

**Alternate Compensatory Mitigation Plan
For Proposed Little Spring Creek Mine
SAM-2011-0880-CHE**

**PERFORMED FOR:
Cedar Lake Mining, Inc.
2361 Cumberland Lake Drive
Pinson, AL 35126**

**PERFORMED BY:
Hosey Environmental, LLC
Post Office Box 464
Daphne, Alabama 36526**

&

**Delta Natural Resources Service, Inc.
Post Office Box 941
Hartselle, Alabama 35640**

With requested corrections, additions and revision of
Riparian Buffer Restoration Worksheet
April, 28, 2012

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January 5, 2012



REPLY TO
ATTENTION OF:

**DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
BIRMINGHAM FIELD OFFICE
218 SUMMIT PARKWAY, SUITE 222
HOMEWOOD, ALABAMA 35209**

May 14, 2012

Inland Section North
Regulatory Division

SUBJECT: Nationwide Permit Modification and Extension - Permit Number SAM-2011-00880-CHE, Little Spring Creek Mine, Cedar Lake Mining, Inc.

Cedar Lake Mining, Inc.
Attention: Mr. Otis Robison, Jr.
2361 Cumberland Lake Drive
Pinson, Alabama 34126

Dear Mr. Robison:

This letter is in response to your January 5, 2012 request to modify the mitigation associated with the Little Spring Creek Mine and your May 2, 2012 request to extend the permit. The project purpose is to conduct surface coal mining activities that will impact 2,930 linear feet of intermittent streams, 9,320 linear feet of ephemeral streams, and 2.32 acres of wetlands. The project is located in Sections 2 and 3, Township 13 South, Range 7 West (N 33.944143, -87.255435), Jasper, Walker County, Alabama.

The permit was effectively transferred from Haley Brothers Coal to Cedar Lake Mining, Inc. following receipt of your signed Notice of Transfer on February 2, 2012. We have reviewed the Mitigation Plan received January 9, 2012 and subsequent revisions. This revised permit authorization modifies the mitigation required under the previous authorization dated July 25, 2011, provided the following special conditions are met:

- a. To compensate for the impacts to 2,930 linear feet of intermittent streams, 9,320 linear feet of ephemeral streams, and 2.32 acres of wetlands, the permittee will implement the Revised Mitigation Plan dated February 13, 2012, with subsequent revisions submitted on May 3, 2012. This will involve buffer enhancement and restoration along 2,440 linear feet of Wolf Creek and the enhancement of 12.49 acres of wetlands.
- b. A filed copy of the Mobile District's approved Restrictive Covenant for the mitigation areas shall be submitted to the Mobile District, Birmingham Field Office prior to commencement of work in waters of the U.S. authorized by this permit.
- c. A performance bond or similar instrument, in the amount of \$57,459.60, shall be executed and posted prior to commencement of construction authorized by this permit to provide financial

assurance for the mitigation performance of all the obligations, covenants, terms, conditions, and agreements required of the permittee. Prior to the execution of the financial assurance, the U.S. Army Corps of Engineers must review and approve the performance bond or similar instrument.

d. A mitigation implementation report shall be submitted to the Mobile District Birmingham Field office within one month of planting. Following submittal of the implementation report, monitoring reports must be submitted annually for five years. All monitoring reports shall prominently display the permit number SAM-2011-00880-CHE.

e. Your responsibility to complete the required compensatory mitigation as set forth in Special Condition "a", will not be considered fulfilled until you have demonstrated compensatory mitigation project success and have received written verification of that success from the U.S. Army Corps of Engineers.

Your May 2, 2012 letter requests to extend the permit pursuant to 2012 Nationwide Permit (NWP) 21(a). The work was previously authorized under the 2007 NWP 21 (Federal Register, March 12, 2007 Vol. 72, No. 47). As such, we hereby verify that the work associated with Little Spring Creek Mine, which would be performed in accordance with the received drawings, is authorized by NWP 21 (Federal Register, February 21, 2012, Vol. 77, No. 34). In order for this NWP authorization to be valid, you must ensure that the work is performed in accordance with the General Conditions of *Nationwide Permit 21*, which can be viewed at our website at www.sam.usace.army.mil/RD/reg, and the special conditions listed above.

Our verification of this NWP authorization is valid until March 18, 2017 unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date, please contact us to discuss the status of your authorization. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act.

This letter of authorization does not obviate the necessity to obtain any other Federal, State, or local permits, which may be required. Further, please note General Condition 30 requires that you submit a signed certification to us once any work has commenced and when the work and required mitigation are completed. Please complete and submit the attached Notification of Commencement of Work when work has begun and the attached Compliance Certification form to this office within 60 days of completion of the authorized work.

A copy of this authorization is being provided to the Alabama Department of Environmental Management, Attention: Mr. Richard Hulcher, Field Operations Division, 1400 Coliseum Boulevard, Montgomery, Alabama 36110.

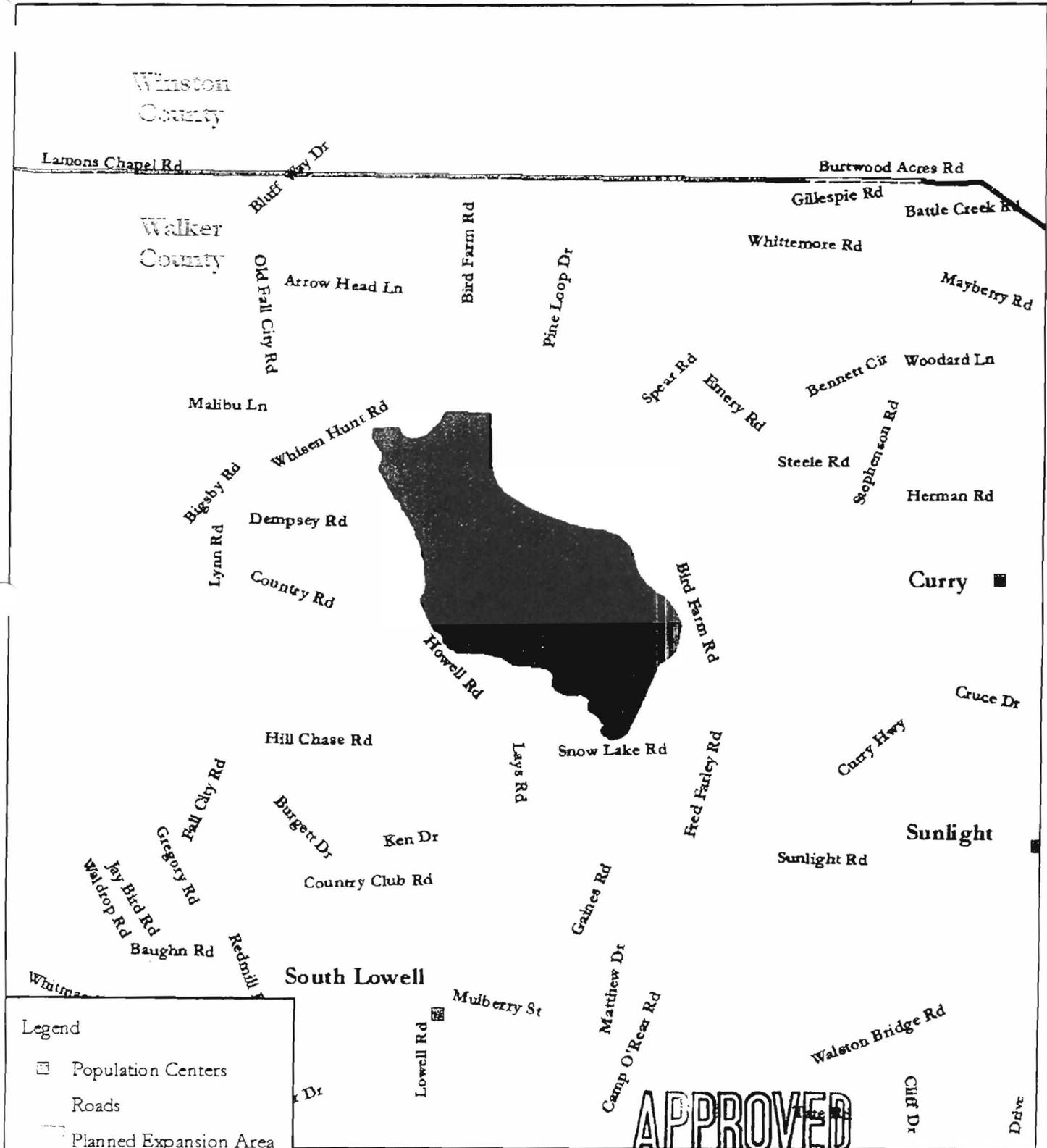
Please contact me at 205-290-9096 if you have any questions. For additional information about our Regulatory Program, visit our web site at www.sam.usacc.army.mil/RD/reg, and please take a moment to complete our customer satisfaction survey while you are there. Your responses are appreciated and will allow us to improve our services.

Sincerely,

A handwritten signature in black ink, appearing to read 'CS', with a long horizontal line extending to the right.

Courtney Shea
Project Manager
Regulatory Division
Birmingham Field Office

Enclosures



APPROVED

SAM-2011-00880-CHE
Little Spring Creek Mine Fig. 1 of 3

Increment Map

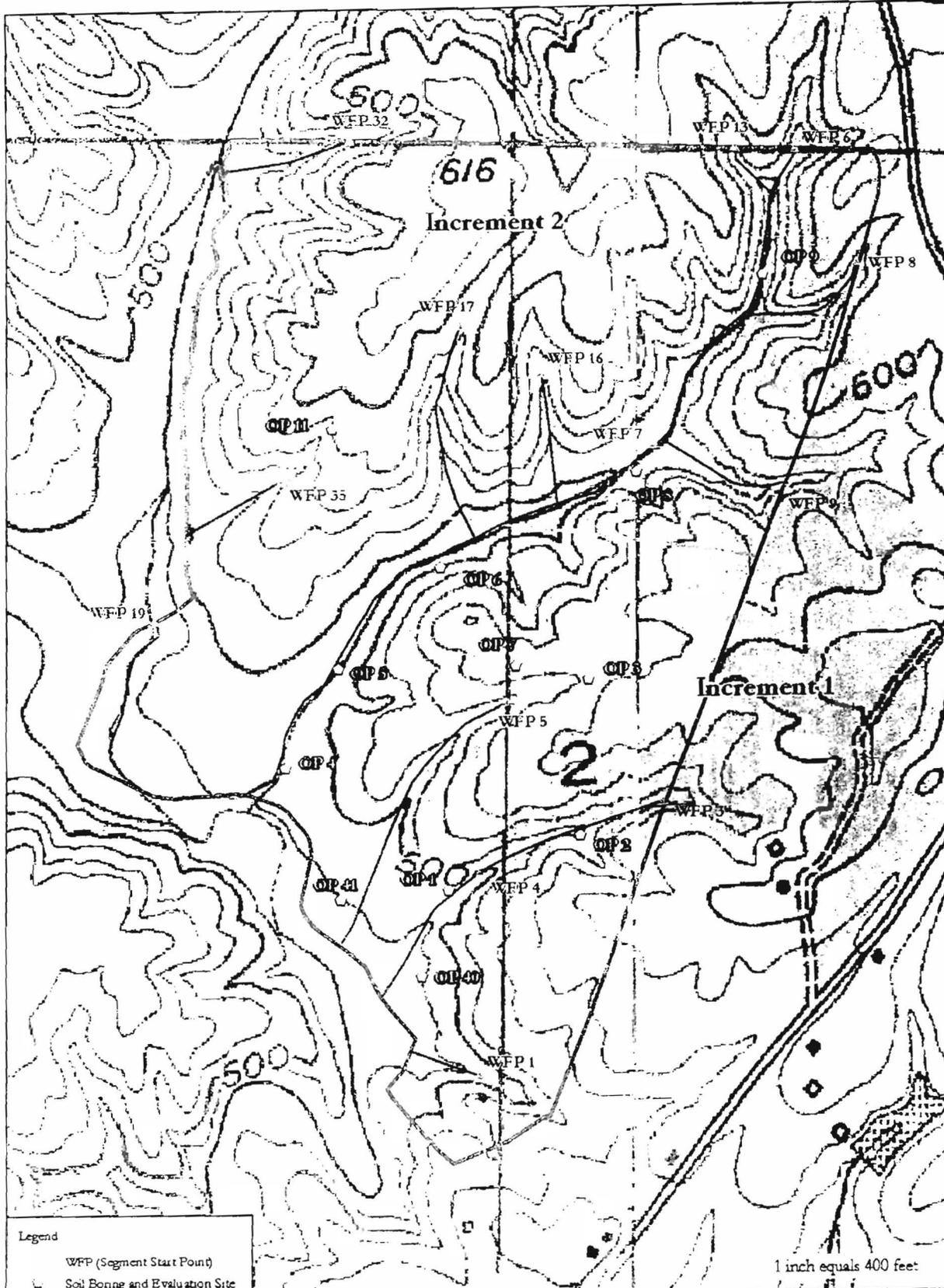


Fig 2 of 3
SAM-2011-00880-CHE
Little Spring Creek Mine
APPROVED

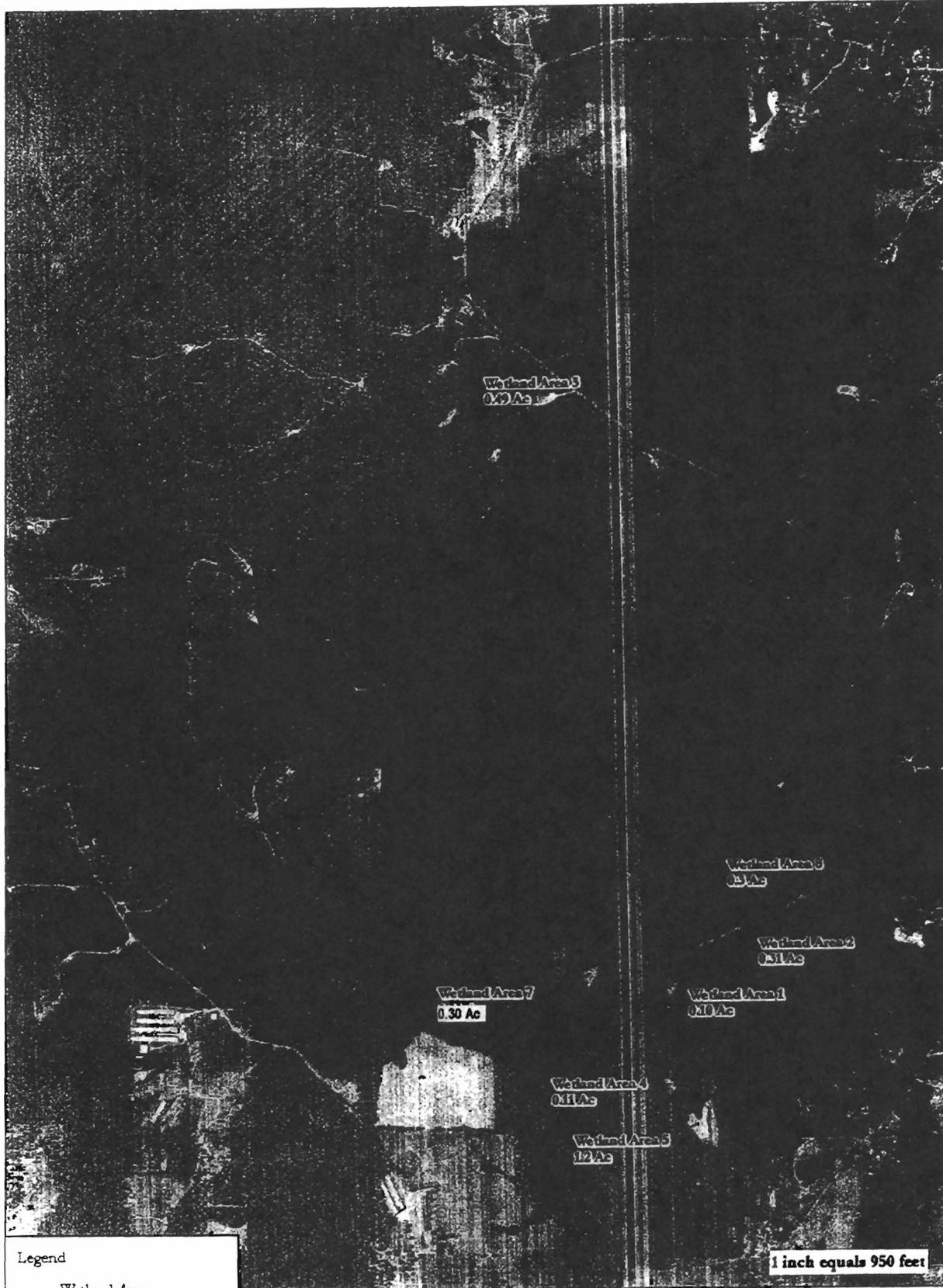


Fig. 3 of 3

0 330 660 1,320 1,980 2,640 Feet

SAM. 2011-00880-CHE
Little Spring Creek Mine

APPROVED



US Army Corps of Engineers
Mobile District

NOTIFICATION OF COMMENCEMENT OF WORK

Permit Number: SAM-2011-00880-CHE

Name of Permittee: Cedar Lake Mining, Inc.

Date of Permit Issuance: May 14, 2012

Location of the Work: Walker County, AL

Upon commencement of the authorized work and any mitigation required by the permit, you must complete and return this notification to the following address:

**U.S. Army Corps of Engineers, Mobile District
Regulatory Division (RD-I-N)
218 Summit Pkwy, Suite 222
Homewood, AL 35209**

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with all terms and conditions of this permit the permit is subject to permit suspension, modification, or revocation and you are subject to an enforcement action by this office.

IT SHALL NOT BE LAWFUL TO DEVIATE FROM SUCH PLANS EITHER BEFORE OR AFTER COMPLETION OF THE WORK, unless modification of said plans has previously been submitted to and received the approval of the Department of the Army. If for any reason it becomes necessary to make a material change in location or plans for this work, revised plans should be submitted promptly to the District Engineer in order that the revised plans may receive the approval required by law before work is begun.

PERMITTEE TO COMPLETE THE FOLLOWING:

Date Work Commenced: _____

Signature of Permittee

Date



US Army Corps of Engineers
Mobile District

SELF-CERTIFICATION - STATEMENT OF COMPLIANCE

Permit Number: SAM-2011-00880-CHE

Name of Permittee: Cedar Lake Mining, Inc.

Date of Permit Issuance: May 14, 2012

Location of the Work: Walker County, AL

Upon completion of the activity authorized by this permit and any mitigation required by the permit, you must complete and return this certification to the following address:

**U.S. Army Corps of Engineers, Mobile District
Regulatory Division (RD-I-N)
218 Summit Pkwy, Suite 222
Homewood, AL 35209**

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with all terms and conditions of this permit the permit is subject to permit suspension, modification, or revocation and you are subject to an enforcement action by this office.

PERMITTEE TO COMPLETE THE FOLLOWING:

Date Work Completed: _____

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the permit authorization, including all general and/or special conditions of the said permit, and the required mitigation (if applicable) was completed in accordance with the permit conditions.

Signature of Permittee

Date

Applicant: Cedar Lake Mining, Inc.	File Number: SAM-2011-00880-CHE	Date: 5/14/12
Attached is:	See Section below	
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
X	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CFCW/Pages/req_materials.aspx or Corps regulations at 35 CFR Part 330.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION

If you have questions regarding this decision and/or the appeal process you may contact:
USACE Mobile District – Birmingham Field Office
218 Summit Parkway, Suite 222
Homewood, Alabama 35209

If you only have questions regarding the appeal process you may also contact:
Jason Steele
Administrative Appeals Review Officer
60 Forsyth Street, SW (Room 9M10)
Atlanta, GA 30303-8801
404-562-5137

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date: _____

Telephone number: _____

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): 2/10/2010 -5/1/2010

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Haley Brothers Coal, Inc. 414 5th Avenue North West Carbon Hill, Alabama 35549.

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Mobile District-
Birmingham Field Office - SAM-2011-00736-CHE

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
State: AL County: Walker City: Jasper, Alabama
Center coordinates of site: Lat N33° 57' 17.1", Long. W87° 15' 46.7"

Name of nearest waterbody: Mulberry Fork

Identify amount of waters in the review area (use the attached table to document multiple waterbodies/locations): See Attached sheet for waters in the project area

Non-Wetland Waters: _____ linear feet _____ width (ft) and _____ acres.
Cowardin Class: _____ Stream Flow: _____

Wetlands: _____ acres.
Cowardin Class: _____

Name of any water bodies on the site that have been identified as Section 10 waters: There are no Section 10 waters located within the project boundaries.

Tidal: _____ Non-Tidal: _____

E. REVIEW PERFORMED FOR SITE EVALUATION

Office Determination. Date: _____
Field Determination. Date: 2/10/2010 -5/1/2010

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD - checked items should be included in the file:

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant.

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

___ Data sheets prepared by the Corps: _____

___ Corps navigable waters' study: _____

___ U.S. Geological Survey Hydrologic Atlas: _____

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Scale 1:660 Quad Name: Manchester East, DOQ.

USDA Natural Resources Conservation Service Soil Survey. Walker County Soil Survey/USDS/NRCS

___ National wetlands inventory map(s). Cite name: _____

___ State/Local wetland inventory map(s): _____

___ FEMA/FIRM maps: _____

___ 100-year Floodplain Elevation is: _____ (National Geodetic Vertical Datum of 1929)

Photographs: Aerial (Name & Date): Manchester East - 2/10/2010 - 5/1/2010
or Other - Onsite photos taken 11/2009 - 2/11/2011

___ Previous determination(s). File No. and Date: _____

___ Other information (please specify): _____

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Casey Glen 7-21-11
Regulatory Project Manager
Signature and Date
(REQUIRED)

Person Requesting Preliminary JD
Signature and Date
(REQUIRED, unless obtaining
the signature is impracticable)

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
1	N33 56.33548	W87 15.14008	R6	340	non-section 10
3	N33 56.54217	W87 14.97842	R6	900	non-section 10
4	N33 56.48928	W87 15.14053	R6	740	non-section 10
5	N33 56.6184	W87 15.11773	R6	1380	non-section 10
6	N33 57.0345	W87 14.86423	R6	1560	non-section 10
7	N33 56.8118	W87 14.98782	R4	2170	non-section 10
8	N33 56.94897	W87 14.81017	R6	600	non-section 10
9	N33 56.7826	W87 14.87245	R6	600	non-section 10
13	N33 57.03568	W87 14.91792	R6	280	non-section 10
16	N33 56.8665	W87 15.08893	R6	600	non-section 10
17	N33 56.90315	W87 15.1607	R6	100	non-section 10
19	N33 56.67953	W87 15.43005	R4	760	non-section 10
32	N33 57.04323	W87 15.25895	R6	600	non-section 10
35	N33 56.78678	W87 15.31788	R6	440	non-section 10
Wetland # 1	N33 56.38.1	W87 15.16.2	PSS1	0.30 ac.	non-section 10
Wetland # 2	N33 56.39.2	W87 15.16.0	PSS1	0.31 a.c	non-section 10
Wetland # 4	N33 56.37.8	W87 15.14.9	PSS1	0.11 ac	non-section 10
Wetland # 5	N33 56.40.1	W87 15.14.4	PSS1	1.20 ac	non-section 10
Wetland # 7	N33 56.43.0	W87 15.14.5	PSS1	0.30 ac	non-section 10
Wetland # 8	N33 56.42.6	W87 15.12.4	PSS1	0.30 ac	non-section 10

Hosey Environmental, LLC
Post Office Box 464
Daphne, AL 36526

April 28, 2012

Mr. Otis R. Robison
2361 Cumberland Lake Drive
Pinson, Al 35126

Subject: Requested revision of Buffer Restoration Worksheet

Dear Mr. Robison,

During the April 18, 2012 onsite meeting at the proposed alternative stream and wetland mitigation site for the Little Spring Creek Mine, Ms Courtney Shea with the Corps of Engineers had the following concern: The proposed control of privet and the 75 % planting of the 200 foot wide riparian buffer (4X) on the east side of Wolf Creek did not warrant a 1.6 net benefit value under the Draft Edition, March 2009 Stream Mitigation SOP as it did under the 2005 SOP. She indicated that the net benefit should be 0.8 and asked that I submit a corrected worksheet.

I have corrected the Riparian Buffer Restoration Worksheet and sent a scanned copy by e-mail copy to her office, with hard copies of the worksheet and all pages in the mitigation plan that thus needed correction. I have attached the same to this letter. All corrections have been highlighted in yellow.

Also included for your understanding are copies of the Net Benefit values for riparian restoration (Table 1) from the March 2005 and March 2009 editions of Stream Mitigation SOP guidance. Note that in the 2005 edition a value of 1.6 was given for a 4X buffer restoration with exotic removal and 51-100% planting. The 2009 edition grants a score of 1.2 for buffer enhancement planting 51-100%, not 0.8 when we are planting 75% on the east side of the creek. Fortunately this Biologist could not add and under calculated the sum of factors in his original submittal. (See attached original worksheet where $0.2 + 0.4 + 1.6 + 1.6 + 1.6 + 0.5 + 0.5 =$ a sum of factors of 5.5, when it should have been 6.4).

So when multiplying the new sum of factors (5.8) by the length of stream buffer restoration needed to create sufficient mitigation credits, we decreased the length required by 110 linear feet.

The important thing is both the Corps and EPA representatives had to be impressed with the mitigation work your men and Chip Graham did on the old mud track site, as they did not say no to our alternative mitigation proposal for Little Spring Creek Mine or have any concerns except for the calculation of Net Benefit.

We will be up to the Steed Tract. Hale Creek buffer area and the Mud Track mitigation site starting April 30, 2012 to monitor survival rates of the bare root seedlings that Chip has planted.

Sincerely,

Arthur G. Hosey Jr.

Enclosures

normally accomplished by fencing stream corridors and can include the construction of stream crossings with controlled access and with stable and protected stream banks

Use a 1.2 multiplier with the above table to calculate mitigation credits generated for fencing livestock from a riparian buffer with no more than one livestock crossing planned per 1,000 linear feet of stream mitigation. The width of the livestock crossing will be deducted from the total length of the stream mitigation segment. Impacted riparian buffers will have to be restored or enhanced and may not be used for preservation purposes only, after cattle have been removed.

Minimum Buffer Width: The minimum buffer width (MBW) for which mitigation credit will be earned is 50 feet on one side of the stream, measured from the top of the stream bank (i.e., the bankfull stage), perpendicular to the channel. Smaller buffers width may be allowed on a case-by-case basis for small urban streams. If topography within a proposed stream buffer has more than a 2% slope, 2 additional feet of buffer are required for every additional percent of slope (e.g., minimum buffer width with a +10% slope is 70'). Buffer slope will be determined in 50'-increments beginning at the stream bank. No additional buffer width will be required for negative slopes. For the reach being buffered, degree of slope will be determined at 100' intervals and averaged to obtain a mean degree of slope for calculating minimum buffer width. This mean degree of slope will be used to calculate the minimum buffer width for the entire segment of stream being buffered.

Tables 1 below provide appropriate Net Benefit values for the riparian restoration, enhancement and preservation mitigation worksheet. Note that on this worksheet, buffers on each bank of a given reach, generates mitigation credit separately (Stream Side A and Stream Side B).

Table 1. Riparian Buffer Restoration, Enhancement and Preservation

	% Buffer that Needs Vegetation Planted	* Buffer Restoration Exotic Removal and (51-100%) Planting	Buffer Enhancement Exotic Removal and (10-50%) Planting	** Buffer Preservation (< 10%) Planting
Buffer Width (on one side of the stream)	4X min. width	1.6	0.8	0.4
	3X min. width	1.2	0.6	0.3
	2X min. width	0.8	0.4	0.2
	*** Minimum width (50 ft)	0.4	0.2	0.1

* A minimum of Level II Monitoring is required.

