DITCH CONSTRUCTION SPECIFICATIONS

DIVERSION DITCH AND DIVERSION BERM
DESIGN AND CONSTRUCTION SPECIFICATIONS

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

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

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

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

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

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

7) Temporary diversions will be removed and the affected area regraded, topsoiled (if required) and revegetated when no longer needed.

8) Channel linings, for diversions with slopes of five (5%) percent or less, will consist of a mixture of both annual and perennial grasses being predominantly fescue and bermuda. Channel linings, for diversions with slopes greater than five (5%) percent, will consist of riprap or other non-erodible material or cut into non-erodible material.

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

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

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

11) Excess material excavated in the construction of the diversion, not needed for diversion channel geometry or the re-grading of the channel; will be disposed of in the mining pit.

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

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

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

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

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

APPENDIX C

SILT FENCE DESIGN AND CONSTRUCTION SPECIFICATIONS

SILT FENCE DESIGN AND CONSTRUCTION SPECIFICATIONS

1) Mesh height - 3'0" including 6" trench flap.

1) Prefabricated with 4 1/2" long treated hardwood stakes spaced on 7'7" centers.

2) Mesh opening - Equivalent Opening Size (E.O.S.) by U.S. Standard sieve measure (ASTM D4751-87) is 20-30 mesh.

4) Allowable Flow Rate - 40 gallon per minute per square foot (Test Method CFMC GET-2).

5) Maximum Particle Size Passing - 0.595 millimeter.

6) Mullein Burst Strength - 210 pounds per square inch (ASTM D- 3786-80).

7) Grab Strength - 120 pounds per square inch.

8) Maximum Elongation - 30 percent (ASTM D-1682-64).

9) The silt fence will be installed by initially cutting a trench approximately six (6") inches wide by six (6") inches deep, along the contour for the entire length of the fence. Upon completion of the trench, the silt fence will be stretched along side the trench with the treated hardwood stakes being driven into the ground approximately two (2') feet deep against the upper wall of the trench. The six (6") inch trench flap will then be laid along the bottom of the trench and covered with compacted fill material. (See Attached Typical Section)

10) 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.

APPENDIX D

PRIMARY HAUL ROAD

DESIGN AND CONSTRUCTION SPECIFICATIONS

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

1. LOCATION

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

B) No part of any primary road will be located in the channel of an intermittent or perennial stream without written approval from the Regulatory Authority.

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

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

2. DESIGN REQUIREMENTS

A) Primary roads will be designed by or under the direct supervision of a qualified registered Professional Engineer experienced in the design and construction of roads, in accordance with the ADEM rules and regulations, and current, prudent engineering practices. No Primary Road grade will be steeper than fifteen (15) percent.

B) All primary roadway embankments will be designed and constructed to be stable under normal construction and operating conditions, with a minimum static safety factor of 1.3.

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

3. CONSTRUCTION REQUIREMENTS

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

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

C) The minimum top width of primary roads will under no circumstance be less than sixteen (16) feet and will be of maximum width necessary to facilitate the largest equipment using the road.

D) All slopes (cut and fill) will be no steeper than 2 horizontal to 1 vertical, unless specified otherwise in the detailed design.

E) Roadbeds will be cut into consolidated, non-erodible material or will be surfaced with durable, non-toxic, non-acid forming material. In most instances, durable sandstone overburden material from the mine site will be used for surfacing material. In instances where durable sandstone overburden material from the site is not available or suitable, then durable, non-toxic, non-acid forming material, such as chert, crushed limestone, redrock, and/or crushed sandstone will be hauled in from off site, placed and compacted on the roadbed surface a minimum depth of four (4) inches.

F) Primary roads will be constructed with grades no steeper than fifteen (15) percent for no more than 300'.

4. DRAINAGE AND SEDIMENT CONTROL REQUIREMENTS

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

A) Culverts and drainage pipes will be designed and installed to provide adequate support for the load of the largest equipment using the road. For design purposes, "H-20" (live load + impact) was used. All culverts or drainage pipes with diameters of forty-eight (48) inches or less will be covered with a minimum of one (1) foot and the maximum cover will not exceed fifty-seven (57) feet of desirable compacted material. All culverts or drainage pipes with diameters greater than forty- eight (48) inches will be covered with a minimum of two (2) feet and the maximum cover will not exceed forty-one (41) feet of desirable compacted material.

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

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

F) Drainage ditches will be constructed with no sustained grades greater than five (5%) percent, unless unavoidable. If ditches must be constructed with grades in excess of five (5%) percent, drainage ditches will be lined with riprap.

G) Sediment control will be achieved by the use of silt fences, rock check dams, hay bale berms, etc. in strategic locations, to prevent excessive siltation to the receiving streams.

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

5. INSPECTION AND MAINTENANCE REQUIREMENTS

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

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

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

6. CERTIFICATION REQUIREMENTS

A) Primary roads will be designed by or under the direct supervision of a qualified registered Professional Engineer experienced in the design and construction of roads, in accordance with the ADEM rules and regulations, and current, prudent engineering practices. Each design will be certified by a registered Professional Engineer as being designed in accordance with the Regulations of the ADEM.

B) Upon the completion of the construction of each section of the primary road, as set forth in the detailed design plans, the construction will be certified by a registered Professional Engineer, to ADEM, as being constructed in accordance with these specification.

7. REMOVAL AND RECLAMATION REQUIREMENTS

A) All primary roads that are not mined through and remain after the completion of mining may be left as permanent roads for landowner access, if there is no opposition by said landowner.

B) All primary roads that are not mined through and remain after the completion of mining whic are not to be retained as permanent for landowner access will be removed and reclaimed as soon as practicable after it is no longer needed for mining and reclamation purposes. This removal and reclamation will include:

1. Closing the road to traffic.

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

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

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

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

6. Scarifying or ripping the roadbed, replacing topsoil or substitute material, and revegetating the entire disturbed area.

8. TYPICAL ROADBED CONFIGURATION

A) See attached drawings, cross-sections, etc., for an illustration of the typical roadbed configurations.

DESIGN CERTIFICATION STATEMENT

I, C. W. McGehee, a qualified Registered Professional Engineer, hereby certify that the above "Pollution Abatement Plan" was developed under my direct supervision and is true and correct to the best of my knowledge and belief.

All basins were designed, constructed and certified by other qualified professional engineers.

MCGEHEE ENGINEERING CORP.

C. W. McGehee, P.E.
Alabama Reg. No. 17067

ALABAMA LICENSED No. 17067 PROFESSIONAL ENGINEER C. W. McGEHEE

12-7-18
Date

STATE OF ALABAMA
SURFACE MINING COMMISSION
P. O. BOX 2390 — JASPER, ALABAMA 35502-2390
(205) 221-4130

September 27, 2002

Mr. Brad Brasfield
Taft Coal Sales & Associates, Inc.
P. O. Box 1608
Jasper, AL 35502

RE: P-3799
Choctaw Mine

Dear Sir:

Please accept this letter as notification that the detailed design plans as submitted for proposed sedimentation pond 033 are hereby approved.

If you have any questions, please feel free to call.

Sincerely,

J. Michael Harrison
P.E.

/kb

cc: PERC Engineering
I & E
File

HYDROLOGY STUDY FOR
TAFT COAL SALES & ASSOCIATES, INC.

CHOCTAW MINE
P-3799
WALKER COUNTY, ALABAMA

BY

PERC ENGINEERING CO., INC.

P.O. BOX 1712

JASPER, ALABAMA 35502

SEPTEMBER 19, 2002

PERC ENGINEERING CO., INC.
ENGINEERS & SURVEYORS

TELEPHONE (205) 384-5553
FACSIMILE (205) 295-3114 - MAIN BUILDING
(205) 295-3115 - WATER LAB

P.O. BOX 1712
JASPER, ALABAMA 35502

September 19, 2002

Mr. Michael Harrison, P.E.
Alabama Surface Mining Commission
Post Office Box 2390
Jasper, Alabama 35502-2390

RE: Taft Coal Sales & Associates, Inc.
Choctaw Mine
P- 3799

Dear Mike:

I hereby certify the attached detailed design plans for Basin 033 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 amended to date, and are true and correct to the best of my knowledge and belief.

If you have any questions or required additional information, please feel free to call.

Sincerely,
PERC Engineering Co., Inc.

Steven R. Ingle, P.E.
Alabama Registration No. 18213

Pond Construction Criteria

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

1. The top of the dam shall be no less than 12 feet wide.

2. See design sheet for maximum and minimum embankment slopes.

3. The foundation and abutments for the impounding structure shall be designed to be stable under all conditions of construction and operation of the impoundments, with a minimum static safety factor of 1.5 for the normal pool with steady seepage saturation conditions, and a seismic safety factor of at least 1.20.

4. The dam shall be constructed with a cutoff trench based upon prudent engineering practices for the site. The cutoff shall be located on the dam centerline and be of sufficient depth to extend into a relatively impervious material from which the core of the dam shall also be constructed.

5. The embankment foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1v:1h, and the entire foundation surface scarified.

6. The entire embankment and cutoff trench shall be compacted to 95 percent density, based on standard proctor as outlined in ASTM.

7. The material placed in the embankment shall be free of sod, roots, stones over 6 inches in diameter, and other objectionable materials. The fill material shall be placed and spread over the entire fill area, starting at the lowest point of the foundation, in layers not to exceed 12 inches in thickness. Construction of the fill shall be undertaken only at such times that the moisture content of the fill material will permit satisfactory compaction in accordance with paragraph 5.

8. The pool area of the basin will be cleared of timber and large undergrowth.

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

10. The primary decant system shall be equipped with a device, or constructed, such as to insure that subsurface withdrawal is accomplished to prevent discharge of floating solids. If a channel is used as the primary decant a skimmer shall be installed to prevent floating solids from discharging.

11. 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.

12. The combination primary and secondary decant system shall be designed to safely carry the expected peak flow from a 25 year - 6 hour storm. The entire emergency overflow spillway channel will be a stabilized channel and will be stabilized upon completion of construction as specified within the detailed design plans using prudent engineering measures. These measures may consist of lining the spillway with concrete or a durable rock 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.

13. 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.

14. The settled embankment for temporary impoundments shall be a minimum of 1.0 foot above the maximum water elevation for the runoff from a 25 year - 6 hour, or a 10 year - 24 hour precipitation event (whichever has the greatest runoff). The settled embankment for permanent impoundments shall be a minimum of 1.0 foot above the maximum water elevation for the runoff from a 50 year - 6 hour, or a 10 year - 24 hour precipitation event (whichever has the greatest runoff).

15. If basins are built in series, then the combined decant system for each shall be designed to accommodate the entire contributing drainage area.

16. The dam and all disturbed areas shall be seeded with both perennial and annual grasses, fertilized and mulched in order to insure erosion is minimized. Hay bales or riprap may be placed at the toe of the dam immediately upon completion of construction.

17. The constructed height of the dam shall be increased a minimum of 5 percent over the design height to allow for settlement over the life of the embankment.

18. Final graded slopes of the entire permanent water impoundment area shall not exceed 2.5H-1.0V to provide for adequate safety and access for proposed water users.

19. Prior to Phase II bond release, additional data concerning water quality, water quantity, depth, size, configuration, postmining land use, etc., for each proposed permanent water impoundment, shall be submitted to the Regulatory Authority for permanent water impoundment approval.

20. All sediment basins will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the reclamation bond.

21. The embankment and spillway will be maintained by repairing any damage such as erosion, slope failure or spillway damage until removal of the structure or release of the performance bond.

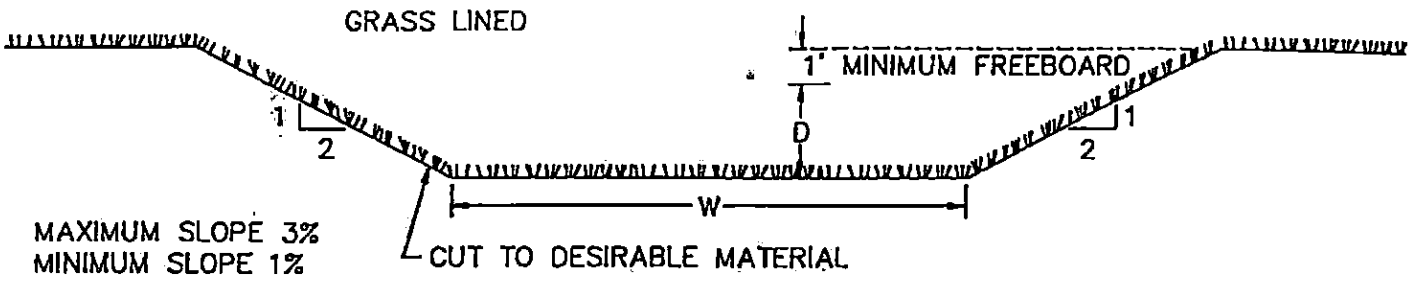
22. All ponds shall be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections shall be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C-.20[1(j)] of the Alabama Surface Mining Commission Regulations.

23. Sediment will be removed from each pond when the accumulated sediment reaches the sediment storage volume as shown on the detailed design sheet.

24. Upon completion of mining, successful reclamation and effluent standards being met, each sediment basin not remaining as a permanent water impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.) and reclaimed to approximate original contours by the following procedure:
A permanent diversion channel (designed for a 10 year - 24 hour precipitation event) shall be cut along the outer edge of the basin to re-route drainage around the basin and back through the stabilized spillway to allow reclamation of the sediment basin. The diversion channel shall be designed and grassed as per enclosed information. (See permanent diversion for basin disposal).Upon completion of the diversion channel the back slope of the dam shall be graded to a minimum 3H to 1V slope. The dewatered sediment basin area shall be seeded with some combination of the following: Fescue, bermuda, rye grass, canary grass and willows. After seeding the area shall be mulched. Any additional sediment or embankment material not used to meet original contour, if non-toxic, shall be spread in thin layers within the permit area and vegetated as stated in the approved reclamation plan. All toxic material encountered in the basin disposal shall be buried and covered with 4 feet of non-toxic material and vegetated as stated in the approved reclamation plan.

25. A qualified registered professional engineer or other qualified professional specialist, under the direction of the professional engineer shall conduct regular inspections during construction and upon completion shall inspect each basin for certification purposes.

26. Point source discharge embankments shall be constructed and abutments keyed into desirable material if at all possible. In the event that undesirable material is encountered, addition design and construction criteria shall be submitted prior to certification.



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

N(loose stone or grass lined) = 0.035
A = area
R = area/wetted perimeter
S = 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

PERC
ENGINEERING CO., INC.

PERMANENT DIVERSION CHANNEL FOR BASIN DISPOSAL

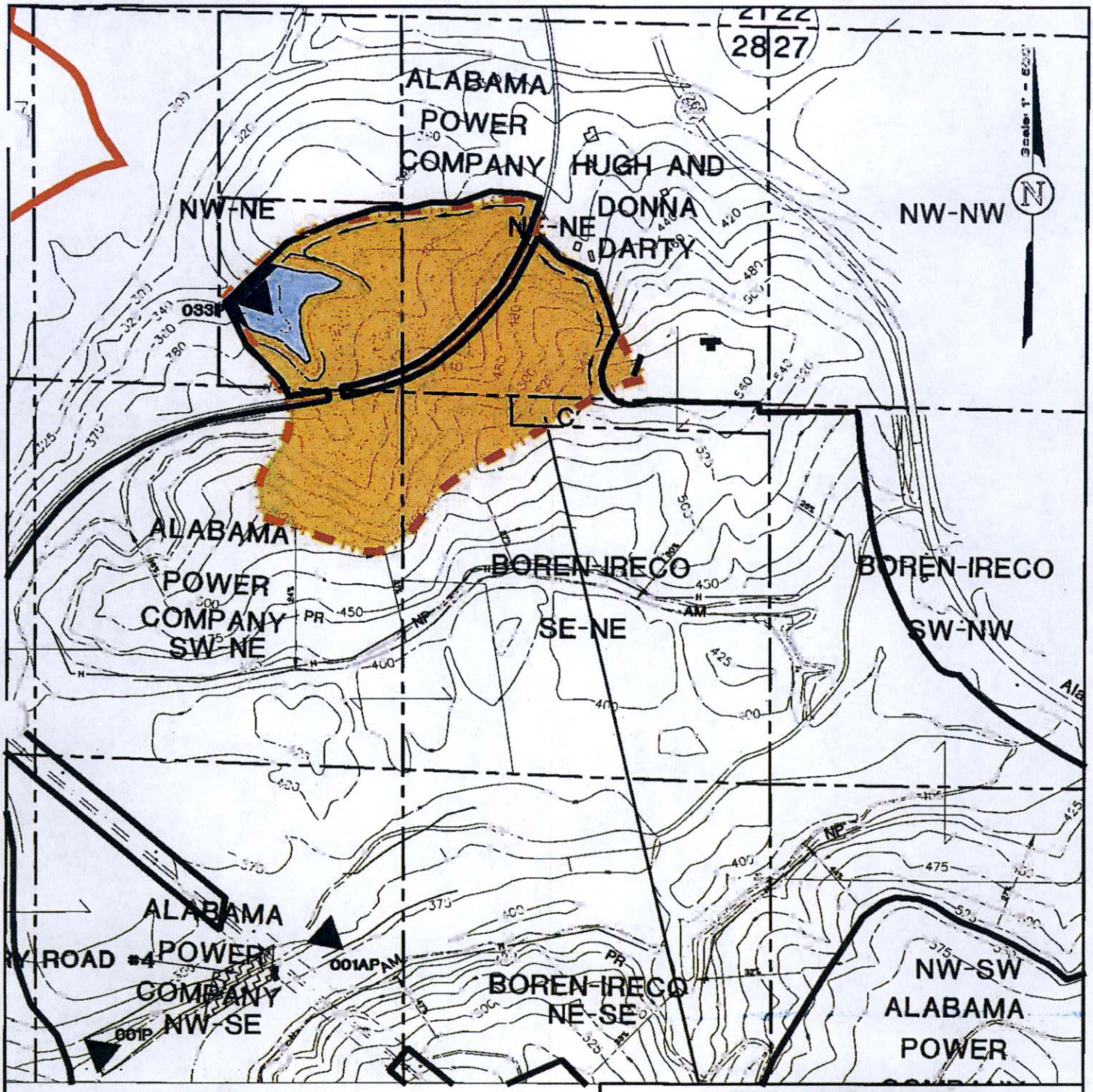
DRAWN BY:	DATE:
APPROVED BY:	SCALE: NONE

NOTES

1) The primary spillway of Basin 033, consisting of 24" diameter corrugated metal pipe , will extend through the embankment back to the original drainage course.

2) A splash pad consisting of durable, non-erodible sandstone or limestone riprap, concrete pad, or consolidated non-erodible bedrock will be located at the discharge point of the primary spillway of Basin 033 to prevent erosion.

3) The emergency spillway channel of Basin 033 will be cut into consolidated material along the side of the embankment and carried out past the downstream slope of the embankment. The channel lining will consist of a grass mixture of but not limited to Fescue, Bermuda, and Sericea. The channel will be seeded with the mixture, fertilized, and mulched.



LEGEND

- PERMIT BOUNDARY
- 001 SEDIMENT BASIN
- DRAINAGE DIVIDE
- DIVERSION DITCH

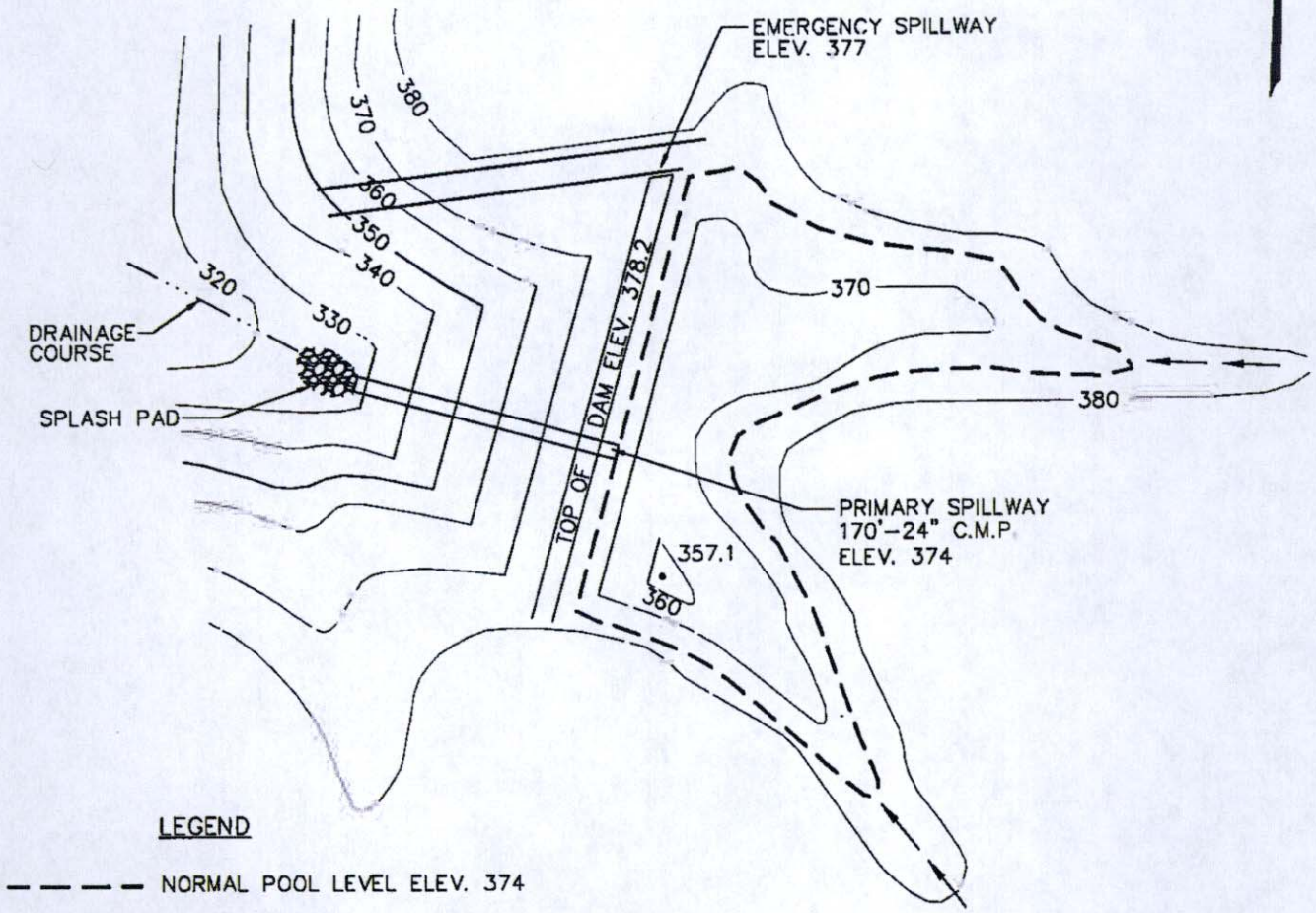
LANDUSE & CURVE NUMBER INFORMATION

- GRADED AND BARE CURVE NUMBER 81
- SEDIMENT BASIN CURVE NUMBER 100

PERC ENGINEERING CO., INC.

TAFT COAL SALES & ASSOCIATES, INC.
CHOCTAW MINE
WATERSHED MAP / P-3799
ATTACHMENT III-B-2(A)
BASIN 033

DRAWN BY: C.M.O.	DATE: 9/18/02
DWG. NAME: TCCB33WS	
APPROVED BY: W.P.G.	SCALE: 1"=500'



PERC ENGINEERING CO., INC.

TAFT COAL SALES & ASSOCIATES, INC.
CHOCTAW MINE
P-3799
BASIN 033 PLANVIEW

DRAWN BY: C.M.O. DWG. NAME: TCCB33PV	DATE: 9-18-02
APPROVED BY: W.P.G.	SCALE: 1"=100'

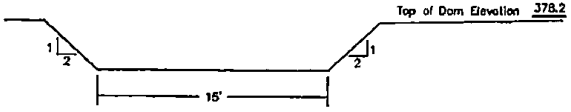
Notes:

1. The sediment shall be removed from the basin when the accumulated sediment reaches the sediment storage volume.
2. Outer slopes of embankment shall be grassed.
3. Fill material shall be placed in 12" lifts and compacted to 95% of standard proctor.
4. The surface beneath the embankment shall be stripped of undesirable material.
5. Upon completion of mining, reclamation and maintenance of water quality standards the pond will be de-watered and reclaimed.
6. See the attached pond construction criteria.
7. See the attached drawings and specifications for diversions.
8. Elevations are based on assumed datum.