** No mitigation credit will be given for only preserving impacted stream buffer.

*** Smaller buffers width may be allowed on a case-by-case basis for small urban streams

Note: Use a 1.2 multiplier to calculate mitigation credits generated for restoration and fencing livestock from a riparian buffer in actively grazed pastures.

3.2.2. System Protection Credit: Bonus mitigation credit may be generated if proposed riparian mitigation activities include minimum width buffers on both sides of a stream reach and legal protection of a fully buffered stream channel. (**Condition:** Mitigation plan provides for restoration or preservation of minimum width buffers, as defined in these guidelines, on both streambank of the reach).

same watershed. Enhancement programs should strive to mimic the vegetation species composition, structure, and density of an in-kind reference system.

Riparian Buffer Preservation means the conservation, in its naturally occurring or present condition, of a high quality riparian buffer to prevent its destruction, degradation, or alteration in any manner not authorized by the governing authority. For the purposes of these guidelines, an area will be considered as riparian buffer preservation if less than 10% of the area would require planting of deep-rooted vegetation to restore stream bank stability and improve wildlife habitat. **Riparian buffer preservation may account for no more than 30% of credits generated by the mitigation plan.**

Tables 1 below provide appropriate Net Benefit values for the riparian restoration, enhancement and preservation mitigation worksheet. Note that on the worksheet in Appendix A that buffers on each bank generate independent mitigation credit.

Table 1. Riparian Buffer Restoration, Enhancement and Preservation

	% Buffer that Needs Vegetation Planted	Buffer Restoration	Buffer Enhancement -		Buffer Preservation - Planting (0 – 10%)
			Planting (51 - 100%)	Planting (11% - 50%)	
Buffer Width (on one side of the stream)	4X min. width	1.6	1.2	0.8	0.4
	3X min. width	1.2	0.9	0.6	0.3
	**2X min. width	0.8	0.6	0.4	0.2
	*Minimum width (50 ft)	0.4	0.3	0.2	0.1

No mitigation credit will be given for riparian buffers on impacted streams where no in-stream work is proposed.

- * Smaller buffers width may be allowed on a case-by-case basis for small urban streams.
- ** Intermittent streams are limited to a maximum 2X minimum buffer width (maximum 100 feet on each side).

Fencing in Actively-Grazed Riparian Buffers: Cattle are not allowed to access riparian buffers within compensatory mitigation sites. Land management actions typically include restoring vegetation and fencing livestock from pastures, where livestock grazing activities are impacting water quality and/or stream ecological function by causing streambank degradation, sedimentation, and water quality problems. Livestock exclusion is normally accomplished by fencing stream corridors and can include the construction of stream crossings with controlled access and with stable and protected stream banks. No more than one livestock crossing is allowed per 1,000 linear feet of stream mitigation. The width of the livestock crossing and any length of affected stream below will be deducted from the total length of the stream mitigation segment. After cattle have been removed, impacted riparian buffers must be restored or enhanced and may not be used for preservation purposes only.

6.2 System Protection Credit: Bonus mitigation credit may be generated if proposed riparian mitigation activities include minimum width buffers on both sides of a stream reach and legal protection of a fully buffered stream channel. (**Condition:** Mitigation plan provides for restoration or preservation of minimum width buffers, as defined in these guidelines, on both streambanks of the reach).

RIPARIAN BUFFER RESTORATION AND PRESERVATION WORKSHEET

Stream Type	Intermittent 0.05	>2 nd Order Perennial Stream 0.2	1 st or 2 nd Order Perennial 0.4
Priority Area	Tertiary 0.05	Secondary 0.2	Primary 0.4
Net Benefit (for each side of stream)	Riparian Restoration, Enhancement, and Preservation Factors (select values from Table 1) (MBW = Minimum Buffer Width = 50' + 2' / 1% slope)		
System Protection Credit	Condition : MBW restored or protected on both streambanks To calculate: (Net Benefit Stream Side A + Net Benefit Stream Side B) / 2		
Timing of Mitigation	Before 0.15	During 0.05	After 0

Factors	Net Benefit 1	Net Benefit 2	Net Benefit 3	Net Benefit 4	Net Benefit 5	Net Benefit 6
Stream Type	0.2					
Priority Area	0.4					
Net Benefit	Stream Side A	1.6				
	Stream Side B	1.6				
System Protection Credit Condition Met (Buffer on both sides)	1.6					
Timing of Mitigation (None for primarily riparian preservation)	Stream Side A	0.5				
	Stream Side B	0.5				
Sum Factors (M)=	5.5					
Linear Feet of Stream Buffer (LF)= (don't count each bank separately)	2175					
Credits (C) = M X LF	11,962					
Mitigation Factor Use (MF) = 0.5 or 1.0	1.0					
Total Credits Generated C X MF =	11,962					

Total Riparian Restoration Credits Generated = 11,962

Wolf Creek Buffer Restoration and Preservation
Mitigation for Little Spring Creek Mine
Increments 1 & 2

~~Original~~ Worksheet copied from
original from 2005 worksheet.

Hosey Environmental, LLC
Post Office Box 464
Daphne, AL 36526

February 13, 2011

US Army Corps of Engineers
Mobile District, Regulatory Division
Attention: Ms. Courtney Shea
Birmingham Field Office
218 Summit Parkway Suite 222
Homewood, AL 35209

Subject: SAM-2011-00880-CHE, Little Spring Creek Mine - Initial Review of Alternate Compensatory Mitigation Plan

Dear Ms. Shea.

Reference is made to your e-mail of Monday, February 6, 2011 to which your comments to the proposed alternative mitigation plan for Little Spring Creek Mine were attached. A copy of your "Initial Review of Alternate Compensatory Mitigation Plan" is attached for ready reference.

Please accept our following responses to your twelve numbered comments:

1. The current Draft Edition March 2009 version of the SOP "Riparian Buffer Restoration and Presentation Worksheet" was utilized to re-calculate the Total Riparian Restoration Credits Generated. A copy is attached. The 2009 version does not give credit for Control and Monitoring Contingency, therefore the Sum of Factors decreased by 0.15 credits. This required that the length of the Stream Buffer to be increased from 2150 linear feet to 2175 linear feet to obtain sufficient stream mitigation credits. This also increased the acreage of the stream buffer, the number of trees planted and the projected Compensatory Mitigation Costs.

This has resulted in numerous changes on several pages of the Compensatory Mitigation Plan. Please find enclosed a corrected copy of the plan. For your convenience, we have included the 18 different pages that have been corrected, modified or had additional information included, based on your comments. These changes and additions have been highlighted for your convenience, in this separate attachment.

2. The information from the 5 sample plots Data Forms has been transferred to the Eastern Mountains and Piedmont Data Forms which are attached to the third enclosure.

3. Page 10 has been modified to document that the Restrictive Covenant would be filed within 90 days of approval and prior to any impacts to the stream and wetlands that will occur during the mining of Increments 1 and 2 of the Little Spring Creek Mine.

4. The applicant will be using the Mobile District's Restrictive Covenant template with no changes to the template but will add a reserved right to maintain an existing access road on the far west side of Wolf Creek and west of the wetland enhancement areas.

5. A wetland plot of Trimble GPS coordinates of the boundaries of the two wetland areas and a depiction of their shape and location on a copy of a portion of the Oakman, Ala. 1949. USGS 7 ½ minute quadrangle map have been included in the third attachment.

6. An engineering drawing showing the location of the 1800 linear foot buffer for the Robison Lake Project is included in the third attachment. Also included is a depiction of both the 1800 linear foot buffer for the Robison Lake Project and the proposed 2175 linear foot buffer for the Little Spring Creek Mine have been drawn on a copy of a portion of the Oakman, Ala. quad map. The two mitigation sites do not overlap.

The old diversion cut is the end of the 1800 foot buffer and start of the 2175 foot buffer. The wetland mitigation area for the Robinson Lake mitigation ends at the first small beaver dam on the intermittent stream and the Little Spring Creek 2.94 acre wetland enhancement area begins on the up stream side of the same small beaver dam. This area is labeled A-A' on the attached McGhee Engineering plan for the Corona Mud Track Wetland Restoration. This plan also depicts the old diversion cut as "Existing Drainage path for Unnamed Tributary of Wolf Creek"

7. Page 28 states that "Should beaver damage account for more than 30 percent mortality of any or any combination of species then beaver population control by trapping will be implemented". Page 29 states "The old existing beaver dams located on the intermittent stream will not be removed." The beaver dams will not be removed as they impound the stream in places and pond for the wet season small portions of both wetland areas that are dry ground in the summer and fall. These small impounded sections of the stream and the temporarily ponded wetland areas are habitat for wood ducks, otters, raccoons and numerous species of amphibian and reptiles. This aquatic habitat in the stream will be enhanced by the planting of mast trees and soft hardwoods on the bank and wetland areas as it will increase biomass, food supply, improve habitat, increase plant diversity and aerial coverage. The intermittent stream will therefore be enhanced or improved for all species of animals that inhabit the area and utilize the stream for feeding, spawning, drinking or aquatic habitat.

Please note we indicate that the stream will be improved by the enhancement of the adjacent and abutting wetlands, but we claim no stream mitigation credits for this enhancement by this wetland buffer for this intermittent stream. If the beaver dams are removed, the permanent pools along the stream will be destroyed and there will be a loss of aquatic habitat.

8. The target forest type is a natural forest of diverse hardwoods along the upland stream buffers. The two wetland areas will become a Palustrine Forested Broad-leaved Deciduous forest (PFO1). The pine plantation area will be harvested and replanted to an upland flood plain pine-hardwood composed chiefly of a diversity of hardwoods and a few loblolly pines. These three forest areas would mimic the natural flood plain forest type of the large streams in this physiographic area.

9. We have added on page 29 under Growth Rate and Percent of Crown Cover the following sentence of the end of this section: "These standards will document positive annual growth."

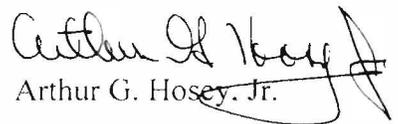
10. Diversity success criteria within the sampling plot have been added of the top of Page 30 using the criteria of "...no greater than 25% representation of any single specie within the sampling plot..." as you suggested.

11. The performance standard for control of privet or other exotic species has been modified on page 30 to include "...less than 1% aerial coverage or less than 10 stems per mil-acre plot, which ever is smallest..."

12. The applicant will submit a draft Letter of Credit or a Performance Bond to your office, in the near future, for your submittal to the Office of Counsel for approval.

We trust that our modifications, corrections and additions, per your comments, will meet with the Corps' approval. Should you have further comments or questions or require additional information, please feel free to contact me.

Sincerely,


Arthur G. Hosey, Jr.

Enclosures:

Copy forwarded:

Mr. Otis R. Robison

Art Hosey

From: Shea, Courtney M. SAM [Courtney.M.Shea@usace.army.mil]
Sent: Monday, February 06, 2012 11:44 AM
To: Art Hosey
Subject: SAM-2011-0880-CHE, Little Spring Creek Mitigation Review (UNCLASSIFIED)

Attachments: mitigation plan comments 2-6-12.docx



mitigation plan
comments 2-6-1...

Classification: UNCLASSIFIED

Caveats: NONE

Hi Art,
Please see my attached comments on the proposed mitigation plan for Little Spring Creek Mine. Please let me know if you have any questions. Thank you,

Courtney Shea
Biologist-Project Manager
US Army Corps of Engineers-Mobile District Regulatory Division Birmingham Field Office
218 Summit Parkway, Suite 222
Homewood, AL 35209
205-290-9096 (office)
205-945-7591 (direct line)
205-941-9809 (fax)

Classification: UNCLASSIFIED

Caveats: NONE

SAM-2011-00880-CHE Little Spring Creek Mine

Initial Review of Alternate Compensatory Mitigation Plan

1. The wrong version of the SOP Buffer Restoration and Preservation Worksheet was used. Please use the 2009 version rather than the 2005 version.
2. The wrong delineation forms were used. Please use the Eastern Mountains and Piedmont Data Forms.
3. Page 10 states that the restrictive covenant (RC) would be filed within 90 days of approval of the plan. Please note if the permit is transferred successfully and the mitigation plan approved, the permit condition would state that the RC must be filed and submitted to our office prior to commencement of work authorized by the permit.
4. Will the applicant be using the Mobile District's RC template with no changes?
5. A wetland delineation map should be submitted.
6. I cannot decipher from the maps where the stream mitigation is along Wolf Creek and where the wetland mitigation is. I need to make sure these areas do not overlap. These areas should be clearly shown on the map.
7. Page 29 states that there is beaver activity on the intermittent stream on the property, and that the beavers will not be removed. Please explain how there will be a chance for survival of planted trees with beaver activity on the property. Also, it is misleading in the plan in several areas where you state the intermittent stream will be enhanced. The stream itself will not be enhanced if the beaver dams are intended to remain.
8. What is the target forest type?
9. The growth rate is very specific. I would be OK with just showing positive growth annually.
10. I did not see a diversity success criteria within the sampling plot. There should not be greater than 25% representation of any one species in the sampling plot.
11. There should be less than 1% aerial coverage of invasive species.
12. Please note that one of the permit conditions will require the applicant to submit a draft Letter of Credit or performance bond to our Office of Counsel for approval. The financial assurances will have to be approved by OC prior to implementing project impacts.

CEDAR LAKE MINING, INC.

2600 Warrior Jasper Road
Warrior, AL 35180
Ph: 205.590.4245
Fax: 205.590.4246

January 9, 2012

Ms. Cindy House-Pearson
US Army Corps of Engineers
Birmingham Field Office
218 Summit Parkway, Suite 222
Homewood, AL 35209

RE: Request of Transfer: Permit # SAM-2011-00880-CHE and
Request for Change of Source for Stream and Wetland Credits

Dear Ms. House-Pearson,

Pursuant to written agreement dated August 16, 2011 between Cedar Lake Mining, Inc., hereinafter referred to as CLM, and Haley Bro.'s Coal, Inc., CLM acquired all rights then owned or subsequently to be acquired by Haley Bro.'s Coal, Inc. with regards to the Little Spring Creek Permit, Permit # SAM-2011-00880-CHE which will be hereinafter referred to as the "Permit". Notice of this change in ownership has been filed with ADEM who is processing the transfer. Additionally, ASMC is aware of the acquisition of the rights in the Little Spring Creek Permit by CLM and will ultimately issue the ASMC Permit to CLM, possibly as soon as late this month.

The point of this letter is twofold. We respectfully request a transfer to CLM of the above referenced Permit and, secondly, a change to Condition "b" of the authorization letter with respect to the source of the stream and wetland credits.

In support of the transfer request and as explained above, CLM has negotiated the acquisition of all rights Haley Bro.'s Coal, Inc. has in said Permit. CLM is continuing the pursuit of the necessary permits which will allow this project to be mined and reclaimed. CLM also comes to you with a track record of compliance, the intentions to remain compliant and the means with which to see this project through to conclusion.

With respect to our second request, your review and approval of the change to Condition "b" of the Permit", we offer this. As issued the Permit requires the purchase of mitigation credits from the Big Sandy Mitigation Bank. Because of the cost of the credits from Big Sandy Mitigation Bank, CLM has retained Hosey Environmental, LLC to draft an "Alternative Compensatory Mitigation Plan for Little Spring Creek Mine" for Increments 1 & 2. This proposed mitigation

site is in kind, on property owned by the owner of CLM which is located twenty (20) miles from the mine site and happens to be located in the same watershed as the mine site. The Big Sandy Mitigation Bank is three watersheds away and generates a proximity factor of 1.5. The resulting mitigation credit cost approaches the limits of economic feasibility for this project.

To minimize both current and future mitigation costs, Mr. Robison, President of CLM who also has ownership in four other active mining locations has taken steps to establish his own mitigation bank. He engaged Wetland Sciences Incorporated out of Pensacola, Florida several weeks back and they have already begun work to establish a mitigation bank. Wetland Services expects to submit a mitigation bank prospectus to the Interagency Review Team in February of this year. This proposed bank will encompass property already owned by Mr. Robison that is either within the watershed of Mr. Robison's mining locations or at worst, much closer than the currently available mitigation bank options.

It is our hopes sufficient justification for these two requests has been provided and that the requests will be approved based on the foregoing. Please do not hesitate to contact me should you have questions or require additional information.

Warmest Regards,

Otis R. Robison, Jr.
President
Cedar Lake Mining, Inc.

Hosey Environmental, LLC
Post Office Box 464
Daphne, Alabama 36526

January 5, 2012

U.S. Army Corps of Engineers
Regulatory Division
Birmingham Field Office
Attention: Ms Cindy House-Pearson
218 Summit Parkway, Suite 222
Homewood, Alabama 35209

Subject: Little Spring Creek Mine, SAM-2011-0880-CHE

Dear Ms House-Pearson,

Mr. Otis R. Robison has acquired all of the rights to the Little Spring Creek permit from Haley Brothers Coal, Inc. The state mining permit will be transferred to Cedar Lake Mining, Inc. upon issuance by the Alabama Surface Mining Commission. Additionally the ADEM permit will also be transferred. Mr. Robison will request under separate cover that the Corps of Engineers transfer their Nationwide Permit Authorization; SAM-2011-0880-CHE, dated July 25, 2011 to Cedar Lake Mining, Inc.

The Corps' Nationwide Permit Authorization letter contains the condition "b. The permittee shall debit 16599 Stream credits and 2.57 wetland credits from the Big Sandy Mitigation Bank..." Mr. Robison requests that your office review and hopefully approve of the attached "Alternative Compensatory Mitigation Plan for Little Spring Creek Mine" for Increments 1 & 2. The proposed mitigation site is in kind and located in the same watershed, only 20 miles from the mine site. The approved mitigation bank is three watersheds away and has a 1.50 proximity factor making the cost of mitigation onerous.

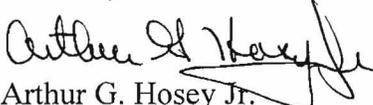
Mr. Robison has retained Mr. Craig D. Martin with Wetland Sciences, Incorporated, to establish a mitigation bank on his properties within in the coal mining region of Alabama for use by the coal mining industry. Mr. Martin has indicated that they plan to submit a mitigation bank prospectus to the Interagency Review Team in February.

The ASMC permit for the Little Spring Creek Mine will cover all increments of the mine and will hopefully be issued later this month. Mr. Robison will apply for individual Department of the Army permit authorization for the remaining increments of the Little Spring Creek Mine and any future coal mines. Nationwide Permit 21 authorization will not be requested by Cedar Lake Mining in the future. Additionally, all stream and wetland mitigation credits for future mining activities will be obtained from an approved mitigation bank, hopefully one established in the same watershed located on his property.

The approval of this alternative compensatory mitigation plan for Increments 1 & 2 of the Little Spring Creek Mine is respectfully requested so that initiation of mining can proceed, while the Mr. Robison's proposed mitigation bank is being reviewed by the Inter Agency Review Team.

If your office or representatives of other resource agencies have questions concerning this matter, please feel free to contact me at 251-626-5308 or at arthosey@bellsouth.net.

Sincerely,


Arthur G. Hosey Jr.

Enclosure

Copy forwarded;

Mr. Otis R. Robison

**Alternate Compensatory Mitigation Plan
For Proposed Little Spring Creek Mine
SAM-2011-0880-CHE**

**PERFORMED FOR:
Cedar Lake Mining, Inc.
2361 Cumberland Lake Drive
Pinson, AL 35126**

**PERFORMED BY:
Hosey Environmental, LLC
Post Office Box 464
Daphne, Alabama 36526**

&

**Delta Natural Resources Service, Inc.
Post Office Box 941
Hartselle, Alabama 35640**

With requested corrections, additions and revision of
Riparian Buffer Restoration Worksheet
April, 28, 2012

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Alternative Compensatory Mitigation, Little Spring Creek Mine, SAM-2011-0880-CHE

Objectives:

The plan is to provide adequate compensatory mitigation sufficient to offset or compensate for the environmental impacts of the permitted Little Spring Creek Mine located in the Mulberry Fork watershed. Presently the permit is conditioned that stream and wetland impacts will be purchased from a mitigation bank located in the Lower Black Warrior watershed in Tuscaloosa County.

The Little Creek Mine will be located on a 231 acre site in Sections 2 & 3, Township 13 South, Range 7, West, in Walker County. The permitted project will impact 2,930 linear feet of intermittent streams, 9,320 linear feet of ephemeral streams and 2.32 acres of low quality wetlands.

The alternative stream mitigation and wetland mitigation is proposed to be conducted along Wolf Creek in the Mulberry Fork watershed. The stream mitigation will result in the riparian buffer re-establishment on 2,440 linear feet of Wolf Creek. It will also result in the enhancement of 12.49 acres of wetlands and 1650 linear feet of intermittent stream within the flood plain of Wolf Creek.

This alternate mitigation site is within a 217 acre parcel located just west of Corona in Section 34, Township 15 South, Range 9 West, in Walker County. Wolf Creek, a perennial stream, flows through this property. Wolf Creek is a tributary of the Mulberry Fork of the Black Warrior River. This mitigation site is located in the same watershed approximately 20 miles southwest of the permitted mine site. Wolf Creek at this location has a drainage area of 50 plus square miles and an average annual flow of 72.5 cubic feet per second.

The land was purchased by the new owner of the Little Spring Creek Mine as it contained suitable property to re-establish riparian buffers, restore stream channels and recreate and enhance riparian forested wetlands to obtain stream and wetland mitigation to offset impacts of this permitted mining activity and other projects requiring wetland and stream mitigation.

This Wolf Creek mitigation site is located entirely within the flood plain of Wolf Creek, which flows through this property from north to south. The Southern Railroad and State Highway 18 parallel the east half of the property, then across the creek and the middle of the property. An area approximately 15 acres in size in the middle of the property located between the railroad and the State Highway just west of Corona has been utilized in the past as a coal loading and later as a wood loading facility.

Approximately 4/5 of the property is located in the flood plain. Many years ago the entire flood plain on this tract was cleared up to and including the banks of Wolf Creek. This is depicted on the Oakman, AL, USGS Quadrangle map, dated 1949. The Walker County Soil Survey map sheet, number 32, overlain on aerial photography dated 1977 shows that about 1/3 of the flood plain chiefly on the banks of Wolf Creek had been abandoned and had become overgrown. Today this area of the floodplain is dominated by a dense stand of privet and sweet gum. Within the last 10 to 15 years most of the remaining pasture and agricultural fields were planted to loblolly pine.

The proposed offsite alternative mitigation site is located in the southern end of the Wolf Creek property. It is bordered on the east by the railroad and an extensive mature stand of hardwoods on the very steep slope to the west. The adjacent floodplain portion property to the south on the west side of wolf Creek is a pre-regulation open pit coal mining area that has not been reclaimed.

The proposed mitigation activities at this site include: The reestablishment of a hard wood riparian buffer on 2,440 linear feet of Wolf Creek and the enhancement of 12.49 acres of wetlands and 1650 linear feet of intermittent stream all within the floodplain of Wolf Creek. The invasive privet will be removed and the wetlands and upland stream buffers will be planted with a wide diversity of bare root native tree species.

The resource functions at this mitigation will address the needs of the watershed of the Mulberry Fork of the Black Warrior River in which both the permitted coal mining project and the proposed alternative mitigation site are located. The floodplains of the streams in the Mulberry Fork watershed have had the brunt of land clearing activities especially in Walker County. The floodplains contain the largest amount of level ground in the county on which has had the most agricultural, commercial, and residential development.

Walker County is located in the southern part of the Appalachian Mountain region but with lower hills with elevation from 300 feet to 800 feet above sea level. The hills have steep sides and narrow floodplains and the streams have dendritic drainage patterns. The entire 514,285 acres of the county is under lain by the Warrior Coal field. Walker County has about 69 percent of the land in second and third growth forests, 10 percent in pasture and only 2% in cropland. Coal mining and timber are the economic bases of the county. Strip mining areas, both reclaimed and un-reclaimed account for 6.9 percent of the county's land area. Only 6.2 percent of the county contains prime farm land, with 5.5 percent of the prime farm land is located in the narrow flood plains and stream terraces which comprise only 6.0 percent of the county.

Walker County does not have extensive wetland areas. The county has no listed hydric soils and only hydric components of Bibb and Kinston soils series are found in the county. Approximately 1.3 percent of Walker County contains hydric soil. Hydric soil is only one of the three required parameters necessary for the identification of a wetland. Also required are positive indicators of hydrology and wetland vegetation. Sadly,

ditching for agriculture has removed hydrology from many areas of hydric soil converting wetlands to upland areas.

Therefore, much of the wetlands are riparian buffers on streams, especially the first, second and third order streams have been lost due to agriculture and development.

There are eight threatened or endangered species and two candidate species listed by the U.S. Fish and Wildlife Service in Walker County, Alabama. Only two, the Mohr's Barbara's Buttons and the White Fringeless Orchid are not aquatic animals but vascular flowering plants. The other eight include: one turtle, the Flattened Musk Turtle; one amphibian the Black Warrior Waterdog; four Mussels, the Upland Combshell, Ovate Clubshell, Triangular Kidney Shell and the Dark Pigtoe; and two fish; the Cahaba Shiner and the Rush Darter.

The main cause of the listing of all aquatic species is the loss of flowing stream habitat in the larger streams and rivers in the Black Warrior Basin by the construction of dams for navigation and hydro electric power. Now, the chief concerns for the remaining fragmented habitat are water pollution and siltation from non point sources. Riparian buffers and the wetland areas of the buffers are effective in controlling non point sources of pollution and improving water quality by removing nutrients, sediments and pesticides and other pollutants by intercepting surface water runoff and the storing and slowing of flood waters. The general function for forested riparian buffers is to provide control of the stream environment. Specific functions include moderating fluctuations in stream temperature, controlling light quality and quantity, enhancing habitat diversity, modifying channel morphology, enhancing food webs and species richness. Wetlands and riparian buffer vegetation stabilize stream banks and prevent stream bank erosion thereby maintaining stream geometry. Buffers provide wildlife corridors and habitats that include food, cover nesting and den sites for both game animals and non game species of wildlife and a diversity of trees, shrubs, vines and herbs. Buffers and wetlands slow water velocity, reducing flooding and drought. They provide good fish habitat and supply nutrients for all stream life. Buffers and adjacent wetlands recharge ground water aquifers and supply sustainable yields of timber. They trap and lock up heavy metals and toxins, act as natural fences, noise buffers and visual screens. They are sinks for excess carbon dioxide and improve both water and air quality. They provide special habitat and protect habitat of threatened endangered and candidate species.

The reestablishment of 2,440 linear feet of hardwood riparian buffer on Wolf Creek and the enhancement of 12.49 acres of wetlands and enhancement of 1650 linear feet of intermittent stream in the flood plain of the same reach of Wolf Creek is proposed as compensatory mitigation. This mitigation project will improve resource functions described above along three quarters of a mile of streams and enhance the resources functions of 12.49 acres of wetlands.

Site Selection:

The proposed mining project will impact 2,930 linear feet of two intermittent stream segments, 9,320 linear feet of twelve ephemeral stream segments and 2.32 acres of wetlands, in a 229.3 acre area that borders Little Spring Creek. Most of the area is managed as a commercial timber operation. The timber is mainly planted loblolly pine, 15 to 20 years old. The mature stands have been thinned during the last two years.

The proposed Little Spring Creek Mine is located on a 229.3 acre parcel in Sections 2 and 3, Township 13 South, Range 7 West in Walker County, Alabama.

The proposed alternative mitigation will be conducted within a tract of land near Corona. This 217 acre site contains approximately 170 acres of flood plain along Wolf Creek. Much of the flood plain was once forested wetlands that had been totally converted to farm land and then portions were abandoned. Other large areas of farmland within this flood plain of the property were converted to pine plantation. The extreme southern portion of this property had until purchased by Mr. Robison been utilized as a mud racing track. This property is located in Sections 27, 28 and 34 of Township 15 South, Range 9 West in Walker County, Alabama.