Storage Computation

Elevation (feet)	Area (acres)	Avg. Area (acres)	Interval (feet)	Storage (ac.-ft.)	Acc. Storage (ac.-ft.)
357.1	0.000	0.005	2.9	0.015	0.000
360	0.010	0.211	10	2.110	0.015
370	0.411	0.889	10	8.890	2.125
380	1.367				11.015

See Basin Note Sheet for Channel Lining Specifications



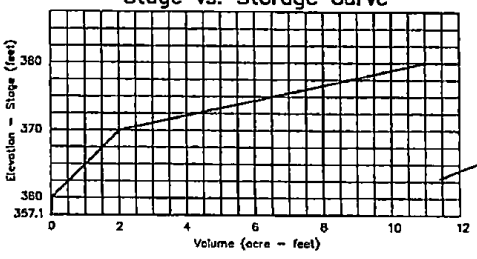
Spillway Gradient shall be Approximately 3 %
Crest of Emergency Spillway Elevation 377
Pipe Inlet Elevation 374
Q out 23.5 C.F.S.

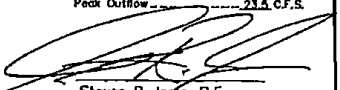
Emergency Spillway

Key Basin Parameters

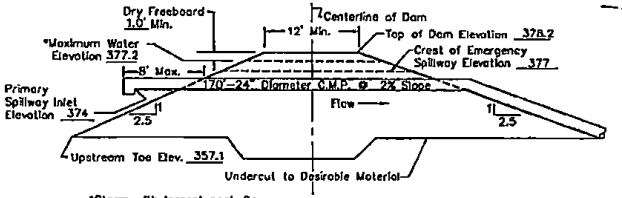
Drainage Area ____ 28 ____ Acres
Disturbed Area ____ 27 ____ Acres
Sediment Storage ____ 2.6 ____ Ac. Ft.
Detention Storage ____ 1.3 ____ Ac. Ft.
Permanent Pool Capacity ____ 3.9 ____ Ac. Ft.
Total Basin Capacity ____ 8.5 ____ Ac. Ft.
Peak Inflow ____ 81.6 ____ C.F.S.
Peak Outflow ____ 23.5 ____ C.F.S.

Stage vs. Storage Curve



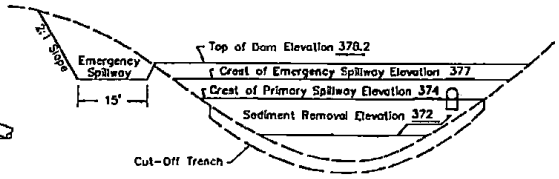


Steven R. Ingle, P.E.
AL Registration #18213



*Storm with largest peak flow
Either 10 year - 24 hour event
or 25 year - 6 hour event.

Typical Cross Section Along Primary Spillway



Typical Profile Looking Downstream

PERC ENGINEERING CO. INC.

TAFT COAL SALES & ASSOCIATES, INC.
CHOCTAW MINE
P-3799
BASIN 033

DRAWN BY:	C.M.O.	DATE:	9-16-02
DWG. NAME:	TCCMB033		

Taft Coal Sales & Associates, Inc.
Choctaw Mine
P-3799
Basin 033
Hydrology & Sedimentology
10 Yr. - 24 Hr. Event

TAFT COAL SALES & ASSOCIATES, INC. CHOCTAW MINE BASIN 033

5.9 INCHES, 10 YEAR - 24 HOUR, DRN 58

WPG

PERC ENGINEERING CO., INC.
P.O. BOX 1712
JASPER, ALABAMA 35502

General Information

Storm Information:

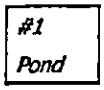
Storm Type:	DRN58
Design Storm:	10 yr - 24 hr
Rainfall Depth:	5.900 Inches

Particle Size Distribution:

Size (mm)	TOPSOIL	SPOIL
3.0000	100.000%	72.000%
2.0000	95.500%	63.000%
1.0000	91.000%	52.000%
0.5000	81.500%	46.000%
0.3000	70.000%	45.000%
0.2000	58.000%	44.000%
0.1000	39.500%	40.000%
0.0500	22.000%	37.000%
0.0300	15.000%	32.000%
0.0200	8.500%	27.000%
0.0100	5.000%	17.000%
0.0050	3.000%	12.000%
0.0030	2.000%	4.000%
0.0010	1.000%	1.000%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Pond	#1	==>	End	0.000	0.000	BASIN 033



Structure Summary:

		Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	In	28.000	28.000	35.85	9.03	3,140.8	386,462	250.53	147.46
	Out			18.33	9.03	395.3	52,228	0.08	0.05

Particle Size Distribution(s) at Each Structure

Structure #1:

Size (mm)	In	Out
3.0000	72.000%	100.000%
2.0000	63.000%	100.000%
1.0000	52.000%	100.000%
0.5000	46.000%	100.000%
0.3000	45.000%	100.000%
0.2000	44.000%	100.000%
0.1000	40.000%	100.000%
0.0500	37.000%	100.000%
0.0300	32.000%	100.000%
0.0200	27.000%	100.000%
0.0100	17.000%	100.000%
0.0050	12.000%	95.335%
0.0030	4.000%	31.778%
0.0010	1.000%	7.945%

Structure Detail:

Structure #1 (Pond)

BASIN 033

Pond Inputs:

Initial Pool Elev:	374.00
Initial Pool:	1.27 ac-ft
*Sediment Storage:	2.60 ac-ft
Dead Space:	20.00 %

**Sediment capacity was entered by user*

Straight Pipe

Barrel Diameter (in)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev	Entrance Loss Coefficient	Tailwater Depth (ft)
24.00	100.00	2.00	0.0240	374.00	0.90	0.00

Pond Results:

Peak Elevation:	376.99
H'graph Detention Time:	1.99 hrs
Pond Model:	CSTRS
Dewater Time:	1.03 days
Trap Efficiency:	87.41 %

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)	
372.01	0.559	0.000	0.000		Top of Sed. Storage
372.10	0.566	0.048	0.000		
372.30	0.582	0.163	0.000		
372.60	0.606	0.341	0.000		
373.10	0.648	0.655	0.000		
373.20	0.657	0.720	0.000		
373.30	0.665	0.786	0.000		
373.60	0.692	0.990	0.000		
373.70	0.700	1.059	0.000		
374.00	0.727	1.274	0.000		Spillway #1

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)	
374.10	0.736	1.347	0.560	7.50	
374.20	0.745	1.421	0.583	1.55	
374.40	0.764	1.572	1.063	2.30	
374.60	0.782	1.726	1.951	1.25	
375.10	0.829	2.129	4.837	7.00	
375.60	0.878	2.556	8.477	2.30	
376.10	0.928	3.008	12.645	1.25	
376.60	0.980	3.485	16.736	0.85	
376.99	1.022	3.882	18.334	0.80	Peak Stage
377.10	1.033	3.988	18.760		
377.60	1.087	4.518	20.081		
378.10	1.143	5.075	21.328		
378.60	1.200	5.661	22.527		
379.10	1.258	6.275	23.631		
379.60	1.318	6.919	24.718		
380.00	1.367	7.456	25.527		

Detailed Discharge Table

Elevation	Straight Pipe (cfs)	Combined Total Discharge (cfs)
372.01	0.000	0.000
372.10	0.000	0.000
372.30	0.000	0.000
372.60	0.000	0.000
373.10	0.000	0.000
373.20	0.000	0.000
373.30	0.000	0.000
373.60	0.000	0.000
373.70	0.000	0.000
374.00	0.000	0.000
374.10	(3)>0.560	0.560
374.20	(3)>0.583	0.583
374.40	(3)>1.063	1.063
374.60	(3)>1.951	1.951
375.10	(3)>4.837	4.837
375.60	(3)>8.477	8.477
376.10	(3)>12.645	12.645
376.60	(5)>16.736	16.736

Elevation	Straight Pipe (cfs)	Combined Total Discharge (cfs)
377.10	(6)>18.760	18.760
377.60	(6)>20.081	20.081
378.10	(6)>21.328	21.328
378.60	(6)>22.527	22.527
379.10	(6)>23.631	23.631
379.60	(6)>24.718	24.718
380.00	(6)>25.527	25.527

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	27.000	0.076	0.000	0.000	81.000	F	34.30	8.534
	2	1.000	0.000	0.000	0.000	100.000	F	1.55	0.492
	Σ	**28.000**						**35.85**	**9.025**

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.240	200.00	24.00	0.9000	1.0000	2	3,140.8	401,085	260.01	155.12
	2	0.001	200.00	0.00	0.0010	1.0000	2	0.0	0	0.00	0.00
	Σ							**3,140.8**	**386,462**	**250.53**	**147.46**

Taft Coal Sales & Associates, Inc.
Choctaw Mine
P-3799
Basin 033
Hydrology & Sedimentology
25 Yr. - 6 Hr. Event

TAFT COAL SALES & ASSOCIATES, INC.

CHOCTAW MINE

BASIN 033

4.9 INCHES, 25 YEAR - 6 HOUR, SCS 6 HOUR

WPG

PERC ENGINEERING CO., INC.
P.O. BOX 1712
JASPER, ALABAMA 35502

General Information

Storm Information:

Storm Type:	SCS 6 HOUR
Design Storm:	25 yr - 6 hr
Rainfall Depth:	4.900 inches

Particle Size Distribution:

Size (mm)	TOPSOIL	SPOIL
3.0000	100.000%	72.000%
2.0000	95.500%	63.000%
1.0000	91.000%	52.000%
0.5000	81.500%	46.000%
0.3000	70.000%	45.000%
0.2000	58.000%	44.000%
0.1000	39.500%	40.000%
0.0500	22.000%	37.000%
0.0300	15.000%	32.000%
0.0200	8.500%	27.000%
0.0100	5.000%	17.000%
0.0050	3.000%	12.000%
0.0030	2.000%	4.000%
0.0010	1.000%	1.000%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Pond	#1	==>	End	0.000	0.000	BASIN 033

Structure Summary:

		Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	In	28.000	28.000	81.94	6.93	4,283.3	567,837	368.11	245.07
	Out			23.51	6.93	584.9	87,099	0.70	0.50

Particle Size Distribution(s) at Each Structure

Structure #1:

Size (mm)	In	Out
3.0000	72.000%	100.000%
2.0000	63.000%	100.000%
1.0000	52.000%	100.000%
0.5000	46.000%	100.000%
0.3000	45.000%	100.000%
0.2000	44.000%	100.000%
0.1000	40.000%	100.000%
0.0500	37.000%	100.000%
0.0300	32.000%	100.000%
0.0200	27.000%	100.000%
0.0100	17.000%	100.000%
0.0050	12.000%	87.885%
0.0030	4.000%	29.295%
0.0010	1.000%	7.324%

Structure Detail:

Structure #1 (Pond)

BASIN 033

Pond Inputs:

Initial Pool Elev:	374.00
Initial Pool:	1.27 ac-ft
*Sediment Storage:	2.60 ac-ft
Dead Space:	20.00 %

**Sediment capacity was entered by user*

Straight Pipe

Barrel Diameter (in)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev	Entrance Loss Coefficient	Tailwater Depth (ft)
24.00	100.00	2.00	0.0240	374.00	0.90	0.00

Emergency Spillway

Spillway Elev	Crest Length (ft)	Left Sideslope	Right Sideslope	Bottom Width (ft)
377.00	10.00	2.00:1	2.00:1	15.00

Pond Results:

Peak Elevation:	377.17
H'graph Detention Time:	1.76 hrs
Pond Model:	CSTRS
Dewater Time:	0.77 days
Trap Efficiency:	86.35 %

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)	
372.01	0.559	0.000	0.000		Top of Sed. Storage
372.10	0.566	0.048	0.000		
372.30	0.582	0.163	0.000		
372.60	0.606	0.341	0.000		

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)	
373.10	0.648	0.655	0.000		
373.20	0.657	0.720	0.000		
373.30	0.665	0.786	0.000		
373.60	0.692	0.990	0.000		
373.70	0.700	1.059	0.000		
374.00	0.727	1.274	0.000		Spillway #1
374.10	0.736	1.347	0.560	7.45	
374.20	0.745	1.421	0.583	1.55	
374.40	0.764	1.572	1.063	2.30	
374.60	0.782	1.726	1.951	1.30	
375.10	0.830	2.129	4.837	1.50	
375.60	0.878	2.556	8.477	0.80	
376.10	0.928	3.008	12.645	0.55	
376.60	0.980	3.485	16.736	0.95	
377.00	1.022	3.885	18.432	0.95	Spillway #2
377.10	1.033	3.988	21.525	0.45	
377.17	1.040	4.057	23.510	0.65	Peak Stage
377.60	1.087	4.518	36.670		
378.10	1.143	5.075	70.560		
378.60	1.200	5.661	119.208		
379.10	1.258	6.275	178.532		
379.60	1.318	6.919	249.719		
380.00	1.367	7.456	315.198		

Detailed Discharge Table

Elevation	Straight Pipe (cfs)	Emergency Spillway (cfs)	Combined Total Discharge (cfs)
372.01	0.000	0.000	0.000
372.10	0.000	0.000	0.000
372.30	0.000	0.000	0.000
372.60	0.000	0.000	0.000
373.10	0.000	0.000	0.000
373.20	0.000	0.000	0.000
373.30	0.000	0.000	0.000
373.60	0.000	0.000	0.000
373.70	0.000	0.000	0.000
374.00	0.000	0.000	0.000
374.10	(3)>0.560	0.000	0.560

Elevation	Straight Pipe (cfs)	Emergency Spillway (cfs)	Combined Total Discharge (cfs)
374.20	(3)>0.583	0.000	0.583
374.40	(3)>1.063	0.000	1.063
374.60	(3)>1.951	0.000	1.951
375.10	(3)>4.837	0.000	4.837
375.60	(3)>8.477	0.000	8.477
376.10	(3)>12.645	0.000	12.645
376.60	(5)>16.736	0.000	16.736
377.00	(6)>18.432	0.000	18.432
377.10	(6)>18.760	2.765	21.525
377.60	(6)>20.081	16.589	36.670
378.10	(6)>21.328	49.232	70.560
378.60	(6)>22.527	96.681	119.208
379.10	(6)>23.631	154.901	178.532
379.60	(6)>24.718	225.001	249.719
380.00	(6)>25.527	289.670	315.198

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	27.000	0.076	0.000	0.000	81.000	F	78.15	6.519
	2	1.000	0.000	0.000	0.000	100.000	F	3.79	0.408
	Σ	**28.000**						**81.94**	**6.927**

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.240	200.00	24.00	0.9000	1.0000	2	4,283.3	588,876	381.75	258.04
	2	0.001	200.00	0.00	0.0010	1.0000	2	0.0	0	0.00	0.00
	Σ							**4,283.3**	**567,837**	**368.11**	**245.07**

Taft Coal Sales & Associates, Inc.
Choctaw Mine
P-3799
Soil Classification

Taft Coal Sales & Associates, Inc.
Choctaw Mine
P-3799

STABILITY ANALYSIS DATA

METHODOLOGY

The static loading stability analyses were performed using the Simplified Bishop Method. The computer program used was the REAME Slope Stability Program as developed by Dr. Yang H. Huang, P.E. of the University of Kentucky.

SOIL CLASSIFICATION UNITS

The soil type (soil classification) to be used in the construction of the embankment structure of Basin 033 (SC-SM) and the soil type (soil classification) of the material between the proposed embankment and stiff base of Basin 033 (ROCK) were sampled by Taft Coal Sales & Associates, Inc. and analyzed by PERC Engineering Co., Inc. The soil properties used in the stability analysis for (SC-SM) type soils, were taken from the U.S. Department of the Interior Bureau of Reclamation Design of Small Dams.* The soil properties used in the stability analysis for (ROCK) type soils were assumed.

SOIL PROPERTIES

	UNIFIED CLASS	COHESION (PSF)	ANGLE OF INT. FRICTION	DESIGN DENSITY (PCF)
Dam Material	SC-SM	187.2	30.5	136.0
Foundation Material	ROCK	10000.0	45.0	170.0

*United States Department of Interior Bureau of Reclamation Design of Small Dams page 137.

Taft Coal Sales & Associates, Inc.
Choctaw Mine
P-3799

STABILITY ANALYSIS DATA

(Continued)

DESIGN DATA

1) Design Density = 95% of the standard proctor maximum density.

2) Embankment top width: 12.0'.

3) Freeboard minimum = 10% of structure (from top of embankment to normal pool level).

4) Safety factors for embankments with 2.5H:1V slopes, front and back.

5) Basin 033 design height = 21.1 ft.

6) DMIN = 0.00

7) All design heights are measured from the top of the embankment to the toe of the upstream slope.

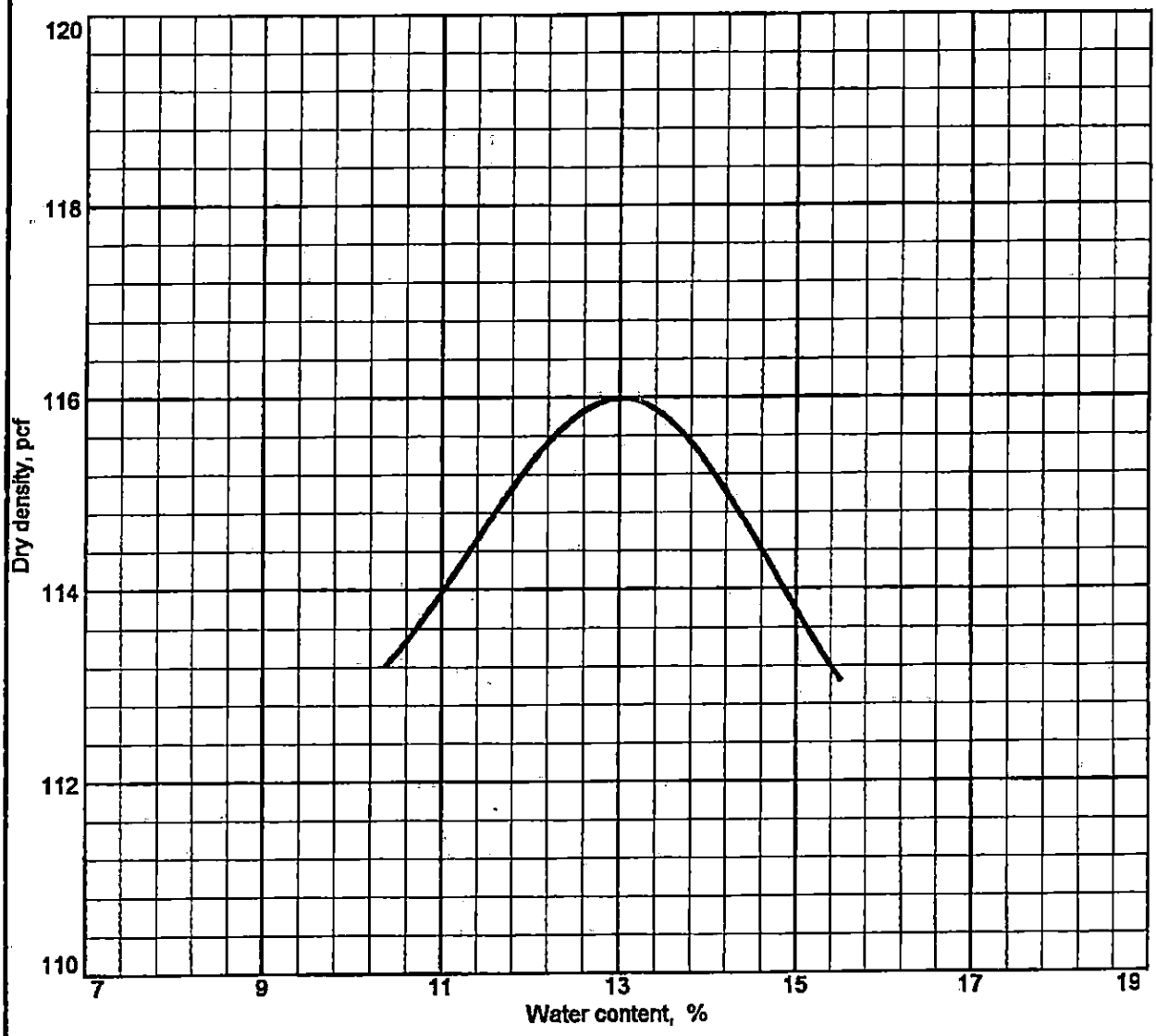
SAFETY FACTORS

BASIN NUMBER	STATIC SAFETY FACTOR
033	1.3

FOUNDATIONS AND ABUTMENTS

The foundation and abutments area will be inspected for visible structural deficiencies after clearing and grubbing, and if found they will be treated using sound engineering practices.

COMPACTION TEST REPORT



Test specification: ASTM D 698-91 Procedure C Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
	SC-SM				23	4		31.49

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 116.0 pcf Optimum moisture = 13.0 %	

Project No. **Client:** TAFT COAL SALES & ASSOC. INC.

Project: BASIN 033

Date:

• **Location:** CHOCTAW MINE

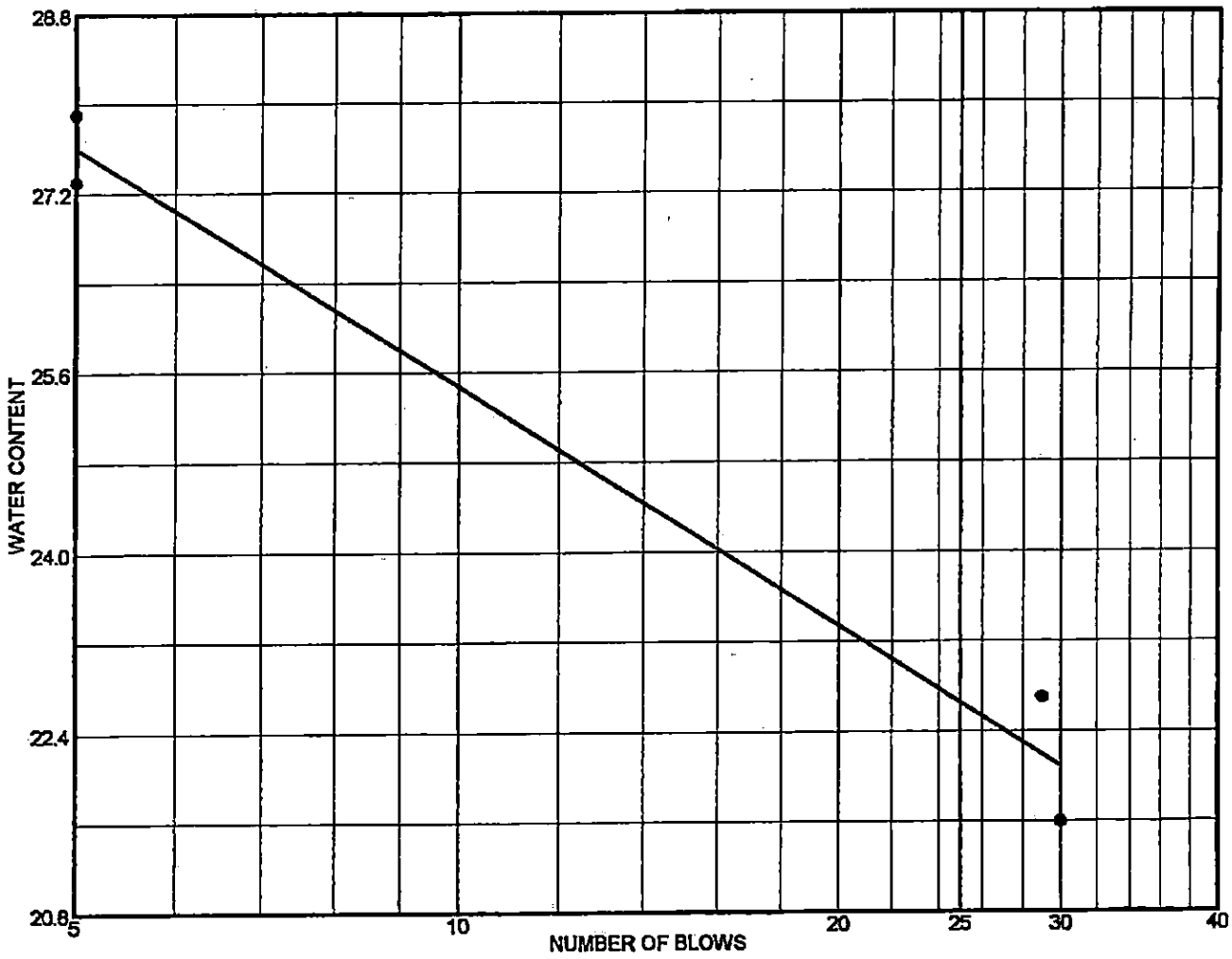
Remarks:

COMPACTION TEST REPORT

PERC ENGINEERING CO., INC.