The reestablishment of riparian buffer on 2,440 linear feet of Wolf Creek and the enhancement of 12.49 acres of wetlands and 1650 linear feet of intermittent stream within the flood plain of Wolf Creek is ecologically suitable for providing desired aquatic resource functions to offset the impacts of the permitted project.

Wolf Creek has stable banks. The watershed of Wolf Creek at this site is 50 square miles of steep hills that are chiefly timber lands with some abandoned strip mine lands and some restored strip mine lands.

There have been some small ponds constructed in the headwater tributaries of Wolf Creek. There have been no diversions, ditches, dams, channelization or water usage for irrigation or commercial purposes in Wolf Creek proper so the hydro-period for the mitigation site is natural. There has been in the past extensive clearing of the flood plain for agricultural purposes as depicted on the USGS 1949 topographical map. Today most of the flood plain agricultural land has been planted to pine or abandoned and reforested due to natural succession. The majority of the watershed of Wolf Creek above this site is within the Wolf Creek Management Area. Even so past strip mining and agricultural and silviculture practices not utilizing best management practices resulted in excessive siltation. Wolf Creek from Highway 102 down to its junction with Lost Creek has been put on the Alabama Department of Environmental Management's 303d list due to excessive siltation chiefly from abandoned strip mines in 1998. The proposed mitigation site is located within this reach of Wolf Creek.

There are eight threatened or endangered species and two candidate species listed by the US Fish and Wildlife Service for Walker County, Alabama. Eight of the ten are aquatic animal species; one turtle, one salamander, two fish and four mussels. The non-aquatic species are flowers. They are listed below:

T—Flattened musk turtle
C—Black Warrior waterdog
E—Upland combshell
E—Ovate clubshell
E—Triangular Kidneyshell
E—Dark pigtoe
E—Cahaba shiner
E—Rush darter
T—Mohr's Barbara button
C—White fringeless orchid

Sternotherus depressus
Necturus alabamensis
Epioblasma metastriata
Pleurobema perovatum
Phrynobranchius greenii
Pleurobama furvum
Notropis cahabae
Etheostama phytophyllum
Marshallia mohrii
Platanthera integrilabia

The flattened musk turtle is a small aquatic turtle that has a carapace that is quite flattened. The flattened musk turtle is found in the Black Warrior System in medium sized creeks to larger streams. Optimum size is 50 square mile of drainage area with clear water 3 to 4.5 feet deep with abundance of boulders and rocks. The turtles nest in sandy banks. Low populations are due to poor water quality and excessive sedimentation due to strip mining and pollution from industrial and municipal sources. When proposal for listing in February of 1986 was published in the Federal Register, coal mining representatives argued that listing would mean the end of coal mining in the area. U.S. Fish and Wildlife representatives testified that coal mining would not be affected if State and Federal strip mining regulations were obeyed. In June 1986 the listing was finalized. Coal mining regulations were enforced and mining companies greatly improved their erosion and sedimentation controls in both their operations and reclamation activities. No coal mining permits have been denied due to the listing of the flattened musk turtle. Incidentally the turtle population was also being decimated by the commercial pet turtle trade for this small 3 to 4 inch turtle. The listing has brought this trade to a halt.

The Black Warrior waterdog is a large gilled aquatic salamander. It is confined to medium-large streams of the Upper Black Warrior River system above the fall line. Their range mimics that of the flattened musk turtle. The Black Warrior waterdog is found in 9 stream segments in 4 counties. They are the Sipsey Fork and Brushy Creek in Winston County; Locust Fork and Blackburn Fork in Blount County; Mulberry Fork, Blackwater Creek and Lost Creek in Walker County and Yellow Creek and North River in Tuscaloosa County.

The habitat of the Black Warrior waterdog is in moderate to large streams with moderate flows and alternate pools and rapids. These streams have depths in the pools from 3 to 12 feet with reduced sedimentation and large leaf packs supporting ephemeropteran and trichopteran larvae. The population is at risk due to increased sedimentation and pollution levels resulting from improper forestry, mining and agricultural activities especially poultry and cattle operations.

The upland combshell is a small fresh water mussel rhomboidal in shape with a yellowish brown to tan colored periostracum. It inhabits moderate to swiftly flowing rivers in sand or gravel substrates. Historically the upland combshell was found in the Black Warrior River and its tributaries, the Cahaba River and its tributaries and the Conasauga and

Chattooga Rivers in portions of Georgia, Tennessee and Alabama. It may be extirpated from Tennessee and Alabama and may currently be restricted to a portion of the Conasuga River in Georgia. The primary factors contributing to the diminished range and numbers of the upland combshell are sedimentation, pollution and habitat degradation.

The ovate clubshell mussel was found in the Black Warrior basin. It is a mussel of rivers with moderate current and sandy or gravel bottoms. The ovate club shell is extirpated in the Black Warrior drainage. However critical habitat for the ovate clubshell was published on July 1, 2004 by the U.S. Fish and Wildlife Service, which designated critical habitat for 3 threatened mussels and 11 endangered mussels in 1,093 miles of rivers and streams. Unit 12 of the critical habitat designations includes the Locust Fork main stem from U.S. Highway 78 in Jefferson County, Alabama, upstream to the confluence of Little Warrior River in Blount County, Alabama: and the Little Warrior River from it confluence with the Locust Fork, upstream to the confluence of Calvert Prong and Blackburn Fork in Blount County, Alabama. These 63 miles of Locust Fork and 5 miles of Little Warrior River were also designated as critical habitat for the triangular kidney shell mussel, and orange-nacre musket mussel. The ovate clubshell was included because this reach was historical habitat, representative of historical and ecological distribution of the specie.

Triangular kidney shells are medium sized mussels usually less than 4 inches that are oval to elliptical in shape with a broadly rounded posterior periostracum often straw yellow in young specimens and yellow brown in older species. Triangular kidney shell mussels were once found in most of the Black Warrior River drainage system. They inhabit flowing waters with gravel bottoms and high water quality. Presently they are found in the Sipsey and Locust Forks but rarely found in Locust Fork. They have disappeared from primary channels in Black Warrior River.

The dark pigtoe is a small to medium sized mussel that has a dark reddish brown periostracum. The historic distribution was probably limited to the Black Warrior River system above the fall line. Since being listed, it has been confirmed in the Black Warrior drainage in the Sipsey Fork and its tributaries, Caney, Brown, Rush and Capsey Creeks in Winston and Lawrence Counties of Alabama and in the North River and its tributary Clear Creek in Fayette County. The populations are small and localized. There is a possibility that it may exist in the Locust Fork near the Jefferson County and Blount County line as dead shells of the dark pigtoe have been found in that locality.

The main causes of the drastic declines to all mussel species is attributed to destruction of habitat, deforestation, riparian zone destruction due to the damming of rivers, development, and past unregulated development and unregulated strip mining.

The Cahaba shiner is a small delicate bodied silver colored fish about 2.5 inches long with a peach colored narrow stripe over the dark lateral stripe. It was listed on October 25, 1990. They feed on small crustaceans, insect larvae and algae. The Cahaba Shiner was originally thought to be only in the Cahaba River. However, they were found

recently in a 60 mile stretch of the Locust Fork of the Black Warrior River. They were found in shallow shoals up to 5 feet deep and down stream of riffles of clear sand and gravel. The main threats are pollution chiefly from sewage waste water and siltation.

The rush darter is a nondescript small 2 to 3 inch brownish yellow fish with a life span of only 2 to 3 years. It was first identified as unique specie in 1999, having a very restrictive range above the fall line in the Tombigbee-Black Warrior drainage in Central Alabama. The rush darter has been found in Turkey Creek in Pinson, in an unnamed spring run; in Wildcat Branch of Clear Creek in Winston County and in the Cove Creek watershed of Etowah County. It was first listed by the State of Alabama on July 16, 2004, then listed as a candidate specie by U.S. Fish & Wildlife Service in 2010. It was listed as endangered August 9, 2011 by U.S. Fish & Wildlife Service and became effective September 8, 2011.

The specie has a specific habitat, among reeds and rushes near cold springs that occur in limestone geology. The primary threats to this very restricted range specie are development and surface water run off.

Mohr's Barbara button is a perennial herb currently listed as threatened since September, 1988. It is found in Alabama and Georgia in several known locations. This Asteraceae was discovered by Dr. Charles Mohr hence the name. The plant grows 1-1.5 feet and has tubular shaped flowers that are white to pale pink or lavender in color. The habitat required is wet sandy clay soils with alkaline ph and high organic content. Most populations occur on soils of the Conasauga-Firestone association typically near shale-bedded streams especially in moist forest gaps and in low swales extending into road right of ways. Often found in association with grass sedge communities sharing the same habitat with the green pitcher plant and the Alabama leather flower both listed as endangered. The threats are primarily loss of habitat due to residential development and road maintenance and enlargement and trash disposal. Additionally fire suppression in pine and oak forests have taken a toll on this specie. There is no critical habitat listed on conservation plans for this specie.

White fringeless orchid is known or believed to occur in Alabama, Georgia, South Carolina, North Carolina, Virginia, Tennessee, Mississippi, Louisiana and Texas. This showy orchid blossoms in late July to September from a single tuber with a single stem with the flowers in a loose round to elongate cluster on top of the stem. It is found in wet flat boggy areas at heads of streams and seepage slopes in association with Osmunda cinnamomea, Woodwardia areolata and Theliptris noveboracensis in acidic muck or sand in partial to fully shaded areas in association with sandstones of Appalachian Plateaus in Alabama, Kentucky and Tennessee, the coastal plain of Alabama and Mississippi and the ridge and valley physiographic providence of Alabama.

The orchid is currently known in about 53 irregularly scattered occurrences in the Southeastern United States primarily on the Cumberland Plateau of Tennessee and Kentucky. The White fringeless orchid has been photographed in the Mountain Long Leaf Pine National Wildlife Refuge on what was the Fort McClellan Army Depot near

Anniston. The main threats are the development of canopy closure, improper timber harvest and invasion of exotics like Kudzu, Pueraria lobata.

There is no suitable habitat for any of these species within the water shed of Little Spring Creek, the permitted coal mine site or within the proposed alternative mitigation site with in the flood plain of Wolf Creek at Corona, both located in Walker County Alabama.

The permitted Little Spring Creek mine is located in the north central portion of Walker County in a series of moderately wide to narrow undulating ridge caps with moderately steep to very steep side slopes.

The mine site is approximately 2 miles NNE of the town of South Lowell on terrain that is 470 feet to 620 feet in elevation. The project drains into Little Spring Creek which eventually flows into the Mulberry Fork of the Black Warrior River.

The proposed alternate mitigation site is located in the southwest portion of Walker County in the flood plain of Wolf Creek which also flows into the Mulberry Fork of the Black Warrior River. The mitigation site is located just outside of Corona and is approximately 20 miles southwest of the permitted mine site and is located in the same Hydrologic Unit Code, Mulberry Fork 3160109.

This 217 acre parcel of property in Walker County was purchased as it contained approximately 170 acres of flood plain along Wolf Creek. Much of the flood plain was once forested wetlands that had been totally converted to farmland and then portions were abandoned. Other large areas of farmland within the floodplain of the property were later converted to pine plantation and an area on the very south end was made into a mud racing track. This 217 acre parcel is located in Sections 27, 28 and 34 of Township 15 South, Range 9 West in Walker County, Alabama.

The 9.95 acres of the mud racing track area was utilized to provide mitigation for another project. The remaining 160 acres of flood plain along Wolf Creek has the best lift for both wetland mitigation and stream mitigation credits as well as being ecologically suitable for providing the desired aquatic resources functions. The hydrological conditions of the proposed Corona mitigation site are occasional flooding of the higher upland floodplain which is underlain with Spadra fine sandy loam. There is more frequent flooding of the lower elevation drainage ways of the flood plain. These drainage ways have Kinston soil, a hydric component found in 3 percent of the Spadra soil series. These drainage ways are wetland areas that are poorly drained. They have a high water table from November to June.

Wolf Creek at this location is a large stream with approximately 50+ square miles of drainage area and a computed average annual flow of approximately 72 cubic feet per second. Immediately upstream at this parcel of land is the southern most portion of the 24,530 acre Wolf Creek Wildlife Management Area. The re-establishment of 2,440 linear feet of riparian buffer on Wolf Creek, and the enhancement of 12.49 acres of

wetlands and 1650 linear feet of intermittent stream will maintain a continuous wildlife corridor along Wolf Creek.

The land up and down Wolf Creek is chiefly utilized for forestry with some strip mining areas. However the majority of the water shed upstream of the site is within the Wolf Creek Wildlife Management Area. There is little or no residential or commercial development pressure as there are few paved roads through this sparsely populated area.

The completion of the proposed mitigation at the Wolf Creek site near Corona will have a positive effect on potential nesting and aquatic habitat for the flattened musk turtle. According to US Fish and Wildlife Service representative of the Daphne Ecological Field Office, flattened musk turtles have been found a mile or two below this location.

There is a small potential for chemical contamination of Wolf Creek from the active Southern railroad track that parallels the east side of Wolf Creek through a 5 mile stretch starting at the middle of this 217 acre parcel of land. The rail road track is located on the edge of the east bank of Wolf Creek on the south end of this property.

This off site, in the watershed, mitigation proposal at Wolf Creek will be in kind mitigation. All of the proposed mitigation activities will all occur adjacent to existing aquatic resources and will be conducted in areas where the same type of aquatic resources previously existed. This mitigation area was selected because it does have the proper landscape position, adequate hydrology, hydric and flood plain soils and is located in a area that has little or no potential for development.

Site Protection Instrument

The applicant, Mr. Otis R. Robison is willing to place restrictive covenants using the Mobile District's "Model for use with Permits with Mitigation Plans" on the proposed mitigation area within the 217 acre parcel in Walker County at Corona that he owns. He will place a restrictive covenant on the floodplain area containing 12.49 acres of wetland enhancement and 1650 linear feet of enhanced intermittent stream and 22.41 acres of buffer restoration on both sides of Wolf Creek.

This restrictive covenant will prohibit incompatible uses such as grazing, motorcycle and ATV riding, clear cutting, surface mineral mining or extraction, etc. However, the instrument will allow compatible uses such as hunting, bird watching, educational field trips and scientific research, trapping and removal of fur bearers or nuisance species of wildlife such as feral hogs or coyotes that can jeopardize plant diversity and wildlife populations. The restrictive covenant will contain a provision requiring a 60 day advance notice to the district engineer before any action is taken to void or modify the instrument, management plan or long term protection mechanism, transfer of title or establishment of any other legal claims over any of this compensatory mitigation site. The applicant is willing to establish in a governmental or nonprofit resource management agency the right to enforce site protections if deemed necessary by the Corps. The applicant, Mr. Robison

would be responsible for providing the resources necessary to monitor and enforce these site protections.

These restrictive covenants if acceptable to the Corps of Engineers will be prepared and recorded on the deed for this mitigation area within 90 days of the approval of this proposed alternative mitigation for the impacts to stream and wetlands to be incurred during the mining of Increments 1 and 2 of the Little Spring Creek Mine.

Baseline Information

Little Spring Creek Mine

The permitted Little Spring Creek Mine is within a 229.3 acre area. The area is in portions of Sections 2 and 3 in Township 13 South, Range 7 West in Walker County, Alabama. The permitted mining area is bordered by the township line on the north for approximately 2930 linear feet, Little Spring Creek to the south and a tributary of Little Spring Creek on the west side of the area. Bird Farm Road is to the east of the permitted mine area. The Manchester and Sunlight Alabama 7 ½ minutes USGS Quadrangle maps dated 1949 show that approximately 74 acres along the flood plain of Little Spring Creek and approximately 16 acres on a ridge off Bird Farm Road within this 229 acre parcel was cleared agricultural land. Presently based on onsite inspection and recent aerial imagery there is only approximately 3.5 acres of openings areas composed of grassed open areas, food plots and beaver ponds. The project area is managed as a commercial timber operation.

The planted timber stand is a 15 to 20 year old loblolly pine with areas of high graded hard wood timber along the SMZ's of the main intermittent stream segments. Most of the small areas of once mature hardwoods have been selectively harvested two years ago removing saw timber and hardwood pulpwood. This occurred when the monoculture pine stand was thinned. The pine stand has not been control burned.

The area is managed for timber only but the potential to support habitat for upland wildlife is only fair. Most of the upland areas are suitable for wildlife management practices such as prescribed burning, planting of seed and fruit trees and shrubs and the establishment of food plots on the floodplain of Little Spring Creek and the gentler sloped areas and ridge tops. The potential to support wetland wildlife habitat is poor as none of the soil series present on the site are hydric soil series. However there are some isolated hydric inclusions in the area and some small areas that have developed a hydric phase due to inundation by beaver activity. These small wetland areas comprise about one percent of the area of the site. The potential, to create wetland habitat is low as the soils series present on site all do not flood for sufficient time nor have seasonal high water tables and all have severe seepage problems. Wildlife utilization is only fair as food sources are low in unburned pine plantations. Also wind throws and severe high grading of the hardwood along the intermittent drains has removed mast and seed produces and cover for wildlife. Additionally, the ephemeral stream segments have been clear cut across and planted to pine.

The mining area ranges from approximately 620 feet in elevation of the ridge tops on the north side of the project to approximately 470 feet in elevation along the southwest portion of the area where it borders Little Spring Creek.

The entire 229.3 acre mine area drains into Little Spring Creek which has a drainage area above this project of between 5 and 6 square miles. This perennial tributary flows south into Black Water Creek. Black Water Creek flows into the Mulberry Fork of the Black Warrior River.

There are 12.250 linear feet of intermittent and ephemeral stream segments in the project area. There are 3 stream segments of intermittent streams totaling 2,930 linear feet and 14 ephemeral stream segments totaling 9,320 linear feet. There are six wetland areas totaling 2.32 acres with the project. The largest wetland area is a 1.20 acre seep at the base of a hill in the upper edge of the flood plain of Little Spring Creek. The other 5 wetland spots vary from 1/10 of an acre to 3/10 of an acre in size.

The intermittent streams onsite have some ripple and pool sequences, runs, glides and some meanders with a few habitat structures along the lower portion of the intermittent streams. Some of the intermittent stream segments are degraded due to sedimentation as a result of site preparation, tree planting, tree harvesting and timber road construction. These soil disturbing activities have resulted in some minimal valley fill due to the severe slopes and erosion hazard of the soils found on the slopes. The beds of the intermittent streams are chiefly gravel, coarse fragments and bed rock in solid and broken pieces. These streams are not deeply incised due to the thinness of the soil over bedrock.

The ephemeral streams have moderately stable bed and banks with shallow depth to rock in some areas. The ephemeral streams do not have stream side management zones as they have cleared up to the banks and planted to pine. The ephemeral streams do not have ripple/pool sequences or meanders as the steep valleys are narrow and relatively straight. The beds of the ephemeral streams are mainly coarse rock fragments, gravel and solid and broken bedrock.

The 2.32 acres of wetlands identified within the project boundary are of two types: wetlands adjacent to streams in forested areas created by beavers building dams in the drainage channels and wetlands on the terrace of Little Spring Creek at the bases of the adjacent hills. These wetlands in the floodplain have slow runoff and seep discharge points. These wetland areas are not high quality wetlands. They have received wetland rapid assessment procedure (WRAP) scores ranging from a low of .500 to a high of .750. The quality of the wetlands is considered low to medium quality.

There are 0.71 acres in three wetland areas along the major drainage stream within the mine area. They are 0.10 acres, 0.31 acres and 0.30 acres in area. They were created by beavers. The ponding of intermittent flow killed some of the soft hard wood tree species and opened these narrow areas to sunlight. A list of the wetland plants found during site

inspections on February 25 and April 4 in 2010 in these wetlands dominated by Sweet gum and Yellow popular, follows:

Wetland plants observed in beaver pond areas:

Black gum	<u>Nyssa sylvatica</u>
Sweet gum	<u>Liquidambar styraciflua</u>
Yellow popular	<u>Liriodendron tuliiifera</u>
Japanese honeysuckle	<u>Lonicera japonica</u>
Red maple	<u>Acer rubrum</u>
Giant reed	<u>Arundo donax</u>
Wool-grass	<u>Scripus cyperinus</u>
Alder	<u>Alnus scrrulata</u>
Shining flat sedge	<u>Cyperu rivularis</u>
Olney's bulrush	<u>Scirpus americanus</u>
Cat green briar	<u>Smilax glanca</u>

There are 1.61 acres of wetlands in three areas located with in the flood plain of Little Spring Creek. Two are located in open areas and dominated entirely by wetland herbs. They are 1.20 acres and 0.30 acres in size. The third is a small 0.11 acre forested wetland dominated by Sweet gum and Yellow popular. The hydrology of these three wetlands ia driven by flood and seep waters. The two herbaceous wetlands are regularly mowed to keep them open for hunting purposes. A list of wetland plants found during onsite inspections on February 25, April 4 in 2011 and on November 4, 2011 follows:

Herbaceous wetland plants observed in flood plain of Little Spring Creek

Shallow Sedge	<u>Carex lurida</u>
Curly dock	<u>Rumex crispis</u>
Large sedge	<u>Carex gigantean</u>
Soft rush	<u>Jancus effusus</u>
Barnyard grass	<u>Echinochloa crusgalli</u>
Dallis grass	<u>Paspalum dilitatum</u>
Smartweeds	<u>Polygonum spp</u>
Witch grass	<u>Panicum capillare</u>
Carolina nightshade	<u>Solanum carolinense</u>
Alder	<u>Alnus serrulata</u>
Elderberry	<u>Sambucus canadensis</u>

Approximately 5 acres with in the Flood plain of Little Spring Creek is within the mine area. Of these 5 acres, 3.5 acres are open and the remaining acreage is a bottomland forest that has been high graded. It is dominated Yellow popular and Sweet gum in the

tree canopy and by Chinese privet in the mid story but is fairly diverse. A list of the plants found November 4, 2011 follows.

Plant species observed in upland flood plain of Little Spring Creek

Tulip poplar	<u>Liriodendron tulipifera</u>
Sweetgum	<u>Liquidambar styraciflua</u>
Loblolly pine	<u>Pinus taeda</u>
Umbrella tree	<u>Magnolia macrophylla</u>
Ironwood	<u>Carpinus caroliniana</u>
Pignut hickory	<u>Carya glabra</u>
American elm	<u>Ulmus americana</u>
Red maple	<u>Acer rubrum</u>
Hop-hornbeam	<u>Ostrya virginiana</u>
Water oak	<u>Quercus nigra</u>
Chestnut oak	<u>Quercus michauxii</u>
Southern red oak	<u>Quercus falcata</u>
Willow oak	<u>Quercus pellos</u>
Beech	<u>Fagus grandifolia</u>
Privet Chinese	<u>Ligustrum sinense</u>
Cane	<u>Araudinaria tecta</u>
Winterberry	<u>Ilex verticillata</u>
Multiflora rose	<u>Rosa multiflora</u>
Trumpet creeper	<u>Campis radicans</u>
Japanese Honey suckle	<u>Lonicera japonica</u>
Fox grape	<u>Vitis labrusca</u>
Christmas fern	<u>Polystichum acrostichoides</u>
Little White aster	<u>Aster vimineus</u>
Broom Sedge	<u>Andropogon virginicus</u>
Goldenrods	<u>Solidago spp.</u>

The two intermittent stream segments with the area to be mined had a narrow streamside management zones surrounded by planted loblolly pine. The SMZ's contained a fairly diverse overstory of young to mature trees. The ground cover although thick in spots was not very diverse. A list of plants found on November 4, 2011 follows:

Plants found in SMZ's of intermittent stream segments

White Oak	<u>Quercus alba</u>
Sweet gum	<u>Liquidambar styraciflua</u>
Tulip poplar	<u>Liriodendron tulipifera</u>
Pignut Hickory	<u>Carya glabra</u>
Sour wood	<u>Oxydendrum arboreum</u>
Black Cherry	<u>Prunas serotina</u>
Red maple	<u>Acer rubrum</u>
Black gum	<u>Nyssa sylvatica</u>

Post oak	<u>Quercus stellata</u>
Water oak	<u>Quercus nigra</u>
Laurel Oak	<u>Quercus laurifolia</u>
Southern oak	<u>Quercus falcata</u>
Umbrella tree	<u>Magnolia macrophyla</u>
Dogwood	<u>Cornus florida</u>
Tree sparkleberry	<u>Vaccinium arborescens</u>
Dogwood	<u>Cornus florida</u>
Strawberry bush	<u>Euonymus americanus</u>
Trumpet creeper	<u>Campis radicans</u>
Yellow jessamine	<u>Gelsemium sempervirens</u>
Japanese honeysuckle	<u>Lonicera japonica</u>
Bushy beard grass	<u>Andropogon glomerata</u>
Muscadine	<u>Vitis rotundifolia</u>

The majority of the rest of mine area is a planted loblolly pine plantation. The plantation is 18 years old. It was thinned two years ago. There are no streamside management zones on the ephemeral stream segments as the pines were planted across the ephemeral streams. The plantation has not been burned but is relatively open with a sparse but diverse understory of hard and soft wood trees as the area was originally a pine hard wood site. In a few areas where it was too steep to plant mechanically along the ephemeral stream are small patches of hardwoods. A list of plants found in the extensive pine plantation follows.

Plant species found in the Pine Plantation:

Loblolly pine	<u>Pinus taeda</u>
Pignut hickory	<u>Carya glabra</u>
Bitter-nut hickory	<u>Carya cardiformis</u>
Sour wood	<u>Oxydendrum arboreum</u>
Water oak	<u>Quercus nigra</u>
Post oak	<u>Quercus stellata</u>
Black jack oak	<u>Quercus marilandica</u>
American holly	<u>Ilex opaca</u>
Sassafras	<u>Sassafras albidum</u>
Dogwood	<u>Cornus florida</u>
Tulip poplar	<u>Liriodendron tulipifera</u>
Red maple	<u>Acer rubrum</u>
Southern red oak	<u>Quercus falcata</u>
Red cedar	<u>Juniperus virginiana</u>
Oak-leaf hydrangea	<u>Hydrangea arborescens</u>
Tree sparkleberry	<u>Vaccinium arborescens</u>
Black cherry	<u>Prunus serotina</u>
Smooth sumac	<u>Rhus glabra</u>
Chinese privet	<u>Ligustrum sinense</u>
Dog fennel	<u>Eupatorium capillifolium</u>

Cat briar	<u>Smilax glauca</u>
Multiflora rose	<u>Rosa multiflora</u>
Strawberry bush	<u>Euonymus americanus</u>
Little White aster	<u>Aster vinimeus</u>
Broom sedge	<u>Andropogon virginicus</u>
Bracken fern	<u>Pteridium aquilinum</u>
Johnson grass	<u>Sorghum halepense</u>
Switch grass	<u>Panicum virgatum</u>
Japanese honeysuckle	<u>Lonicera japonica</u>
Serica	<u>Lespedeza cuneata</u>
Bicolor lespedeza	<u>Lespedeza bicolor</u>

The soil series mapped on the project area on Map sheets 4 and 10 of the “Soils Survey of Walker Count, Alabama issued March 1992, are the following: Sipsey loamy sand, 4 to 18 percent slope, Sipsey Bankhead complex, 15 to 45 percent slope and Pruitton loam, 0 to 2 percent slopes.

The Sipsey series consist of moderately deep, well drained, moderately permeable soils formed in loamy material weathered from sandstone. These soils are found on gently sloping to moderately steep ridge tops and side slopes ranging from 4 to 30 percent. It has brown (10YR 4/3) loamy sand, A horizon 0-4 inches and yellowish brown (10YR 5/4) sandy loam E and EB horizons 4-16 inches. The B+ horizon is a strong brown (7.5YR 5/8) sandy clay loam and a Cr horizon of strong brown and yellowish brown weathered sandstone. The soil series is not hydric nor is it listed as prime farmland. Most of the acreage in Walker County is used as wood land or pasture. The soil is fairly suited to pasture or hay. It is well suited to the production of loblolly pine and long leaf pine with a site index of 80. Sipsey soil is poorly suited to cultivated crops due chiefly to the hazard of erosion and low water capacity. Based on the soil survey there is approximately 56 acres of Sipsey loamy sand within the project boundary. That is approximately 24 percent of the mine area.