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●		23	19	4	47.10	31.49	SC-SM

Project No. **Client:** TAFT COAL SALES & ASSOC. INC.

Project: BASIN 033 CHOCTAW MINE

● **Source:** DAM MATERIAL

Remarks:

●

LIQUID AND PLASTIC LIMITS TEST REPORT

PERC ENGINEERING CO., INC.

Figure

Taft Coal Sales & Associates, Inc.
Choctaw Mine
P-3799
Basin 033
Stability Analysis

REAME (Rotational Equilibrium Analysis of Multilayered Embankments)
Implemented on the 16-bit Microcomputers C. F. Hains, Jr. and D. M. Hains
2301 22nd Ave.
Northport, AL 35476
(205)-339-6536

TAFT COAL SALES & ASSOCIATES, INC. P-3799 BASIN 033

Number of cases to be analyzed 1

Case Number 1

Number of boundary lines= 4
Number of points on boundary lines are: 2 2 3 7

On boundary line no. 1 Point no. and coordinates are:
1 111.795 74.380 2 500.000 .000

On boundary line no. 2 Point no. and coordinates are:
1 200.000 57.480 2 425.528 14.269

On boundary line no. 3 Point no. and coordinates are:
1 111.795 74.380 2 200.000 57.480 3 242.250 74.380

On boundary line no. 4 Point no. and coordinates are:
1 111.795 74.380 2 242.250 74.380 3 252.750 78.580 4 264.750 78.580 5 365.417 38.313
6 425.528 14.269 7 500.000 .000

Line no. and slope of each segment are:
1 -.192
2 -.192
3 -.192 .400
4 .000 .400 .000 -.400 -.400 -.192

No. of radius control zones= 1 Plot or no plot= 1 No. of seepage cases= 1

Total no. of lines at bottom of radius control zones is: 1

For rad. cont. zone no. 1 Radius decrement= .000 No. of Circles= 5 Id no. for first circle= 1
Line no.= 1 Begin pt. no.= 1 End pt. no.= 2

Soil no.	Cohesion	F. angle	Unit wt.
1	170.000	45.000	98.100
2	136.000	30.500	187.200
3	.000	.000	62.400

Seismic coefficient= .000 Min. depth of tallest slice= .000 Unit weight of water= 62.400

The factors of safety are determined by the SIMPLIFIED BISHOP method

```
 NSPG= 1  NSRCH= 0  No. of slices= 10  No. of add. radii= 2

 No. of points on water table for each case=  6

 Under seepage condition 1point no. and           coordinates of water table are:
 1  111.795   74.380   2  242.250   74.380   3  297.496   58.751   4  365.417   38.313   5  425.528   14.269
 6  500.000     .000

point1=(  266.000,  100.000) point2=(  266.000,   80.000) point3=(  427.000,   80.000) NJ=   2 NI=   2
   Automatic search will follow after grid with XINC=   10.000 and YINC=   10.000

At point (  266.000,  100.000) under seepage   1,the radius and the corresponding factor of safety are:
      54.180   10.077       47.635    8.283       41.091    7.825       34.546    7.192       28.001    6.402
      25.820    6.681       23.638    9.335
   Lowest factor of safety=    6.402 and occurs at radius =    28.001

At point (  266.000,   90.000) under seepage   1,the radius and the corresponding factor of safety are:
      44.359    8.762       37.785    8.185       31.211    7.443       24.636    6.509       18.062    5.727
      15.871    6.100       13.680    7.853
   Lowest factor of safety=    5.727 and occurs at radius =    18.062

At point (  266.000,   80.000) under seepage   1,the radius and the corresponding factor of safety are:
      34.537    9.121       27.986    8.591       21.436    7.469       14.885    6.973        8.334    6.676
       6.150    6.537        3.966    6.582
   Lowest factor of safety=    6.537 and occurs at radius =     6.150

point (  346.500,  100.000) under seepage   1,the radius and the corresponding factor of safety are:
      69.328    1.581       65.513    1.597       61.697    1.660       57.881    1.833       54.065    2.357
   Lowest factor of safety=    1.581 and occurs at radius =    69.328

At point (  346.500,   90.000) under seepage   1,the radius and the corresponding factor of safety are:
      59.507    1.638       55.799    1.647       52.090    1.701       48.382    1.866       44.673    2.390
   Lowest factor of safety=    1.638 and occurs at radius =    59.507

At point (  346.500,   80.000) under seepage   1,the radius and the corresponding factor of safety are:
      49.686    1.720       46.084    1.725       42.483    1.765       38.882    1.913       35.281    2.432
   Lowest factor of safety=    1.720 and occurs at radius =    49.686

At point (  427.000,  100.000) under seepage   1,the radius and the corresponding factor of safety are:
      84.477    1.654       83.610    1.813       82.744    2.084       81.878    2.636       81.012    4.312
   Lowest factor of safety=    1.654 and occurs at radius =    84.477

At point (  427.000,   90.000) under seepage   1,the radius and the corresponding factor of safety are:
      74.655    1.752       73.896    1.935       73.138    2.246       72.379    2.878       71.620    4.793
   Lowest factor of safety=    1.752 and occurs at radius =    74.655

 point (  427.000,   80.000) under seepage   1,the radius and the corresponding factor of safety are:
      64.834    1.883       64.182    2.098       63.531    2.462       62.879    3.200       62.228    5.432
   Lowest factor of safety=    1.883 and occurs at radius =    64.834
```

For piezometric line No. 1

point (346.500, 100.000) ,RADIUS 69.328
the minimum factor of safety is 1.581

At point (346.500, 100.000) under seepage 1,the radius and the corresponding factor of safety are:

69.328	1.581	65.513	1.597	61.697	1.660	57.881	1.833	54.065	2.357

Lowest factor of safety= 1.581 and occurs at radius = 69.328

At point (356.500, 100.000) under seepage 1,the radius and the corresponding factor of safety are:

71.210	1.526	67.761	1.546	64.311	1.609	60.862	1.791	57.413	2.365

Lowest factor of safety= 1.526 and occurs at radius = 71.210

At point (366.500, 100.000) under seepage 1,the radius and the corresponding factor of safety are:

73.092	1.481	70.009	1.505	66.926	1.572	63.843	1.753	60.760	2.354

Lowest factor of safety= 1.481 and occurs at radius = 73.092

At point (376.500, 100.000) under seepage 1,the radius and the corresponding factor of safety are:

74.974	1.445	72.257	1.475	69.541	1.548	66.824	1.729	64.108	2.333

Lowest factor of safety= 1.445 and occurs at radius = 74.974

At point (386.500, 100.000) under seepage 1,the radius and the corresponding factor of safety are:

76.855	1.421	74.505	1.458	72.155	1.540	69.805	1.734	67.455	2.370

Lowest factor of safety= 1.421 and occurs at radius = 76.855

At point (396.500, 100.000) under seepage 1,the radius and the corresponding factor of safety are:

78.737	1.412	76.754	1.461	74.770	1.559	72.786	1.779	70.803	2.485

Lowest factor of safety= 1.412 and occurs at radius = 78.737

At point (406.500, 100.000) under seepage 1,the radius and the corresponding factor of safety are:

80.619	1.422	79.002	1.491	77.384	1.617	75.767	1.891	74.150	2.760

Lowest factor of safety= 1.422 and occurs at radius = 80.619

At point (396.500, 110.000) under seepage 1,the radius and the corresponding factor of safety are:

88.559	1.396	86.468	1.446	84.377	1.543	82.286	1.759	80.195	2.447

Lowest factor of safety= 1.396 and occurs at radius = 88.559

At point (396.500, 120.000) under seepage 1,the radius and the corresponding factor of safety are:

98.380	1.384	96.182	1.434	93.983	1.531	91.785	1.746	89.587	2.424

Lowest factor of safety= 1.384 and occurs at radius = 98.380

At point (396.500, 130.000) under seepage 1,the radius and the corresponding factor of safety are:

108.201	1.375	105.896	1.426	103.590	1.524	101.284	1.739	98.979	2.403

Lowest factor of safety= 1.375 and occurs at radius = 108.201

At point (396.500, 140.000) under seepage 1,the radius and the corresponding factor of safety are:

118.023 1.368 115.610 1.420 113.197 1.519 110.784 1.736 108.371 2.393
Lowest factor of safety= 1.368 and occurs at radius = 118.023

point (396.500, 150.000) under seepage 1,the radius and the corresponding factor of safety are:
127.844 1.363 125.324 1.416 122.803 1.516 120.283 1.730 117.763 2.386
Lowest factor of safety= 1.363 and occurs at radius = 127.844

At point (396.500, 160.000) under seepage 1,the radius and the corresponding factor of safety are:
137.665 1.359 135.038 1.413 132.410 1.515 129.783 1.726 127.155 2.379
Lowest factor of safety= 1.359 and occurs at radius = 137.665

At point (396.500, 170.000) under seepage 1,the radius and the corresponding factor of safety are:
147.487 1.356 144.752 1.411 142.017 1.514 139.282 1.724 136.547 2.376
Lowest factor of safety= 1.356 and occurs at radius = 147.487

At point (396.500, 180.000) under seepage 1,the radius and the corresponding factor of safety are:
157.308 1.354 154.466 1.410 151.624 1.513 148.781 1.724 145.939 2.374
Lowest factor of safety= 1.354 and occurs at radius = 157.308

At point (396.500, 190.000) under seepage 1,the radius and the corresponding factor of safety are:
167.129 1.353 164.180 1.409 161.230 1.511 158.281 1.724 155.331 2.370
Lowest factor of safety= 1.353 and occurs at radius = 167.129

At point (396.500, 200.000) under seepage 1,the radius and the corresponding factor of safety are:
176.951 1.352 173.894 1.409 170.837 1.510 167.780 1.725 164.723 2.370
Lowest factor of safety= 1.352 and occurs at radius = 176.951

At point (396.500, 210.000) under seepage 1,the radius and the corresponding factor of safety are:
186.772 1.351 183.608 1.410 180.444 1.510 177.280 1.728 174.115 2.367
Lowest factor of safety= 1.351 and occurs at radius = 186.772

At point (396.500, 220.000) under seepage 1,the radius and the corresponding factor of safety are:
196.593 1.353 193.322 1.410 190.050 1.509 186.779 1.728 183.507 2.360
Lowest factor of safety= 1.353 and occurs at radius = 196.593

At point (406.500, 210.000) under seepage 1,the radius and the corresponding factor of safety are:
188.654 1.348 185.856 1.410 183.058 1.515 180.261 1.738 177.463 2.399
Lowest factor of safety= 1.348 and occurs at radius = 188.654

At point (416.500, 210.000) under seepage 1,the radius and the corresponding factor of safety are:
190.536 1.351 188.104 1.418 185.673 1.532 183.242 1.764 180.810 2.463
Lowest factor of safety= 1.351 and occurs at radius = 190.536

At point (406.500, 220.000) under seepage 1,the radius and the corresponding factor of safety are:
198.475 1.348 195.570 1.410 192.665 1.514 189.760 1.738 186.855 2.394
Lowest factor of safety= 1.348 and occurs at radius = 198.475

At point (406.500, 200.000) under seepage 1,the radius and the corresponding factor of safety are:

178.832 1.349 176.142 1.410 173.452 1.518 170.761 1.738 168.071 2.406
Lowest factor of safety= 1.349 and occurs at radius = 178.832

point (409.000, 210.000) under seepage 1,the radius and the corresponding factor of safety are:
189.124 1.348 186.418 1.411 183.712 1.518 181.006 1.742 178.300 2.411
Lowest factor of safety= 1.348 and occurs at radius = 189.124

At point (411.500, 210.000) under seepage 1,the radius and the corresponding factor of safety are:
189.595 1.348 186.980 1.413 184.366 1.522 181.751 1.748 179.137 2.426
Lowest factor of safety= 1.348 and occurs at radius = 189.595

At point (409.000, 212.500) under seepage 1,the radius and the corresponding factor of safety are:
191.580 1.348 188.847 1.411 186.114 1.518 183.381 1.742 180.648 2.409
Lowest factor of safety= 1.348 and occurs at radius = 191.580

At point (409.000, 215.000) under seepage 1,the radius and the corresponding factor of safety are:
194.035 1.347 191.275 1.411 188.515 1.517 185.756 1.742 182.996 2.407
Lowest factor of safety= 1.347 and occurs at radius = 194.035

At point (409.000, 217.500) under seepage 1,the radius and the corresponding factor of safety are:
196.490 1.347 193.704 1.411 190.917 1.517 188.130 1.742 185.344 2.405
Lowest factor of safety= 1.347 and occurs at radius = 196.490

At point (409.000, 220.000) under seepage 1,the radius and the corresponding factor of safety are:
198.946 1.347 196.132 1.411 193.319 1.516 190.505 1.742 187.692 2.404
Lowest factor of safety= 1.347 and occurs at radius = 198.946

At point (409.000, 222.500) under seepage 1,the radius and the corresponding factor of safety are:
201.401 1.347 198.561 1.411 195.720 1.516 192.880 1.742 190.040 2.402
Lowest factor of safety= 1.347 and occurs at radius = 201.401

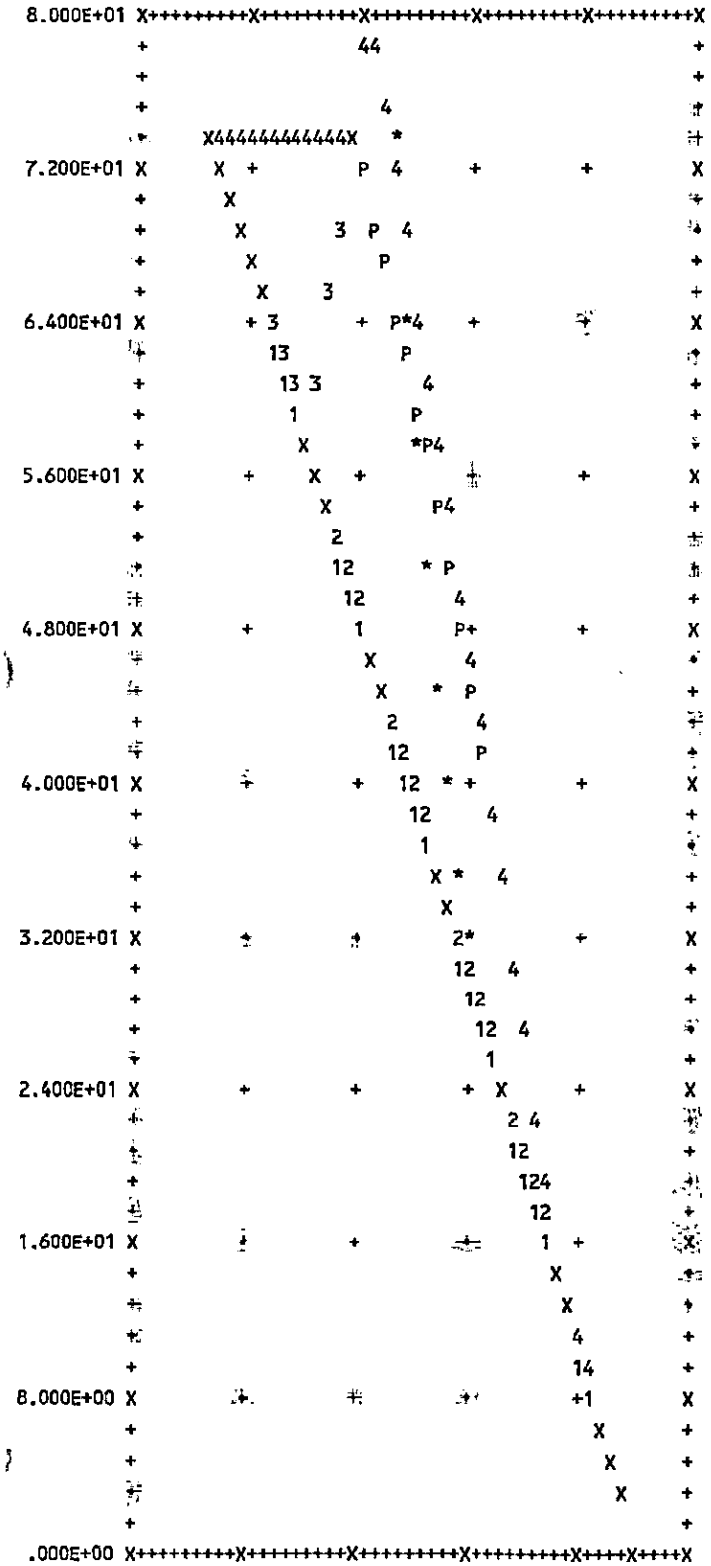
At point (411.500, 220.000) under seepage 1,the radius and the corresponding factor of safety are:
199.416 1.347 196.694 1.412 193.972 1.519 191.251 1.747 188.529 2.416
Lowest factor of safety= 1.347 and occurs at radius = 199.416

At point (406.500, 220.000) under seepage 1,the radius and the corresponding factor of safety are:
198.475 1.348 195.570 1.410 192.665 1.514 189.760 1.738 186.855 2.394
Lowest factor of safety= 1.348 and occurs at radius = 198.475

For piezometric line No. 1

At point (409.000, 220.000) ,RADIUS 198.946
the minimum factor of safety is 1.347

Cross section in distorted scale. Numerals indicate boundary line no.
If there area more than 10 bound. lines, alphabets will then be used. P indicates
Piezometric line. If a portion of Piezometric line coincides with
the ground or another boundary line, only the ground or boundary
line will be shown. X indicates intersection of two boundary
lines. * indicates failure surface.
The minimum factor of safety is 1.347



5.00E+01 1.50E+02 2.50E+02 3.50E+02 4.50E+02 5.50E+02

STATE OF ALABAMA

SURFACE MINING COMMISSION

P.O. BOX 2390 - JASPER, ALABAMA 35502-2390
(205) 221-4130 • FAX: (205) 221-5077

April 30, 2015

Mr. Brad Brasfield
Taft Coal Sales & Associates, Inc.
P.O. Box 361370
Birmingham, AL 35244

RE: Choctaw Mine/P-3799
Basin 034 Design Plans

Dear Mr. Brasfield:

The design plans for Basin 034 are hereby approved. If you have any questions, please feel free to call.

Sincerely,

Stephen Miles, P.E.

/ml

ASMC (1)

WALTER ENERGY

www.walterenergy.com

Taft Coal Sales & Associates, Inc.
P.O. Box 1608
Jasper, Alabama 35502-1608

Lamar Nelson
Permitting/Environmental

Office (205) 686-2188
eFax (205) 449-9767
Cell (205) 282-1458

lamar.nelson@walterenergy.com

April 20, 2015

Steven Miles, P.E.
Alabama Surface Mining Commission
P.O. 2390
Jasper, Alabama 35502-2390

RE: Taft Coal Sales and Associates, Inc.
Choctaw Mine
P-3799 Basin 034

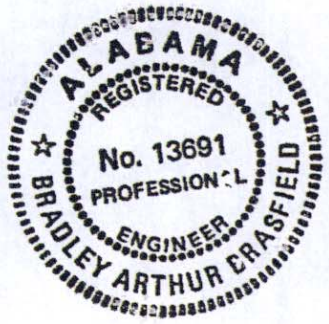
Dear Mr. Miles:

I hereby certify the attached detailed design plans for Basin 034 for the above referenced 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 are true and correct to the best of my knowledge and belief.

If you have any questions or require additional information, please feel free to call or e-mail

Sincerely,

Brad Brasfield, P.E.
Alabama Registration No. 13691



Detailed Basin Design Plans

Basin 034

Choctaw Mine

P-3799

Walker County, Alabama

April 16, 2015

Taft Coal Sales and Associates, Inc.

P.O. Box 1608

Jasper, Alabama 35502-1608

Phone: 205-686-2186 e-mail: brad.brasfield@walterenergy.com

POND CONSTRUCTION CRITERIA

TAFT COAL SALES & ASSOCIATES, INC.
CHOCTAW MINE, P-3799

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).

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.

K) Inflow to the pond will not be allowed to short circuit, by directing inflow as far as possible to the upper reaches of the pool area.

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 floating silt boon 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, secrete, etc. will be installed at the discharge end of the primary spillway.

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

3. INSPECTION, MAINTENANCE AND CERTIFICATION REQUIREMENTS

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

B) Sediment basins will be inspected semi-monthly for erosion, instability, etc., 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, as determination will be made as to the retained sediment level in the basin. After determining the retained sediment level, a channel will be cut into the embankment down to the retained sediment level on the side of the embankment deemed most suitable to reach natural ground without encountering prohibiting rock. The embankment material removed from this newly constructed channel will be spread and compacted over the previous impoundment (wet area) area to prevent erosion and ensure restabilization. The newly constructed channel will be of adequate width (minimum 30 feet) and sloped to a grade (approximately 1% to 3%) which will cause all surface drainage to travel across this area in sheet flow, minimizing the possibility of erosion. Also, where necessary, hay dams will be installed in strategic locations across the width of the channel to retain sediment and slow the water velocity to a favorable rate. Upon removal of the embankment section, all disturbed areas will be graded in such a manner to ensure slope stability, successful restabilization and to minimize erosion. All disturbed areas will be seeded with a mixture of annual and perennial grasses, fertilized and mulched. No slope, existing or created in the removal of the sediment basin, will be left on a grade that will slip or slough.

5. PERMANENT WATER IMPOUNDMENT REQUIREMENTS

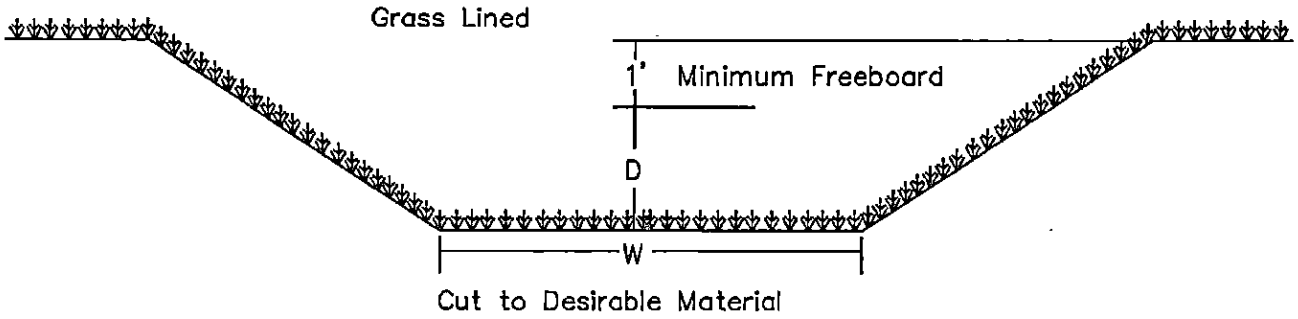
A) Prior to a request for a Phase II Bond Release, all sediment basins being left as permanent water impoundments will have supplemental data submitted to the Regulatory Authority concerning water quality, water quantity, size, depth, configuration, postponing land use, etc.

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.

DIVERSION CHANNEL

FOR BASIN Elimination

ATTACHMENT III–B–2–A



Maximum slope #%
Minimum slope 1%

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

N(loose stone or grass lined) = 0.035
A = area
R = area/wetted perimeter
S = 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
15–52	1.0
52–107	1.5
107–182	2.0
182–278	2.5

Diversion Channel Depth (D)
for Width (W) 10.0 ft.

peak flow Q (cfs)	depth D (ft)
0–19	0.5
19–64	1.0
64–130	1.5
130–218	2.0
218–320	2.5

Diversion Channel Depth (D)
for Width (W) 12.0 ft.

peak flow Q (cfs)	depth D (ft)
0–23	0.5
23–75	1.0
75–154	1.5
154–256	2.0
256–383	2.5

Diversion Channel Depth (D)
for Width (W) 14.0 ft.

peak flow Q (cfs)	depth D (ft)
0–27	0.5
27–87	1.0
87–177	1.5
177–292	2.0
292–437	2.5

NOTES

NOTES

1. The primary spillway of Basin 034P is designed to safely pass the expected peak flow from a 10 year, 24 hour precipitation event, and will consists of a 24 inch CMP with a turndown elbow to insure subsurface withdrawal to prevent the discharge of floating solids from the basin.