The Sipsey-Bankhead complex is located on 15 to 45 percent slopes. They are moderately deep, well drained soils. They are moderately steep to very steep soils on side slopes. The series consists of about 50 percent Sipsey soil and 30 percent Bankhead. The two soils are intricately mixed and so small that mapping them separately was not practical. Additionally, within this mapping group are small areas of Nauvoo, Montevallo, Sunlight and Townley soils. Also included are areas of sandstone rock outcrop.

The Bankhead series are moderately rapidly permeable soils that formed in residuum and colluvium derived from sandstone. It has a dark grayish brown (10YR 3/2) sandy loam A horizon 0-4 inches and a brownish yellow (10YR 6/6) chaunery sandy loam to yellowish brown (10YR 5/6) cobbly sandy loam B horizon 4-26 inches thick. The R horizon is fractured hard yellowish brown sandstone with loamy material in the cracks.

Almost all of the acreage is wooded in the county with a few areas used as pasture although the suitability for pasture and hay is poor or fair. None of these soils are suited to cultivate crops because of the slope, hazard to erosion and droughtiness in most years. The droughtiness is caused by the low available water capacity and shallow depth to bedrock.

However, these soils are well suited to the production of loblolly pine which has a site index of 80. This map unit has fair to very poor potential for open land wildlife habitat and good to very poor potential for woodland wildlife. Based on the soil map approximately 170 acres or 79 percent of the permitted mine area is underlain by the Sipsey Bankhead complex.

The Pruitton soil series consists of deep, well drained, moderately rapidly permeable soils that formed in loamy alluvium derived from sandstone siltstone and shale. These soils are found on the nearly level and sloping flood plains at Little Spring Creek in this mine project areas that have 0 to 2 percent slopes.

A typical pedon of Pruitton loam has an Ap horizon of 0-7 inches of yellowish brown (10YR 5/4) loam. The Bw1 horizon is 7-25 inches of yellowish brown (10YR 4/4) loam. The Bwz horizon is 25-41 inches deep of a yellowish brown (10YR 5/6) loam with mottles of pale brown (10YR 7/4). The C horizon 41 to 64 inches deep is sandy loam with a matrix of mottled yellowish brown (10YR 5/6), very pale brown (10YR 7/4) and dark yellowish brown (10YR 4/4).

Pruitton loam has a moderate organic matter and medium natural fertility with a depth to bed rock over 60 inches. Although flooded frequently from November through March. The soil is flooded for only short durations. The depth to the water table is over 60 inches. The series is neither a hydric soil nor prime farmland.

The flood plain soil on this site is mostly wooded at the present time. In the past it was cleared and put in to agriculture in this project area as well as some other floodplain areas of Pruitton loam. It is fairly suited to hay pasture and to cultivate crops. However the main hazard is flooding. Grasses and legumes respond well to the application of lime and fertilizer and forage production is good.

This soil series is well suited to the production of loblolly pine with a site index of 90. However, plant competition is the major concern in managing timber as the planted pine has competition from natural succession of sweet gum, tulip popular and various species of hardwood. Japanese privet is the major exotic invasive species that proliferates in the floodplain of this site

The soil is unsuitable for urban development due to frequently flooding. It has a fair potential for open land and wetland wildlife habitat and a good potential for woodland wildlife. There are a few small areas that are suitable to pond shallow water for waterfowl and furbearers.

There is approximately 5 acres of Pruitton loam mapped within the proposed mine area that is located in the flood plain of Little Spring Creek. This is about 2 percent of the total mine area. Three wetland areas have been identified and delineated within this area. They are a 1.20 acre herbaceous wetland, a 0.30 acre herbaceous wetland that are both located in a 3.5 acres of open land and a 0.11 acre wooded wetland area. These wetland areas have seep and flood water driven hydrology and are likely inclusions of Kinston soil, which is a hydric soil series.

Please see attached copy of permit, location, topographical and soil maps, wetland data forms, digital and aerial photographs in Appendix A. They depict the locations of the proposed mine increments, amount and location of delineated wetlands and typical conditions of the site. The center of the proposed mine area is located at latitude 33.9472492 ° N and longitude 87.2524013° W.

Wolf Creek Mitigation Site:

The riparian buffer restoration along 2,440 linear feet of Wolf Creek, the enhancement of 12.49 acres of wetlands and 1,650 linear feet of intermittent stream channel is located on the southern portion of a 217 acre parcel of land. This parcel is located just west of Corona in Walker County, Alabama. This land was purchased by the applicant from Ms. Mildred Poe on December 19, 2007 to obtain additional land for mitigation.

This proposed Wolf Creek mitigation site is located in the center of the north ½ of Section 34, Township 15 South, and Range 9 West in Walker County, Alabama. The proposed mitigation is in kind mitigation and in the watershed of the Mulberry Fork of the Black Warrior River. The wetland areas were identified and delineated using the routine method from the Corps of Engineers 1987 Wetland Delineation Manual, supplemented with the Field Indicators of Hydric Soil. The wetlands were surveyed with a sub meter Trimble GPS with post processed differential correction. The wetland survey was conducted on August 16, 2011. These 12.49 acres of impacted forested wetlands will be enhanced.

These stream buffers restorations and wetland enhancement site is located on the 1500 foot wide flood plain of Wolf Creek. The elevation of the flood plain is just below 320 feet mean sea level. The hills of the west and east sides of the flood plain rise up to 560 feet. The hills, immediately adjacent to the mitigation, have slopes that are from 45 percent to 48 percent.

In 1949 almost all of the flood plain of Wolf Creek for miles both up and down stream from the site had been cleared for agriculture. Even the very narrow flood plains of the feeder streams from the hollows and the major feeder creeks like the near by Penley Creek, Frost Creek and Water Creek had been land cleared and converted to agriculture.

Approximately 90 acres of the flood plain of Frost Creek just upstream from its junction with Wolf Creek had been open pit mined for coal. Just immediately south of the proposed mitigation site, open pit coal mining was conducted in the flood plain between

Rocky Branch and Wolf Creek over another 90 acres. Both of these pre regulation strip mining sites were abandoned and never restored. These sites have become forested naturally but still have very visible water filled pits and high walls along the bottom slopes of the hills.

The open pit mining areas are mapped on page 32 of the Soil Survey of Walker County as Brilliant and Palmerdale extremely channery loams 6 to 60 percent slopes by the map symbol BPE. Channery is a descriptive term used for thin and flat limestone, sandstone on schist fragments up to 15cm – 6” in length. This Brilliant Series consists of deep somewhat excessive drained soils formed in medium acid to alkaline spoil materials that have been strip mined for coal. The representative profile description is from 0-5 inches, grayish brown (10YR5/2) extreme channery loam, about 70 percent coarse siltstone and sandstone fragments ranging from 1/8 inch to 60 inches in diameter. From 5 to 60 inches it is a dark grayish brown (10YR 4/2) extremely channery loam about 80 percent coarse mainly silt stone and some sand stone fragments from 1/8 to 60 inches in diameter.

The Palmerdale Series consists of deep some what excessively drained moderately rapidly permeable soils that formed in acid spoil material in sloping to very steep areas that have been surface strip mined for coal. The typical pedon of Palmerdale extremely channery loams follow: The Ap horizon form 0-6 inches is a dark grayish brown (2.5Y 4/2) extremely channery loam about 70 percent randomly oriented coarse fragments mostly cannery siltstone. From 6 -60 inches it is dark grayish brown (2.5 Y 4/2) extremely channery loam about 80 percent, mostly randomly oriented coarse fragments, mainly siltstone. The subsoil is very strongly acid.

A portion of the Poe property is a section of steep hillside in the southwest corner of 217 acre tract. This area is in a natural hardwood stand of medium to large trees chiefly oaks. It is mapped on the Walker County soil map by the symbol (McE), Montevallo channery silt loam. This soil series consists of shallow, well drained soils that formed in material weathered from interbedded sandstone siltstone and shale. These soils are on steep to very steep side slopes, 30 to 60 percent slope. A typical pedon has an A horizon from 0 - 3 inches of a dark yellowish brown (10 YR 4/4) channery silt loam, about 20 percent siltstone fragments that is strongly acid. The Bw1 horizon from 3-5 inches is yellowish brown (10YR 5/4) very channery loam about 55 percent siltstone fragments. This soil horizon is strongly acid.

The Bw2 horizon 5 to 12 inches is a strong brown (7.5 YR 5/6) extremely channery loam that is 70 percent siltstone and sandstone fragments and very acid. The C horizon is yellowish brown (10YR 5/6) weathered fractured siltstone and sand stone with Bw material in the cracks of the upper part.

These soils are almost all wooded as they are unsuited for pasture or cultivated crops. They are poorly suited for urban development. Hence, this area of the property about 40 plus acres is a mature stand of tall timber chiefly oaks and other hardwoods on a 48 percent slope.

Much of the agricultural field between the Highway 18 and the Southern Railroad was utilized as a coal loading and timber loading area but is now abandoned. About 1/3 of the agricultural fields on this 217 acre tract were abandoned and have been overgrown and in places has been inundated by beavers. The bulk of the rest of the agricultural land was planted to loblolly pine plantations.

The soils of the proposed mitigation site are mapped as Spadra-Whitwell complex, 0-3 percent slopes. These soils are occasionally flooded. The Spadra series consists of deep, well drained soils that formed in loamy alluvium derived mainly from sand stone, siltstone and shale. They are found on nearly level to sloping stream terraces. A typical soil profile of Spadra soil series is a dark yellowish brown (10YR 4/4) fine sandy loam from 1-7 inches. From 7 to 21 inches it is a dark brown (7.5YR4/4) loam. From 21 to 33 inches it is a mottled dark yellowish brown (10YR 4/6), yellowish brown (10YR 5/4) and light yellowish brown (10YR 6/4) loam. The A horizon 0-7 is medium acid, and the B horizons are strongly acid.

Three soil test pits were dug to document the upland areas surrounding the two wetland areas that are proposed to be enhanced. One was dug on the steep hill slope on the west side of the smaller wetland area. This soil test pit labeled Plot 3 on the Wetland Determination Data Form Eastern Mountains and Piedmont confirmed that the soil was Montevallo channery silt loam as mapped. Two soil test pits were dug on the east side of the two impacted wetland areas within the upland pine plantation. These two test pits labeled Plot 2 and Plot 5 confirmed that the soil on the upland portions of the stream terrace in the flood plain of Wolf Creek to be the Spadra series.

Two soil test pits were dug one in each of the wetland areas that were beaver influenced and bordered on the west by an intermittent stream also located in the flood plain. Both of these test pits had soil in the upper 12 inches with gray (10YR 5/2) silty clay or clay matrix with common distinct to massive mottles of light yellowish brown (10YR 4/6), yellowish brown (10YR 5/8) and yellowish red (5YR 4/6). The soil from these two wetland areas were neither Spadra nor Whitwell soils, but Kinston soils that are listed as a hydric component of the Spadra-Whitwell complex in Walker County. Kinston soils make up only 1 percent of the Spadra-Whitwell map unit and are found in drainage ways.

A sample of the existing vegetation in the proposed stream buffer on the west bank of Wolf Creek was taken on August 16, 2011. There was a very narrow band of mature trees left on the bank of the side of the creek. The majority of the proposed 200 foot wide buffer restoration area was an open area dominated by early succession of stage grasses and herbs with a few shrubs. This upland area of mature plantation pine and mixed hard woods had been clear cut in the recent past. A list of the observed vegetation follows:

Sweet gum	<u>Liquidambar styraciflua</u>
Tulip popular	<u>Lireodendron tulipifera</u>
American elm	<u>Ulmus americana</u>
Water oak	<u>Quercus nigra</u>
Willow oak	<u>Quercus phellos</u>

Pignut hickory	<u>Carya glabra</u>
Loblolly pine	<u>Pinus taeda</u>
Red maple	<u>Acer rubrum</u>
Basswood	<u>Tilia floridana</u>
Iron wood	<u>Carpinus caroliniana</u>
Green ash	<u>Fraqxinus pennsylvanica</u>
Persimmon	<u>Diospyros virginiana</u>
Chinese privet	<u>Ligustrum sinense</u>
Winged sumac	<u>Rhus copallium</u>
Baccharis	<u>Baccharis halimifolia</u>
Mimosa	<u>Albizia julibrissin</u>
Johnson grass	<u>Sorghum halepense</u>
Dog fennel	<u>Eupatorium capillifolium</u>
Joe-pye-weed	<u>Eupatorium maculatum</u>
Serica	<u>Lespedeza cuneata</u>
Beggar ticks	<u>Desmodium nudifolium</u>
Little white aster	<u>Aster vimineus</u>
Pantridge berry	<u>Cassia fasciculate</u>
Blackberry	<u>Rubus argustus</u>
Brazilian verrain	<u>Verbena brasiliensis</u>
Japanese honey suckle	<u>Lonicera japonica</u>
Muscadine	<u>Vitis rotundifolia</u>
Fox grape	<u>Vitis labrusca</u>
Panic grasses	<u>Panicum spp.</u>
Goldenrod	<u>Solidago spp.</u>
Cat briar	<u>Smilax glauca</u>

The existing vegetation in the proposed stream buffer on the east bank of Wolf Creek is an early successional stage of uneven aged mixed deciduous trees and shrubs with a midstory of sapling and shrub dominated with Chinese privet with 40 to 90 percent aerial coverage. This area is mapped on the 1949 Oakman 7.5 minute USGS quadrangle as open agricultural land. The Soil Survey of Walker County, Alabama issued March of 1992 depicts this area on the east side of Wolf Creek as wooded while the west side up to the creek bank was depicted as open agricultural land.

It appears based on the small diameter of the canopy trees and low basal area that this wooded area now dominated by sweet gum was high graded removing merchantable size hard woods. The wooded area is dominated by early successional sweet gum and tulip popular.

A sample of the existing vegetation on the flood plain on the east side of Wolf Creek in the proposed buffer restoration was taken on September 30, 2011. This upland area had a sparse ground cover due to the sapling and shrub layers that were dominated by 40% to 90% coverage of Chinese privet. Additionally the ground cover was also dominated by young privet plants. Due to the invasive dominance of Chinese privet and apparent past

high graded timber harvest, the specie diversity of the trees, shrubs, vines and herbaceous plants was low.

A list of plants observed on the east side of Wolf Creek follows:

Sweetgum	<u>Liquidambar styraciflua</u>
Water oak	<u>Quercus nigra</u>
River birch	<u>Betula nigra</u>
Tulip poplar	<u>Lireodendron tulipifera</u>
Ironwood	<u>Carpinus caroliniana</u>
Sycamore	<u>Platanus occidentalis</u>
Green Ash	<u>Fraxinus pennsylvanica</u>
Red maple	<u>Acer rubrum</u>
Mimosa	<u>Albizia julibrissin</u>
Chinese privet	<u>Ligustrum sinense</u>
Japanese climbing fern	<u>Lygodium japonicum</u>
Cat green briar	<u>Smilax glauca</u>

The hydrology of Wolf Creek proper within the proposed mitigation site has been changed little by past surface coal mining activities and conversion of some of the floodplain to agricultural lands, chiefly pasture above the site. The majority of the watershed is timberland with pine plantation on the ridge tops and gentle slopes with natural pine hardwood on the steep slopes.

Wolf Creek is listed on the 2010 Alabama 303 (d) List of impaired waters. It was listed in 1998 for 38.40 miles from Highway 102 down to its junction with Lost Creek which is also listed as impaired water. Wolf Creek is used for Fish and Wildlife. The cause for the listing is siltation and habitat alteration caused by abandoned surface mining. The proposed mitigation area is located 14 miles down stream from Highway 102 within the reach of Wolf Creek on the 303 (d) list.

There are two unnamed tributaries that flow through the proposed mitigation area that have been altered in the past. A small perennial first order stream that drains approximately 120 acres of Church Hollow is located directed northeast of the mitigation area. This stream has been channelized in its lower 1000 feet from Wolf Creek. The stream has three culverts in this channelized portion through the small town of Corona and under the Highway and railroad.

The other altered stream is an intermittent first order stream that originates in a small pond on the top of the very steep hill west of the mitigation site. This stream is not shown on the Oakman Quadrangle map but is depicted on the Walker County Plat directory and Walker County Revenue maps. It drains approximately 60 acres of this steep hillside and 60 acres of pulpwood sized planted pines and 12.49 acres of beaver influenced wetlands located in the flood plain of Wolf Creek. These early plat maps show the lower end of this stream being the southern boundary between the Mildred Poe

property and the Cleveland Lumber Company property that was open pit mined for coal and abandoned.

The flood plain area between Wolf Creek and the lower 2030 linear feet of this unnamed tributary stream had been converted into a mud racing track. The mud track area contained a few trees but was chiefly open. The track as bare dirt and the infield dominated by tall un-mowed Broom Sedge, Andropogon virginicus. The grassed parking area had a few scattered Sweet Gum trees and one large Loblolly Pine. The mowed grass parking area was chiefly Broom Sedge and Bermuda grass. There was a line of Water Oaks, Sweet Gums and a few pines along the top of the bank of Wolf Creek that were blown down, ripped out or twisted off and dumped into the creek by a severe tornado the spring of 2008 before the flood event that year.

The Walker County Soil survey map sheets are base maps prepared from 1977 aerial photography. Sheet number 32 shows a diversion ditch that cuts off the lower 2230 linear feet of the stream. This diversion ditch is 260 feet long and varies from 30 to 25 feet wide and is over 6 feet deep. It has a bottom elevation of 2 feet lower than the natural low ground of the track site.

The flood plain segment of this stream also acts as an over flow channel whenever Wolf Creek floods out of the banks. Since the mud track was constructed well after 1977 it is assumed that the diversion ditch was dug to keep the stream flow out of the open pit mining area.

The diversion ditch has been plugged and lower 2230 linear feet of the stream has been restored in its original alignment and the mud track area graded to original contours and elevation during September of 2011. The 9.95 acre restored wetland soil of the mud track on both sides of the 2230 linear feet of restored stream will be planted with a diversity of bare root tree seedlings. Also 1800 linear feet of 4 X buffer on the west side of Wolf Creek and a 1 X buffer on the east side of Wolf Creek will be planted to replace the bottomland hardwood to restore the upland banks that were severely damaged by a tornado. This mitigation project at the mud track site is part of the compensatory mitigation required for the Robison Lake project permit SAM-2007-01557-HWL

The 1650 linear feet of this intermittent stream upstream of the mud track is directly abutting the west sides of the two wetlands area that will be enhanced in this proposed mitigation area for the Little Spring Creek Mine project.

This portion of the creek also receives hydrologic input from a flowing spring at the base of the steep hill as well as intermittent flow from the entire hillside. This area of the stream shows signs of ditching and contains a series of beaver dams that temporarily pond the lower sections of these two wetland areas. Two wetlands were delineated using the routine method of the Corps' 1981 Wetland Manual and the USDA's "Field Indicators of Hydric Soils in the United States". They were then surveyed using a sub meter Trimble "Recon" GPS. The smaller wetland was found to be 2.94 acres in size and the larger 9.55 acres in size for a total of 12.49 acres. This area will be utilized as

wetland mitigation as lift can be obtained by restocking this wetland and stream banks with a diverse mixture of native soft and hardwood species and the removal of privet. The 16.23 acres of uplands planted pine between these wetlands and the banks of Wolf Creek have recently been harvested. This area will be replanted to pine hardwood as a buffer for the enhanced wetlands. The two wetland areas, the upland and the 22.41 acres of proposed 4 X buffer restoration on both sides of Wolf Creek abutting these two areas present an excellent opportunity to enhance intermittent stream and wetlands and recreate buffers of natural forested bottomland hardwoods in the flood plain of Wolf Creek.

The tree planting of both early successions stage and climax species will accelerate natural succession and more rapidly develop a climax forest on both flood plain uplands and wetlands, buffering both streams and wetlands.

Please see the Data Forms for the Wolf Creek upland and wetland areas, plot map from the Walker County Plat Book, a copy of the Oakman, Alabama, 7.5 minute USGS Quadrangle map, a copy of the Walker County soil survey map sheet number 32, aerial photographs and digital photographs that are attached in Appendix B. They depict or describe the following: vegetation, hydrology, and soil profile of the Wolf Creek floodplain's wetlands and uplands; the location of the property and location of the proposed compensatory mitigation. The center of the Wolf Creek mitigation site is located at latitude 33.705227198° N, longitude 87.49795207° W.

Determination of Credits

The amount of mitigation credits required to off set the loss of wetlands and perennial stream due to the proposed Little Spring Creek Mine Increments 1 and 2 projects is based on the acreage and value of the wetlands impacted and the length of intermittent stream segments and the amount of adverse impact factors attributed to the intermittent streams.

The ephemeral stream segments to be impacted by mining will be mitigated as wetland area. The Mobile District, Corps of Engineers "Standard Operation Procedure (SOP) Compensatory Stream Mitigation Guidelines" only applies to intermittent and perennial streams. Therefore, the Mobile District has determined that ephemeral streams will be mitigated as wetlands by computing the area of the stream by multiplying the ephemeral stream segment lengths by their individual average widths. The combined areas of all impacted ephemeral stream segments are to be mitigated at a 1acre to 1 credit ratio.

The following table details the wetland acreages, wetland values and computed wetland credit loses for the six wetland areas and the ephemeral stream segments.

Wetland Area	Acres	WRAP score	Impact credit loses
8	0.30	X 0.750	= 0.23
7	0.30	X 0.500	= 0.15
5	1.20	X 0.500	= 0.60
4	0.11	X 0.720	= 0.08

2	0.31	X	0.750	=	0.23
1	0.10	X	0.720	=	0.07
Ephemeral	<u>0.3241</u>	X	<u>1.000</u>	=	<u>0.3241</u>
Totals	2.6441				1.6841

The computed wetland impact is a loss of 1.6841 wetland credits. The number of wetland credits generated by the proposed Wolf Creek mitigation was computed by subtracting the existing WRAP scores from the proposed Wrap scores. In this case the existing WRAP scores for the two wetland areas are the same because both wetland areas have the same conditions of vegetation hydrology and buffer areas. Conversely the proposal WRAP scores will be the same as both wetlands will be enhanced in the same exact manner. The existing WRAP score is 0.750 and the proposed WRAP score will be 0.889 for .0.139 credit lift for each acre. The 12.49 acres of wetlands will generate 1.7361 wetland mitigation credits for an excess of 0.052 wetland credits. See Appendix () for WRAP scores and a tabulation of wetland credits lost and gained.

The number of stream credits lost was determined by completing the Adverse Impact Factors for Riverine Systems Worksheet from the Mobile District's Standard Operating Procedures, Compensatory Mitigation Guidelines. The two intermittent stream segments WFP 7 and WFP 19 in Increments # 1 and the one intermittent stream segment in Increment # 2 (WFP 7) of the permitted mine area were scored for each of the six impact factors. The sum of factors for WFP 7 in Increment 1 was 4.15 which were multiplied by 1510 linear feet which is a loss of 6,266 stream credits. The sum of factors for WFP 19 in Increment # 1 was 4.0 which were multiplied by 760 linear feet. This is a loss of 3,040 stream credits. The sum of factors for WFP 7 in Increment #2 was 4.0 which when multiplied by 660 linear feet results in a loss of 2,640 stream credits. A total of 11,946 stream credits will be lost by the permitted mining of Increments 1 and 2 of the Little Spring Creek Mine.

The credits gained from the proposed buffer restoration mitigation project on Wolf Creek were computed using the Riparian Buffer Restoration and Preservation Worksheet to tabulate the sum of the seven net benefits for the buffer restoration of segment of Wolf Creek. Wolf Creek is greater than a 2nd order stream that is habitat for the flattened Musk turtle. So the score for Stream Type is 0.2 and the Priority Area is scored at 0.4. The sum of the Factors for a 4X buffer restoration and exotic removal with a 100% planting on the west side and a 75 % planting on the east side of Wolf Creek with Level I monitoring, a restrictive covenant with restoration concurrent with impacts is 5.8.

The sum of Factors is multiplied by the linear feet of stream buffer restoration. The credits to be gained for 2,440 linear feet of riparian buffer restoration at Wolf Creek will be 11,956 stream mitigation credits. Since the mitigation will be conducted on the banks of free flowing stream a mitigation factor of 1.0 was utilized. Therefore the total riparian restoration credits generated equals 11,956. This will result in an excess of 31 stream mitigation credits. Additionally 1,650 linear feet of intermittent stream will be enhanced as the banks will be reforested during the enhancement of the 12.49 acres of wetlands as the stream borders the west side of the wetlands. This planting of native trees in the

wetlands, that border the intermittent stream, is to generate lift for wetland credits. Therefore stream credits will not be generated although the stream will also be enhanced.

See the completed Wrap Scores, Adverse Impact Worksheets and the Riparian Buffer Restoration and Preservation Work sheet that are included in Appendix C along with a tabulation of wetland and stream credits required and the number of each provided by the proposed compensatory mitigation.

Mitigation Work Plans:

Geographic boundaries:

Wolf Creek

The propose Wolf Creek mitigation area is 51.13 acres in size. The mitigation included 12.49 acres of wetlands enhancement, 22.41 acres of riparian buffer restoration on 2,440 linear feet of Wolf Creek and enhancement of 1650 linear feet of intermittent stream. Also included is 16.23 acres of upland pine plantation to be harvested and re-planted to a pine hardwood stand that is located between the wetlands and stream buffer. The mitigation site is located in the south halves of the SW1/4 and ES ¼ of the SW ¼ of Section 27 Township 15 South, Range 9 West. It continues in the NW ¼ and the NE ¼ of the NW ¼ of Section 34, Township 15 South, Range 9 West, in Walker County.

Construction Methods:

The riparian buffer restoration of 2,065 linear feet on both banks of Wolf Creek will consist of planting a diversity of bare root trees and shrubs on the wide upland banks above the site of the restored mud track area and the 1800 linear foot buffer restoration being planted this winter of 2011. This upland flood plain will be planted on 12 foot centers on the west bank and on 14 foot centers on the east bank of Wolf Creek. This will be a total of 5,880 bare root seedlings on 22.41 acres. Also the 16.23 acres of pine will be replanted with 4,910 hardwood and pine seedlings.

The trees will be hand planted after sufficient rains, in the winter between December 2011 and February 2012 on the west side of the creek, have moistened the ground to promote a good survival rate and facilitate planting. The area will be roller chopped and burned on the west side of the creek. Since approximately 1100 linear feet of bare dirt road is located with in the 4X buffer some soil preparation will be required before planting trees and shrubs in the area of the road bed. This access road will be plowed with a rip plow to break up the pan that has developed over years of use to access the mud track area. After ripping the bare soil area, it will be disked lightly and seeded with an appropriate annual grass and mulched with crimped in wheat straw or mulch netting. This will prevent soil erosion from washing silt and colloidal material into Wolf Creek during and after site preparation and hand planting. The other existing access road to the west will be upgraded and utilized to access the area to conduct any remedial work activities to maintain both of the adjoining wetland and stream mitigation areas.

The 4X buffer area on the 2,065 linear feet on the east bank of Wolf Creek has a severe infestation of Chinese privet. The privet bushes up to 2 inches in diameter will be cut by hand and the cut stems sprayed with Glyphosate. The privet shrubs larger than 2 inches in diameter and the many sapling and small tree sized privet plants will be receive basal bark treatment with the herbicide Pathfinder. This side of Wolf Creek has a privet infestation up to 20% aerial coverage in the ground cover and shrub layer. Some areas have a heavy privet infestation up to 90% aerial coverage in the combined shrub and sapling canopy layers. This buffer area also has a dense stand of Mimosa trees, Albizia julibrissin that will be removed.