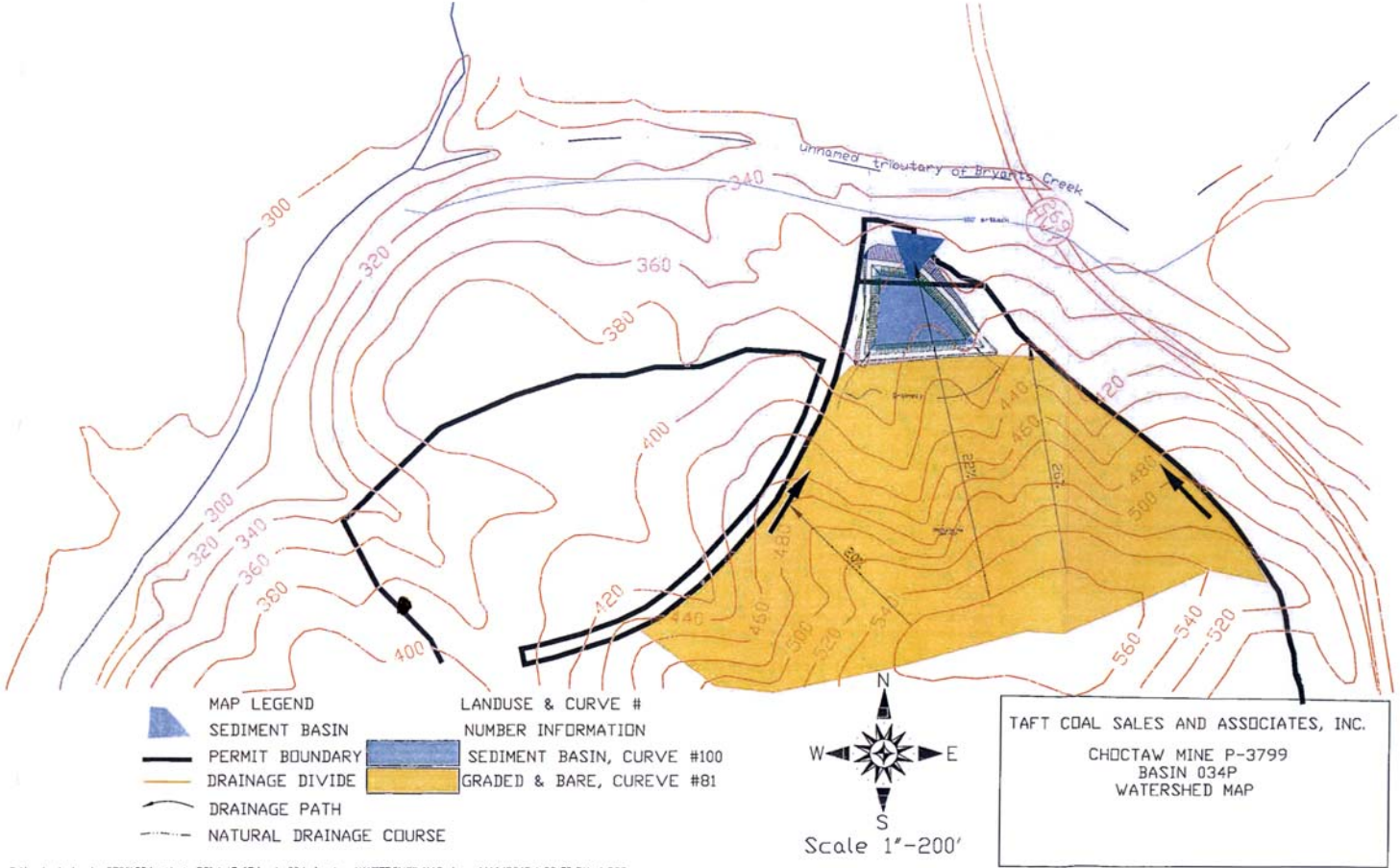
2. A splash pad consisting of durable, non-erodible sandstone or limestone riprap, concrete pad, or consolidated non-erodible bedrock will be located at the discharge point of the primary spillway.

3. Inflows to the pond will not be allowed to short circuit by directing inflow as far as possible to the upper reaches of the pond area.

4. The emergency spillway will be 12 foot wide grass (mixture) lined channel. The primary and emergency spillway will pass the 25 year, 6 hour precipitation event.

5. The joints of the discharge pipe will be sealed using rubber "boots" type gaskets. To prevent the movement of the discharge pipe, the portions of the discharge pipe that are exposed along the downstream slope of the embankment will be covered with a minimum of 2 feet as measured from the top of the pipe.

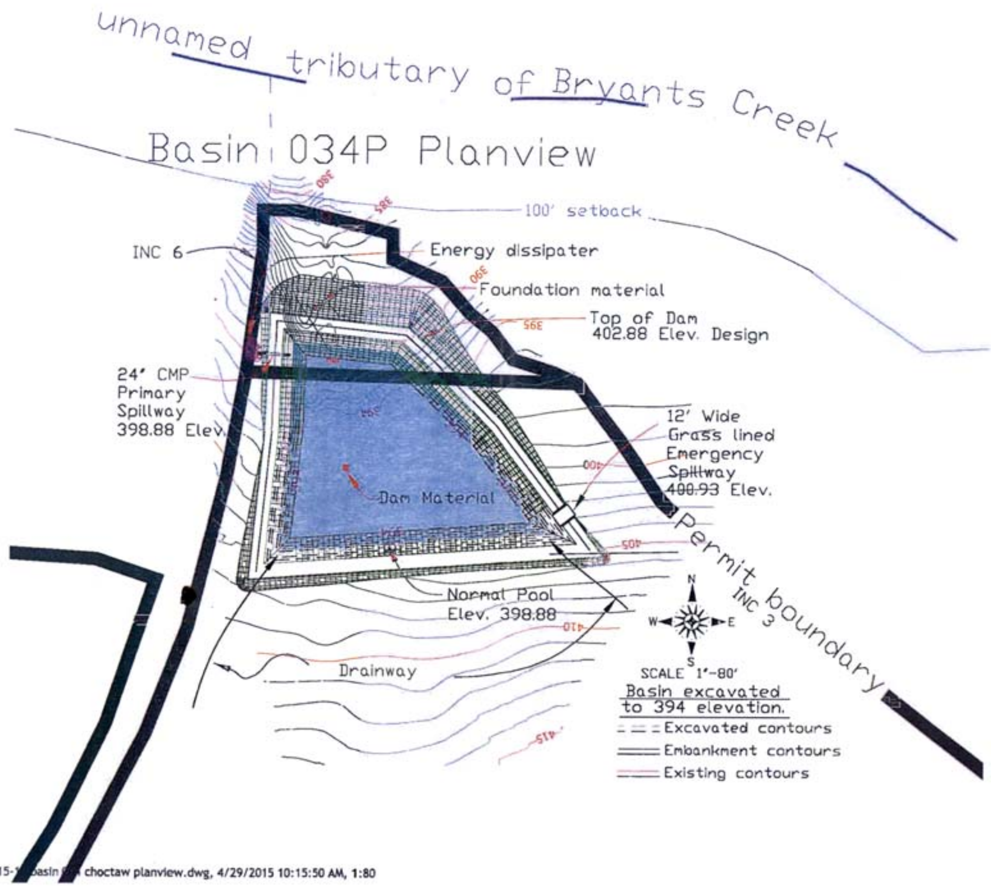
WATERSHED MAP



R:\basin designs\p-3799\034 c tie to RR\4-15-15 basin 034 choctaw WATERSHED MAP.dwg, 4/16/2015 1:39:52 PM, 1:200

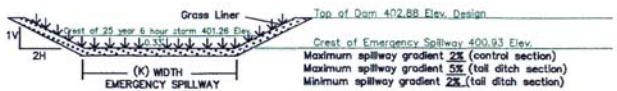
PLANVIEW

ASMC(1)

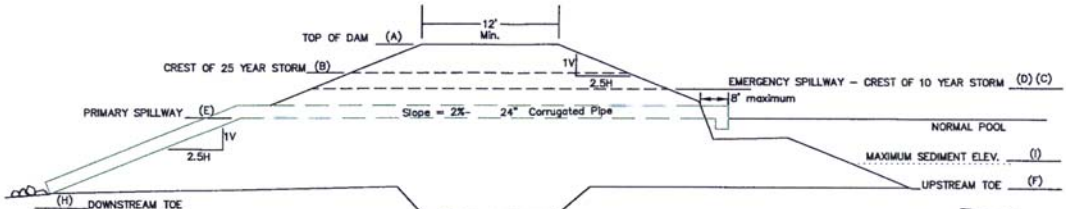


R:\basin designs\p-3799\034 c tie to RR\4-15-1 basin choctaw planview.dwg, 4/29/2015 10:15:50 AM, 1:80

SPILLWAY DESIGN



SPILLWAY CROSS SECTION
No Scale



DAM CROSS SECTION
No Scale

The keyway trench will be cut to bedrock or 8' minimum and 12 feet wide and extend the entire length of the base of the dam.

Relative Elevations

(A)	Top of Dam	402.88	(L)	Top of Concrete	N/A
(B)	25 Year Storm	401.26	(M)	Bottom of Skimmer Board	N/A
(C)	10 Year Storm	400.93	(N)	Depth of Cut-Off	N/A
(D)	Emergency Spillway	400.93			
(E)	Primary Spillway	398.88			
(F)	Upstream Toe	390.00			
(G)	Bottom of Pond	390.00			
(H)	Downstream Toe	388.00			
(I)	Maximum Sediment Elev.	396.88			
(J)	Total Spillway Length	20			
(K)	Spillway Width	12			
	Basin excavated to Elev.	394			

Basin Data

Pipe Diameter (in)	24"
Drainage Area (acres)	18
Disturbed Area (acres)	18
(1) Permanent Pool Vol. (Ac-Ft)	3.25
(2) Detention Storage Vol. (Ac-Ft)	1.46
(3) Sediment Storage Vol. (Ac-Ft)	1.80

Peak Inflow 10 year 24 hour storm	21.86 cfs
Peak Outflow 10 year 24 hour storm	12.23 cfs
Peak Inflow 25 year 6 hour storm	31.51 cfs
Peak Outflow 25 year 6 hour storm	14.80 cfs

Note: (2)+(3)=(1)

Taft Coal Sales & Associates, Inc.
P.O. Box 1608
Jasper, Al. 35502

CHOCTAW Mine
P-3799
BASIN 034 P

DRAWN BY ELN	DATE: 04-16-2015	DWG.No.
APPROVED BY BAB	SCALE: NONE	

R:\basin designs\p-3799\034 c tie to RR\P034 SPWY 4-16-15.dwg, 4/29/2015 10:51:01 AM, 1:5.88727

Material: Grass mixture

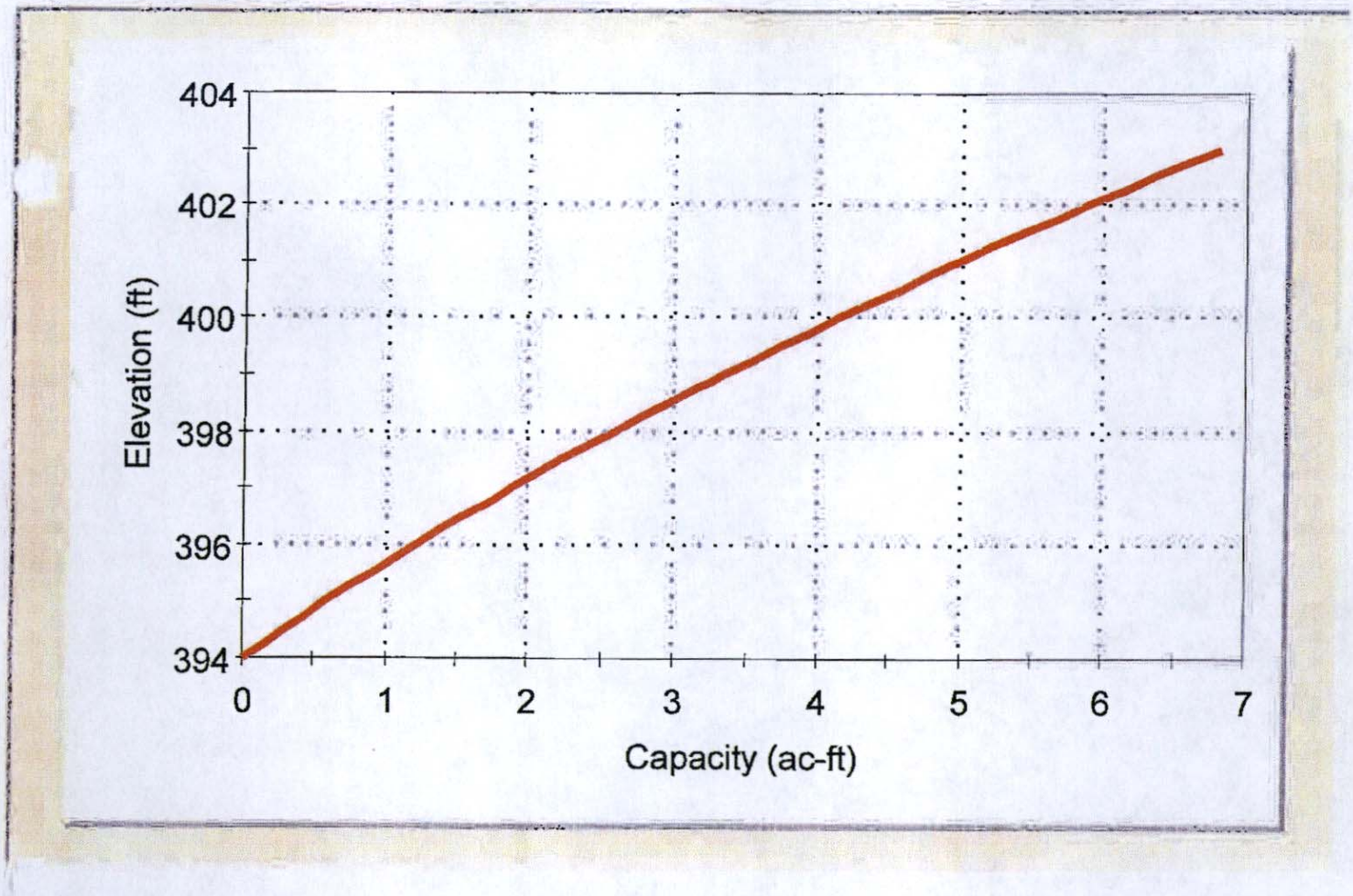
Trapezoidal Channel

Bottom Width (ft)	Left Sideslope Ratio	Right Sideslope Ratio	Slope (%)	Retardance Classes	Freeboard Depth (ft)	Freeboard % of Depth	Freeboard Mult. x (VxD)	Limiting Velocity (fps)
12.00	2.0:1	2.0:1	2.0	D, B	1.00			5.0

	Stability Class D w/o Freeboard	Stability Class D w/ Freeboard	Capacity Class B w/o Freeboard	Capacity Class B w/ Freeboard
Design Discharge:	1.20 cfs		1.20 cfs	
Depth:	0.18 ft	1.18 ft	0.44 ft	1.44 ft
Top Width:	12.72 ft	16.72 ft	13.77 ft	17.77 ft
Velocity:	0.54 fps		0.21 fps	
X-Section Area:	2.21 sq ft		5.71 sq ft	
Hydraulic Radius:	0.173 ft		0.408 ft	
Froude Number:	0.23		0.06	
Roughness Coefficient:	0.1201		0.5504	

Elevation-Area-Capacity Table

Elevation (ft)	Area (ac)	Capacity (ac-ft)
394.00	0.564	0.000
394.25	0.575	0.142
394.50	0.585	0.287
394.75	0.596	0.435
395.00	0.607	0.585
395.25	0.617	0.738
395.50	0.627	0.894
395.75	0.638	1.052
396.00	0.648	1.213
396.25	0.658	1.376
396.50	0.669	1.542
396.75	0.679	1.710
397.00	0.690	1.882
397.25	0.701	2.055
397.50	0.711	2.232
397.75	0.722	2.411
398.00	0.733	2.593
398.25	0.744	2.778
398.50	0.755	2.965
398.75	0.767	3.155
399.00	0.778	3.348
399.25	0.789	3.544
399.50	0.800	3.743
399.75	0.812	3.944
400.00	0.823	4.149
400.25	0.835	4.356
400.50	0.846	4.566
400.75	0.858	4.779
401.00	0.870	4.995
401.25	0.880	5.214
401.50	0.890	5.435
401.75	0.900	5.659
402.00	0.910	5.885
402.25	0.920	6.114
402.50	0.930	6.345
402.75	0.940	6.579
403.00	0.950	6.815


404
402
400
398
396
394
Elevation (ft)
0
1
2
3
4
5
6
7
Capacity (ac-ft)

Straight Pipe

Barrel Diameter (in)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev (ft)	Entrance Loss Coefficient	Tailwater Depth (ft)
24.00	100.00	2.00	0.0240	398.88	0.90	0.00

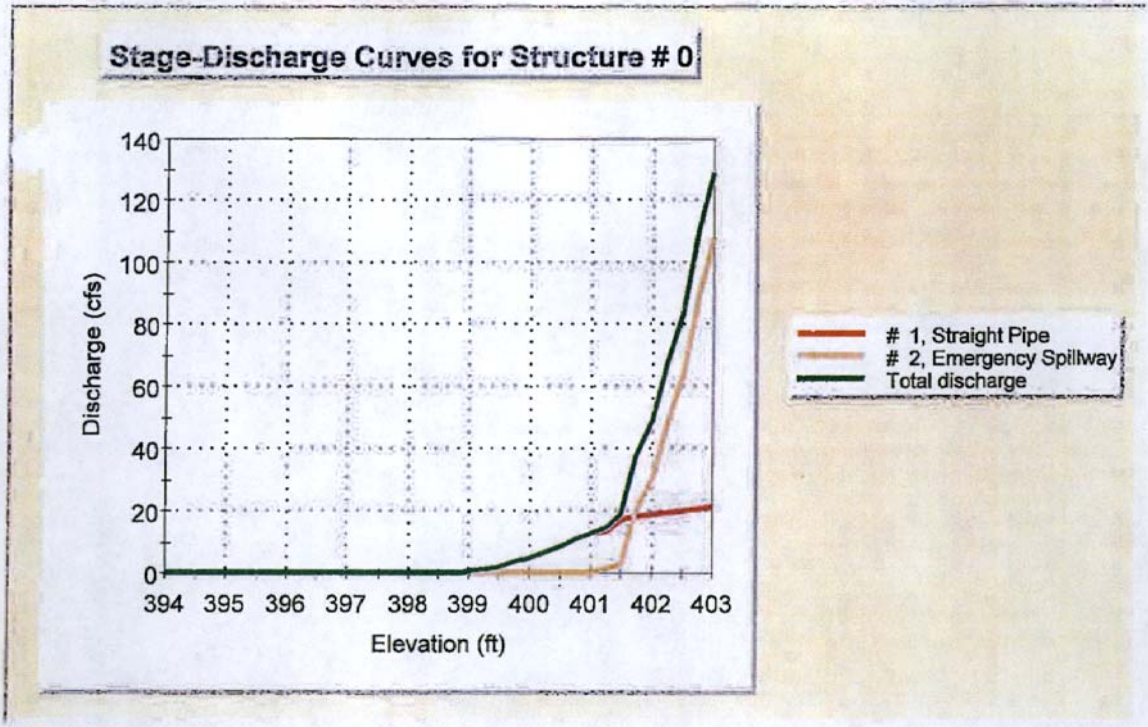
Emergency Spillway

Spillway Elev (ft)	Crest Length (ft)	Left Sideslope	Right Sideslope	Bottom Width (ft)
400.93	20.00	2.00:1	2.00:1	12.00

Detailed Discharge Table

Elevation (ft)	Straight Pipe (cfs)	Emergency Spillway (cfs)	Combined Total Discharge (cfs)
394.00	0.000	0.000	0.000
394.25	0.000	0.000	0.000
394.50	0.000	0.000	0.000
394.75	0.000	0.000	0.000
395.00	0.000	0.000	0.000
395.25	0.000	0.000	0.000
395.50	0.000	0.000	0.000
395.75	0.000	0.000	0.000
396.00	0.000	0.000	0.000
396.25	0.000	0.000	0.000
396.50	0.000	0.000	0.000
396.75	0.000	0.000	0.000
397.00	0.000	0.000	0.000
397.25	0.000	0.000	0.000
397.50	0.000	0.000	0.000
397.75	0.000	0.000	0.000
398.00	0.000	0.000	0.000
398.25	0.000	0.000	0.000
398.50	0.000	0.000	0.000
398.75	0.000	0.000	0.000
398.88	0.000	0.000	0.000
399.00	(3)>0.564	0.000	0.564
399.25	(3)>0.953	0.000	0.953
399.50	(3)>2.046	0.000	2.046

Elevation (ft)	Straight Pipe (cfs)	Emergency Spillway (cfs)	Combined Total Discharge (cfs)
399.75	(3)>3.401	0.000	3.401
400.00	(3)>4.971	0.000	4.971
400.25	(3)>6.717	0.000	6.717
400.50	(3)>8.635	0.000	8.635
400.75	(3)>10.710	0.000	10.710
400.93	(3)>12.294	0.000	12.294
401.00	(3)>12.702	0.269	12.970
401.25	(1)>13.410	1.229	14.639
401.50	(5)>16.821	2.189	19.010
401.75	(6)>17.881	19.846	37.727
402.00	(6)>18.812	30.064	48.877
402.25	(6)>19.473	48.646	68.119
402.50	(6)>20.134	63.036	83.170
402.75	(6)>20.776	88.671	109.447
403.00	(6)>21.376	107.884	129.260


Stage-Discharge Curves for Structure # 0
Discharge (cfs)
140
120
100
80
60
40
20
0
394
395
396
397
398
399
400
401
402
403
Elevation (ft)
1, Straight Pipe
2, Emergency Spillway
Total discharge

BASIN 034

SEDCAD RUN

5.9 INCHES, 10 YEAR - 24 HOUR, DRN 58

Choctaw Mine P-3799
Basin 034
10 year 24 hour Rainfall event
Detailed Design Plans

10 year 24 hour

5.9 inches

lamar nelson

TAFT COAL SALES AND ASSOCIATES, INC.
P.O. BOX 1608
JASPER, ALABAMA 35502-1608

Phone: 205-686-2186
Email: brad.brasfield@walterenergy.com, lamar.nelson@walterenergy.com

General Information

Storm Information:

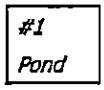
Storm Type:	DRN-58
Design Storm:	10 yr - 24 hr
Rainfall Depth:	5.900 inches

Particle Size Distribution:

Size (mm)	spoil	topsoil
3.0000	100.000%	72.000%
2.0000	95.500%	63.000%
1.0000	91.000%	52.000%
0.5000	81.500%	46.000%
0.3000	70.000%	45.000%
0.2000	58.000%	44.000%
0.1000	39.500%	40.000%
0.0500	22.000%	37.000%
0.0300	15.000%	32.000%
0.0200	8.500%	27.000%
0.0100	5.000%	17.000%
0.0050	3.000%	12.000%
0.0030	2.000%	4.000%
0.0010	1.000%	1.000%
0.0001	0.000%	0.000%

Structure Networking:

Type	Stru #	(flows Into)	Stru #	Musk. K (hrs)	Musk. X	Description
Pond	#1	==>	End	0.000	0.000	basin 034



Structure Summary:

		Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	In	18.000	18.000	21.86	5.67	1,979.0	404,827	304.09	172.38
	Out			12.23	5.67	54.3	10,269	0.00	0.00

Particle Size Distribution(s) at Each Structure

Structure #1:

Size (mm)	In	Out
3.0000	100.000%	100.000%
2.0000	98.464%	100.000%
1.0000	93.824%	100.000%
0.5000	84.029%	100.000%
0.3000	72.172%	100.000%
0.2000	59.800%	100.000%
0.1000	40.726%	100.000%
0.0500	22.683%	100.000%
0.0300	15.465%	100.000%
0.0200	8.764%	100.000%
0.0100	5.155%	100.000%
0.0050	3.093%	100.000%
0.0030	2.062%	75.127%
0.0010	1.031%	37.564%
0.0001	0.000%	0.000%

Structure Detail:

Structure #1 (Pond)

basin 034

Pond Inputs:

Initial Pool Elev:	398.88 ft
Initial Pool:	1.46 ac-ft
*Sediment Storage:	1.80 ac-ft
Dead Space:	20.00 %

**Sediment capacity calculated from 0.100 times total contributing area*

Emergency Spillway

Spillway Elev	Crest Length (ft)	Left Sideslope	Right Sideslope	Bottom Width (ft)
400.93	20.00	2.00:1	2.00:1	12.00

Straight Pipe

Barrel Diameter (In)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev (ft)	Entrance Loss Coefficient	Tailwater Depth (ft)
24.00	100.00	2.00	0.0240	398.88	0.90	0.00

Pond Results:

Peak Elevation:	400.92 ft
H'graph Detention Time:	2.27 hrs
Pond Model:	CSTRS
Dewater Time:	1.07 days
Trap Efficiency:	97.26 %