The bare soil areas will be seeded with a mixture of clover and annual grasses. The existing trees on the east bank will not be cut nor will there any mechanical clearing on the banks of the creek. Bare root seedlings will not be planted in the winter of 2011 and 2012 as the initial removal of the privet will not eradicated the plant. Additional hand removal and spot application of approved herbicides will be required to control the privet during the spring, summer and fall of 2012. Bare root seedlings will be planted at 75% stocking rate or 222 trees or shrubs per acre as this area already has a basal area that averages 40 of chiefly a few species of assorted softwoods. This stocking rate is approximately 14 foot spacing or one seedling for each 196 square feet for a total of 2,490 trees.

The following list of upland plants will be utilized to plant in the upland riparian buffer restoration area at Wolf Creek.

Upland Buffer Planting List:

Persimmon	<u>Diospyros virginiana</u>
Dogwood	<u>Cornus florida</u>
White Oak	<u>Quercus alba</u>
Saw Tooth Oak	<u>Quercus acutissima</u>
Tulip Poplar	<u>Lireodendron tulipifera</u>
Sweet Gum	<u>Liquidambar styraciflua</u>
Summand Oak	<u>Quercus shumandii</u>
Cherry Bark Oak	<u>Quercus falcata var pagodaefolia</u>
Southern Crab Apple	<u>Malus augustifolia</u>
May Haw	<u>Crataegus aestivalis</u>
Native Pecan	<u>Carya illinoensis</u>
Green Ash	<u>Fraxinus pennsylvanica</u>

After the bare root seedlings have been planted, any invasive exotic plants that colonize or germinate in the buffer restoration area will be hand pulled or dug up and destroyed. Flooding of Wolf Creek over the upland band onto the buffer restoration area will bring seeds of chiefly Chinese privet to the area. This area will be walked over very carefully every spring and fall during the 5 year monitoring period, to find and pull up or dig up the invasive seedlings of privet and any other invasive exotic species. Young privet

seedlings are tough and woody and are very easy to weed by hand from moist or wet soil. A good stand of annual grass with an over-seeding of a non-persistent later season annual grass will reduce the severity of privet infestation. It may be necessary to utilize Glyphosate, an approved herbicide, to spot spray for privet in this area, but only as a last resort after planting.

The 12.49 wetland enhancement area may be control burned to remove the duff and facilitate the hand planting of a diversity of trees from facultative wetland to obligate wetland trees. The area will be planted at a density of one tree per 144 square foot or on 12 foot centers. That is 302.5 trees per acre for a total of 3778 trees.

The bare root trees will be planted by hand labor using tree spades during the winter months of December 2011 through February 2012. The soil has a winter high water table so there will not be a problem of the tree roots dying out and having mortality from dry conditions.

Since the soil ground cover will not be disturbed during planting, conditions for invasive plant species colonizing the mitigation sites will not be present. Any invasive plant species observed during spring and fall inspections will be dug up and destroyed and or spot sprayed with an approved herbicide only as a last resort.

The species from the following list will be used to plant the wetland enhancement area at the Wolf Creek mitigation site.

List of wetland tree species:

Nutshell Oak	<u>Quercus nuttallii</u>
Water Oak	<u>Quercus nigra</u>
River Birch	<u>Betula nigra</u>
Willow Oak	<u>Quercus pellos</u>
Over Cup Oak	<u>Quercus lyrata</u>
Swamp Chestnut Oak	<u>Quercus michauxii</u>
Green Ash	<u>Fraxinus pennsylvanica</u>
Sweet Pecan	<u>Carya illinoensis</u>
Red Maple	<u>Acer rubrum</u>
Black Gum	<u>Nyssa sylvatica</u>
Sycamore	<u>Plantus occidentalis</u>
Black Willow	<u>Salix nigra</u>
Cotton Wood	<u>Populus deltoids</u>
Tulip Poplar	<u>Liriodendron tulipifera</u>
Sweet Gum	<u>Liquidambar styraciflua</u>

As with the upland buffer restoration of Wolf Creek it is inevitable that privet seeds will be carried in with flood waters and many will germinate during the early years before the tree canopy develops with natural shrubs in the under story. The seedlings will be removed by hand in the spring, summer, fall and winter seasons. At times spot spraying

with an approved herbicide, such as Glyphosate, may be required to effectively control privet, but herbicides will only be utilized as a last resort. By removing the privet, then less aggressive native wetland shrubs and herbs such as Button Bush, Cephalanthus occidentalis, Smartweeds, Polygonum spp. and Sedges, Carex spp. will colonize the shrub layer and ground cover.

With in this mitigation site totaling 51.13 acres of land there will be 12.49 acres of wetlands enhancement, 22.41 acres of riparian buffer restoration and 16.23 acres of pine hardwood established between riparian buffer and the wetland enhancement area.

The wetland area, riparian buffer areas and pine hardwood area will be planted with a total of 14,526 trees and shrubs. All of this area will be placed under a restrictive covenant protecting 4,015 linear feet of streams and 51.13 acres of uplands and wetlands, all within the flood plain of Wolf Creek.

Maintenance Plan:

Wolf Creek Mitigation

The Wolf Creek mitigation site will be checked for sheet soil erosion in the bare and graded soil areas that were seeded and then planted with trees and shrubs within both the buffer areas. Erosion control monitoring will be conducted after every heavy rain event, one inch or greater. All eroded areas will be reseeded and replanted if plantings were washed out. Silt fencing will be utilized and replaced where and when necessary. When the site is completely stabilized by vegetation any silt fencing will be removed and erosion monitoring will be conducted after any over-bank flooding events.

Thirteen permanent sample plots, one fourth of an acre in size marked with PVC pipes at the centers will be utilized to obtain a 10 percent sample of the survival of the tree and shrub plantings. Every tree will be counted by specie within the plots when planted in the winters of 2011 and 2012. Four plots will be located in the buffer restoration area along each bank of Wolf Creek. The other 5 plots will be setup in the 12.49 acres of wetland and stream enhancement area located west of Wolf Creek buffer area. These ¼ acre plots will contain on average 76 plantings of trees in the wetland enhancement area and combination of 76 trees and shrubs in the west bank buffer restoration area and 57 trees and shrubs in the east bank buffer restorative area.

Sampling of all 13 sample plots will be conducted in both the spring and fall. Any overall mortality above 20 percent will require replanting the entire site the following winter to achieve 80 percent survival. Should only a few sample plots have mortality over 20 percent, then a 2.5 acre polygon around each sample site will be replanted to achieve and maintain an 80 percent survival rate. If beaver production is heavy, over 20 percent, but less than 30 percent then additional plantings of fast growing softwoods such as Black Willow and Tulip Poplar will be planted in the areas with heavy beaver damage along the creek banks. Should beaver damage account for more than 30 percent mortality of any or any combination of species then beaver population control by

trapping will be implemented. The old existing beaver dams located on the intermittent stream will not be removed.

After 2012, surveys for tree survival will be accomplished only in the spring preferably after the late winter and early spring floods occur. A five year schedule for all maintenance activities is found in Appendix D.

Ecological Performance Standards:

Survival Rate:

The performance standard for the survival rate of the planted bare root tree and shrubs is an 80 percent survival of original stocking numbers, to be obtained within four growing seasons.

Growth Rate and Percent of Crown Cover:

A growth rate standard of all tree species will be an increase of tree height of 25 percent in two years and a 100 percent increase of height in 5 years. The standard for growth rate of the shrubs planted in upland buffers will be an increase in height of 10 percent in two years and a 50 percent increase in 5 years.

The standard for increase of percent aerial coverage by tree and shrub species planted will be an average increase in aerial coverage of 10 percent in 2 years and a 50 percent increase in 5 growing seasons.

Wildlife Utilization:

Wildlife utilization performance standard will be a significant increase in observed wild life, species at each of the wetland and riparian buffer restoration sites. Wildlife signs such as scats, tracks, nests, feeding litter, and cover will also be utilized to demonstrate a significant increase over baseline conditions and observations.

Water Quality:

The performance standard for water quality will be based on the quality of water leaving the stream buffer restoration site being equal to or better than the water flowing into the buffer restoration of Wolf Creek and the unnamed intermittent stream abutting the wetland enhancement site. The parameters measured will be Ph, temperature, dissolved oxygen and turbidity.

Diversity of Ground Cover:

The performance standard for plant diversity of the ground cover species found in the Wolf Creek mitigation site due to succession from open area to forested will be an increase of 10 percent of new plant species each year for 5 years using the recorded ground cover

species observed in the Data Forms as the baseline for both the uplands and wetland areas of Wolf Creek.

Control and Reduction of Exotic Plant Species:

The performance standard for control of Privet or any other plant exotic species at the Wolf Creek site will be less than 10 stems per mil-acre plot after hand removal and any required herbicide spraying each year for 5 years.

Monitoring Requirements:

The parameters measured to determine if the projects are meeting their performance standards will have the following monitoring requirements. These requirements will provide objective measures to determine if the compensatory mitigation projects are accomplishing their objectives.

Tree and shrub survival rate will be measured in the ¼ acre plots at Wolf Creek. Survival and predation rates will be kept by specie per lot, in all plots. Survival surveys will be conducted in the spring and fall in 2012 and every spring there after for 5 years. If 80% survival is not accomplished in 5 years monitoring will continue with yearly winter replanting for the next 5 or when 80 percent survival has occurred for 2 years in a row, which ever comes first. The consultant, Hosey Environmental, LLC will be responsible for the monitoring and the submission of yearly monitoring reports to the Corps of Engineers. The initial planting and replanting will be conducted and supervised by the applicant's land manager Mr. Chip Graham.

Beaver predation will be recorded during the tree and shrub survival rate surveys. If the Beaver predation is over 20 percent sacrificial trees will be planted. If over 20 percent predation persists for a second year or is over 30 percent, beaver trapping will be accomplished by the land manager until predation levels off below 5 percent.

Tree and shrub growth rate will be measured in feet and inches by the consultant and /or land manager during survival rate surveys. Aerial coverage will be measured in average square feet by specie in a mil-acre plot.

Wildlife usage will be recorded while making survival and specie diversity monitoring inspections, replanting work, road repairs and exotic specie control efforts. These counts of wildlife usage and observations will be conducted by the applicant, his agents and his environmental consultant. Harvest records of mammals, birds and fish taken in and adjacent to the mitigation areas will be recorded and utilized in the report.

Water quality sampling and measurements will be taken upstream and down stream at the Wolf Creek mitigation site on the intermittent stream off Wolf Creek and Wolf Creek proper. Water temperature, turbidity, dissolved oxygen and Ph will be measured during the summer and winter during low flows and shortly after heavy rain events in winter or spring.

The monitoring for water quality will be conducted for 5 years by the applicant's agent and or consultant and reported in the yearly Monitoring Reports. Should portable onsite measurement equipment for Ph, dissolved oxygen and turbidity prove inadequate, water samples will be sent to a certified lab and their finds will be included in the monitoring report.

Should there be no significant evidence of water quality degradation in all of the water quality parameters after 3 years of monitoring water quality, sampling will be curtailed.

Diversity of Ground Cover will be measured at Wolf Creek in the upland buffer restoration and the wetland enhancement areas. Vegetative sampling will be conducted in random mil-acre plots in these two areas. Each area will be sampled until a 10 percent increase in sample size does not increase the number of species found by 10 percent. Monitoring will be conducted every spring for 5 years. The monitoring and reporting will be conducted by the consultant.

Monitoring for Privet and other exotic plants at Wolf Creek mitigation site will be conducted also during tree survival inspections and replanting during the non growing season when privet is most visible with its evergreen leaves. The monitoring for exotic species will be conducted by the consultant and the control will be conducted by Mr. Robison's Land Manager and Forester, Mr. Chip Graham.

Monitoring reports will be submitted in January of each year from 2012 to 2017. Should any of the performance standards not be met at the end of 5 years of monitoring additional remedial action will be implemented until all performance standards are achieved. Only the district engineer can authorize the reduction of a performance standard if attainment of the original standard is impractical or unattainable and he has decided that all of the mitigation sites are fully functional and have achieved the objectives of the approved compensatory mitigation plan.

Long Term Management Plan

Mr. Otis R. Robison the owner of the lands containing the Wolf Creek mitigation site, will be responsible for all long term management of the compensatory mitigation site.

Mr. Robison will be responsible for the successful completion of the compensatory mitigation activities proposed for the mitigation site. He will pay for all equipment, supplies, monitoring and plantings required for the wetland restoration and preparation of the Restrictive Covenants for the site.

The Wolf Creek mitigation site will be returned to natural floodplain forest as it was before being converted to agricultural use first then to pine monoculture.

The site will be utilized for recreation and leased for hunting. Once the Wolf Creek site matures and the performance standards have been achieved they will be self sustaining. These wetland mitigation sites were chosen in active flood plains that flood, have high winter and spring water tables and active hill side seeps. The mitigation plans are designed so the compensatory mitigation sites will required little to no maintenance. There are no mechanical structures or engineering features such as pumps or water control structures to fail or require repair. A locked gate will be maintained at the entrance to the Wolf Creek property. The cost of maintenance can be paid out of hunting leases in the future. Therefore long term financing mechanisms should not be necessary. Therefore long term financing mechanisms should not be necessary.

These proposed hardwoods on wetland floodplains and riparian buffers do not require control burning every three years nor will they require prolonged exotic plant control. once the Privet is controlled. Most exotic species gain a foot hold when the soil is disturbed mechanically and left bare and not quickly stabilized with appropriated grasses. This will not be the case in this mitigation site as the timber will not ever be harvested.

Timber harvest will be prohibited except for salvage operation after tornadoes or severe storms. They will be conducted in the dry weather of the summer or fall. These areas will be re-planted if the blown down areas are over an acre in size.

The cost of the long term maintenance for each of these sites will be chiefly paying the taxes. Fortunately Mr. Robison has purchased larger stands of timber land on which enough profit from timber sales and mineral extraction can be gained to finance the entire restoration and monitoring costs and yearly property tax bills. However, should the district engineer determine that this long term financing mechanism is not appropriate or insufficient the applicant may be willing to set up a trust for the long term management of this compensatory mitigation.

Adaptive management plan

The only construction activity proposed in the mitigation plan is removal and ripping of the existing compacted dir access road within the buffer restoration area. It is very unlikely that Mr. Robison and his experienced heavy equipment operators can remove the hard pan of the dirt road.

The survival rate of the two facultative wetland (FACW) trees species, Green Ash and Shamard Oak may not be obtainable in the upland buffers along Wolf Creek due to the site being a well drained soil. In this case these two species will be replaced by planting additional other facultative (FAC) or facultative upland (FACU) trees species from the upland buffer planting list to obtain a better than 80 percent survival rate. Should any other specie not obtain a sufficient survival rate due to environmental restrictions, that specie will be replaced with another specie or species that has an acceptable survival rate at that particular site.

Additionally should beaver predation at this mitigation site be chiefly Sweet Gum and Tulip Poplar, favorite food for beavers, then these species will be replaced in the winter replanting with trees not selected for food.

The species preyed upon will then be planted as sacrificial trees. This will apply to both riparian buffer restoration and wetland enhancement sites.

Trapping of beaver by the consultant and the land manager may not effectively reduce the population. Hiring a professional trapper to significantly reduce the beaver population may be necessary to reduce predation rates and allow the plantings to grow past the food stage for beavers.

Should tree mortality of certain FAC tree species such as water oak and tulip poplar in the wetland enhancement areas be due to too much saturation for too long and not due to beaver damage, then those species will be replaced during replanting with the planting of more obligate (OBL) or facultative wetland (FACW) species such as Nuttall Oak, OBL. Black Willow, OBL, River Birch, FACW and Over Cup Oak, OBL. Additionally, Cypress, Taxodium distichum, OBL can be planted as a replacement.

The growth rate of planted trees may not achieve 25 percent increase in height in two years in certain locations may have low soil nutrients. In this case the soil will be tested and lime and fertilizer will be applied at rates recommended by a soil testing lab.

If a significant increase in wildlife utilization can not be documented for any mitigation areas by casual observation in a mitigation site, then wildlife cameras will be utilized to monitor and document wildlife usage.

Should any of the four water quality parameters in the intermittent stream, Ph, turbidity, temperature and dissolved oxygen show a reduction or degradation such as increased in Ph or temperature or turbidity or a decrease in dissolved oxygen then remedial actions will be implemented.

Ph can be raised by installing anoxic drains. Temperature reduced by increasing tree shade over the stream. Turbidity can be reduced by controlling erosion on site through proper erosion control measures and maintenance of silt fencing and grassing of drainage ways. Low dissolved oxygen can be raised by removing decaying vegetation from the water.

The Wolf Creek riparian buffer restoration site on the east bank may not meet the performance standard of 10 percent increase in the number of ground cover species. This may be due to many years of shading of privet that prevented establishment of herbaceous growth. If this becomes the case then test patches will be conducted using specific herbicides for obnoxious weeds and or mechanical disking or raking to break the soils surface cover to allow natural seed penetration. Which ever method produces the most volunteer ground cover will be utilized. A light planting of an annual grass might be a better solution. A check to see if the bare areas seeded to an annual grass have better

ground cover diversity than the areas where noxious weeds have gained a foothold will be conducted. If this produced a substantially greater increase in ground cover diversity, then strips of the obnoxious early successional weeds will be removed and replanted with annual grasses that do not have rhizomes.

It may be possible to both control privet and increase ground cover diversity by having a controlled burn after the trees have gained enough size and height. However this should be tested in a small plot before attempting to control burn a whole mitigation area.

The beaver may construct dams on sections of the enhanced intermittent stream. If these dams create mortality then removal of the dams or the installation of water leveling pipes will be used to keep the water levels from rising as the dams are built higher and higher. A severe reduction in the beaver population at the site may require the contracting of a professional trapper.

Financial assurances:

Mr. Otis R. Robison will obtain sufficient financial assurances as determined by the district engineer to ensure a high level of confidence that the compensatory mitigation will be successfully completed in accordance with the performance standards. The financial assurance can be in the form of either, a letter of credit, a performance bond or an escrow account in an amount deemed sufficient by the district engineer.

The applicant and his agents have determined the costs of labor and materials by asking specialty contractors, forestry and wildlife professionals and suppliers for estimates for the various work activities and supplies required to accomplish the compensatory mitigation as planned. Included are costs for adaptive management, 5 years of monitoring and a 10% contingency fee. The projected compensatory mitigation cost estimates for the Little Spring Creek Mine is attached. The suggested amount of financial assurance offered by the applicant is fifty seven thousand, two hundred and sixty four dollars (\$57,264.00). See the following page for mitigation cost worksheet.

Other Information:

The applicant is willing to obtain any other information that the district engineer may determine is necessary to determine the appropriateness, feasibility and practicability of this compensatory mitigation project.

Projected Compensatory Mitigation Costs	For Little Spring	Creek Mine units 1 & 2
Wolf Creek	Unit Cost	Total Cost
Rip plow access road in buffer area	\$125.00 per hour	\$ 500.00
Purchase 13,789 trees and shrubs	\$0.25 - \$0.55 each	\$ 5,515.00
Plant 13,789 trees and shrubs on 48 acres	\$150.00 per acre	\$ 7,200.00
Monitoring and reports	\$5,000 per year	\$25,000.00
Possible needed beaver control	\$6,000 per year	\$ 6,000.00
Purchase estimated 20% planting mortality	\$0.25 - \$0.55 each	\$ 1,103.00
Plant estimated 20% mortality replacement	\$150.00 per acre	\$ 1,140.00
Purchase herbicides	\$60 - \$150/2.5gal	\$ 2,400.00
Control Privet and other exotics	\$200 per acre	\$ 3,200.00
Total estimated Cost		\$52,058.00
Contingency fee	10%	\$ 5,206.00
Suggested Amount of Financial Assurance		\$57,264.00

Wolf Creek Maintenance Schedule

Activity	2012	2013	2014	2015	2016	2017
Monitor Soil Erosion Repair & Re-seed	Winter Winter	Spring Summer	Spring Summer	Spring Summer	Spring Summer	Spring Summer
Monitor Tree Survival Plant or Replant	N/A Winter	Spring & Fall Winter	Spring Winter	Spring Winter	Spring Winter	Spring Winter
Monitor Exotic Plants Control Exotic Plants	N/A Spring & Fall	Spring Spring & Fall	Spring Spring	Spring Spring	Spring Spring	Spring Spring
Monitor Water Quality Parameters Remedial Activity	Jan, Jun, Dec N/A	June & Dec July & Feb	June & Dec July & Feb	June & Dec July & Feb	June & Dec July & Feb	June & Dec July & Feb
Monitor Beaver Predation Plant Sacrificial Trees Control Beaver Population	N/A N/A N/A	Spring & Fall Winter Winter	Spring Winter Winter	Spring N/A Winter	Spring N/A Winter	Spring N/A Winter



APPENDIX A



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, MOBILE
CORPS OF ENGINEERS
BIRMINGHAM FIELD OFFICE
218 SUMMIT PARKWAY, SUITE 222
HOMEWOOD, ALABAMA 35209

July 25, 2011

Inland Section North
Regulatory Division

SUBJECT: Nationwide Permit Authorization; SAM-2011-00880-CHE – Little Spring Creek Mine – Haley Brothers Coal, Inc.

Haley Brothers Coal, Inc.
c/o Delta Natural Resource Service, Inc.
Post Office Box 941
Hartselle, Alabama 35640

Gentlemen:

We have reviewed your application to conduct surface coal mining operations that will impact 9,320 linear feet of intermittent streams, 2,930 linear feet of ephemeral streams, and 2.32 acres of wetlands. The project is located in Sections 2 and 3, Township 13 South, Range 7 West, in Jasper, Walker County, Alabama (33.944143, -87.255435). Department of the Army (DA) permit authorization is necessary because your project would involve placement of dredged and/or fill material into waters of the U.S., including wetlands under our regulatory jurisdiction.

Based on the information you provided, Nationwide Permit 21, Surface Coal Mining Operations (Federal Register, March 12, 2007 Vol. 72, No. 47), authorizes your proposal as depicted on the enclosed drawings dated July 25, 2011. In order for this NWP authorization to be valid, you must ensure that the work is performed in accordance with the Regional and General Conditions of Nationwide Permit 21, which can be viewed at our website at www.sam.usace.army.mil/RD/reg, and the following special conditions:

- a. A status report on the progress of the mining must be submitted to the U.S. Army Corps of Engineers, Mobile District, Regulatory Division, prior to January 15, 2012.
- b. The permittee shall debit 16,599 Stream credits and 2.57 wetland credits from the Big Sandy Mitigation Bank in compliance with the provisions of the approved mitigation banking instrument for the bank. The permittee may conduct the purchase in two stages:
 1. Increment 1: The permittee shall purchase 13,959 stream credits and 2.57 wetland credits from the Big Sandy Mitigation Bank in compliance with the provisions of the approved mitigation banking instrument for the bank and provide documentation to the U.S. Army Corps of Engineers, Mobile District, Regulatory Division, that the

transaction has been completed prior to conducting any of the impacts in increment 1, which is verified by this permit.

2. Increment 2: The permittee shall purchase 2,640 stream credits from the Big Sandy Mitigation Bank in compliance with the provisions of the approved mitigation banking instrument for the bank and provide documentation to the U.S. Army Corps of Engineers, Mobile District, Regulatory Division, that the transaction has been completed prior to conducting any of the impacts in increment 2, which are verified by this permit.

c. You shall comply with all the terms and conditions of the Alabama Department of Environmental Management Section 401 Water Quality Certifications for the Nationwide Permits. This document can be viewed at our website: www.sam.usace.army.mil/rd/reg/nwp.htm for you review and compliance, or at your request a paper copy will be provided to you.

This verification is valid until the NWP is modified, reissued, or revoked. All of the existing NWPs are scheduled to be modified, reissued, or revoked prior to March 18, 2012. It is incumbent upon the applicant to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued.

Furthermore, if the applicant commences or is under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, he will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit.

The District Engineer shall be notified promptly in writing at the commencement and within 60 days upon completion of the work. The enclosed form letter(s) may be used for that purpose. If the scope of work or project locations changes, you are urged to contact this office for a verification of this determination.

This letter of authorization does not obviate the necessity to obtain any other Federal, State, or local permits, which may be required. Nothing in this letter shall be construed as excusing you from compliance with other Federal, State, or local statutes, ordinances, or regulations which may affect this work.

Please contact me at (205) 290-9096 or Casey.H.Ehorn@usace.army.mil if you have any questions. For additional information about our Regulatory Program, visit our web site at

www.sam.usace.army.mil/RD/reg, and please take a moment to complete our customer satisfaction survey while you are there. Your responses are appreciated and will allow us to improve our services.

Sincerely,

A handwritten signature in black ink, appearing to read "Casey Ehorn", with a long horizontal flourish extending to the right.

Casey Ehorn
Regulatory Division

Enclosures

Enclosure 1



US Army Corps of Engineers
Mobile District

NOTIFICATION OF COMMENCEMENT OF WORK

Permit Number: SAM-2011-00880-CHE

Name of Permittee: Haley Brothers Coal, Inc.

Date of Permit Issuance: July 25, 2011

Upon commencement of the authorized work and any mitigation required by the permit, you must complete and return this notification to the following address:

**U.S. Army Corps of Engineers, Mobile District
Regulatory Division (RD-I-N)
218 Summit Pkwy, Suite 222
Homewood, AL 35209**

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with all terms and conditions of this permit the permit is subject to permit suspension, modification, or revocation and you are subject to an enforcement action by this office.

IT SHALL NOT BE LAWFUL TO DEVIATE FROM SUCH PLANS EITHER BEFORE OR AFTER COMPLETION OF THE WORK, unless modification of said plans has previously been submitted to and received the approval of the Department of the Army. If for any reason it becomes necessary to make a material change in location or plans for this work, revised plans should be submitted promptly to the District Engineer in order that the revised plans may receive the approval required by law before work is begun.

PERMITTEE TO COMPLETE THE FOLLOWING:

Date Work Commenced: _____

Signature of Permittee

Date

Enclosure 2



**US Army Corps of Engineers
Mobile District**

Permit Number: SAM-2011-00880-CHE

Name of Permittee: Haley Brothers Coal, Inc.