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)	
396.88	0.685	0.000	0.000		Top of Sed. Storage
397.00	0.690	0.082	0.000		
397.25	0.701	0.256	0.000		
397.50	0.711	0.432	0.000		

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)	
397.75	0.722	0.611	0.000		
398.00	0.733	0.793	0.000		
398.25	0.744	0.978	0.000		
398.50	0.755	1.165	0.000		
398.58	0.759	1.226	0.000		
398.75	0.767	1.356	0.000		
398.88	0.773	1.456	0.000		Spillway #2
399.00	0.778	1.549	0.564	9.40	
399.25	0.789	1.745	0.953	3.20	
399.50	0.800	1.943	2.046	3.40	
399.75	0.812	2.145	3.401	4.75	
400.00	0.823	2.349	4.971	1.75	
400.25	0.835	2.556	6.717	1.20	
400.50	0.846	2.766	8.635	0.75	
400.68	0.855	2.920	10.117	0.45	
400.75	0.858	2.980	10.710	0.15	
400.76	0.859	2.988	10.797	0.05	
400.89	0.865	3.100	11.937	0.35	
400.92	0.866	3.126	12.205		
400.92	0.866	3.128	12.228	0.15	Peak Stage
400.93	0.867	3.135	12.294		Spillway #1
401.00	0.870	3.196	12.970		
401.25	0.880	3.414	14.639		
401.50	0.890	3.636	19.010		
401.75	0.900	3.859	37.727		
402.00	0.910	4.085	48.877		
402.25	0.920	4.314	68.119		
402.50	0.930	4.545	83.170		
402.75	0.940	4.779	109.447		
403.00	0.950	5.015	129.260		

Detailed Discharge Table

Elevation (ft)	Emergency Spillway (cfs)	Straight Pipe (cfs)	Combined Total Discharge (cfs)
396.88	0.000	0.000	0.000
397.00	0.000	0.000	0.000
397.25	0.000	0.000	0.000
397.50	0.000	0.000	0.000

Elevation (ft)	Emergency Spillway (cfs)	Straight Pipe (cfs)	Combined Total Discharge (cfs)
397.75	0.000	0.000	0.000
398.00	0.000	0.000	0.000
398.25	0.000	0.000	0.000
398.50	0.000	0.000	0.000
398.58	0.000	0.000	0.000
398.75	0.000	0.000	0.000
398.88	0.000	0.000	0.000
399.00	0.000	(3)>0.564	0.564
399.25	0.000	(3)>0.953	0.953
399.50	0.000	(3)>2.046	2.046
399.75	0.000	(3)>3.401	3.401
400.00	0.000	(3)>4.971	4.971
400.25	0.000	(3)>6.717	6.717
400.50	0.000	(3)>8.635	8.635
400.68	0.000	(3)>10.117	10.117
400.75	0.000	(3)>10.710	10.710
400.76	0.000	(3)>10.797	10.797
400.89	0.000	(3)>11.937	11.937
400.92	0.000	(3)>12.205	12.205
400.93	0.000	(3)>12.294	12.294
401.00	0.269	(3)>12.702	12.970
401.25	1.229	(1)>13.410	14.639
401.50	2.189	(5)>16.821	19.010
401.75	19.846	(6)>17.881	37.727
402.00	30.064	(6)>18.812	48.877
402.25	48.646	(6)>19.473	68.119
402.50	63.036	(6)>20.134	83.170
402.75	88.671	(6)>20.776	109.447
403.00	107.884	(6)>21.376	129.260

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	17.000	0.153	0.000	0.000	81.000	F	20.45	5.177
	2	1.000	0.000	0.000	0.000	100.000	F	1.55	0.491
	Σ	**18.000**						**21.86**	**5.668**

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.240	200.00	26.00	0.9000	1.0000	1	1,979.0	414,648	311.47	185.78
	2	0.001	200.00	0.00	0.0001	1.0000	2	0.0	0	0.00	0.00
	Σ							**1,979.0**	**404,827**	**304.09**	**172.38**

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	24.25	145.00	597.91	4.920	0.033
		6. Grassed waterway	2.12	20.00	942.01	2.180	0.120
#1	**1**	**Time of Concentration:**					**0.153**

BASIN 034

SEDCAD RUN

4.9 INCHES, 25 YEAR - 6 HOURS, SCS

Choctaw Mine P-3799
Basin 034
25 year 6 hour Rainfall event
Detailed Design Plans

25 year

4.9 inches

lamar nelson

TAFT COAL SALES AND ASSOCIATES, INC.
P.O. BOX 1608
JASPER, ALABAMA 35502-1608

Phone: 205-686-2186
Email: brad.brasfield@walterenergy.com, lamar.nelson@walterenergy.com

General Information

Storm Information:

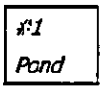
Storm Type:	DRN-58
Design Storm:	25 yr - 6 hr
Rainfall Depth:	4.900 inches

Particle Size Distribution:

Size (mm)	spoil	topsoil
3.0000	100.000%	72.000%
2.0000	95.500%	63.000%
1.0000	91.000%	52.000%
0.5000	81.500%	46.000%
0.3000	70.000%	45.000%
0.2000	58.000%	44.000%
0.1000	39.500%	40.000%
0.0500	22.000%	37.000%
0.0300	15.000%	32.000%
0.0200	8.500%	27.000%
0.0100	5.000%	17.000%
0.0050	3.000%	12.000%
0.0030	2.000%	4.000%
0.0010	1.000%	1.000%
0.0001	0.000%	0.000%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Pond	#1	==>	End	0.000	0.000	basin 034



Structure Summary:

		Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	In	18.000	18.000	31.51	4.36	2,092.8	431,986	324.34	231.13
	Out			14.80	4.36	63.8	13,418	0.01	0.01

Particle Size Distribution(s) at Each Structure

Structure #1:

Size (mm)	In	Out
3.0000	100.000%	100.000%
2.0000	99.181%	100.000%
1.0000	94.507%	100.000%
0.5000	84.641%	100.000%
0.3000	72.698%	100.000%
0.2000	60.235%	100.000%
0.1000	41.022%	100.000%
0.0500	22.848%	100.000%
0.0300	15.578%	100.000%
0.0200	8.828%	100.000%
0.0100	5.193%	100.000%
0.0050	3.116%	100.000%
0.0030	2.077%	68.144%
0.0010	1.039%	34.072%
0.0001	0.000%	0.000%

Structure Detail:

Structure #1 (Pond)

basin 034

Pond Inputs:

Initial Pool Elev:	398.88 ft
Initial Pool:	1.46 ac-ft
*Sediment Storage:	1.80 ac-ft
Dead Space:	20.00 %

**Sediment capacity calculated from 0.100 times total contributing area*

Straight Pipe

Barrel Diameter (in)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev (ft)	Entrance Loss Coefficient	Tailwater Depth (ft)
24.00	100.00	2.00	0.0240	398.88	0.90	0.00

Emergency Spillway

Spillway Elev	Crest Length (ft)	Left Sideslope	Right Sideslope	Bottom Width (ft)
400.93	20.00	2.00:1	2.00:1	12.00

Pond Results:

Peak Elevation:	401.26 ft
H'graph Detention Time:	1.96 hrs
Pond Model:	CSTRS
Dewater Time:	0.78 days
Trap Efficiency:	96.95 %

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)	
396.88	0.685	0.000	0.000		Top of Sed. Storage
397.00	0.690	0.082	0.000		
397.25	0.701	0.256	0.000		
397.50	0.711	0.432	0.000		

WALTER ENERGY

www.walterenergy.com

Taft Coal Sales & Associates, Inc.
P.O. Box 1608
Jasper, Alabama 35502-1608

Bradley A. Brasfield, P.E.
Director-Environmental

Office (205) 686-2186
Cell (205) 790.5598

brad.brasfield@walterenergy.com

04/22/2015

ASMC
Stephen Miles, P.E.
P.O. Box 2390
Jasper, Al. 35502

Re: Choctaw Mine, P-3799
Basin 034 Design Plans

Mr. Miles,

Revised design plans for Basin 034 addressing the deficiencies of the previous submittal are enclosed for you review. Most notably the principal spillway has been changed from a concrete spillway to a pipe. The additional information you requested is also enclosed.

Let me know if you have any questions.

Sincerely,

Bradley A. Brasfield, P.E.
Director-Environmental
Walter Energy, Inc.

STATE OF ALABAMA

SURFACE MINING COMMISSION

P.O. BOX 2390 - JASPER, ALABAMA 35502-2390
(205) 221-4130 • FAX: (205) 221-5077

April 22, 2015

Mr. Brad Brasfield
Taft Coal Sales & Associates, Inc.
P. O. Box 361370
Birmingham, AL

RE: Choctaw Mine/P-3799
Basin 034 Design Plans

Dear Mr. Brasfield:

I have reviewed the information as submitted for the above referenced basin design plans. A few deficiencies, as listed on the attached sheet, exist and will require corrections to be submitted to the ASMC before the review can be approved.

If you have any questions, please feel free to call.

Sincerely,

Stephen Miles, P.E.

/kb

Taft Coal Sales & Associates, Inc.
P-3799, Basin 034 Design Plans
April 22, 2015

1. Correct the scale factor on the plan view to 1" = 80'.

2. Show the embankment contours on the plan view.

3. The upstream toe and bottom of pond elevations are listed as 390 on the spillway design sheet, however the plan view shows the upstream toe and bottom of pond elevation to be 394.

390 spot elev ok

4. The peak outflow for the 25-year/6-hour storm event is listed as 14.86 cfs on the spillway design sheet, however the SedCad run lists the peak outflow as 14.80 CFS.

5. Include a note on the spillway design sheet to address the "keyway Trench" to bedrock or a minimum of 8', 12 feet wide and extend the length of the embankment.

6. Include a note on the spillway design sheet to address the primary spillway pipe will extend an 8' maximum out of the embankment as measured from the top of the pipe to the end of the elbow.

7. List the maximum spillway gradient for the control and tail ditch sections of the emergency spillway on the spillway design sheet.

8. Address the "Notes" page to include how the joints of the pipe will be sealed.

9. Address the "Notes" page to include provisions to cover the portions of the discharge pipe that are exposed along the downstream slope of the embankment to be covered with a minimum of 2 feet as measured from the top of the pipe.

10. Include SedCad utility runs using 1.2 cfs and the design specifications of the emergency spillway on the maximum gradients of the control and tail ditch sections.

11. Raise the top of dam elevation to 402.88. I calculated this elevation by adding 2 feet for the pipe and 2 feet of cover to the primary spillway elevation of 398.88.

12. Correct the effective density of the dam material on the stability analysis.

WALTER ENERGY

www.walterenergy.com

Taft Coal Sales & Associates, Inc.
P.O. Box 1608
Jasper, Alabama 35502-1608

Bradley A. Brasfield, P.E.
Director-Environmental
Walter Energy, Inc.

Office (205) 686-2186
Cell (205) 790.5598

brad.brasfield@walterenergy.com

04/30/2015

ASMC
Stephen Miles, P.E.
P.O. Box 2390
Jasper, Al. 35502

Re: Choctaw Mine, P-3799
Basin 034 Design Plans

Mr. Miles,

Revised design plans for Basin 034 addressing the deficiencies of the previous submittal are enclosed for you review. The following revisions and corrections were made:

1. The scale factor was corrected on the Plan View drawing
2. Contours of the embankment were added to the Plan View drawing
3. The upstream toe area is not incised thus the 390.0 elevation is correct
4. The peak outflow was corrected from 14.86 to 14.80 cfs
5. A note was added concerning construction of the embankment keyway trench
6. A note was added showing a minimum pipe extension out of the embankment
7. Spillway gradients were added to the spillway design sheet
8. Pipe joint sealing specifications were added to the "Notes"
9. Minimum 2 ft of cover over the pipe was added to the "Notes"
10. Utility runs showing design specifications and gradients of the control and tail ditch sections of the emergency spillway were added
11. The top of the dam was raised to 402.88 to have a minimum of 2 feet over the pipe
12. The effective density on the dam material was corrected to 124.7

Let me know if you have any further questions.

Sincerely,

Bradley A. Brasfield
AL P.E. #13691

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)	
397.75	0.722	0.611	0.000		
398.00	0.733	0.793	0.000		
398.25	0.744	0.978	0.000		
398.50	0.755	1.165	0.000		
398.58	0.759	1.226	0.000		
398.75	0.767	1.356	0.000		
398.88	0.773	1.456	0.000		Spillway #1
399.00	0.778	1.549	0.564	9.45	
399.25	0.789	1.745	0.953	3.20	
399.50	0.800	1.943	2.046	1.65	
399.75	0.812	2.145	3.401	0.95	
400.00	0.823	2.349	4.971	0.60	
400.25	0.835	2.556	6.717	0.40	
400.46	0.844	2.733	8.321	0.45	
400.50	0.846	2.766	8.635	0.10	
400.75	0.858	2.980	10.710	0.65	
400.92	0.866	3.126	12.205	0.45	
400.93	0.867	3.135	12.294		Spillway #2
401.00	0.870	3.196	12.970	0.20	
401.25	0.880	3.414	14.639	0.60	
401.26	0.880	3.423	14.803	0.10	Peak Stage
401.50	0.890	3.636	19.010		
401.75	0.900	3.859	37.727		
402.00	0.910	4.085	48.877		
402.25	0.920	4.314	68.119		
402.50	0.930	4.545	83.170		
402.75	0.940	4.779	109.447		
403.00	0.950	5.015	129.260		

Detailed Discharge Table

Elevation (ft)	Straight Pipe (cfs)	Emergency Spillway (cfs)	Combined Total Discharge (cfs)
396.88	0.000	0.000	0.000
397.00	0.000	0.000	0.000
397.25	0.000	0.000	0.000
397.50	0.000	0.000	0.000
397.75	0.000	0.000	0.000
398.00	0.000	0.000	0.000

Elevation (ft)	Straight Pipe (cfs)	Emergency Spillway (cfs)	Combined Total Discharge (cfs)
398.25	0.000	0.000	0.000
398.50	0.000	0.000	0.000
398.58	0.000	0.000	0.000
398.75	0.000	0.000	0.000
398.88	0.000	0.000	0.000
399.00	(3)>0.564	0.000	0.564
399.25	(3)>0.953	0.000	0.953
399.50	(3)>2.046	0.000	2.046
399.75	(3)>3.401	0.000	3.401
400.00	(3)>4.971	0.000	4.971
400.25	(3)>6.717	0.000	6.717
400.46	(3)>8.321	0.000	8.321
400.50	(3)>8.635	0.000	8.635
400.75	(3)>10.710	0.000	10.710
400.92	(3)>12.205	0.000	12.205
400.93	(3)>12.294	0.000	12.294
401.00	(3)>12.702	0.269	12.970
401.25	(1)>13.410	1.229	14.639
401.50	(5)>16.821	2.189	19.010
401.75	(6)>17.881	19.846	37.727
402.00	(6)>18.812	30.064	48.877
402.25	(6)>19.473	48.646	68.119
402.50	(6)>20.134	63.036	83.170
402.75	(6)>20.776	88.671	109.447
403.00	(6)>21.376	107.884	129.260

401.24

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	17.000	0.153	0.000	0.000	81.000	F	29.59	3.954
	2	1.000	0.001	0.000	0.000	100.000	F	2.29	0.407
	Σ	**18.000**						**31.51**	**4.361**

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.240	200.00	26.00	0.9000	1.0000	1	2,092.8	442,586	332.30	249.77
	2	0.001	200.00	0.00	0.0001	1.0000	1	0.0	0	0.00	0.00
	Σ							**2,092.8**	**431,986**	**324.34**	**231.13**

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	24.25	145.00	597.91	4.920	0.033
		6. Grassed waterway	2.12	20.00	942.01	2.180	0.120
#1	**1**	**Time of Concentration:**					**0.153**

SOIL CLASSIFICATION

mcgehee engineering corp

SIEVE ANALYSIS

(ASTM C136-96a and C117)

Company Name: Taft Coal Sales
Location: Choctaw
Sample I.D.: Basin 034
Description: Foundation

Sample Date: 3/23/15
Analyzed By: JG/CS
Date Analyzed: 3/26/15
Requested By: 0

Weight of Oven Dry Sample (W): 1010.8 Grams

Sieve No.	Sieve + Sample Weight	Sieve Weight	Sample Weight Retained	Percent of Total Retained	Cumulative Weight Percent	Percent Retained	Percent Finer
1"	0.0	0.0	0.0	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	0.0	0.0	0.0	100.0
1/2"	537.9	537.9	0.0	0.0	0.0	0.0	100.0
4	614.0	512.4	101.6	10.1	10.1	10.1	89.9
10	562.4	460.5	101.9	10.1	20.2	20.2	79.8
40	491.3	382.0	109.3	10.8	31.0	31.0	69.0
200	484.4	332.2	152.2	15.1	46.0	46.0	54.0
Pan	920.1	375.2	544.9	54.0	100.0	100.0	0.0
		Total Weight (W1):	1009.9				

SOIL CLASSIFICATION

Unified System (ASTM D-2487)

Liquid Limit: 36.5
Plastic Limit: 19.0
Plasticity Index: 17.5

Soil Classification: CL

Fine Grained
Sandy lean clay

Effective Cohesion: 1.6000 psi
Total Cohesion: 11.110 psi
Permeability: 0.11 ft/yr
Maximum Dry Density: 109.0 pcf
Optimum Moisture: 17.6 %
Effective Cohesion: 230.4 psf
Angle of Internal Friction: 26.56 degrees
Mass Unit Weight: 128.18 pcf

Post Office Box 3431 • 450 19th Street • Jasper, Alabama 35502-3431 • 205-221-0686 • Fax 205-221-7721 • staff@mcgehee.org

mcgehee engineering corp

SIEVE ANALYSIS

(ASTM C136-96a and.C117)

Company Name: Taft Coal Sales
Location: Choctaw
Sample I.D.: Basin 034
Description: Dam Material

Sample Date: 3/23/15
Analyzed By: JG/CS
Date Analyzed: 3/26/15
Requested By: 0

Weight of Oven Dry Sample (W): 1010.7 Grams

Sieve No.	Sieve + Sample Weight	Sieve Weight	Sample Weight Retained	Percent of Total Retained	Cumulative Weight Percent	Percent Retained	Percent Finer
1"	0.0	0.0	0.0	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	0.0	0.0	0.0	100.0
1/2"	543.9	537.9	6.0	0.6	0.6	0.6	99.4
4	606.9	512.4	94.5	9.3	9.9	9.9	90.1
10	576.8	460.5	116.3	11.5	21.4	21.4	78.6
40	451.3	382.0	69.3	6.9	28.3	28.3	71.7
200	465.5	332.2	133.3	13.2	41.5	41.5	58.5
Pan	967.1	375.2	591.9	58.5	100.0	100.0	0.0
		Total Weight (WI):	1011.3				

SOIL CLASSIFICATION

Unified System (ASTM D-2487)

Liquid Limit: 35.1
Plastic Limit: 24.4
Plasticity Index: 10.7

Soil Classification: ML

Fine Grained
Sandy silt

Effective Cohesion: 1.2500 psi
Total Cohesion: 8.330 psi
Permeability: 2.70 ft/yr
Maximum Dry Density: 104.0 pcf
Optimum Moisture: 19.9 %
Effective Cohesion: 180.0 psf
Angle of Internal Friction: 30.00 degrees
Mass Unit Weight: 124.70 pcf

Post Office Box 3431 ▫ 450 19th Street ▪ Jasper, Alabama 35502-3431 ▫ 205-221-0686 ▪ Fax 205-221-7721 ▪ staff@mcgehee.org

mcgehee engineering corp

STANDARD PROCTOR COMPACTION TEST (ASTM D-698)

Company Name: Taft Coal Sales
Location: Choctaw
Sample I.D.: Basin 034
Description: Dam Material

Sampled By: Lamar Nelson
Sample Date: 3/23/15
Analyzed By: JG/CS
Date Analyzed: 3/26/15
Requested By:

Weight of Mold (W1): 4,235 Grams

Test No.	Wt. of Mold & Wet Soil (w2) grams	Wt. of wet Soil (w2-w1) grams	Wet Unit Wt. (w2-w1)/c lb/cu-ft	Moisture Content (w) %	Dry Unit Weight lb/cu-ft
1	5,770	1,535	101.5	9.5	92.8
2	5,923	1,688	111.6	14.5	97.5
3	6,098	1,863	123.2	20.8	102.0
4	5,973	1,738	114.9	30.4	88.1
5	5,931	1,696	112.2	34.1	83.6
6					
7					

Constant C = 15.12 (conversion factor)

MOISTURE CONTENT DETERMINATION

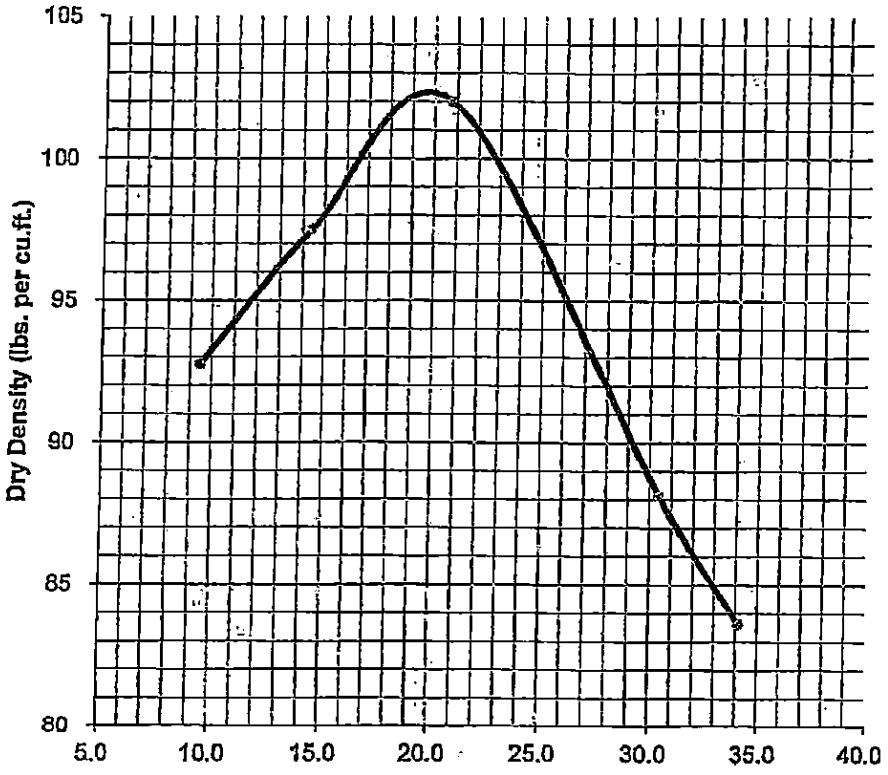
Test No.	1	2	3	4	5	6	7
Can No.	1	2	3	4	5		
Wt. of Can, a, (g)	20.48	20.41	20.57	20.43	21.39		
Wt. of Can + Wet Soil, b, (g)	73.85	81.47	79.95	104.52	90.73		
Wt. of Can + Dry Soil, c, (g)	69.24	73.76	69.73	84.91	73.09		
* Moisture Content, w, (%)	9.45	14.45	20.79	30.41	34.12		

* Moisture Content, w = (b - c)/(c - a) x 100

Post Office Box 3431 • 450 19th Street • Jasper, Alabama 35502-3431 • 205-221-0686 • Fax 205-221-7721 • staff@mcgehee.org

megehee engineering corp

Taft Coal Sales
Choctaw, Basin 034, Dam Material
Moisture Density Relationship
(Proctor Method)



ASTM D-698 Method A	Water Content %	Specific Gravity	%> No. 4	%< No. 200	LL %	PL %	PI %
			8.9	58.5	35.1	24.4	10.7
Sample Description, Classification and Location				Sample No.:			Basin 034 Dam Material
Fine Grained Sandy silt				Optimum Moisture Content=			19.8
				Maximum Dry Density =			102.3

Post Office Box 3431 • 450 19th Street • Jasper, Alabama 35502-3431 • 205-221-0686 • Fax 205-221-7721 • staff@megehee.org

STABILITY ANALYSIS

TAFT COAL SALES AND ASSOCIATES, INC.
CHOCTAW MINE
P-3799

STABILITY ANALYSIS PROCEDURE:

The Static loading stability analyses was performed using the Simplified Bishop Method. The computer program used to analyze the slope stability was the REAME Stability Program as developed by Dr. Yan H. Huang, P.E. of the University of Kentucky.

The soil type of the foundation material beneath the proposed embankment structure of Sediment Basin 034 was sampled by Taft Coal Sales and Associates, Inc., personnel. Testing was performed by McGehee Engineering Corp. The Depth to the stiff base of Sediment Basin 034 (12") was measured by personnel of Taft Coal Sales and Associates, Inc.

The soil type to be used in the construction of the proposed embankment structure of Sediment Basin 034 was sampled by Taft Coal Sales and Associates, Inc. personnel. Testing was performed by McGeehee Engineering Corp.

SOIL PROPERTIES:

USEAGE	TYPE	COHESION (psf)	INTERNAL ANGLE OF FRICTION	EFFECTIVE DENSITY (pcf)
034 foundation	CL	230.40	26.56	128.18
034 dam	ML	180.00	30.00	124.70

ANALYSIS RESULTS:

	STATIC SAFETY FACTOR
034	2. 472

REAME (ROTATIONAL EQUILIBRIUM ANALYSIS OF MULTILAYERED EARTHWORKS)

INPUT FILE NAME -C:\REAME2012A\034C 24 pipe.DAT

TITLE:-

NO. OF STATIC AND SEISMIC CASES (NCASE) = 1

NO. OF NONCIRCULAR FAILURE SURFACES (NNS) = 0

TWO-DIMENSIONAL ANALYSIS (THREED = 0)

ANALYSIS BY DETERMINISTIC METHOD (PROB = 0)

CASE NO. 1 SEISMIC COEFFICIENT (SEIC) =0.000

NO. OF BOUNDARY LINES (NBL) = 3

NO. OF POINTS ON BOUNDARY LINE 1 = 2
1 X COORD.= 100 Y COORD.= 388
2 X COORD.= 303.25 Y COORD.= 387

NO. OF POINTS ON BOUNDARY LINE 2 = 4
1 X COORD.= 100 Y COORD.= 392
2 X COORD.= 140 Y COORD.= 392
3 X COORD.= 200 Y COORD.= 390
4 X COORD.= 222.2 Y COORD.= 398.88

NO. OF POINTS ON BOUNDARY LINE 3 = 6
1 X COORD.= 100 Y COORD.= 398.88
2 X COORD.= 222.2 Y COORD.= 398.88
3 X COORD.= 230.65 Y COORD.= 402.26
4 X COORD.= 242.65 Y COORD.= 402.26
5 X COORD.= 278.3 Y COORD.= 388
6 X COORD.= 303.25 Y COORD.= 388

LINE NO. AND SLOPE OF EACH SEGMENT ARE:
1 -0.005
2 0.000 -0.033 0.400
3 0.000 0.400 0.000 -0.400 0.000

MIN. DEPTH OF TALLEST SLICE (DMIN) = 0
NO. OF RADIUS CONTROL ZONES (NRCZ) = 1

RADIUS DECREMENT (RDEC) FOR ZONE 1 = 0
NO. OF CIRCLES (NCIR) FOR ZONE 1 = 5
NO. OF BOTTOM LINES (NOL) FOR ZONE 1 = 1

LINE NO. (LINO)	BEG. NO. (NBP)	END NO. (NEP)
1	1	2

ENGLISH UNITS ARE USED WITH DISTANCE IN FEET AND FORCE IN POUND.

SOIL No.	ENVELOPE (TSSE)	COHESION (C)	FRIC. ANGLE (PHID)	UNIT WEIGHT (G)
1	1	230.400	26.560	128.180
2	1	180.000	30.000	124.700

USE PHREATIC SURFACE
USE GRID
NO. OF SLICES (NSLI) = 10
NO. OF ADD. CIRCLES (NAC) = 3

ANALYSIS BY SIMPLIFIED BISHOP METHOD (MTHD=2)
NUMBER OF FORCES (NFO)= 0
SOFT SOIL NUMBER (SSN)= 0

NO. OF POINTS ON WATER TABLE (NPWT) = 5
1 X COORD.= 100 Y COORD.= 398.88
2 X COORD.= 222.2 Y COORD.= 398.88
3 X COORD.= 235.6 Y COORD.= 395.92
4 X COORD.= 278.3 Y COORD.= 388
5 X COORD.= 303.25 Y COORD.= 388

NO. OF SOILS WITH DIFFERENT WATER TABLE (NSDW) = 0
NO. OF SOILS WITH DIFFERENT PORE PRESSURE RATIO (NSDP) = 0

INPUT COORD. OF GRID POINTS 1,2,AND 3

POINT 1 X COORD. = 242.65 Y COORD. = 480
POINT 2 X COORD. = 242.65 Y COORD. = 435
POINT 3 X COORD. = 272.65 Y COORD. = 480

X INCREMENT (XINC) = 3.6 Y INCREMENT (YINC) = 4
NO. OF DIVISIONS BETWEEN POINTS 1 AND 2 (ND12) = 5
NO. OF DIVISIONS BETWEEN POINTS 2 AND 3 (ND23) = 4
ONLY A SUMMARY TABLE IS PRINTED (NPRT = 0)
SLICES WILL BE SUBDIVIDED

AUTOMATIC SEARCH WILL FOLLOW AFTER GRID

FACTORS OF SAFETY BASED ON GRID

IN THE FOLLOWING TABLE WARNING INDICATES HOW MANY TIMES THE
MAXIMUM RADIUS IS LIMITED BY THE END POINTS OF GROUND LINES

CENTER X COORDINATE	CENTER Y COORDINATE	NO. OF CIRCLE TOTAL	CRITIC.	RADIUS	LOWEST F.S.	WARNING
242.7	480.0	5	1	92.701	7.610	0
242.7	471.0	5	1	83.701	7.574	0
242.7	462.0	5	1	74.701	7.534	0
242.7	453.0	5	1	65.701	7.523	0
242.7	444.0	5	1	56.701	7.546	0
242.7	435.0	5	1	47.701	7.560	0
250.2	491.3	5	1	103.988	5.450	0
250.2	482.3	5	1	94.988	5.319	0
250.2	473.3	5	1	85.988	5.166	0
250.2	464.3	5	1	76.988	5.002	0
250.2	455.3	5	1	67.988	4.833	0
250.2	446.3	5	1	58.988	4.633	0
257.7	502.5	5	1	115.274	4.407	0
257.7	493.5	5	1	106.274	4.261	0
257.7	484.5	5	1	97.274	4.113	0
257.7	475.5	5	1	88.275	3.954	0
257.7	466.5	5	1	79.275	3.769	0
257.7	457.5	5	1	70.275	3.573	0
265.2	513.8	5	1	126.561	3.852	0
265.2	504.8	5	1	117.561	3.708	0
265.2	495.8	5	1	108.561	3.553	0
265.2	486.8	5	1	99.561	3.401	0
265.2	477.8	5	1	90.561	3.245	0
265.2	468.8	5	1	81.562	3.080	0
272.7	525.0	5	1	137.848	3.700	0
272.7	516.0	5	1	128.848	3.569	0
272.7	507.0	5	1	119.848	3.426	0
272.7	498.0	5	1	110.848	3.283	0

272.7	489.0	5	1	101.848	3.153	0
272.7	480.0	5	1	92.848	3.023	0

FACTORS OF SAFETY BASED ON SEARCH

IN THE FOLLOWING TABLE WARNING INDICATES HOW MANY TIMES THE MAXIMUM RADIUS IS LIMITED BY THE END POINTS OF GROUND LINES

CENTER X COORDINATE	CENTER Y COORDINATE	NO. OF CIRCLE TOTAL	CRITIC.	RADIUS	LOWEST F.S.	WARNING
272.7	480.0	5	1	92.848	3.023	0
276.3	480.0	5	1	92.866	3.053	0
269.1	480.0	5	1	92.831	3.089	0
272.7	484.0	5	1	96.848	3.078	0
272.7	476.0	5	1	88.848	2.970	0
272.7	472.0	5	1	84.848	2.919	0
272.7	468.0	5	1	80.848	2.870	0
272.7	464.0	5	1	76.849	2.821	0
272.7	460.0	5	1	72.849	2.776	0
272.7	456.0	5	1	68.849	2.737	0
272.7	452.0	5	1	64.849	2.703	0
272.7	448.0	5	1	60.849	2.668	0
272.7	444.0	5	1	56.849	2.643	0
272.7	440.0	5	1	52.849	2.624	0
272.7	436.0	5	1	48.849	2.613	0
272.7	432.0	5	1	44.849	2.621	0
276.3	436.0	5	1	48.867	2.963	0
269.1	436.0	5	1	48.831	2.504	0
265.5	436.0	5	1	48.813	2.578	0
269.1	440.0	5	1	52.831	2.538	0
269.1	432.0	5	1	44.831	2.486	0
269.1	428.0	5	1	40.831	2.477	0
269.1	424.0	5	1	36.831	2.490	0
272.7	428.0	5	1	40.849	2.663	0
265.5	428.0	5	1	40.814	2.506	0
270.0	428.0	5	1	40.836	2.488	0
268.2	428.0	5	1	40.827	2.475	0
267.3	428.0	5	1	40.822	2.479	0
268.2	429.0	5	1	41.827	2.477	0
268.2	427.0	5	1	39.827	2.473	0
268.2	426.0	5	1	38.827	2.472	0
268.2	425.0	5	1	37.827	2.473	0
269.1	426.0	5	1	38.831	2.479	0
267.3	426.0	5	1	38.822	2.474	0

AT POINT (268.2 , 426.0) RADIUS 38.827

THE MINIMUM FACTOR OF SAFETY IS 2.472

SUMMARY OF SLICE INFORMATION FOR MOST CRITICAL FAILURE SURFACE

SL. NO.	SOIL NO.	SLICE WIDTH	SLICE HEIGHT	WATER HEIGHT	BOTTOM SINE	TOTAL WEIGHT	EFFEC. WEIGHT	RESIS. MOMENT	DRIVING MOMENT
1	1	4.008	2.389	0.000	-.740	.123E+04	.123E+04	.693E+05	.352E+05
2	1	1.216	4.999	0.000	-.672	.779E+03	.779E+03	.259E+05	.203E+05
3	1	2.792	6.141	0.000	-.621	.220E+04	.220E+04	.653E+05	.530E+05
4	1	4.008	7.188	0.569	-.533	.369E+04	.355E+04	.101E+06	.765E+05
5	1	4.008	7.792	2.033	-.430	.400E+04	.349E+04	.101E+06	.668E+05
6	1	4.008	7.830	2.931	-.327	.402E+04	.329E+04	.983E+05	.510E+05
7	1	4.008	7.376	3.337	-.224	.379E+04	.295E+04	.927E+05	.329E+05
8	1	4.008	6.473	3.294	-.120	.333E+04	.250E+04	.843E+05	.155E+05
9	1	4.008	5.147	2.827	-.017	.264E+04	.194E+04	.734E+05	.175E+04
10	1	4.008	3.405	1.945	.086	.175E+04	.126E+04	.604E+05	-.585E+04

034C 24 pipe

11	1	4.008	1.243	0.643	.189	.639E+03	.478E+03	.456E+05	-.470E+04
							SUM	.817E+06	.343E+06

AT CENTER (268.150 , 426.000) WITH RADIUS 38.827 AND SEIS. COEFF. 0.00
FACTOR OF SAFETY BY NORMAL METHOD IS 2.385
FACTOR OF SAFETY BY SIMPLIFIED BISHOP METHOD IS 2.472

SUMMARY OF STABILITY ANALYSIS

FACTOR OF FAFETY IS DETERMINED BY SIMPLIFIED BISHOP METHOD
NUMBER OF CASES = 1

CASE 1 SEISMIC COEFFICIENT = 0
FACTOR OF SAFETY BASED ON 2D ANALYSIS = 2.472

STATE OF ALABAMA
SURFACE MINING COMMISSION
P. O. BOX 2390 — JASPER, ALABAMA 35502-2390
(205) 221-4130

August 24, 2001

Mr. Brad Brasfield
Taft Coal Sales & Associates, Inc.
P. O. Box 1608
Jasper, AL 35502

RE: P-3799
Choctaw Mine

Dear Sir:

Please accept this letter as notification that the detailed design plans as submitted for proposed sedimentation ponds 001, 001A and 002 are hereby approved.

If you have any questions, please feel free to call.

Sincerely,

J. Michael Harrison
P.E.

/kb

cc: I & E
File

Taft Coal Sales & Associates, Inc.
Choctaw Mine
Permit P-3799

SEDIMENT BASIN DESIGNS
Basins 001P, 001AP, & 002P

August 15, 2001

Mr. J. Michael Harrison P.E.
Alabama Surface Mining Commission
P.O. Box 2390
Jasper, Alabama 35502-2390

Re: Taft Coal Sales & Associates
Choctaw Mine P-3799 Revision 5
Design Plans for Basins 001, 001A and 002

Dear Mr. Harrison:

The Design Plans for the above referenced basins are submitted for your review and approval.

I hereby certify that the enclosed detailed design plans for Sediment Basin 001, 001A and 002 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 is true and correct to the best of my knowledge and belief.

Upon completion of construction, the sediment basins 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.

Formal inspections will be made annually, by a qualified professional engineer or other qualified person under the direction of a professional engineer, including reports or modifications, in accordance with rule 880-X-10C-20 of the Alabama Surface Mining Regulations.

Sincerely

Bradley A Brasfield

Bradley A. Brasfield
Al. P.E. 13691

Mine Office 686-0221

POND CONSTRUCTION CRITERIA

Taft Coal Sales & Associates, Inc.
Choctaw-Mine P-3799

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. 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 1.2.

3. 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.

4. The embankment foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than I V: I H, and the entire foundation surface scarified. The pool areas will be cleared of all trees and large brush.

5. The entire embankment and cutoff trench shall be compacted to 95% density, based on standard proctor as outlined in ASTM.

6. The material placed in the embankment shall be free of sod, roots, stones over 6 inches in diameter, and other objectionable materials. The fill material shall be placed and spread over the entire fill area, starting at the lowest point of the foundation, in layers not to exceed 12 inches in thickness. Construction of the fill shall be undertaken only at such times that the moisture content of the fill material will permit satisfactory compaction in accordance with Article 5 above.

7. The primary decant system shall be equipped with a device, or constructed, such to insure that subsurface withdrawal is accomplished in order to insure that no floating solids are discharged. If a channel is used as the primary decant then a skimmer shall be replaced to restrict floating solids from discharges.

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

9. 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. Also pipe downdrains may be used to prevent erosion in some applications.

10. The combination primary and secondary decant system shall be designed to safely carry the expected peak flow from a 25 year, 6 hour storm. When designing spillways that are in the drainage course of a public water supply, then 50 year, 24 hour storm data will be used. The entire emergency overflow spillway channel will be stabilized upon completion using prudent engineering measures. These measures may consist of concrete, durable rock riprap, vegetation or being constructed in consolidated non-erodible material or a combination of any or all of the above as determined by the engineer on a site specific basis during construction.

11. Sediment basins using a single spillway system shall be an open channel of non-erodible construction consisting of concrete, durable rock, riprap or being constructed in consolidated erodible material.

12. 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).

13. If basins are built in series, then the combined decant system for each shall be designed to accommodate the entire contributing drainage area.

14. The dam and all disturbed areas shall be sowed with both perennial and annual grasses in order to insure erosion is minimized. Hay bales or riprap may be placed at the toe of the dam immediately upon completion of construction.

15. The constructed height of the dam shall be in a minimum of 5% over the design height to allow for settlement, unless it has been demonstrated to regulatory authority that the material used in the design will ensure against all settlement.

16. Final graded slopes of the entire permanent water impoundment area shall not exceed 2.5H-1.0V to provide adequate safety and access for proposed water users.

17. Prior to Phase 11 bond release, additional data concerning water quality, water quantity, depth size. configuration. postmining land use, etc., for each proposed permanent water impoundment. shall be submitted to the Regulatory Authority for permanent water impoundment approval.

18. All sediment basins shall be inspected for stability, erosion etc. two (2) times a month until removal of the structure or release of the performance bond.

19. Embankment and spillway will be maintained by repairing any damage such as erosion, slope failure or spillway until removal of the structure or release of the performance bond.

20. A11 ponds shall be examined 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.

21. Sediment will be removed from each pond when the accumulated sediment reaches the sediment storage volume as shown on the detailed design sheet.

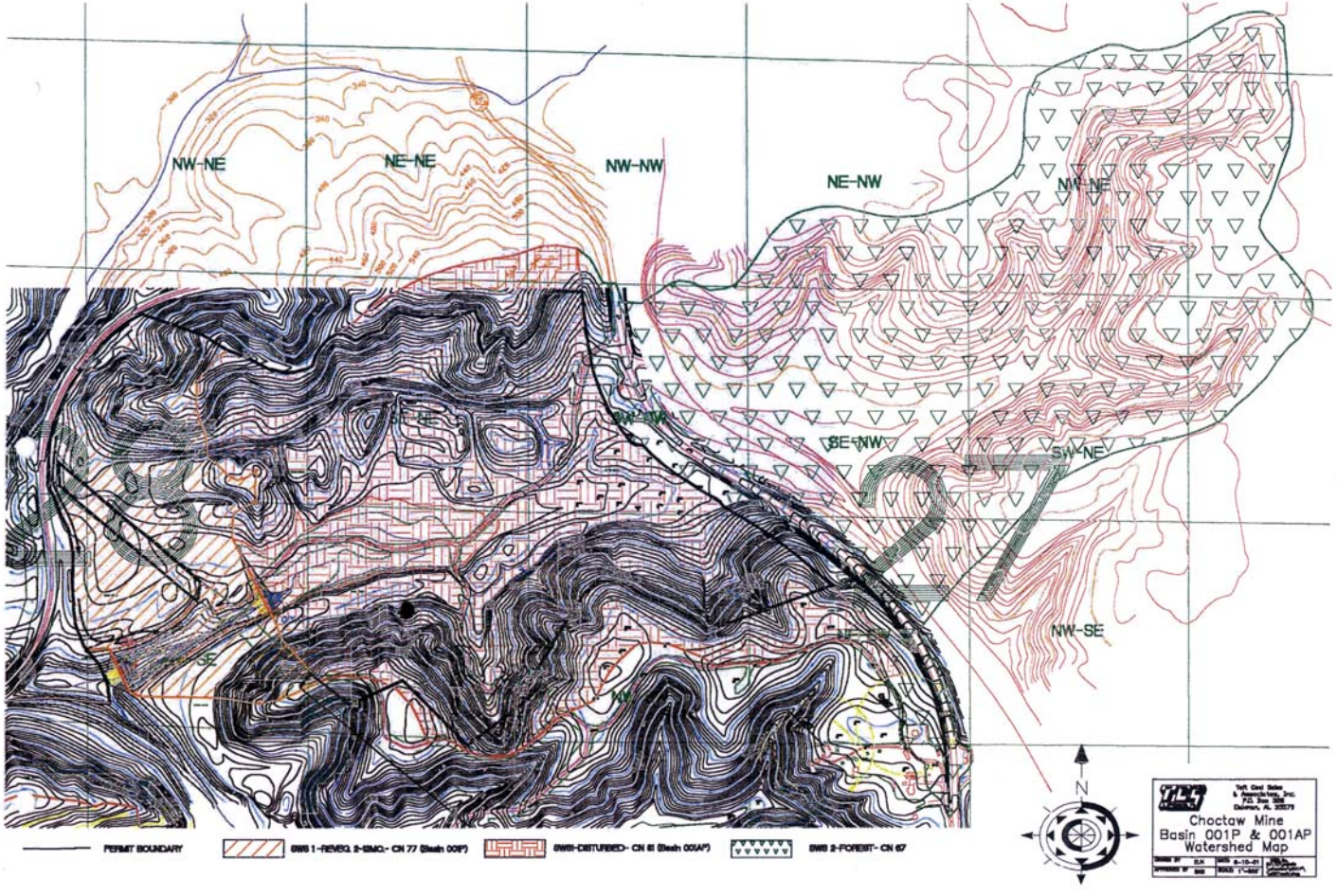
22. When mining has been completed and approval has been given by the regulatory authority, each sediment basin not proposed as a permanent impoundment will be dewatered in a controlled manner by either pumping or siphoning. After dewatering, the retained sediment level can be determined. A channel will be cut in the embankment downed to the retained sediment level in the area that seems most suitable for the site. -The embankment material removed from the newly constructed channel will be spread and compacted over the impoundment surface area to prevent erosion and ensure restabilization. The newly constructed channel will be of adequate width and sloped to a grade (approximately 1-3%) which will cause all surface drainage to travel across the area at a low velocitv minimizing erosion. Hay dams will be installed as needed across the width of the channel to retain sediment and to slow the water velocity.-- Upon removal of the embankment section, all disturbed areas will be traded 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 gasses. fertilized and mulched. No slope, existing or created in the removal of the basin, will be left on a grade that will slip or slough.

23. 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.

24. 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 criterial shall be submitted prior to certification.

WATERSHED MAP

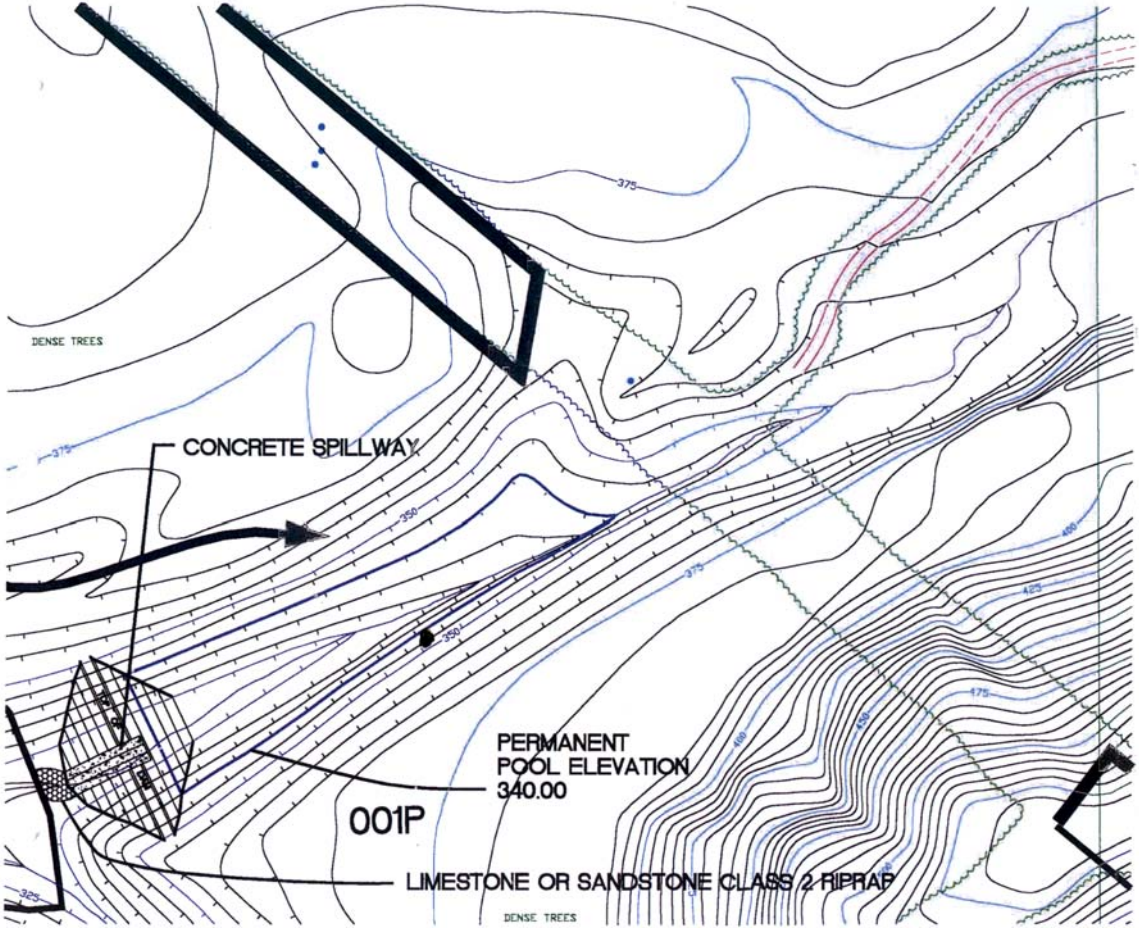
BASINS 001P & 001AP


NW-NE
NE-NE
NW-NW
NE-NW
NW-NE
SW-NW
SE-NW
SW-NE
NW-SE
SE
N
PERMIT BOUNDARY
SWS 1 -REVEG. 2-SMG.- CN 77 (Basin 001P)
SWS1-DISTURBED- CN 81 (Basin 001AP)
SWS 2-FOREST- CN 67
N
Choctaw Mine
Basin 001P & 001AP
Watershed Map

SEDIMENT BASIN DESIGN

Taft Coal Sales & Associates, Inc.
Choctaw Mine
Basin 001P

Permit P-3799

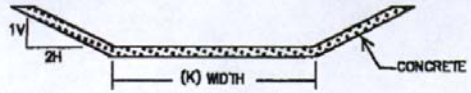


N
W E
S

SCALE: 1"=100'

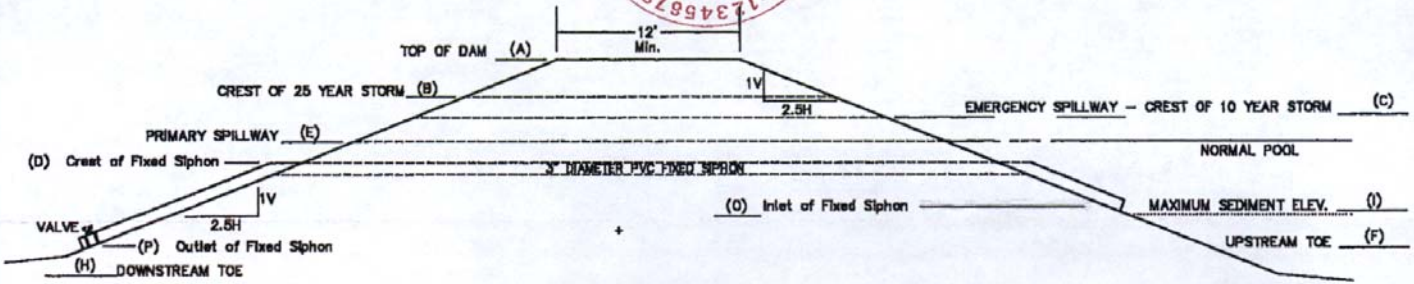
TOP OF DAM ELEVATION 350.55
PERMANENT POOL ELEVATION 340.00
BOTTOM OF POND ELEVATION 326.00

TAFT COAL SALES
AND ASSOCIATES, INC.
CHOCTAW MINE
BASIN 001P



SPILLWAY CROSS SECTION
No Scale

NOTE: SEE ATTACHED SKIMMER BOARD DETAIL FOR SKIMMER BOARD PLACEMENT AND CONSTRUCTION DETAILS



DAM CROSS SECTION
No Scale

Relative Elevations

(A)	Top of Dam	350.55 (DESIGN) 351.05 (CONST.)	(L)	Top of Concrete	346.00
(B)	25 Year Storm	349.55	(M)	Bottom of Skimmer Board	345.83
(C)	10 Year Storm	349.46	(N)	Depth of Cut-Off	12"
(D)	Crest of Fixed Siphon	345.00	(O)	Inlet of Fixed Siphon	340.00
(E)	Primary Spillway	346.00	(P)	Outlet of Fixed Siphon	325.00
(F)	Upstream Toe	326.00		Siphon Tube Diameter	3"
(G)	Bottom of Pond	326.00			
(H)	Downstream Toe	324.19			
(I)	Maximum Sediment Elev.	338.81			
(J)	Total Spillway Length	15.00			
(K)	Spillway Width	10.00			

Basin Data

Pipe Diameter (in)	N/A
Drainage Area (acres)	407.30
① Permanent Pool Vol. (Ac-Ft)	1.47
Sediment Storage Vol. (Ac-Ft)	8.00

① Does not include sediment storage.