Date of Permit Issuance: July 25, 2011

Upon completion of the activity authorized by this permit and any mitigation required by the permit, please sign this certification and return it to the following address:

**U.S. Army Corps of Engineers, Mobile District
Regulatory Division (RD-I-N)
218 Summit Pkwy, Suite 222
Homewood, AL 35209**

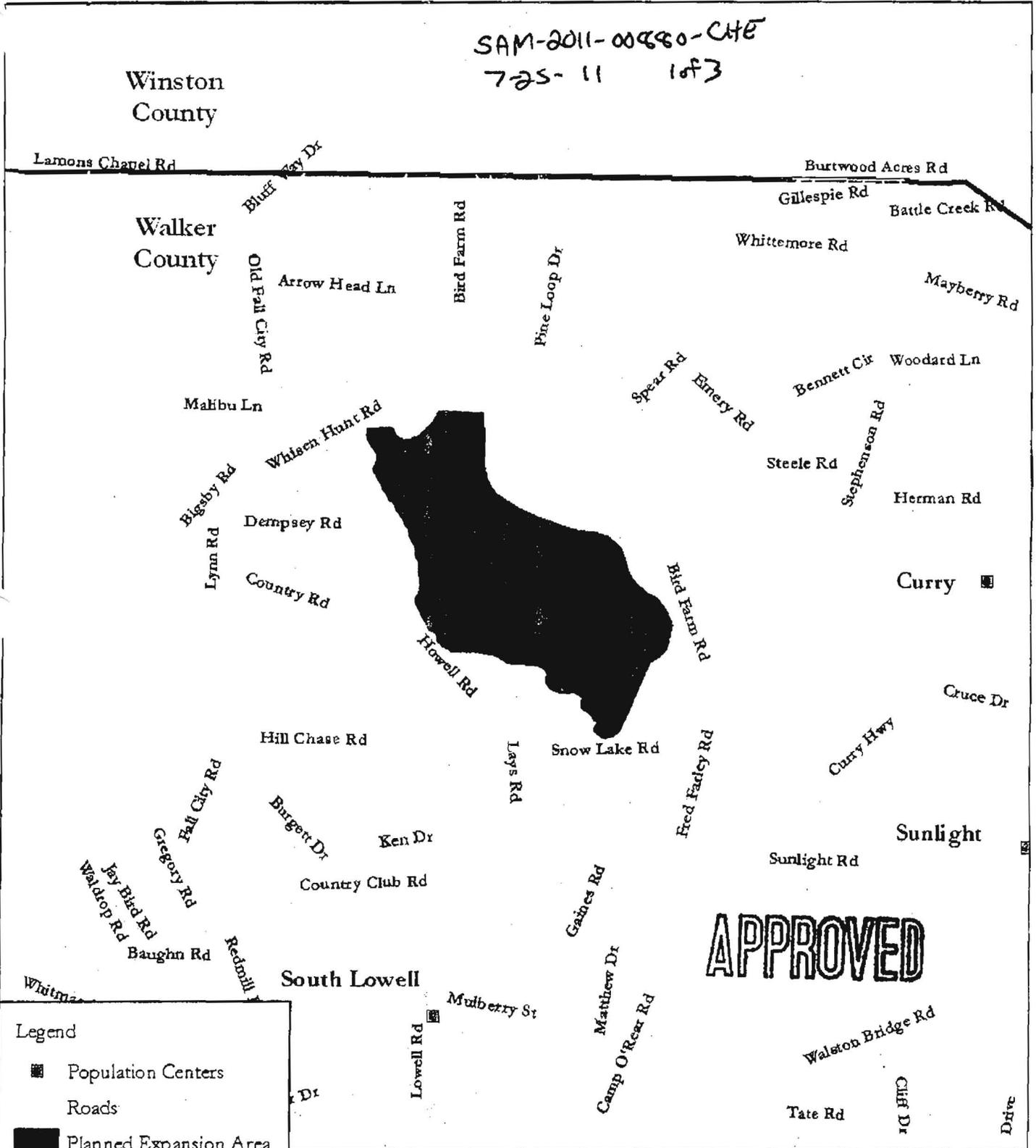
Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with all terms and conditions of this permit the permit is subject to permit suspension, modification, or revocation and you are subject to an enforcement action by this office.

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of the said permit, and the required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

SAM-2011-00480-CHE
7-25-11 1 of 3

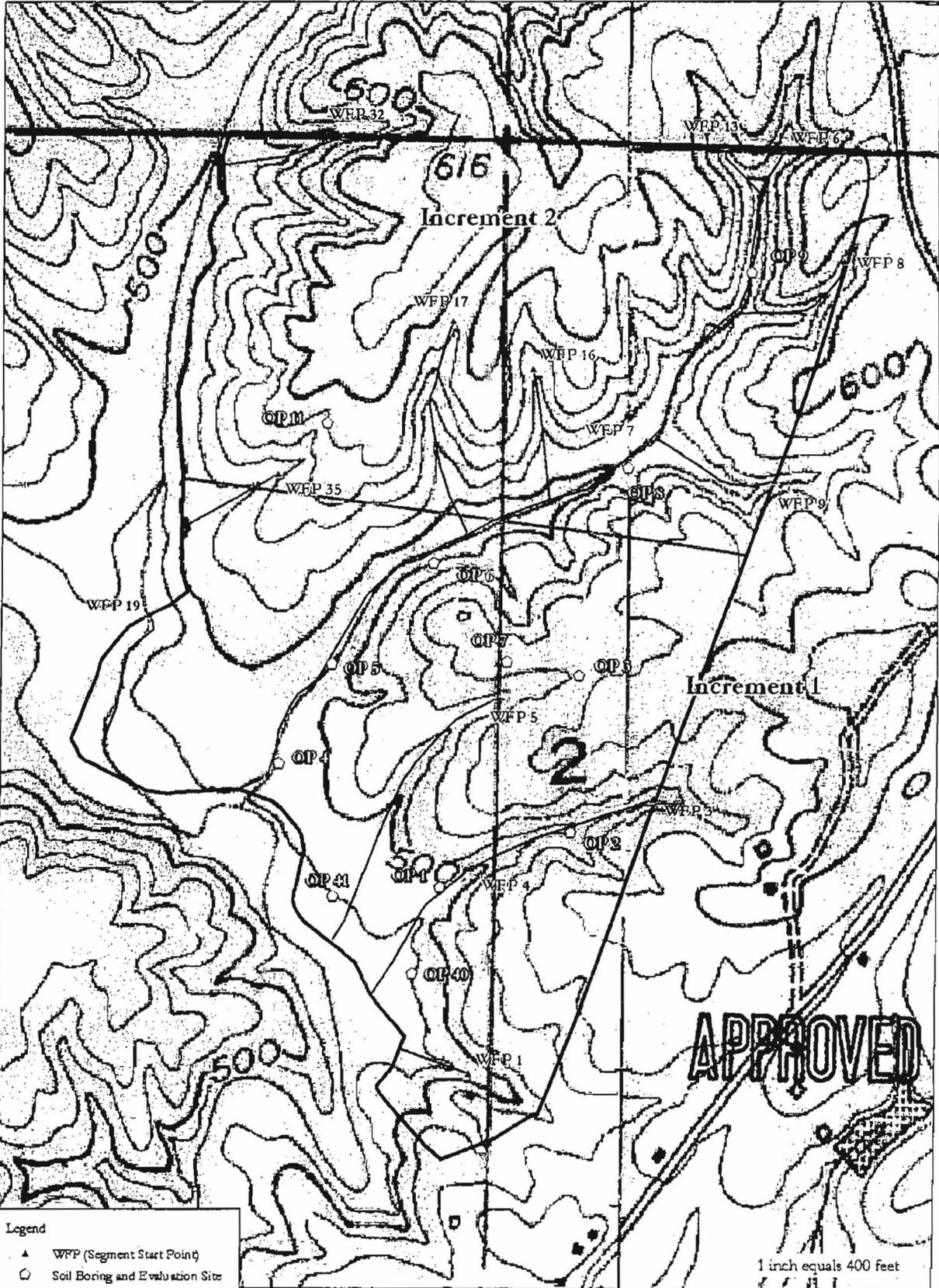


APPROVED

Legend

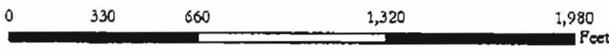
- Population Centers
- Roads
- Planned Expansion Area
- Permit Area
- ▭ County Boundary





Legend

- ▲ WFP (Segment Start Point)
- Soil Boring and Evaluation Site
- Water Flow Path
- ▭ Permit Area
- ▭ Increments



1 inch equals 400 feet



SNM-2011-00580-CHB
7-25-11- 2 of 3

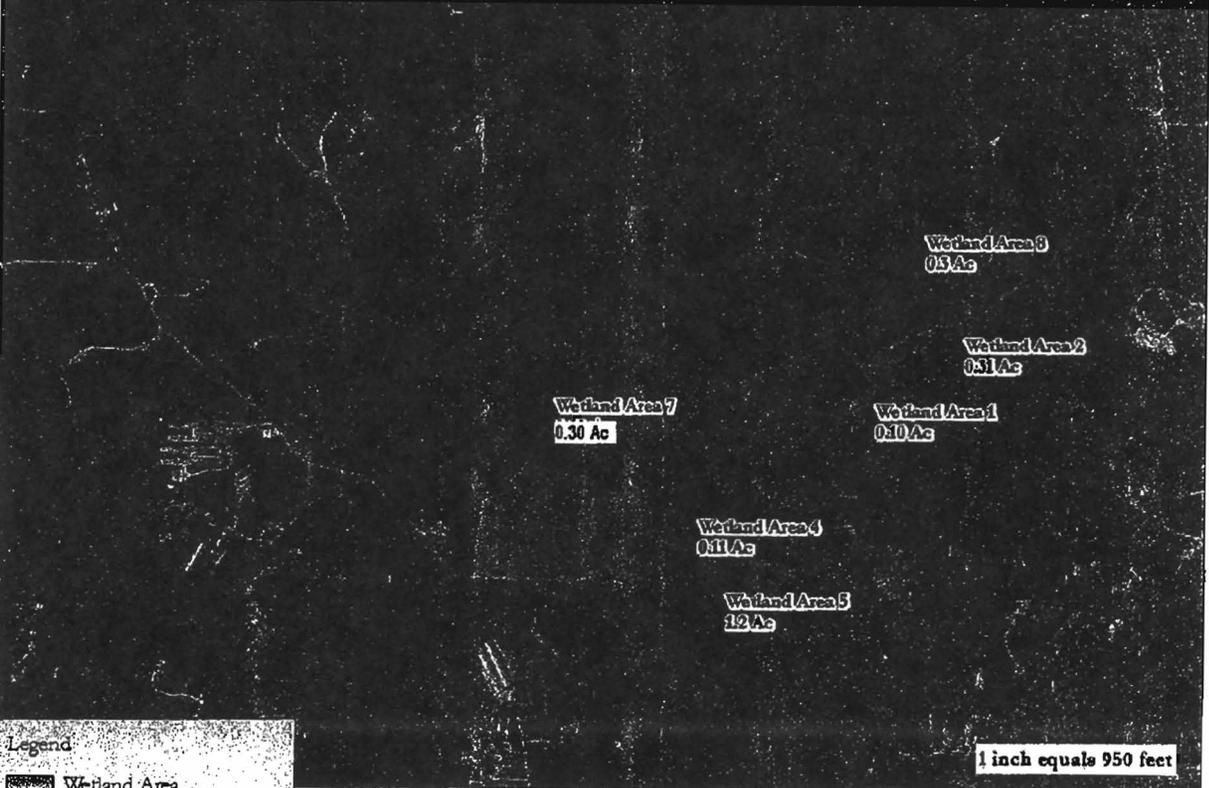
Alabama
Walker County
July 2011

Haley Brothers Coal, Inc.
Little Spring Creek Mine
Wetlands Map

Manchester DOQ
Sunlight DOQ
S27, 28, 33 - 35 T12S R7W
S2 - 4 T13S R7W



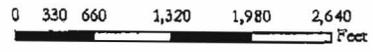
SAM-2011-00880-CHU
3 of 3
7-25-11



APPROVED

Legend

- Wetland Area
- Permit Area
- Planned Expansion Area



1 inch equals 950 feet



Applicant: Haley Brothers Coal		File Number: SAM-2011-00880-CHE	Date: 7-21-11
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
	APPROVED JURISDICTIONAL DETERMINATION		D
xx	PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION II - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/CEGW/Pages/reg-materials.aspx> or Corps regulations at 33 CFR Part 321.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

3: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL OR OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION

If you have questions regarding this decision and/or the appeal process you may contact:
Mr. Casey Ehorn
CESAM-RD-P
U.S. ARMY CORPS OF ENGINEERS
POST OFFICE BOX 2288
MOBILE, ALABAMA 36628-0001
(205) 290-9096

If you only have questions regarding the appeal process you may also contact:
MR. JASON STEELE
REGULATORY APPEAL REVIEW OFFICER
60 FORSYTH STREET SOUTHWES
ATLANTA, GEORGIA 30303-8801
(404) 562-5137

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Date:

Telephone number:

Signature of appellant or agent.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): 2/10/2010 -5/1/2010

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Haley Brothers Coal, Inc. 414 5th Avenue North West Carbon Hill, Alabama 35549.

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Mobile District-
Birmingham Field Office - SAM-2011-00736-CHE

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
State: AL County: Walker City: Jasper, Alabama
Center coordinates of site: Lat N33° 57' 17.1", Long. W87° 15' 46.7"

Name of nearest waterbody: Mulberry Fork

Identify amount of waters in the review area (use the attached table to document multiple waterbodies/locations): See Attached sheet for waters in the project area

Non-Wetland Waters: _____ linear feet _____ width (ft) and _____ acres.
Cowardin Class: _____ Stream Flow: _____

Wetlands: _____ acres.
Cowardin Class: _____

Name of any water bodies on the site that have been identified as Section 10 waters: There are no Section 10 waters located within the project boundaries.

Tidal: _____ Non-Tidal: _____

E. REVIEW PERFORMED FOR SITE EVALUATION

Office Determination. Date: _____
Field Determination. Date: 2/10/2010 -5/1/2010

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD - checked items should be included in the file:

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant.

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

___ Data sheets prepared by the Corps: _____.

___ Corps navigable waters' study:

___ U.S. Geological Survey Hydrologic Atlas:

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Scale 1:660 Quad Name: Manchester East, DOQ.

USDA Natural Resources Conservation Service Soil Survey, Walker County Soil Survey/USDS/NRCS

___ National wetlands inventory map(s). Cite name:

___ State/Local wetland inventory map(s):

___ FEMA/FIRM maps:

___ 100-year Floodplain Elevation is: _____ (National Geodetic Vertical Datum of 1929)

Photographs: Aerial (Name & Date): Manchester East - 2/10/2010 - 5/1/2010
or Other - Onsite photos taken 11/2009 - 2/11/2011

___ Previous determination(s). File No. and Date: _____.

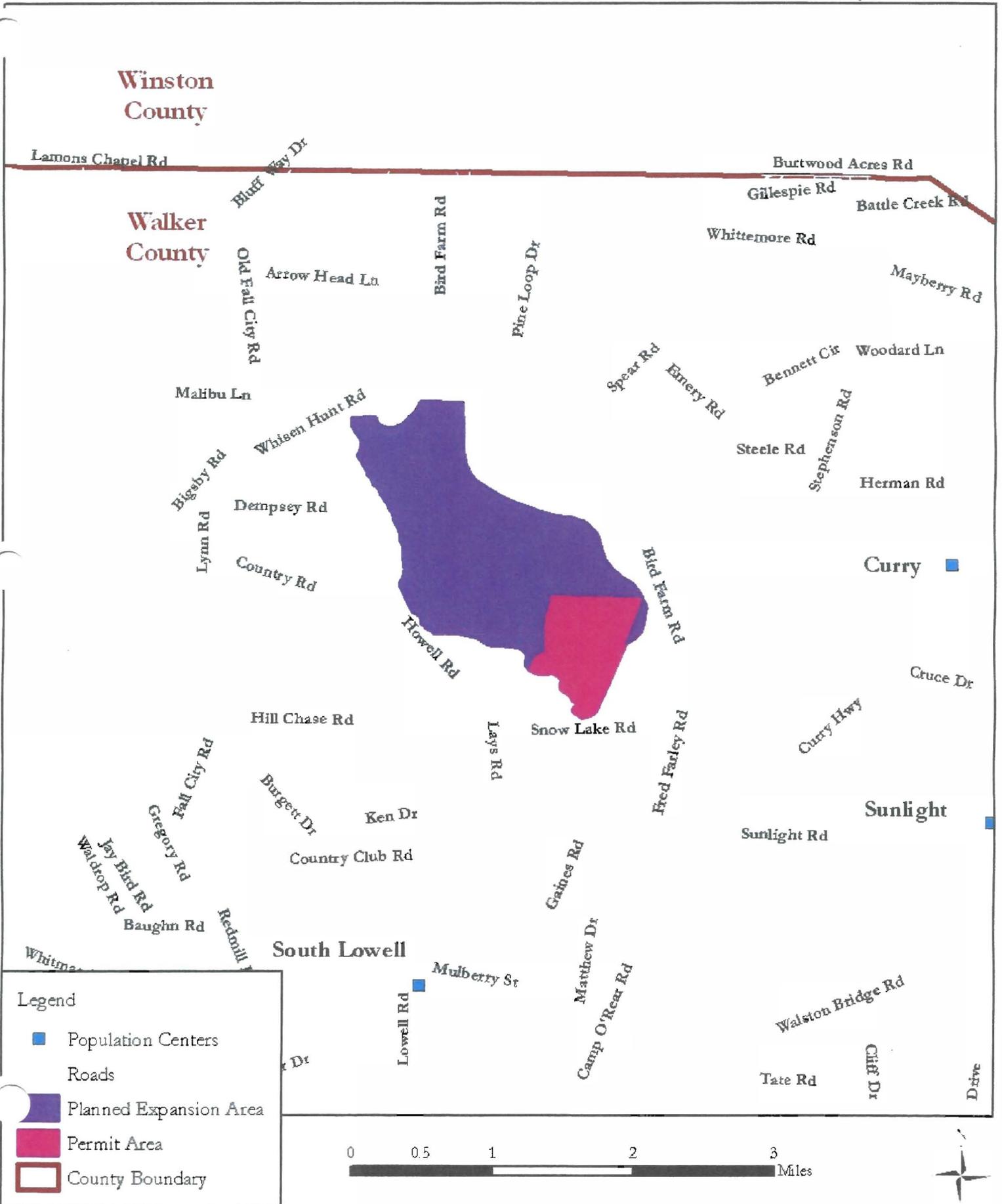
___ Other information (please specify): _____.

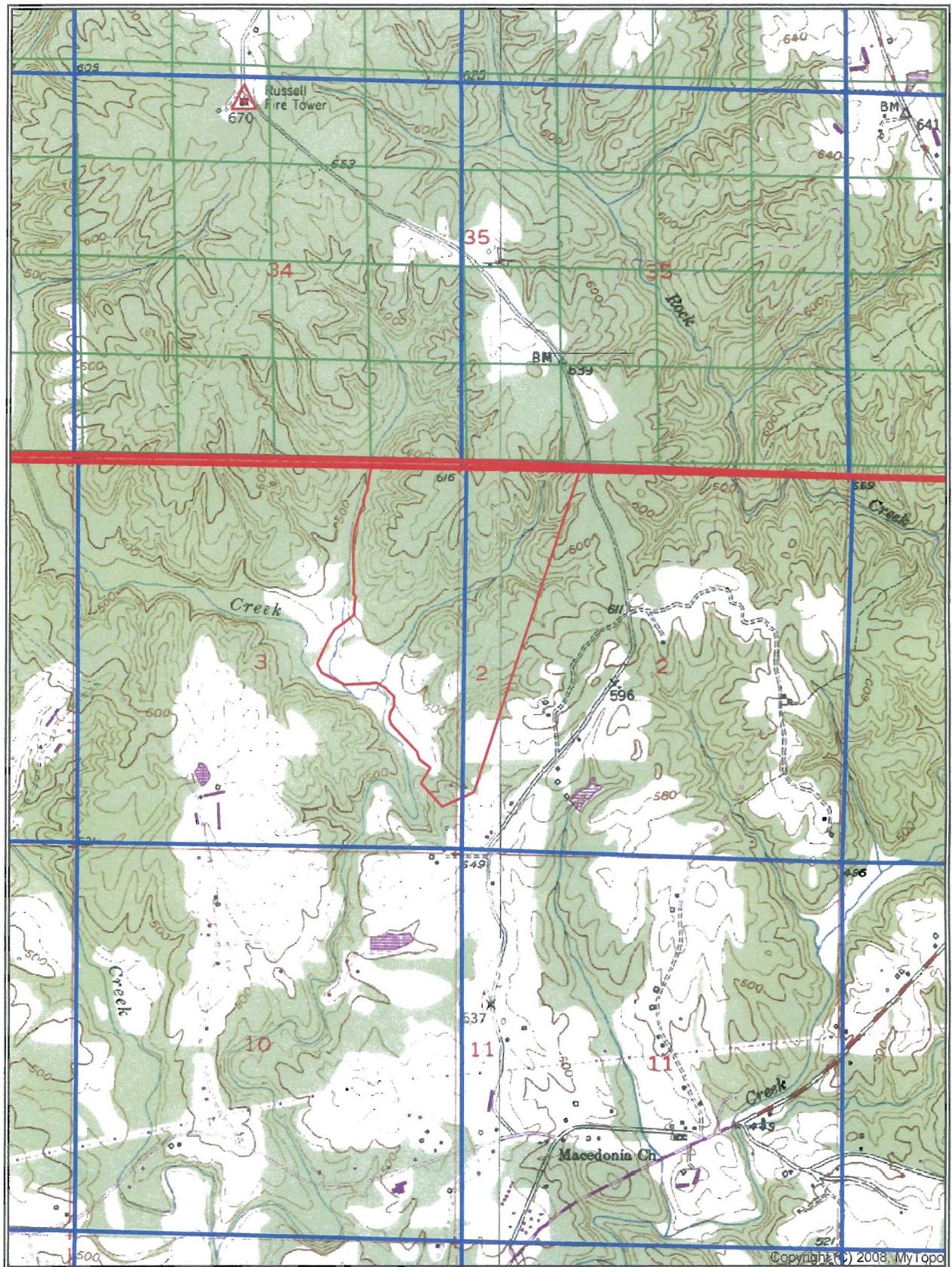
IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Cassey Elw 7-21-11
Regulatory Project Manager
Signature and Date
(REQUIRED)

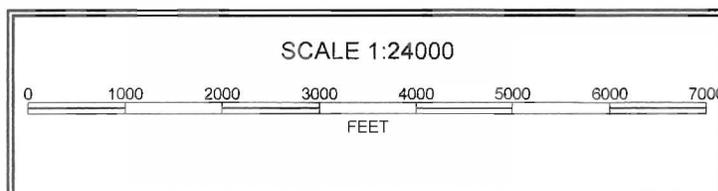
Person Requesting Preliminary JD
Signature and Date
(REQUIRED, unless obtaining
the signature is impracticable)

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
1	N33 56.33548	W87 15.14008	R6	340	non-section 10
3	N33 56.54217	W87 14.97842	R6	900	non-section 10
4	N33 56.48928	W87 15.14053	R6	740	non-section 10
5	N33 56.6184	W87 15.11773	R6	1380	non-section 10
6	N33 57.0345	W87 14.86423	R6	1560	non-section 10
7	N33 56.8118	W87 14.98782	R4	2170	non-section 10
8	N33 56.94897	W87 14.81017	R6	600	non-section 10
9	N33 56.7826	W87 14.87245	R6	600	non-section 10
13	N33 57.03568	W87 14.91792	R6	280	non-section 10
16	N33 56.8665	W87 15.08893	R6	600	non-section 10
17	N33 56.90315	W87 15.1607	R6	100	non-section 10
19	N33 56.67953	W87 15.43005	R4	760	non-section 10
32	N33 57.04323	W87 15.25895	R6	600	non-section 10
35	N33 56.78678	W87 15.31788	R6	440	non-section 10
Wetland # 1	N33 56 38.1	W87 15 16.2	PSS1	0.30 ac.	non-section 10
Wetland # 2	N33 56 39.2	W87 15 16.0	PSS1	0.31 a.c	non-section 10
Wetland # 4	N33 56 37.8	W87 15 14.9	PSS1	0.11 ac	non-section 10
Wetland # 5	N33 56 40.1	W87 15 14.4	PSS1	1.20 ac	non-section 10
Wetland # 7	N33 56 43.0	W87 15 14.5	PSS1	0.30 ac	non-section 10
Wetland # 8	N33 56 42.6	W87 15 12.4	PSS1	0.30 ac	non-section 10

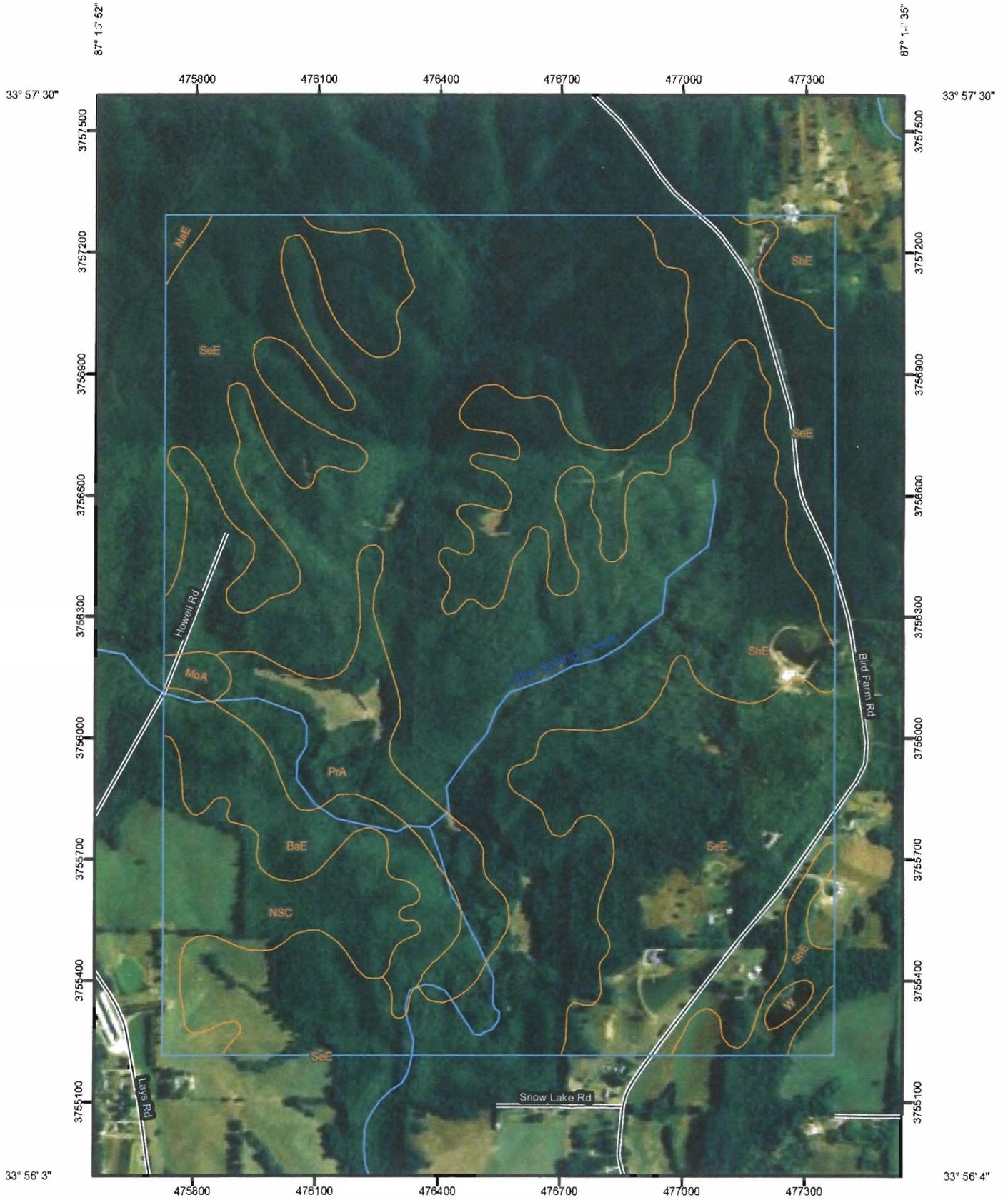




Little Spring Creek Mine



Soil Map—Walker County, Alabama
(Little Spring Creek Mine Increments 1 & 2)



Map Scale: 1:12,700 if printed on A size (8.5" x 11") sheet



MAP LEGEND

Area of Interest (AOI)		 Very Stony Spot
 Area of Interest (AOI)		 Wet Spot
Soils		 Other
 Soil Map Units		Special Line Features
Special Point Features		 Gully
 Blowout		 Short Steep Slope
 Borrow Pit		 Other
 Clay Spot		Political Features
 Closed Depression		 Cities
 Gravel Pit		Water Features
 Gravelly Spot		 Streams and Canals
 Landfill		Transportation
 Lava Flow		 Rails
 Marsh or swamp		 Interstate Highways
 Mine or Quarry		 US Routes
 Miscellaneous Water		 Major Roads
 Perennial Water		 Local Roads
 Rock Outcrop		
 Saline Spot		
 Sandy Spot		
 Severely Eroded Spot		
 Sinkhole		
 Slide or Slip		
 Sodic Spot		
 Spoil Area		
 Stony Spot		

MAP INFORMATION

Map Scale: 1:12,700 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 16N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Walker County, Alabama
Survey Area Data: Version 5, Apr 11, 2008

Date(s) aerial images were photographed: 6/29/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Walker County, Alabama (AL127)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BaE	Bankhead-Rock outcrop complex, 15 to 60 percent slopes	37.8	4.5%
MoA	Mooreville silt loam, 0 to 1 percent slopes, frequently flooded	3.8	0.4%
NaE	Nauvoo-Townley complex, 4 to 20 percent slopes	2.5	0.3%
NSC	Nauvoo and Sipsey soils, 6 to 12 percent slopes	46.1	5.4%
PrA	Pruitton loam, 0 to 2 percent slopes, frequently flooded	48.7	5.7%
SeE	Sipsey loamy sand, 4 to 18 percent slopes	277.4	32.8%
ShE	Sipsey-Bankhead complex, 15 to 45 percent slopes	428.7	50.6%
W	Water	1.9	0.2%
Totals for Area of Interest		846.9	100.0%

Little Spring Creek Mine Water Flow Paths



Legend

- ▲ WFP (Segment Start Point)

Little Spring Creek Mine
Increments 1 & 2
Location of Wetland Areas



Legend

1:10000 Scale

Wetland Area 5
Part of mowed food plot



Little Spring Creek Mine
November 3, 2011

Ephemeral Stream WFP 1
Lower reach, after significant rainfall



**Haley Brothers Coal, Inc.
Little Spring Creek Mine
Walker County, Alabama**



Photo ID WFP # 7 lower reach

Date of Photograph – February - March 2010

Location of photograph –lower reach in commercial forested area with small buffer along stream.

Precipitation event –1 day since significant rainfall- there has been excessive rainfall during fall and winter.

Little Spring Creek Mine
November 3, 2011 shortly after significant rain event

Lower reach of Interment Stream
WFP 7



Typical Ephemeral Stream



Wetland Area 7 is
a mowed food plot



Little Spring Creek Mine
November 3, 2011

Typical pine plantation on site
that has been thinned



PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): 2/10/2010 -5/1/2010

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Haley Brothers Coal, Inc. 414 5th Avenue North West Carbon Hill, Alabama 35549.

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Mobile District- Birmingham Field Office - SAM-2011-00736-CHE

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

State: AL County: Walker City: Jasper, Alabama
Center coordinates of site: Lat N33° 57' 17.1", Long. W87° 15' 46.7"

Name of nearest waterbody: Mulberry Fork

Identify amount of waters in the review area (use the attached table to document multiple waterbodies/locations): See Attached sheet for waters in the project area

Non-Wetland Waters: _____ linear feet _____ width (ft) and _____ acres.
Cowardin Class: _____ Stream Flow: _____

Wetlands: _____ acres.
Cowardin Class: _____

Name of any water bodies on the site that have been identified as Section 10 waters: There are no Section 10 waters located within the project boundaries.

Tidal: _____ Non-Tidal: _____

E. REVIEW PERFORMED FOR SITE EVALUATION

Office Determination. Date: _____
Field Determination. Date: 2/10/2010 -5/1/2010

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "*may be*" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD - checked items should be included in the file:

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant.

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

___ Data sheets prepared by the Corps: _____.

___ Corps navigable waters' study: _____.

___ U.S. Geological Survey Hydrologic Atlas: _____.

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Scale 1:660 Quad Name: Manchester East, DOQ.

USDA Natural Resources Conservation Service Soil Survey. Walker County Soil Survey/USDS/NRCS

___ National wetlands inventory map(s). Cite name: _____.

___ State/Local wetland inventory map(s): _____.

___ FEMA/FIRM maps: _____.

___ 100-year Floodplain Elevation is: _____ (National Geodetic Vertical Datum of 1929)

Photographs: Aerial (Name & Date): Manchester East - 2/10/2010 -5/1/2010
or Other - Onsite photos taken 11/2009 - 2/11/2011

___ Previous determination(s). File No. and Date: _____.

___ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Regulatory Project Manager
Signature and Date
(REQUIRED)

Person Requesting Preliminary JD
Signature and Date
(REQUIRED, unless obtaining
the signature is impracticable)

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
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Wetland # 5	N33 56 40.1	W87 15 14.4	PSS1	1.20 ac	non-section 10
Wetland # 7	N33 56 43.0	W87 15 14.5	PSS1	0.30 ac	non-section 10
Wetland # 8	N33 56 42.6	W87 15 12.4	PSS1	0.30 ac	non-section 10

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>WALKER COUNTY</u> Applicant/Owner: <u>Haley Brothers Coal, Inc.-Little Spring Creek</u> Investigator: <u>Cleo Stubbs</u>	Date: <u>2/25/2010 -4/20/2010</u> County: <u>Walker</u> State: <u>Alabama</u>
Do Normal Circumstances exist on the site? Yes Is the site significantly disturbed (Atypical Situation)? No Is the area a potential Problem Area? No (If needed, explain on reverse.)	Community ID: _____ Transect ID: <u>OP 8 wetland 8</u> Plot ID: <u>OP 8</u> WP # <u>198</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Nyssa sylvatica</u>	<u>I</u>	FAC	9. _____	_____	Pick One
2. <u>Liquidambar styraciflua</u>	<u>I</u>	FAC	10. _____	_____	Pick One
3. <u>Liriodendron tulipifera</u>	<u>I</u>	FAC	11. _____	_____	Pick One
4. <u>Smilax glauca</u>	<u>V</u>	FAC	12. _____	_____	Pick One
5. <u>Lonicera japonica</u>	<u>V</u>	FAC	13. _____	_____	Pick One
6. <u>Acer rubrum</u>	<u>I</u>	FAC	14. _____	_____	Pick One
7. _____	_____	Pick One	15. _____	_____	Pick One
8. _____	_____	Pick One	16. _____	_____	Pick One

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 90%

Remarks: Observation point is along ephemeral/intermittent stream and adjacent to commercial pine forest on earby uplands.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: <u>≥ 25</u> (in.)	

Remarks: This observation point is located adjacent to ephemeral drainageway in small floodplain. The hydrologh has minor alteration as a result of timber management, but hydroogy is mainly natural.

SOILS

Map Unit Name
 (Series and Phase): Mooreville loam/variant

Drainage Class: SWP
 Field Observations
 Confirm Mapped Type? No

Taxonomy (Subgroup): Fluvaquentic Dystrudepts

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-7	A	10YR 3/3			L
7-12	BW1	10YR 5/4	10YR 4/4, 4/2	c2d	L
12 - 25	BW2	10YR 5/6	10YR 6/2, 10YR 4/4	f2d, f3d	SL
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input checked="" type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: This observation point is located in small floodplain area. There are hydric indicators in the soil profile. The soil is hydric.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes
 Wetland Hydrology Present? Yes
 Hydric Soils Present? Yes

Is this Sampling Point Within a Wetland? Yes

Remarks: _____

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Walker County, Alabama</u> Applicant/Owner: <u>Haley Brothers Coal, Inc.-Little Spring Creek</u> Investigator: <u>Cleo Stubbs</u>	Date: <u>2/25/2010 -4/20/2010</u> County: <u>Walker</u> State: <u>Alabama</u>
Do Normal Circumstances exist on the site? No Is the site significantly disturbed (Atypical Situation)? No Is the area a potential Problem Area? No (If needed, explain on reverse.)	Community ID: _____ Transect ID: <u>OP 12</u> Plot ID: <u>OP 12 wetland # 7</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex lurida</u>	<u>GR</u>	OBL	9. _____	_____	Pick One
2. <u>Rumex crispus</u>	<u>GR</u>	FAC	10. _____	_____	Pick One
3. <u>Carex gigantean</u>	<u>GR</u>	OBL	11. _____	_____	Pick One
4. <u>Juncus effuses</u>	<u>GR</u>	FACW	12. _____	_____	Pick One
5. _____	_____	Pick One	13. _____	_____	Pick One
6. _____	_____	Pick One	14. _____	_____	Pick One
7. _____	_____	Pick One	15. _____	_____	Pick One
8. _____	_____	Pick One	16. _____	_____	Pick One

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100%

Remarks: Observation point is located in a concave/flat area on the terrace of Little Spring Creek. Dominant vegetative species is wetland type plants.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>1</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	

Remarks: Observation point is located along terrace/floodplain of Little Spring Creek. Area has wetland hydrology.

SOILS

Map Unit Name
(Series and Phase): Mantachie/variant-ponded

Drainage Class: PD
Field Observations
Confirm Mapped Type? No

Taxonomy (Subgroup): Fluventic Endoaquepts

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0 - 7	<u>A</u>	<u>10YR4/2</u>			<u>L</u>
7-18	<u>Bg1</u>	<u>10YR 6/2</u>	<u>10YR 5/6</u>	<u>c2d</u>	<u>L</u>
18 -28	<u>Bg2</u>	<u>10YR 6/1</u>	<u>10YR 4/4</u>	<u>f2d</u>	<u>L</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input checked="" type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input checked="" type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: This observation point is located along the floodplain of Little Spring Creek. The area is ponded/floods and the soil has dominant hydric properties.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes
Wetland Hydrology Present? Yes
Hydric Soils Present? Yes

Is this Sampling Point Within a Wetland? Yes

Remarks: _____

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Walker County, Alabama</u> Applicant/Owner: <u>Haley Brothers Coal, Inc.-Little Spring Creek</u> Investigator: <u>Cleo Stubbs</u>	Date: <u>2/25/2010 -4/20/2010</u> County: <u>Walker</u> State: <u>Alabama</u>
Do Normal Circumstances exist on the site? No Is the site significantly disturbed (Atypical Situation)? No Is the area a potential Problem Area? No (If needed, explain on reverse.)	Community ID: _____ Transect ID: <u>OP 40</u> Plot ID: <u>OP 40 wetland # 5</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex lurida</u>	<u>GR</u>	OBL	9. _____	_____	Pick One
2. <u>Rumex crispus</u>	<u>GR</u>	FAC	10. _____	_____	Pick One
3. <u>Carex gigantean</u>	<u>GR</u>	OBL	11. _____	_____	Pick One
4. <u>Juncus effuses</u>	<u>GR</u>	FACW	12. _____	_____	Pick One
5. _____	_____	Pick One	13. _____	_____	Pick One
6. _____	_____	Pick One	14. _____	_____	Pick One
7. _____	_____	Pick One	15. _____	_____	Pick One
8. _____	_____	Pick One	16. _____	_____	Pick One

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100%

Remarks: Observation point is located in a concave/flat area on the terrace of Little Spring Creek. Dominant vegetative species is wetland type plants.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>1</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	

Remarks: Observation point is located along terrace/floodplain of Little Spring Creek. Area has wetland hydrology.

SOILS

Map Unit Name
(Series and Phase): Mantachie/variant-ponded

Drainage Class: PD
Field Observations
Confirm Mapped Type? No

Taxonomy (Subgroup): Fluventic Endoaquepts

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0 - 7	A	10YR4/2			L
7-18	Bg1	10YR 6/2	10YR 5/6	c2d	L
18 -28	Bg2	10YR 6/1	10YR 4/4	f2d	L
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input checked="" type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input checked="" type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: This observation point is located along the floodplain of Little Spring Creek. The area is ponded/floods, and the soil has dominant hydric properties.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes
Wetland Hydrology Present? Yes
Hydric Soils Present? Yes

Is this Sampling Point Within a Wetland? Yes

Remarks: _____

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Walker County, Alabama</u> Applicant/Owner: <u>Haley Brothers Coal, Inc.-Little Spring Creek</u> Investigator: <u>Cleo Stubbs</u>	Date: <u>2/25/2010 -4/20/2010</u> County: <u>Walker</u> State: <u>Alabama</u>
Do Normal Circumstances exist on the site? Yes Is the site significantly disturbed (Atypical Situation)? No Is the area a potential Problem Area? No (If needed, explain on reverse.)	Community ID: _____ Transect ID: <u>OP 41</u> Plot ID: <u>OP 41 wetland # 4</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Quercus phellos</u>	<u>T</u>	FACW	9. _____	_____	Pick One
2. <u>Acer rubrum</u>	<u>T</u>	FAC	10. _____	_____	Pick One
3. <u>Smilax glauca</u>	<u>V</u>	FAC	11. _____	_____	Pick One
4. <u>Ulmus americana</u>	<u>T</u>	FACW	12. _____	_____	Pick One
5. <u>Liquidambar styraciflua</u>	<u>T</u>	FAC	13. _____	_____	Pick One
6. <u>Ligustrum sinense</u>	<u>SH</u>	FAC	14. _____	_____	Pick One
7. _____	_____	Pick One	15. _____	_____	Pick One
8. _____	_____	Pick One	16. _____	_____	Pick One

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100%

Remarks: Observation point is located in a concave/flat area on the terrace of Little Spring Creek. Dominant vegetative species is wetland type plants.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>1</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	

Remarks: Observation point is located along terrace/floodplain of Little Spring Creek. Area has wetland hydrology.

SOILS

Map Unit Name
(Series and Phase): Mantachie/variant-ponded

Drainage Class: PD
Field Observations
Confirm Mapped Type? No

Taxonomy (Subgroup): Fluventic Endoaquepts

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0 - 7	<u>A</u>	<u>10YR4/2</u>	_____	_____	<u>L</u>
7-18	<u>Bg1</u>	<u>10YR 6/2</u>	<u>10YR 5/6</u>	<u>c2d</u>	<u>L</u>
18 -28	<u>Bg2</u>	<u>10YR 6/1</u>	<u>10YR 4/4</u>	<u>f2d</u>	<u>L</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input checked="" type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input checked="" type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: This observation point is located along the floodplain of Little Spring Creek. The area is ponded/floods, and the soil has dominant hydric properties.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes
Wetland Hydrology Present? Yes
Hydric Soils Present? Yes

Is this Sampling Point Within a Wetland? Yes

Remarks: _____

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Walker County, Alabama</u> Applicant/Owner: <u>Haley Brothers Coal, Inc.-Little Spring Creek</u> Investigator: <u>Cleo Stubbs</u>	Date: <u>2/25/2010 -4/20/2010</u> County: <u>Walker</u> State: <u>Alabama</u>
Do Normal Circumstances exist on the site? No Is the site significantly disturbed (Atypical Situation)? No Is the area a potential Problem Area? No (If needed, explain on reverse.)	Community ID: _____ Transect ID: <u>OP 6</u> Plot ID: <u>OP 6 wetland # 2</u> WP # <u>132</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Arundo donax</u>	<u>GR</u>	FACW	9. _____	_____	Pick One
2. <u>Scirpus cyperinus</u>	<u>GR</u>	OBL	10. _____	_____	Pick One
3. <u>Alnus serrulata</u>	<u>GR</u>	FACW	11. _____	_____	Pick One
4. <u>Cyperus rivularis</u>	<u>GR</u>	FACW	12. _____	_____	Pick One
5. <u>Scirpus americanus</u>	<u>GR</u>	OBL	13. _____	_____	Pick One
6. _____	_____	Pick One	14. _____	_____	Pick One
7. _____	_____	Pick One	15. _____	_____	Pick One
8. _____	_____	Pick One	16. _____	_____	Pick One

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 90%

Remarks: Observation point is located adjacent to large intermittent stream. Area is ponded with wetland vegetation.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>6</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	

Remarks: Observation point is located in ponded area along intermittent stream. Area has wetland hydrology.

SOILS

Map Unit Name
 (Series and Phase): Mantachie/variant-ponded
 Taxonomy (Subgroup): Fluventic Endoaquepts

Drainage Class: PD
 Field Observations
 Confirm Mapped Type? No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0 - 7	A	10YR4/2	_____	_____	L
7-18	Bg1	10YR 6/2	10YR 5/6	e2d	L
18 -28	Bg2	10YR 6/1	10YR 4/4	f2d	L
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input checked="" type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input checked="" type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: This observation point is located along the floodplain of an intermittent drainage way. The area is ponded, and the soil has dominant hydric properties.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes
 Wetland Hydrology Present? Yes
 Hydric Soils Present? Yes

Is this Sampling Point Within a Wetland? Yes

Remarks: _____

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Walker County, Alabama</u> Applicant/Owner: <u>Haley Brothers Coal, Inc.-Little Spring Creek</u> Investigator: <u>Cleo Stubbs</u>	Date: <u>2/25/2010 -4/20/2010</u> County: <u>Walker</u> State: <u>Alabama</u>
Do Normal Circumstances exist on the site? No Is the site significantly disturbed (Atypical Situation)? No Is the area a potential Problem Area? No (If needed, explain on reverse.)	Community ID: _____ Transect ID: <u>OP 5</u> Plot ID: <u>OP 5 wetland # 1</u> WP # <u>115</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Arundo donax</u>	<u>GR</u>	FACW	9. _____	_____	Pick One
2. <u>Scirpus cyperinus</u>	<u>GR</u>	OBL	10. _____	_____	Pick One
3. <u>Alnus serrulata</u>	<u>GR</u>	FACW	11. _____	_____	Pick One
4. <u>Cyperus rivularis</u>	<u>GR</u>	FACW	12. _____	_____	Pick One
5. _____	<u>V</u>	FAC	13. _____	_____	Pick One
6. _____	_____	Pick One	14. _____	_____	Pick One
7. _____	_____	Pick One	15. _____	_____	Pick One
8. _____	_____	Pick One	16. _____	_____	Pick One

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 90%

Remarks: Observation point is located adjacent to large intermittent stream. Area is ponded with wetland vegetation.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>6</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	

Remarks: Observation point is located in ponded area along intermittent stream. Area has wetland hydrology.

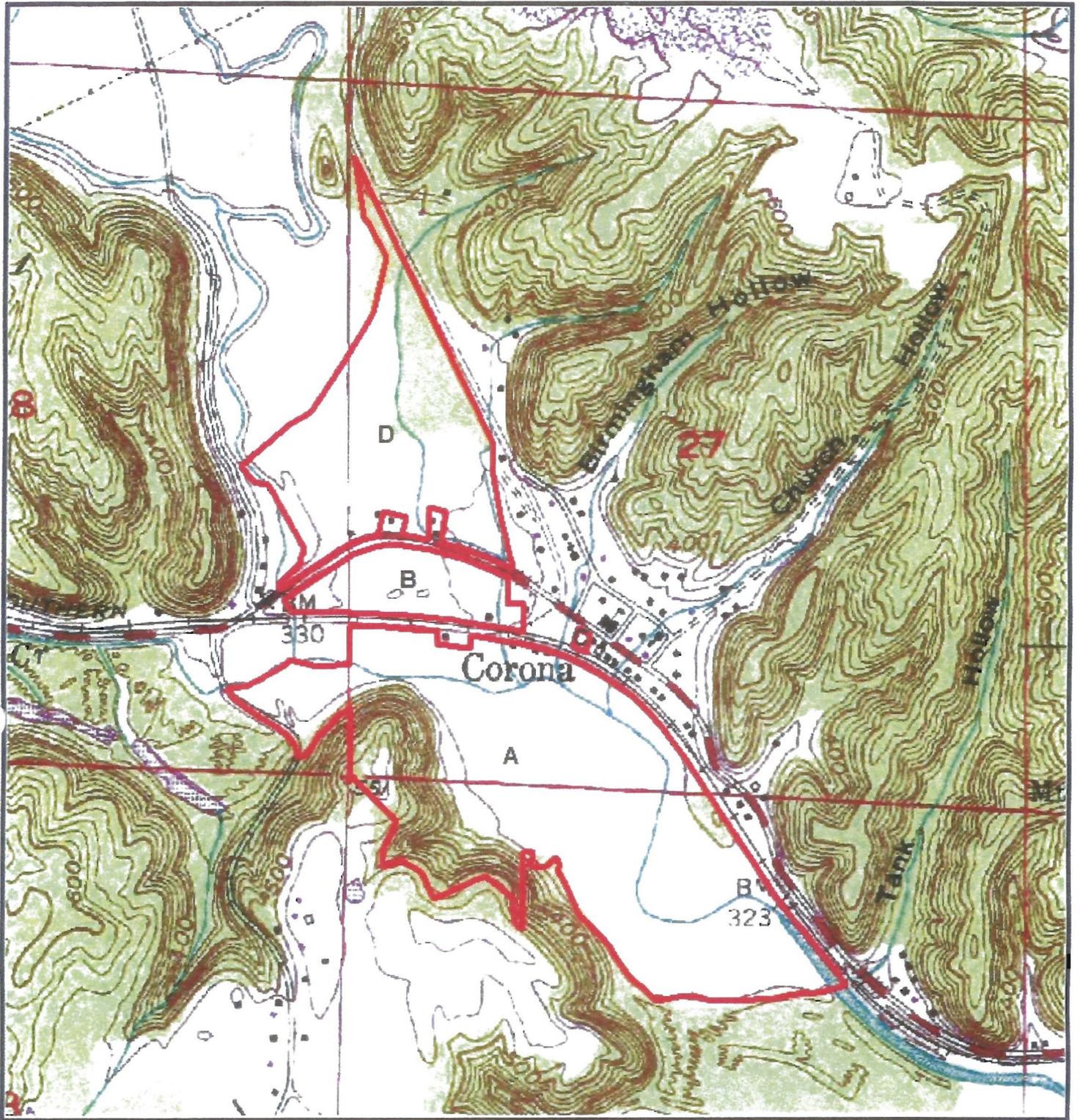
SOILS

Map Unit Name (Series and Phase): <u>Mantachie/variant-ponded</u>		Drainage Class: <u>PD</u> Field Observations Confirm Mapped Type? <u>No</u>			
Taxonomy (Subgroup): <u>Fluventic Endoaquepts</u>					
Profile Description:					
Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
<u>0 - 7</u>	<u>A</u>	<u>10YR4/2</u>	_____	_____	<u>L</u>
<u>7-18</u>	<u>Bg1</u>	<u>10YR 6/2</u>	<u>10YR 5/6</u>	<u>c2d</u>	<u>L</u>
<u>18 -28</u>	<u>Bg2</u>	<u>10YR 6/1</u>	<u>10YR 4/4</u>	<u>f2d</u>	<u>L</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input checked="" type="checkbox"/> Aquic Moisture Regime <input checked="" type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input checked="" type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks: <u>This observation point is located along the floodplain of an intermittent drainage way. The area is ponded and the soil has dominant hydric properties.</u>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u>	Is this Sampling Point Within a Wetland? <u>Yes</u>
Wetland Hydrology Present?	<u>Yes</u>	
Hydric Soils Present?	<u>Yes</u>	
Remarks: _____		

APPENDIX B



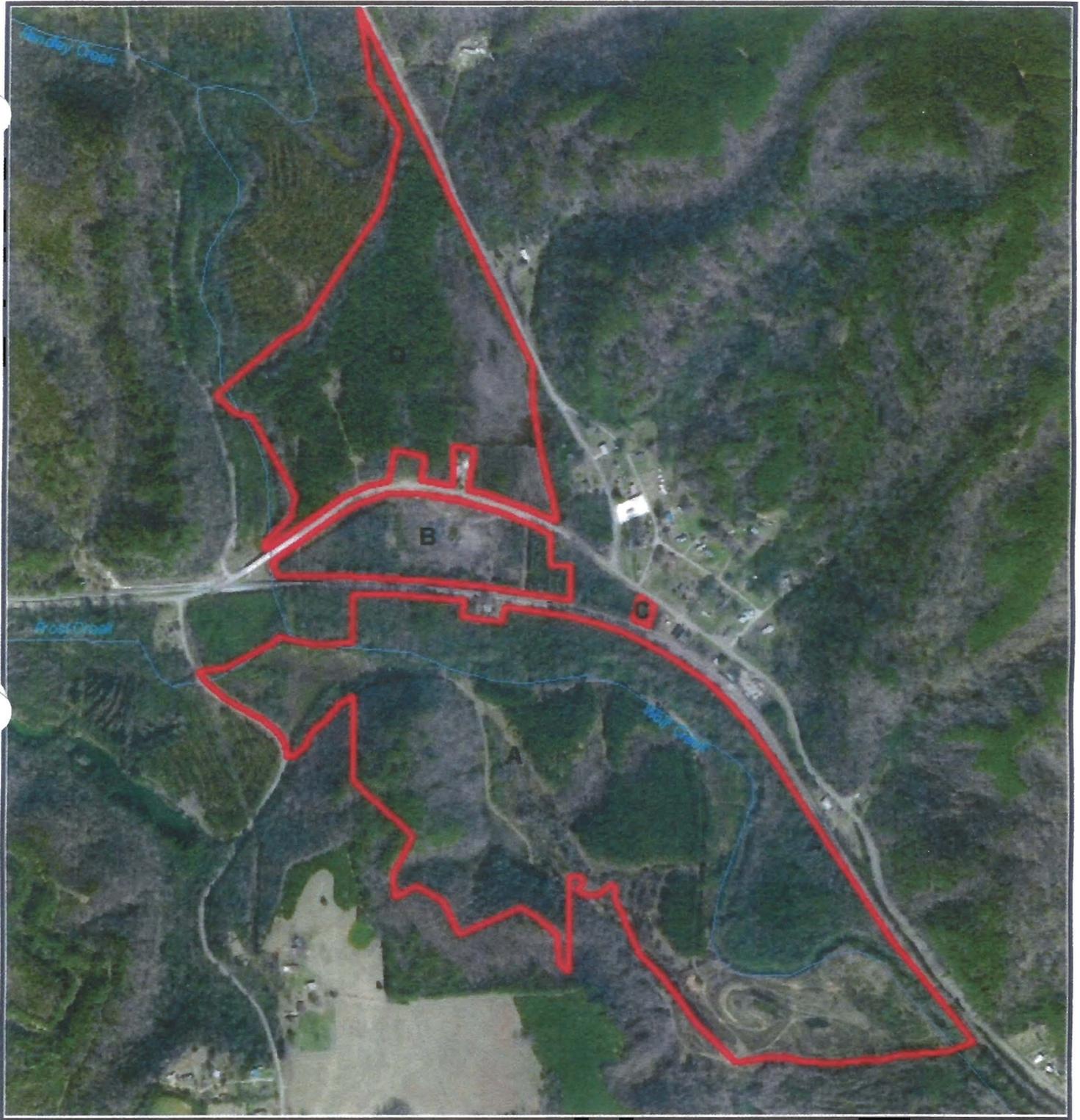
Raccoon Mtn. MTL, LLC
Skinny Poe Tract 64-8
+/- 214 Acres



940 470 0 940 Feet



JGRAHAM, INC.