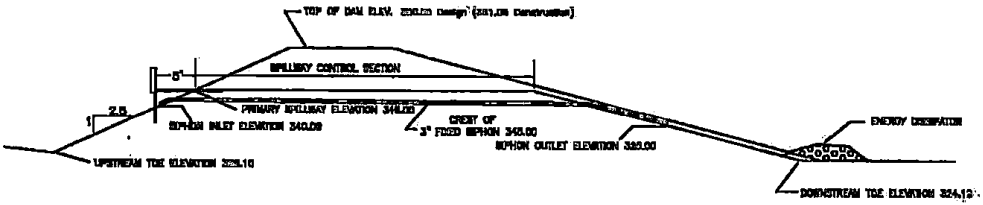
Taft Coal Sales & Associates, Inc.
P.O. Box 1608
Jasper, Alabama 35502-1608

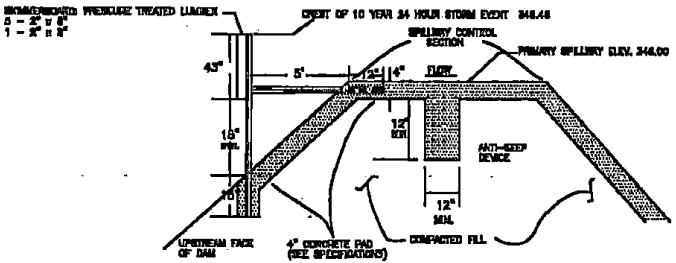
CHOCTAW MINE
P-3799
BASIN 001 DESIGN DETAILS

DRAWN BY ELN	DATE: 8-08-01	DWG.No. c:\id\ponds\choctaw\001P\CHOC001.dwg
APPROVED BY BAB	SCALE: NONE	

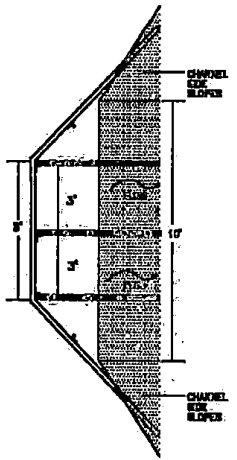
PRIMARY SPILLWAY DESIGN

BASIN 001 P

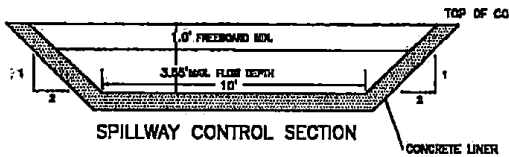




ANTI-SEEP SPILLWAY CONTROL TYPICAL



SKIMMER BOARD PLAN VIEW



SPILLWAY CONTROL SECTION

CONCRETE SPECIFICATIONS

1. 3000 PSI

REINFORCED WITH #10 WIRE MESH (6' X 6')

SUPPORT SPECIFICATIONS

1. 2" ANGLE IRON 3/8" THICK ON 3' CENTERS

Taft Coal Sales & Associates, Inc.
P.O. Box 1608
Jasper, Alabama 35502-1608

PRIMARY SPILLWAY DESIGN

CHOCTAW MINE
BASIN 001 P

DRAWN BY ELN	DATE: 7-26-01	DWG.No. c:\id\ponds\choctaw\001P\SPC001SM.dwg
APPROVED BY BAB	SCALE: NONE	

SEDCAD RUN

BASINS 001P & 001AP

CIVIL SOFTWARE DESIGN

SEDCAD+ Version 3

10-YEAR 24-HOUR & 25-YEAR 6-HOUR CHOCTAW POND 001, P-3799

by

Name: Bradley Brasfield

Company Name: TAFT COAL SALES & ASSOCIATES, INC.
File Name: C:\SEDCAD3\C1Y10

Date: 08-08-2001

Company Name: TAFT COAL SALES & ASSOCIATES, INC.
Filename: C:\SEDCAD3\C1Y10 User: Bradley Brasfield
Date: 08-08-2001 Time: 13:13:51
10-Year 24-Hour & 25-Year 6-Hour Choctaw Pond 001, P-3799
Storm: 5.90 inches, 10 year-24 hour, DRN-58
Hydrograph Convolution Interval: 0.1 hr

GENERAL INPUT TABLE

STORM #1:

User-Defined Distribution

Label: DRN-58

	Accumulated Time (hrs)	Accumulated Dimensionless Depth
1	0.0	0.000
2	0.5	0.010
3	1.0	0.020
4	1.5	0.030
5	2.0	0.040
6	2.5	0.050
7	3.0	0.060
8	3.5	0.070
9	4.0	0.080
10	4.5	0.090
11	5.0	0.100
12	5.5	0.115
13	6.0	0.130
14	6.5	0.140
15	7.0	0.150
16	7.5	0.170
17	8.0	0.180
18	8.5	0.200
19	9.0	0.220
20	9.5	0.240
21	10.0	0.260
22	10.5	0.290
23	11.0	0.320
24	11.5	0.370
25	12.0	0.500
26	12.5	0.630
27	13.0	0.680
28	13.5	0.710
29	14.0	0.740
30	14.5	0.760
31	15.0	0.780
32	15.5	0.800
33	16.0	0.820
34	16.5	0.830
35	17.0	0.850
36	17.5	0.860
37	18.0	0.870

38	18.5	0.885
39	19.0	0.900
40	19.5	0.910
41	20.0	0.920
42	20.5	0.930
43	21.0	0.940
44	21.5	0.950
45	22.0	0.960
46	22.5	0.970
47	23.0	0.980
48	23.5	0.990
49	24.0	1.000

****

Specific Gravity: 2.50
Submerged Bulk Specific Gravity: 1.25

Particle Size Distribution(s):

Size (mm)	SPOIL % Finer	TOPSOIL % Finer
3.0000	100.00	72.00
2.0000	95.50	63.00
1.0000	91.00	52.00
0.5000	81.50	46.00
0.3000	70.00	45.00
0.2000	58.00	44.00
0.1000	39.50	40.00
0.0500	22.00	37.00
0.0300	15.00	32.00
0.0200	8.50	27.00
0.0100	5.00	17.00
0.0050	3.00	12.00
0.0030	2.00	4.00
0.0010	1.00	1.00

Civil Software Design -- SEDCAD+ Version 3.1

Company Name: TAFT COAL SALES & ASSOCIATES, INC.
Filename: C:\SEDCAD3\C1Y10 User: Bradley Brasfield
Date: 08-08-2001 Time: 13:13:51
10-Year 24-Hour & 25-Year 6-Hour Choctaw Pond 001, P-3799
Storm: 5.90 inches, 10 year-24 hour, DRN-58
Hydrograph Convolution Interval: 0.1 hr

SUBWATERSHED/STRUCTURE INPUT/OUTPUT TABLE

-Hydrology-

JBS	SWS	Area (ac)	CN	UHS	Tc (hrs)	K (hrs)	X	Base-Flow (cfs)	Runoff Volume (ac-ft)	Peak Discharge (cfs)
111	1	181.00	67	S	0.410	0.370	0.234	0.0	37.03	93.36
111	2	172.08*	81	F	0.360	0.000	0.000	0.0	54.39	210.43
			Type: Pond Label: 001A							
111	Structure	353.08							91.42	
111	Total IN	353.08							91.42	268.29
111	Total OUT								91.42	185.98
112	1	54.20*	77	M	0.200	0.000	0.000	0.0	15.32	60.96
			Type: Pond Label: 001							
112	Structure	54.20							106.74	
112	Total IN	407.28							106.74	217.41
112	Total OUT								97.62	200.82
111 to 112 Routing						0.000	0.000			

SUBWATERSHED/STRUCTURE INPUT/OUTPUT TABLE

-Sedimentology-

SED: Sediment
SCp: Peak Sediment Concentration
SSp: Peak Settleable Concentration
24VW: Volume Weighted Average Settleable Concentration - Peak 24 hours
24AA: Arithmetic Average Settleable Concentration - Peak 24 hours

	JBS	SWS	K	L (ft)	S (%)	CP	Tt (hrs)	PS #	SED (tons)	SCp (mg/l)	SSp (ml/l)	24VW (ml/l)	24AA (ml/l)
M	111	1	0.17	200.0	18.0	0.003	0.370	2	25.5				
M	111	2	0.24	200.0	15.0	0.900	0.000	1	15601.0				
						Type: Pond Label: 001A							
	111	Structure							15626.4				
	111	Total IN							15626.4	269307	202.34	87.79	50.75
	111	Total OUT							713.9	14997	0.41	0.17	0.09

```
==========================================================================================
M 112  1    0.24   200.0   10.0 0.900   0.000 1 1833.8
                             Type: Pond    Label: 001
  112 Structure                                  2547.8
------------------------------------------------------------------------------------------
  112 Total IN                                   2547.8   58234  31.91   9.63    5.66
  112 Total OUT                                   780.9   13038   0.34   0.16    0.09
==========================================================================================
  111 to 112 Routing                    0.000
==========================================================================================
```

Company Name: TAFT COAL SALES & ASSOCIATES, INC.
Filename: C:\SEDCAD3\C1Y10 User: Bradley Brasfield
Date: 08-08-2001 Time: 13:13:51
10-Year 24-Hour & 25-Year 6-Hour Choctaw Pond 001, P-3799
Storm: 5.90 inches, 10 year-24 hour, DRN-58
Hydrograph Convolution Interval: 0.1 hr

POND INPUT/OUTPUT TABLE

CAUTION: THE STAGE OF YOUR PRINCIPLE SPILLWAY MAY CAUSE BED SCOUR.
YOUR OBSERVED EFFLUENT MAY NOT MEET THE DESIRED EFFLUENT STANDARD.
INCREASE THE STAGE OF YOUR PRINCIPAL SPILLWAY.

J1, B1, S1
001A

Drainage Area from J1, B1, S1, SWS(s)1-2: 353.1 acres
Total Contributing Drainage Area: 353.1 acres

DISCHARGE OPTIONS:

	Drop Inlet	Broad Crested Weir
Riser Diameter (in)	18.0	----
Riser Height (ft)	15.00	----
Barrel Diameter (in)	18.0	----
Barrel Length (ft)	100.00	----
Barrel Slope (%)	2.00	----
Manning's n of Pipe	0.024	----
Spillway Elevation	367.0	367.0
Lowest Elevation of Holes	----	----
# of Holes/Elevation	----	----
Entrance Loss Coefficient	----	----
Tailwater Depth (ft)	----	----
Notch Angle (degrees)	----	----
Weir Width (ft)	----	10.0
Siphon Crest Elevation	----	----
Siphon Tube Diameter (in)	----	----
Siphon Tube Length (ft)	----	----
Manning's n of Siphon	----	----
Siphon Inlet Elevation	----	----
Siphon Outlet Elevation	----	----
Emergency Spillway Elevation	----	----
Crest Length (ft)	----	----
Z:1 (Left and Right)	-- --	-- --
Bottom Width (ft)	----	----

POND RESULTS:

Sediment Storage* (ac-ft)	Permanent Pool (ac-ft)	Dead Space (%)	Sediment Algorithm
12.00	4.09	20.00	CSTRS

*Sediment Capacity based on User Input

	Runoff Volume (ac-ft)	Peak Discharge (cfs)	Sediment (tons)	Peak Sediment Concentration (mg/l)	Peak Settleable Concentration (ml/l)	24VW (ml/l)	24AA (ml/l)
IN	91.42	268.29	15626.4	269307	202.34	87.79	50.75
OUT	91.42	185.98	713.9	14997	0.41	0.17	0.09

Peak Elevation	Trap Efficiency (%)	Hydrograph Detention Time (hrs)
370.1	95.43	1.10

****

J1, B1, S2
001

Drainage Area from J1, B1, S2, SWS(s)1: 54.2 acres
Total Contributing Drainage Area: 407.3 acres

DISCHARGE OPTIONS:

	Broad Crested Weir	Fixed Siphon
Riser Diameter (in)	----	----
Riser Height (ft)	----	----
Barrel Diameter (in)	----	----
Barrel Length (ft)	----	----
Barrel Slope (%)	----	----
Manning's n of Pipe	----	----
Spillway Elevation	346.0	----
Lowest Elevation of Holes	----	----
# of Holes/Elevation	----	----
Entrance Loss Coefficient	----	----
Tailwater Depth (ft)	----	----
Notch Angle (degrees)	----	----
Weir Width (ft)	10.0	----
Siphon Crest Elevation	----	345.0
Siphon Tube Diameter (in)	----	3.00
Siphon Tube Length (ft)	----	100.0
Manning's n of Siphon	----	0.015
Siphon Inlet Elevation	----	340.0
Siphon Outlet Elevation	----	325.0

Emergency Spillway Elevation	----	----
Crest Length (ft)	----	----
Z:1 (Left and Right)	-- --	-- --
Bottom Width (ft)	----	----

POND RESULTS:

Sediment Storage* (ac-ft)	Permanent Pool (ac-ft)	Dead Space (%)	Sediment Algorithm
8.00	1.47	20.00	CSTRS

*Sediment Capacity based on User Input

	Runoff Volume (ac-ft)	Peak Discharge (cfs)	Sediment (tons)	Peak Sediment Concentration (mg/l)	Peak Settleable Concentration (ml/l)	24VW (ml/l)	24AA (ml/l)
IN	106.74	217.41	2547.8	58234	31.91	9.63	5.66
OUT	97.62	200.82	780.9	13038	0.34	0.16	0.09

Peak Elevation	Trap Efficiency (%)	Hydrograph Detention Time (hrs)
349.5	69.35	1.44

****

Company Name: TAFT COAL SALES & ASSOCIATES, INC.
Filename: C:\SEDCAD3\C1Y10 User: Bradley Brasfield
Date: 08-08-2001 Time: 13:13:51
10-Year 24-Hour & 25-Year 6-Hour Choctaw Pond 001, P-3799
Storm: 5.90 inches, 10 year-24 hour, DRN-58
Hydrograph Convolution Interval: 0.1 hr

ELEVATION-AREA-CAPACITY-DISCHARGE TABLE

J1, B1, S1
001A

Drainage Area from J1, B1, S1, SWS(s)1-2: 353.1 acres
Total Contributing Drainage Area: 353.1 acres

SW#1: Drop Inlet
SW#2: Broad Crested Weir

Elev	Stage (ft)	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	
355.00	0.00	0.12	0.00		
365.00	10.00	2.77	9.57		
365.82	0.00	3.17	12.00	0.00	Top of Sediment Storage (0 Stage)
366.00	0.18	3.25	0.58	0.00	
367.00	1.18	3.78	4.09	0.00	Stage of SW#1 Stage of SW#2
368.00	2.18	4.34	8.14	39.38	
369.00	3.18	4.93	12.77	99.35	
370.00	4.18	5.57	18.02	175.14	
370.12	4.30	5.67	18.74	185.98	Peak Stage
371.00	5.18	6.24	23.93	263.98	
372.00	6.18	6.95	30.52	364.16	
373.00	7.18	7.70	37.84	474.54	
374.00	8.18	8.49	45.94	594.23	
375.00	9.18	9.31	54.83	722.53	

J1, B1, S2
001

Drainage Area from J1, B1, S2, SWS(s)1: 54.2 acres
Total Contributing Drainage Area: 407.3 acres

SW#1: Broad Crested Weir
SW#2: Fixed Siphon Tube

Elev	Stage (ft)	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	
336.10	0.00	0.17	0.00		
338.10	12.00	1.10	7.18		
338.81	0.00	1.17	8.00	0.00	Top of Sediment Storage (0 Stage)
339.10	0.29	1.20	0.34	0.00	
340.00	1.19	1.30	1.47	0.00	Stage of SW#2

340.10	1.29	1.31	1.60	0.59	
341.10	2.29	1.43	2.97	0.61	
342.10	3.29	1.56	4.46	0.63	
343.10	4.29	1.69	6.08	0.65	
344.10	5.29	1.82	7.84	0.67	
345.00	6.19	1.95	9.54	0.68	
345.10	6.29	1.96	9.73	0.69	
346.00	7.19	2.08	11.55	0.70	Stage of SW#1
346.10	7.29	2.09	11.76	1.68	
347.10	8.29	2.22	13.91	36.34	
348.10	9.29	2.35	16.20	94.68	
349.10	10.29	2.49	18.62	169.25	
349.46	10.65	2.54	19.55	200.82	Peak Stage
350.00	11.19	2.62	20.92	247.73	
350.10	11.29	2.64	21.18	257.05	
351.10	12.29	2.88	23.94	356.33	
352.10	13.29	3.12	26.94	465.89	
353.10	14.29	3.38	30.19	584.84	
354.10	15.29	3.64	33.70	712.48	
355.00	16.19	3.89	37.09	834.34	

****

Company Name: TAFT COAL SALES & ASSOCIATES, INC.
Filename: C:\SEDCAD3\C1Y10 User: Bradley Brasfield
Date: 08-08-2001 Time: 13:13:56
10-Year 24-Hour & 25-Year 6-Hour Choctaw Pond 001, P-3799
Storm: 4.90 inches, 25 year- 6 hour, SCS 6 Hour
Hydrograph Convolution Interval: 0.1 hr

ELEVATION-AREA-CAPACITY-DISCHARGE TABLE

J1, B1, S1
001A

Drainage Area from J1, B1, S1, SWS(s)1-2: 353.1 acres
Total Contributing Drainage Area: 353.1 acres

SW#1: Drop Inlet
SW#2: Broad Crested Weir

Elev	Stage (ft)	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	
355.00	0.00	0.12	0.00		
365.00	10.00	2.77	9.57		
365.82	0.00	3.17	12.00	0.00	Top of Sediment Storage (0 Stage)
366.00	0.18	3.25	0.58	0.00	
367.00	1.18	3.78	4.09	0.00	Stage of SW#1 Stage of SW#2
368.00	2.18	4.34	8.14	39.38	
369.00	3.18	4.93	12.77	99.35	
370.00	4.18	5.57	18.02	175.14	
370.27	4.45	5.76	19.61	198.99	Peak Stage
371.00	5.18	6.24	23.93	263.98	
372.00	6.18	6.95	30.52	364.16	
373.00	7.18	7.70	37.84	474.54	
374.00	8.18	8.49	45.94	594.23	
375.00	9.18	9.31	54.83	722.53	

J1, B1, S2
001

Drainage Area from J1, B1, S2, SWS(s)1: 54.2 acres
Total Contributing Drainage Area: 407.3 acres

SW#1: Broad Crested Weir
SW#2: Fixed Siphon Tube

Elev	Stage (ft)	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	
338.10	0.00	0.17	0.00		
338.10	12.00	1.10	7.18		
338.81	0.00	1.17	8.00	0.00	Top of Sediment Storage (0 Stage)
339.10	0.29	1.20	0.34	0.00	
340.00	1.19	1.30	1.47	0.00	Stage of SW#2

340.10	1.29	1.31	1.60	0.59	
341.10	2.29	1.43	2.97	0.61	
342.10	3.29	1.56	4.46	0.63	
343.10	4.29	1.69	6.08	0.65	
344.10	5.29	1.82	7.84	0.67	
345.00	6.19	1.95	9.54	0.68	
345.10	6.29	1.96	9.73	0.69	
346.00	7.19	2.08	11.55	0.70	Stage of SW#1
346.10	7.29	2.09	11.76	1.68	
347.10	8.29	2.22	13.91	36.34	
348.10	9.29	2.35	16.20	94.68	
349.10	10.29	2.49	18.62	169.25	
349.55	10.73	2.56	19.76	208.23	Peak Stage
350.00	11.19	2.62	20.92	247.73	
350.10	11.29	2.64	21.18	257.05	
351.10	12.29	2.88	23.94	356.33	
352.10	13.29	3.12	26.94	465.89	
353.10	14.29	3.38	30.19	584.84	
354.10	15.29	3.64	33.70	712.48	
355.00	16.19	3.89	37.09	834.34	

****

REAME ANALYSIS

BASINS 001P

REAME,BASIC, JANUARY 12, 1987 VERSION
COPYRIGHT, CIVIL ENGINEERING SOFTWARE CENTER
UNIVERSITY OF KENTUCKY, LEXINGTON, KY 40506

TITLE -C001 Choctaw Mine

FILE NAME -c001stat

INPUT FROM FILE (NINPUT)?(ENTER 1 WHEN INPUT FROM FILE & 0 WHEN NOT) 1

NO. OF STATIC AND SEISMIC CASES- 1

CASE NO. 1 SEISMIC COEFFICIENT= 0

NO. OF BOUNDARY LINES= 4

NO. OF POINTS ON BOUNDARY LINE 1 = 2
BOUNDARY LINE - 1
1 X COORD.= 0 Y COORD.= 329.9
2 X COORD.= 600 Y COORD.= 322.1

NO. OF POINTS ON BOUNDARY LINE 2 = 2
BOUNDARY LINE - 2
1 X COORD.= 300 Y COORD.= 326
2 X COORD.= 438.8 Y COORD.= 324.2

NO. OF POINTS ON BOUNDARY LINE 3 = 3
BOUNDARY LINE - 3
1 X COORD.= 0 Y COORD.= 329.9
2 X COORD.= 300 Y COORD.= 326
3 X COORD.= 350 Y COORD.= 346

NO. OF POINTS ON BOUNDARY LINE 4 = 6
BOUNDARY LINE - 4
1 X COORD.= 0 Y COORD.= 346
2 X COORD.= 350 Y COORD.= 346
3 X COORD.= 361.1 Y COORD.= 350.5
4 X COORD.= 373.1 Y COORD.= 350.5
5 X COORD.= 438.8 Y COORD.= 324.2
6 X COORD.= 600 Y COORD.= 322.1

LINE NO. AND SLOPE OF EACH SEGMENT ARE:
1 -0.013
2 -0.013
3 -0.013 +0.400
4 +0.000 +0.405 +0.000 -0.400 -0.013

MIN. DEPTH OF TALLEST SLICE= 1
NO. OF RADIUS CONTROL ZONES= 1

RADIUS DECREMENT FOR ZONE 1 = 0
NO. OF CIRCLES FOR ZONE 1 = 5
ID NO. FOR FIRST CIRCLE FOR ZONE 1 = 1
NO. OF BOTTOM LINES FOR ZONE 1 = 1

FOR ZONE 1 LINE SEQUENCE 1
LINE NO.= 1 BEG. NO.= 1 END NO.= 2

SOIL NO.	COHESION	FRIC. ANGLE	UNIT WEIGHT
1	100.8	27.92	133.52
2	100.8	27.92	133.52
3	0	0	62.4

USE PHREATIC SURFACE
UNIT WEIGHT OF WATER= 62.4
USE GRID
NO. OF SLICES= 10 NO. OF ADD. RADII= 3

NO. OF POINTS ON WATER TABLE= 4
1 X COORD.= 0 Y COORD.= 346
2 X COORD.= 350 Y COORD.= 346
3 X COORD.= 438.8 Y COORD.= 324.2
4 X COORD.= 600 Y COORD.= 322.1

NO. OF ADDITIONAL WATER TABLE= 0

INPUT COORD. OF GRID POINTS 1,2,AND 3

POINT 1 X COORD.= 450 Y COORD.= 450
POINT 2 X COORD.= 550 Y COORD.= 450
POINT 3 X COORD.= 550 Y COORD.= 350

X INCREMENT= 25 Y INCREMENT= 25
NO. OF DIVISIONS BETWEEN POINTS 1 AND 2= 6
NO. OF DIVISIONS BETWEEN POINTS 2 AND 3= 6
F. S. OF ALL CIRCLES WILL BE PRINTED
SLICES WILL BE SUBDIVIDED

AUTOMATIC SEARCH WILL FOLLOW AFTER GRID

AT POINT (450 450)THE RADIUS AND FACTOR OF SAFETY ARE:
125.939 1.921 124.942 2.140 123.945 2.386
122.947 2.883 121.950 4.393
LOWEST FACTOR OF SAFETY = 1.921 AND OCCURS AT RADIUS= 125.939

AT POINT (466.6667 450)THE RADIUS AND FACTOR OF SAFETY ARE:
126.156 1000000.000
LOWEST FACTOR OF SAFETY = 1000000.000 AND OCCURS AT RADIUS= 126.156

AT POINT (483.3333 450)THE RADIUS AND FACTOR OF SAFETY ARE:
126.373 1000000.000
LOWEST FACTOR OF SAFETY = 1000000.000 AND OCCURS AT RADIUS= 126.373

```
   50.621    1.639    48.903    1.795    47.186    2.028
   45.468    2.357    43.751    3.194
LOWEST FACTOR OF SAFETY =     1.639 AND OCCURS AT RADIUS= 50.621


AT POINT ( 450  400 )THE RADIUS AND FACTOR OF SAFETY ARE:
   75.944    3.528    75.662    4.062
LOWEST FACTOR OF SAFETY =     3.528 AND OCCURS AT RADIUS= 75.944


AT POINT ( 400  400 )THE RADIUS AND FACTOR OF SAFETY ARE:
   75.294    2.129    71.425    2.166    67.557    2.266
   63.688    2.370    59.820    2.535
LOWEST FACTOR OF SAFETY =     2.129 AND OCCURS AT RADIUS= 75.294


AT POINT ( 431.25  400 )THE RADIUS AND FACTOR OF SAFETY ARE:
   75.700    1.614    74.073    1.782    72.446    2.030
   70.819    2.347    69.192    3.251
LOWEST FACTOR OF SAFETY =     1.614 AND OCCURS AT RADIUS= 75.700


AT POINT ( 418.75  400 )THE RADIUS AND FACTOR OF SAFETY ARE:
   75.537    1.597    73.014    1.693    70.490    1.849
   67.967    2.052    65.443    2.610
LOWEST FACTOR OF SAFETY =     1.597 AND OCCURS AT RADIUS= 75.537


AT POINT ( 425  406.25 )THE RADIUS AND FACTOR OF SAFETY ARE:
   81.868    1.568    79.703    1.690    77.539    1.875
   75.374    2.129    73.210    2.794
LOWEST FACTOR OF SAFETY =     1.568 AND OCCURS AT RADIUS= 81.868


AT POINT ( 425  393.75 )THE RADIUS AND FACTOR OF SAFETY ARE:
   69.369    1.563    67.383    1.706    65.398    1.923
   63.412    2.205    61.426    2.930
LOWEST FACTOR OF SAFETY =     1.563 AND OCCURS AT RADIUS= 69.369


AT POINT ( 425  400 )RADIUS    75.619


THE MINIMUM FACTOR OF SAFETY IS     1.559
□
```

COAL MINING AND/OR PREPARATION PLANT APPLICATION METALS, CYANIDE, AND TOTAL PHENOLS OUTFALL DATA

NPDES#	APPLICANT	Facility
AL0083861	Alabama Coal Cooperative, P. O. Box 1710, Cullman, AL, 35056, Phone: (256) 736-5888	Parrish Rail Loading Facility

OUTFALL #	DATE SAMPLED	SUBSTANTIALLY IDENTICAL OUTFALLS
AL0072184 - 030	6/9/2017	All Outfalls

Please supply the following information separately for every P outfall evaluated or E outfall tested. If necessary, attach extra sheets. If you are a coal facility mark "X" in appropriate column for all ALL listed metals, cyanides, and total phenols. If the outfall is existing, you must provide the results of at least one analysis for that pollutant. If the outfall is proposed you must either submit at least one representative analysis for a substantially identical existing outfall at the facility, or if not available, at least one representative analysis for a substantially identical outfall at another similar facility.

POLLUTANT AND CAS NO. *(if available)* 1/	MARK 'X'			EFFLUENT											
	TESTING REQUIRED EXISTING OUTFALL	BELIEVED PRESENT PROPOSED OUTFALL	BELIEVED ABSENT PROPOSED OUTFALL	MAXIMUM DAILY VALUE		MAXIMUM 30 DAY VALUE (if available)		LONG TERM AVRG. VALUE (if available)		# Of Analyses	Frequency of Discharge/Days/Mth Hours/Day	40 CFR Part 136 EPA Approved Method Analysis Used	Detection Limit (µ/L)	Receiving Water 7-Q10 Flow (CFS)	2/ Optional Instream hardness (mg/L CaCO3)
				CONCENTRATION (µ/L)	MASS (lbs)	CONCENTRATION (µ/L)	MASS (lbs)	CONCENTRATION (µ/L)	MASS (lbs)						
1M. Antimony, Dissolved (7440-36-0)			X	<1.92	N/A					1	Precipitation Based	EPA 200.8	0.6 µg/L	0.6266	
2M. Arsenic, Dissolved (7440-38-2)			X	<0.27	N/A					1	Precipitation Based	EPA 200.8	0.08 µg/L	0.6266	
3M. Beryllium, Dissolved (7440-41-7)			X	<2.20	N/A					1	Precipitation Based	EPA 200.8	0.69 µg/L	0.6266	
4M. Cadmium, Dissolved (7440-43-9)			X	<0.08	N/A					1	Precipitation Based	EPA 200.8	0.03 µg/L	0.6266	
5M Chromium, Dissolved (7440-47-3)			X	<1.64	N/A					1	Precipitation Based	EPA 200.8	0.52 µg/L	0.6266	
6M Copper, Dissolved (7440-50-8)			X	<0.90	N/A					1	Precipitation Based	EPA 200.8	0.28 µg/L	0.6266	
7M Lead, Dissolved (7439-92-1)			X	<0.31	N/A					1	Precipitation Based	EPA 200.8	0.1 µg/L	0.6266	
8M Mercury, Total (7439-97-6)			X	<0.010	N/A					1	Precipitation Based	EPA 245.2	0.003 µg/L	0.6266	
9M Nickel, Dissolved (7440-02-0)		X		7.30	2.47E-02					1	Precipitation Based	EPA 200.8	2.16 µg/L	0.6266	
10M Selenium, Total (7782-49-2)			X	<0.95	N/A					1	Precipitation Based	EPA 200.8	0.3 µg/L	0.6266	
11M Silver, Dissolved (7440-22-4)			X	<0.15	N/A					1	Precipitation Based	EPA 200.8	0.05 µg/L	0.6266	
12M Thallium, Dissolved (7440-28-0)			X	<0.08	N/A					1	Precipitation Based	EPA 200.8	0.03 µg/L	0.6266	
13M Zinc, Dissolved (7440-66-6)			X	<16.45	N/A					1	Precipitation Based	EPA 200.8	5.17 µg/L	0.6266	
14M Cyanide, Total (57-12-5)			X	<3	N/A					1	Precipitation Based	SM4500 CN^- E	1 µg/L	0.6266	
15M Phenols, Total			X	<6	N/A					1	Precipitation Based	EPA 420.1	2 µg/L	0.6266	

By submission of this form, I/we (PE and applicant) certify that I/we have read the instructions for completion of EPA Forms 2C & 2D. Attach Additional Information As Needed

1/ For the purpose of demonstration of compliance with these parameters, "Total" and "Total Recoverable" measurements shall be considered equivalent.

2/ Instream Hardness ($CaCO_3$) will be assumed to be 50 mg/L if instream Hardness data is not submitted.

Sampling results must be representative of the discharge and test methods used in accordance with 40 CFR Part 136 and 40 CFR 122.21(g)(7)(i).

Rev 2/1/07

Cedar Lake Mining collecting samples and McGehee Engineering Corp performing analysis.

Name of Permittee and/or Company(s) Collecting Samples And Performing Analyses.

mcgehee engineering corp

Date Printed: 1/25/2019

Client: Cedar Lake Mining, Inc.
P.O. Box 1608
Jasper, AL 35502

Location: Choctaw -- 030
Sample Date: 6/9/2017
Sampled By: Client

REPORT OF FINDINGS

Lab ID: 17061302-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Antimony, Dissolved	BML	1.92 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas
Arsenic, Dissolved	BML	0.27 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas
Beryllium, Dissolved	BML	2.20 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas
Cadmium, Dissolved	BML	0.08 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas
Chromium, Dissolved	BML	1.64 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas
Copper, Dissolved	BML	0.90 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas
Lead, Dissolved	BML	0.31 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas
Nickel, Dissolved	7.30	6.86 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas
Selenium, Total	BML	0.95 µg/L	EPA200.8	6/14/2017 11:02:23 AM	KyleThomas
Silver, Dissolved	BML	0.15 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas
Thallium, Dissolved	BML	0.08 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas
Zinc, Dissolved	BML	16.45 µg/L	EPA200.8	6/14/2017 11:06:23 AM	KyleThomas

Analysis Approved: 6/16/2017

John Morris
Laboratory Manager

RECEIVED
JAN 25 2019
STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Post Office Box 3431 • 450 19th Street • Jasper, Alabama 35502-3431 • 205-221-0686 • Fax 205-221-7721 • www.mcgehee.org

mcgehee engineering corp

Date Printed: 1/25/2019

Client: **Cedar Lake Mining, Inc.**
P.O. Box 1608
Jasper, AL 35502

Location: Choctaw – 030
Sample Date: 6/29/2017
Sampled By: Client

REPORT OF FINDINGS

Lab ID: 17070304-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Cyanide, Total	BML	3.0 µg/L	SM4500-CN-E	7/7/2017	KyleThomas
Phenols, Total	BML	6.0 µg/L	EPA420.1	7/5/2017	KyleThomas

Analysis Approved: 7/11/2017

John Morris
Laboratory Manager

RECEIVED
JAN 25 2019
STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Post Office Box 3431 • 450 19th Street • Jasper, Alabama 35502-3431 • 205-221-0686 • Fax 205-221-7721 • www.mcgehee.org

mcgehee engineering corp

Date Printed: 1/25/2019

Client: **Cedar Lake Mining, Inc.**
P.O. Box 1608
Jasper, AL 35502

Location: Choctaw -- 030

Sample Date: 6/28/2017

Sampled By: Client

REPORT OF FINDINGS

Lab ID: 17070506-01

Analyte	Result	Minimum Level / Units	Method	Analysis Date	Analyst
Mercury, Total	BML	0.010 µg/L	EPA245.2	7/10/2017 5:34:00 PM	KyleThomas

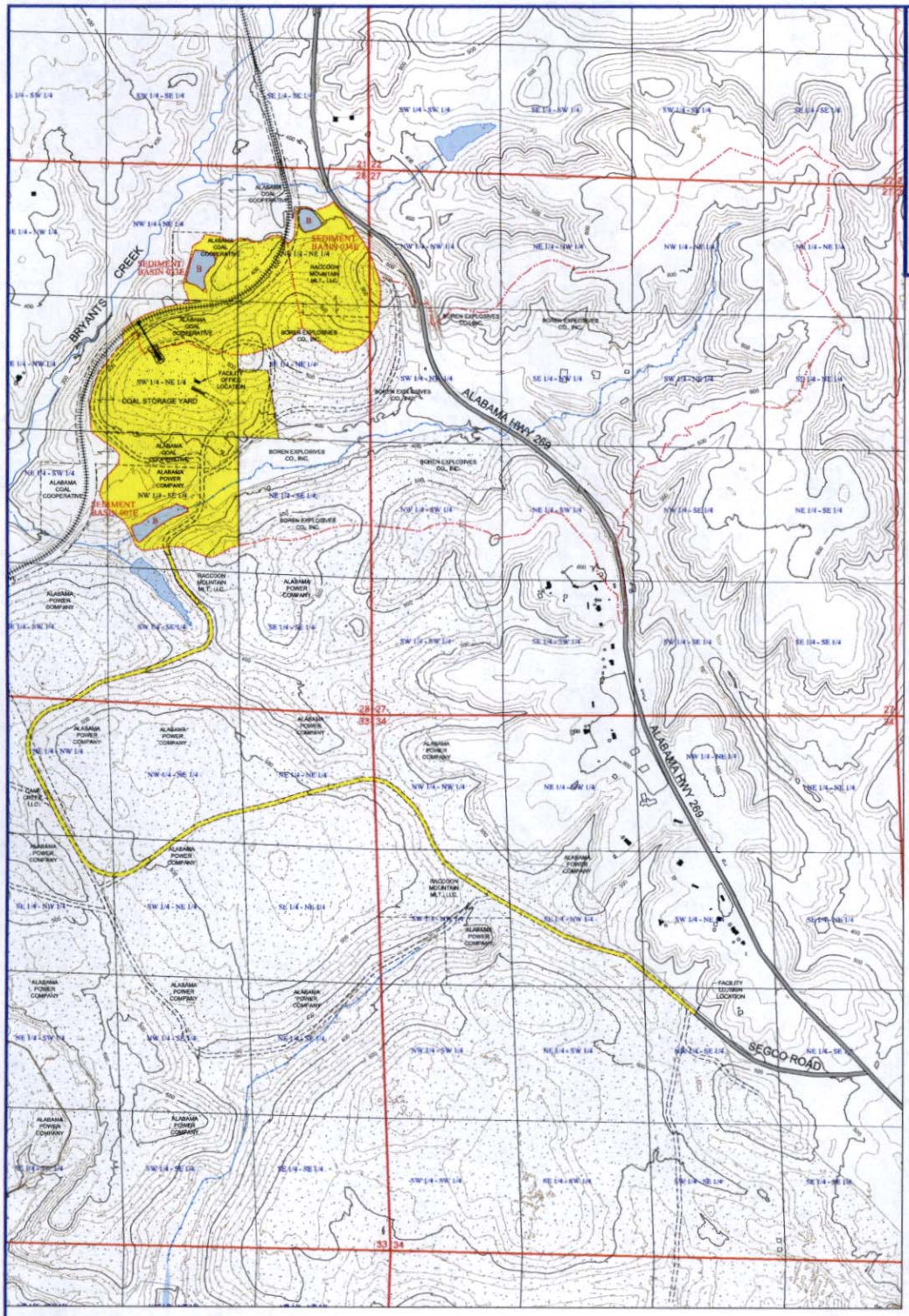
Analysis Approved: 7/11/2017

John Morris
Laboratory Manager

RECEIVED
JAN 25 2019
STORM WATER
MANAGEMENT BRANCH

BML = Below Minimum Level

Post Office Box 3431 • 450 19th Street • Jasper, Alabama 35502-3431 • 205-221-0686 • Fax 205-221-7721 • www.mcgehee.org



VICINITY MAP

SCALE: 1" = 1.5 MILES

MAP LEGEND

- PROPOSED PERMIT BOUNDARY
- PREVIOUSLY DISTURBED AREA
- SURFACE OWNERSHIP DIVIDE OTHER THAN QUARTER/QUARTER LINE
- MINERAL OWNERSHIP DIVIDE OTHER THAN QUARTER/QUARTER LINE
- (F-1) SURFACE OWNERSHIP
- (M-1) MINERAL OWNERSHIP
- (F-1) FEE OWNERSHIP (SURFACE & MINERAL)
- HW EXISTING HIGHWALL
- PUBLIC ROAD
- PRIVATE ROAD
- PRIMARY HAULROAD
- ANCILLARY ROAD
- INTERMITTENT AND/OR PERENNIAL STREAM
- DRAINAGE COURSE
- DRAINAGE DIVIDE
- POWER TRANSMISSION LINE
- 460 AMERICA COAL ELEVATION CONTOUR
- DIVERSION DITCH
- B SEDIMENT BASIN/OUTFALL
- IMPOUNDED WATER
- OCCUPIED DWELLING
- BARN, SHED, ETC.
- CEMETARY

NOTES:

NO BUILDINGS WITHIN 1,000' OF PERMIT AREA OTHER THAN SHOWN.

A TOPSOIL VARIANCE HAS BEEN REQUESTED, HOWEVER, IF REQUIRED, TOPSOIL STOCKPILES WILL BE UTILIZED ONSITE.

SURFACE AND MINERAL OWNERSHIP BY FORTY EXCEPT WHERE NOTED OTHERWISE.

LOCATIONS OF TOPSOIL AND COAL STOCKPILES ARE SUBJECT TO CHANGE.

COAL STOCKPILES MAY BE UTILIZED ONSITE, HOWEVER, COAL MAY BE LOADED DIRECTLY INTO TRUCKS AND TRANSPORTED TO PURCHASE.

ALL 100' SETBACKS ALONG ROADS WILL BE OBSERVED UNLESS NECESSARY APPROVALS ARE OBTAINED TO DISTURB WITHIN THE SETBACKS.

100' SETBACKS OF PERENNIAL STREAMS WILL BE OBSERVED.

THE PERMIT AREA IS NOT LOCATED WITHIN THE "BOUNDARIES OF AN MINICIPALITIES" OR POLICE JURISDICTIONS.

SEE ATTACHMENT III-A-8 FOR THE LOCATION OF THE UNDERGROUND OLD WORKS.

CONTOUR INTERVAL: 20 FT.

SECTIONS 27, 28, 33 & 34,
TOWNSHIP 15 SOUTH, RANGE 7 WEST,
ALL IN WALKER COUNTY, ALABAMA
BASE MAP: PARRISH U.S.G.S. QUAD.

ALABAMA COAL COOPERATIVE

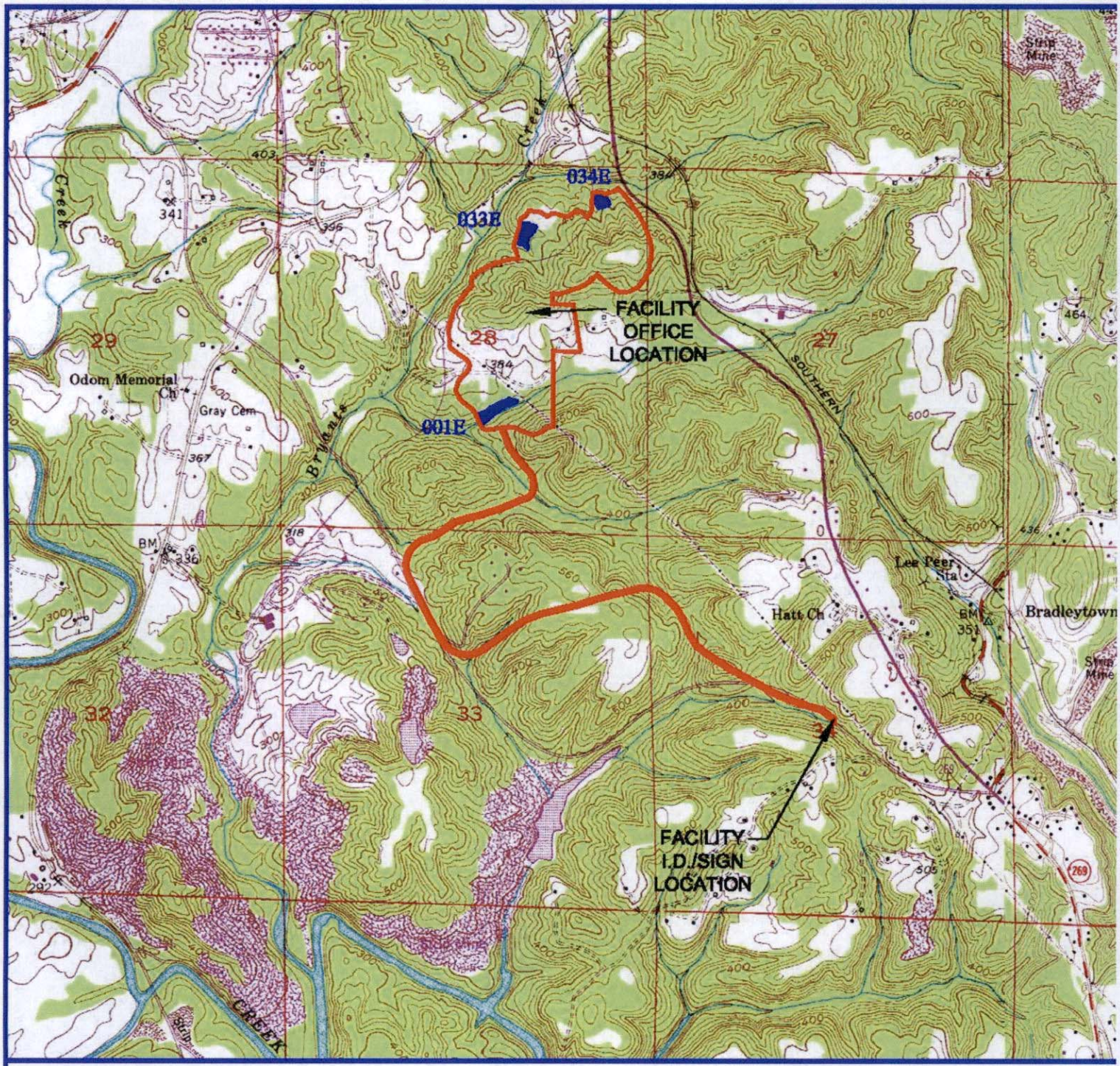
PARRISH RAIL LOADING FACILITY

NPDES PERMIT AL_____ PERMIT MAP

FILE:	SCALE:	JOB NO.:
ACC RAIL LOADOUT	1" = 500'	
APPROVED BY:	DATE:	SHEET:

I HEREBY CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

mcgehee engineering corp
post office box 3431 • 460 19th street
jasper, alabama 35502-3431
telephone: (205) 221-0686 fax: 221-7721
email: staff@mcgehee.org



RECEIVED

JAN 16 2019

STORM WATER
MANAGEMENT BRANCH

ALABAMA COAL COOPERATIVE
PARRISH RAIL LOADING FACILITY

NPDES PERMIT - INITIAL ISSUANCE

NPDES PERMIT AL00_____

SECTIONS 27, 28, 33 & 34,
TOWNSHIP 15 SOUTH, RANGE 7 WEST,
WALKER COUNTY, ALABAMA
BASE MAPS: PARRISH U.S.G.S. QUAD.
SCALE: 1" = 2000'

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

NPDES PERMIT BOUNDARY

PROPOSED OUTFALL

N
W E
S

McGehee Engineering Corp
P.O. Box 3431
Jasper AL 35502

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS. FOLD AT DOTTED LINE

CERTIFIED MAIL

7016 2710 0000 0464 9438

1005

36110-2400

U.S. POSTAGE PAID
FIRST-CLASS
JASPER, AL
DEC 10 '18
$13.45
R2304M110504-9

Field Operations – MNPS
Alabama Department of Environmental Management
ATTN: Mr. David Hearn
1400 Coliseum Boulevard
Montgomery, AL 36110-2059

RECEIVED
DEC 12 2018
STORM WATER
MANAGEMENT BRANCH