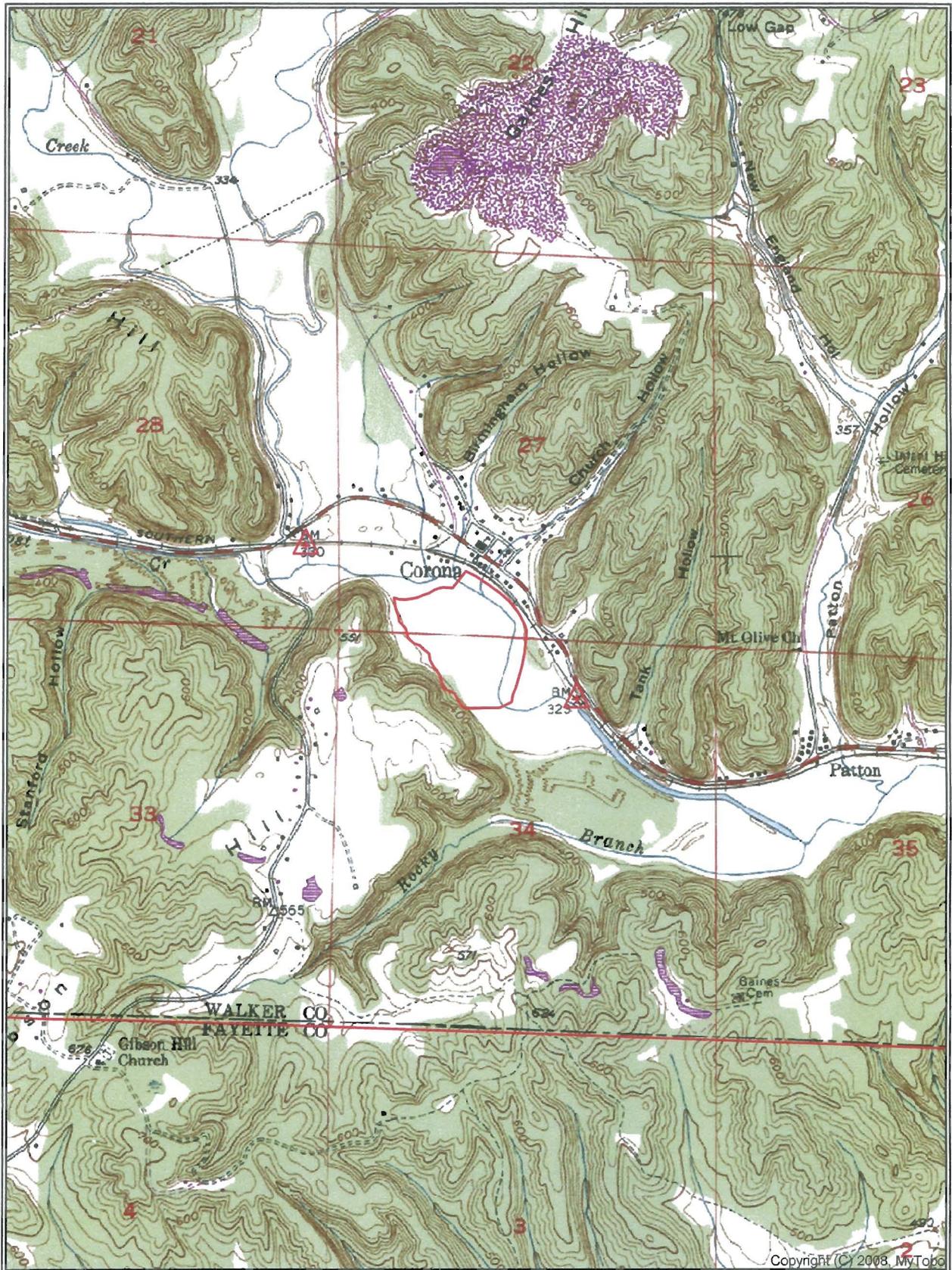
Raccoon Mtn. MTL, LLC
Skinny Poe Tract 64-8
+/-214 Acres



750 375 0 750 Feet



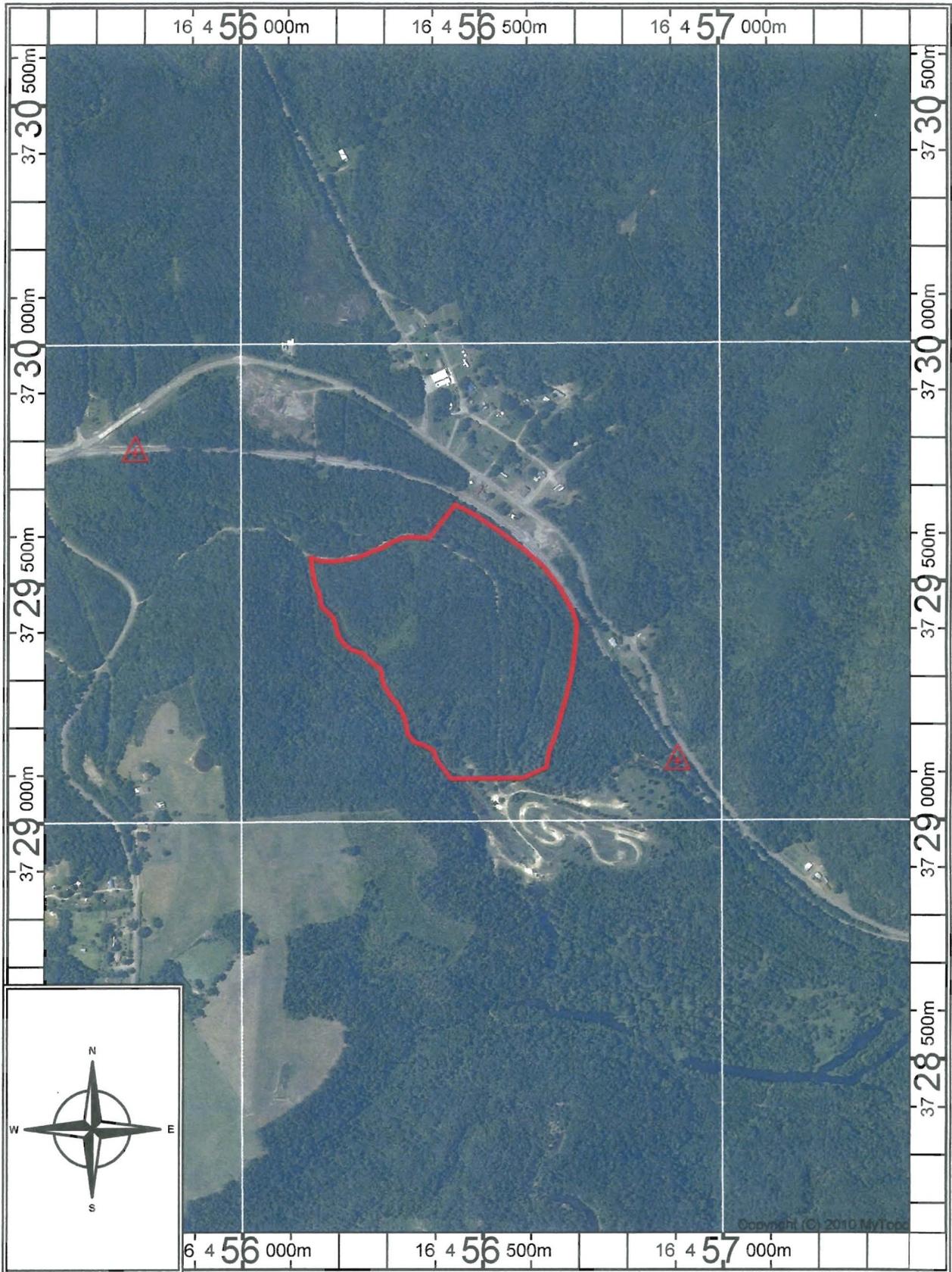
JGRAHAM, INC.



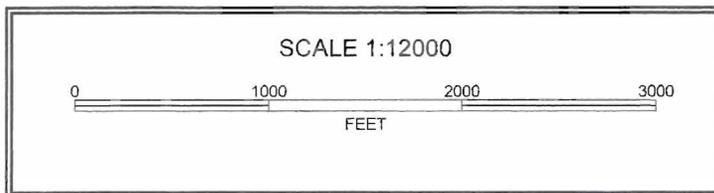
Proposed alternate mitigation site for Little Spring Creek Mine

SCALE 1:24000



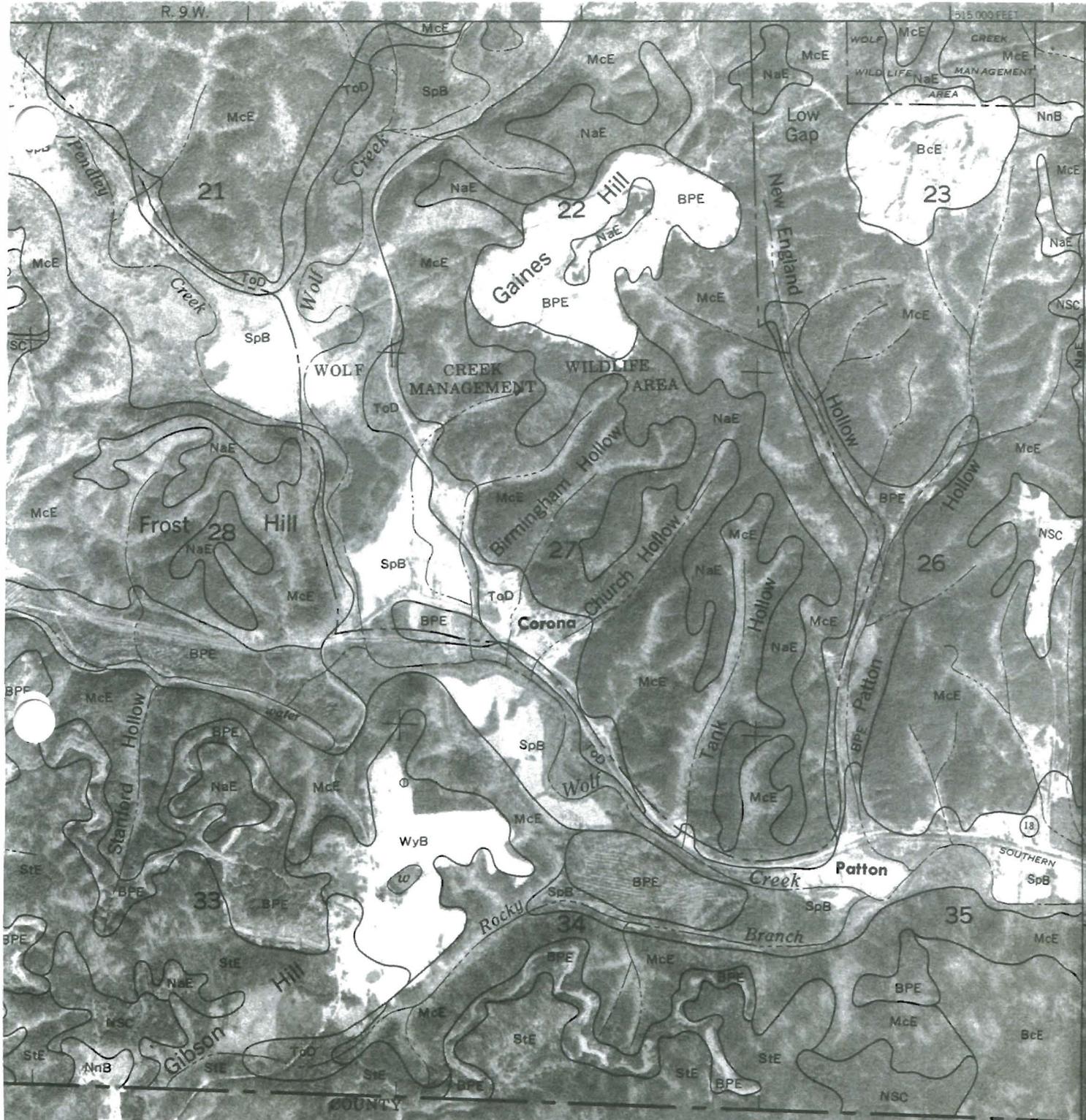


Proposed alternate mitigation site for Little Spring Creek Mine



R. 9 W.

515,000 FEET



Soil Survey of Walker County map sheet 32
shows extent of AG land along flood plain of Wolf Creek during 1986
at the site of proposed mitigation for Little Spring Creek Mine

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating



Poe tract- spring under beech tree located SW of 9.55 acre wetland.
Water flows into intermittent stream and hydrates wetlands
August 16, 2011



Poe tract, Wolf Creek west bank buffer area
Top photo- looking south, creek to left, pine plantation on right
Access road to be ripped to break traffic pan
Bottom photo – looking south from middle of proposed buffer
August 16, 2011

East side of Wolf Creek Buffer Restoration Site
Dominant pryerel shrub and sapling vegetation
November 3, 2011





East side of Wolf Creek Buffer Restoration site
Typical sparse tree canopy
November 3, 2011

East side of Wolf Creek Buffer Restoration Site
Typical dense midstory of Prunet, liustrum sinense
November 3, 2011



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project Site: Poe tract Small beaver area-2.94 acres City/County: Walker Sampling Date: Aug 16, 2011
 Applicant/Owner: Otis R. Robison State: AL Sampling Point: Plot 1
 Investigator(s): Art Hosey Section, Township, Range: Sect 34 T9S, R9W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): convex Slope (%): <2
 Subregion (LRR or MLRA): LRRP Lat: 33,703654962 Long: 87,469864321 Datum: NAD 83
 Soil Map Unit Name: Spadra NWI classification: POF1
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , Or Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Or Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: The soil has massive mottles and a reduced matrix. The area floods and is occasionally ponded by beaver activity. The vegetation is composed of chiefly Facultative wetland and Facultative Plants and passes the FAC neutral test. It is an area with positive indicators of all three parameters required to identify a wetland.		

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crawfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographical Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches):	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: The area is part of a small beaver pond complex. It has moss trim lines, surface soil cracks and water marks. The area has an intermittent stream that flows on the west side of this low area between Wolf Creek and the steep hill on the other side. Beavers have dammed the intermittent stream and pond the area occasionally.	

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-1	10YR5/3	100					silt loam	
1-2	10YR5/2	98	10YR5/8	2	C	M	silt loam	
2-4	10YR5/2	98	10YR4/6	2	C	M	silt loam	
4-6	10YR5/2	90	10YR4/6	10	C	M	clay loam	massive mottles
6-18	10YR5/2	90	10YR5/8	10	C	M	clay loam	massive mottles

¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coastal Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			
<input type="checkbox"/> Sandy Redox (S5)			
<input type="checkbox"/> Stripped Matrix (S6)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: Depth (Inches):	Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	--

Remarks: The soil has a depleted matrix with bright colored mottles. It is a hydric soil.



Poe tract, small beaver influenced wetland 2.94 acres
Plot 1, August 16, 2011

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project Site: Poe tract pine plantation by small beaver area City/County: Walker Sampling Date: Aug. 16, 2011
 Applicant/Owner: Otis R. Robison State: AL Sampling Point: Plot 2
 Investigator(s): Art Hosey Section, Township, Range: Sect 34, T9S, R9W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): convex Slope (%): <2
 Subregion (LRR or MLRA): LRRP Lat: 33.703454986 Long: 87.46956314 Datum: NAD 83
 Soil Map Unit Name: Spadra NWI classification: UP
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , Or Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Or Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampling Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Remarks: **The pine plantation displays no indicators of wetland hydrology, does have a predominance of wetland vegetation but does not have a hydric soil even though it is located in a floodplain. The pine plantation site is not a wetland.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|---|
| <input type="checkbox"/> Surface Water (A1)
<input type="checkbox"/> High Water Table (A2)
<input type="checkbox"/> Saturation (A3)
<input type="checkbox"/> Water Marks (B1)
<input type="checkbox"/> Sediment Deposits (B2)
<input type="checkbox"/> Drift Deposits (B3)
<input type="checkbox"/> Algal Mat or Crust (B4)
<input type="checkbox"/> Iron Deposits (B5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)
<input type="checkbox"/> Water-Stained Leaves (B9)
<input type="checkbox"/> Aquatic Fauna (B13) | <input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Moss trim Lines (B16)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crawfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Microtopographical Relief (D4)
<input type="checkbox"/> FAC-Neutral Test (D5) |
|--|--|---|

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: **The area may flood for a very short duration every other year or less but it does not remain flooded for a long enough period to develop anerobic conditions in the soil. It does not display any positive indicators of wetland hydrology.**

SOIL

Sampling Point: Plot 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-1	10YR5/4	100	_____	_____	_____	_____	silt loam	_____
1-6	10YR5/4	100	_____	_____	_____	_____	silt loam	_____
6-14	10YR5/4	100	_____	_____	_____	_____	silt loam	_____
14-18	10YR5/3	100	_____	_____	_____	_____	clay loam	_____
6-18	10YR5/2	100	_____	_____	_____	_____	clay loam	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

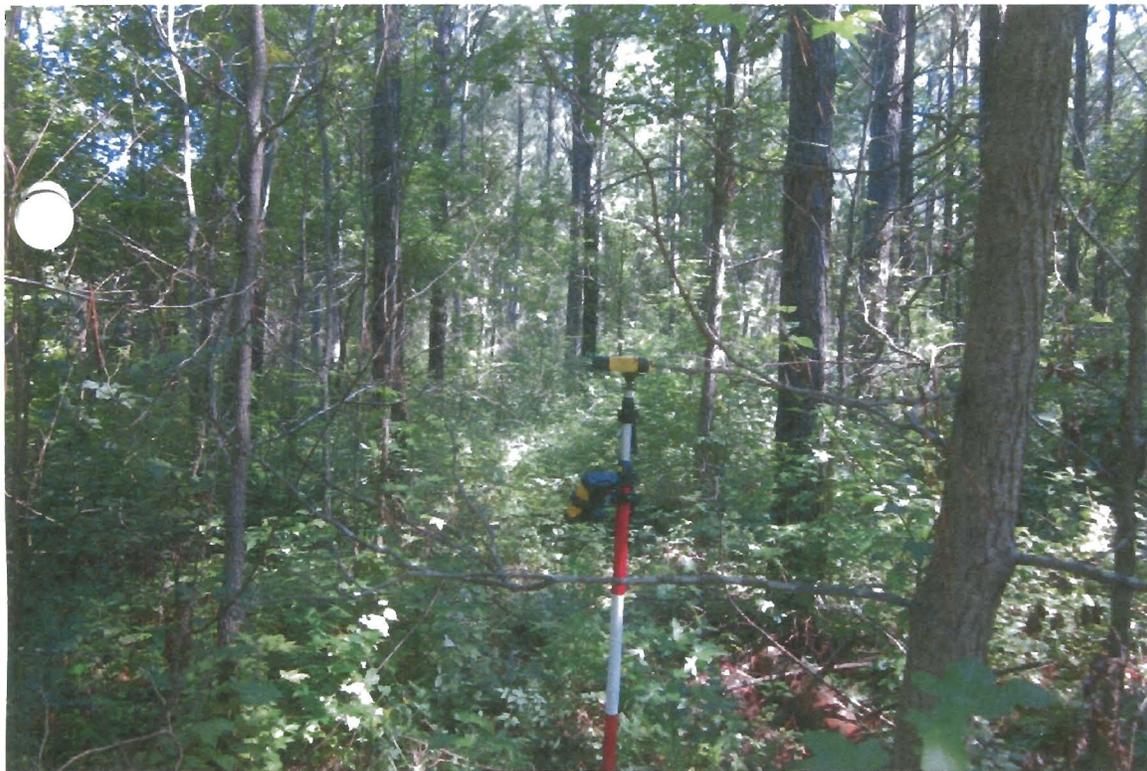
¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coastal Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			
<input type="checkbox"/> Sandy Redox (S5)			
<input type="checkbox"/> Stripped Matrix (S6)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):	Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Type: Depth (Inches):	

Remarks: The soil displays no indicators of hydric soil.



Poe tract, pine plantation east of 2.94 acre wetland
Plot 2, August 16, 2011

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project Site: Poe tract, steep hillside west of mitigation site City/County: Walker Sampling Date: Aug 16, 2011
 Applicant/Owner: Otil R. Robison State: AL Sampling Point: Plot 3
 Investigator(s): Art Hosey Section, Township, Range: Sect 34, T9S, R9W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): >30
 Subregion (LRR or MLRA): LRRP Lat: 33.709230181 N Long: 87.470613264 W Datum: NAD 83
 Soil Map Unit Name: Montevallo channery loam NWI classification: UP
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , Or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampling Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

Remarks: **This hill side is very steep with shallow well drained soil that is not hydric. There are no wetland hydrology indicators present.. The vegetation did not have a dominance of wetland plants. The site is an upland.**

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Moss trim Lines (B16)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crawfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Stunted or Stressed Plants (D1)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Microtopographical Relief (D4)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:	
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators of wetland hydrology were observed on this steep hillslope.

VEGETATION – Use scientific names of plants

Sampling Point Plot 3

Tree Stratum (Plot size 30' dia)	Absolute % Cover	Dominant Species?	Indicator Status
<i>Fagus grandifolia</i>	25	yes	NI
<i>Acer saccharum</i>	20	yes	NI
<i>Ulmus alata</i>	20	yes	FACU
<i>Quercus prinus</i>	20	yes	UPL
<i>Liriodendron tulipifera</i>	10	no	FAC
<i>Magnolia macrophylla</i>	1	no	NI
_____	_____	_____	_____
_____	96	= Total Cover	_____
Sapling Stratum (Plot size 30' dia)			
<i>Quercus prinus</i>	10	yes	NI
<i>Acer saccharum</i>	20	yes	NI
<i>Carpinus caroliniana</i>	10	yes	FAC
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	40	= Total Cover	_____
Shrub Stratum (Plot size 30' dia)			
<i>Aesculus pavia</i>	2	no	FAC
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	2	= Total Cover	_____
Herb Stratum (Plot size _____)			
<i>Polystichum acrostichoide</i>	10	yes	FAC
<i>Toxicodendron radicans</i>	5	yes	FAC
<i>Cornus florida</i>	1	no	FACU
<i>Ligustrum sinense</i>	1	no	FAC
<i>Acer saccharum</i>	1	no	NI
<i>Polygonatum biflorum</i>	1	no	NI
<i>Arisaema triphyllum</i>	1	no	FACW
<i>Hexastylis artifolia</i>	1	no	NI
<i>Euonymus americanus</i>	1	no	FAC
<i>Carya glabra</i>	1	no	FACU
_____	23	= Total Cover	_____
Woody Vine Stratum (Plot size 30' dia)			
<i>Vitis rotundifolia</i>	6	yes	FAC
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	6	= Total Cover	_____

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	4	(A)
Total Number of Dominant Species Across All Strata:	10	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	40	(A/B)

Prevalence Index worksheet:

Total %Cover of :		Multiply by:
OBL species		x1 =
FACW species	1	x2 = 2
FAC species	45	x3 = 135
FACU species	22	x4 = 88
UPL species	79	x5 = 395
Column Totals:	147	(A)
		(B)

Prevalence Index = B/A = 4.22

Hydrophytic Vegetation Indicators:

- 1. Rapid Test for Hydrophytic Vegetation
- 2. Dominance Test is >50%
- 3. Prevalence Index is <3.01¹
- 4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including woody herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vines – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet).
 The area is a mature hardwood forest on a steep shallow rocky soil. It is dominated by upland and non indicator plants.

SOIL

Sampling Point: Plot 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-1	10YR5/4	100	---	---	---	---	silt loam	---
1-6	10YR5/4	100	---	---	---	---	silt loam	stone fragments
6-14	10YR5/4	100	---	---	---	---	silt loam	stone fragments
14-18	10YR5/3	100	---	---	---	---	clay loam	stone fragments
6-18	19YR5/2	100	---	---	---	---	clay loam	stone fragments
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---

¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- 1 cm Muck (A9) (LRR P, T)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coastal Prairie Redox (A16) (MLRA 147, 148)
- Piedmont floodplain Soils (F19) (MLRA 136, 147)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:
Depth (Inches):

Hydric Soils Present? Yes No

Remarks: The soil displays no indicators of hydric soil.



Poe tract, Steep hillside west of mitigation site
Plot 3, August 16, 2011

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project Site: Poe tract larger beaver influenced wetland 9.55 ac City/County: Walker Sampling Date: Aug. 16, 2011
 Applicant/Owner: Otis R. Robison State: AL Sampling Point: Plot 4
 Investigator(s): Art Hosey Section, Township, Range: Sect 34, T9S, R9W
 Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRRP Lat: 33.706447764 N Long: 87.472687426 W Datum: NAD 83
 Soil Map Unit Name: Spadra loam NWI classification: UP
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , Or Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Or Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampling Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Remarks: **This area has a dominance of hydrophytic vegetation, a hydric soil and indicators of wetland hydrology. It is a wetland area that has been severely high graded.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|---|---|--|
| <input type="checkbox"/> Surface Water (A1)
<input type="checkbox"/> High Water Table (A2)
<input type="checkbox"/> Saturation (A3)
<input checked="" type="checkbox"/> Water Marks (B1)
<input type="checkbox"/> Sediment Deposits (B2)
<input type="checkbox"/> Drift Deposits (B3)
<input type="checkbox"/> Algal Mat or Crust (B4)
<input type="checkbox"/> Iron Deposits (B5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)
<input type="checkbox"/> Water-Stained Leaves (B9)
<input type="checkbox"/> Aquatic Fauna (B13) | <input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Moss trim Lines (B16)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crawfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Microtopographical Relief (D4)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
|---|---|--|

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: The concave area is frequently flooded by storms and occasionally ponded in the lowest area. It is located at the base of a steep hill and appears to be part of the old creek run of Wolf Creek. There is a small intermittent stream on the west side of this wetland area that is occasionally dammed by beavers which ponds the lower portions of this 9+ acre wetland area.

VEGETATION – Use scientific names of plants

Sampling Point Plot 4

Tree Stratum (Plot size 30' dia)	Absolute % Cover	Dominant Species?	Indicator Status
<i>Pinus taeda</i>	25	yes	FAC
<i>Liquidambar styraciflua</i>	2	no	FAC
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
	27	= Total Cover	
Sapling Stratum (Plot size 3' dia)			
<i>Liquidambar styraciflua</i>	2	no	FAC
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
	2	= Total Cover	
Shrub Stratum (Plot size 3' dia)			
<i>Ligustrum sinense</i>	25	yes	FAC
<i>Liquidambar styraciflua</i>	5	no	FAC
<i>Acer rubrum</i>	2	no	FAC
<i>Fraxinus pennsylvanica</i>	2	no	FACW
_____	_____	_____	_____
	34	= Total Cover	
Herb Stratum (Plot size 3' dia)			
<i>Polygonum hydropiperoides</i>	20	yes	OBL
<i>Cassia fasciculata</i>	20	yes	FACU
<i>Rubus betulifolius</i>	10	no	FAC
<i>Ligustrum sinense</i>	20	yes	FAC
<i>Andropogon glomeratus</i>	1	no	FACW
<i>Cyperus sp</i>	1	no	FAC
<i>Panicum scoparium</i>	5	no	FACW
<i>Ulmus americana</i>	1	no	FACW
<i>Osmunda cinnamomea</i>	1	no	OBL
<i>Rhexa virginica</i>	2	no	FACW
	91	= Total Cover	
Woody Vine Stratum (Plot size 3' dia)			
<i>Campis radicans</i>	5	no	FAC
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
	5	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total %Cover of:	Multiply by:
OBL species 21	x1 = 21
FACW species 10	x2 = 20
FAC species 87	x3 = 261
FACU species 20	x4 = 80
UPL species	x5 =
Column Totals: 138 (A)	382 (B)

Prevalence Index = B/A = 2.77

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation

2. Dominance Test is >50%

3. Prevalence Index is <3.01¹

4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including woody herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vines – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet).

The plot was taken on the upper end of the wetland area which has a row of planted loblolly pine encroaching into the wetland area. The wetland area has been highgraded along the upper edges and the area is very open with little overstory and sparse midstory with a thick ground cover.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-1	10YR5/3	100					silt loam	
1-2	10YR5/2	98	10YR5/8				silt loam	
2-4	10YR5/2	98	5YR4/6				clay loam	
4-6	10YR5/2	90	10YR4/6				clay loam	massive mottles, oxidized root channels
6-18	10YR5/2	90	10YR5/8				clay loam	massive mottles

¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coastal Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			
<input type="checkbox"/> Sandy Redox (S5)			
<input type="checkbox"/> Stripped Matrix (S6)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):	Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: Depth (Inches):	

Remarks: The soil displays a depleted matrix with greater than 2% bright mottles with oxidized root channels and oxidation on the soil peds. It is a hydric soil..It appears to be the Kinston series



Poe tract, larger beaver influenced wetland- 9.55 acres
Plot 4, August 16, 2011

Test plot taken along edge of pine plantation

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project Site: Poe tract Pine plantation by Larger beaver wetland City/County: Walker Sampling Date: Aug. 16, 2011
 Applicant/Owner: Otis R. Robison State: AL Sampling Point: Plot 5
 Investigator(s): Art Hosey Section, Township, Range: Sect 334, T9S, R9W
 Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): convex Slope (%): 0-2
 Subregion (LRR or MLRA): LRRP Lat: 33.706810939 N Long: 87.472648619 W Datum: NAD83
 Soil Map Unit Name: Spadra :pa NWI classification: I
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , Or Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , Or Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampling Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Remarks: **The plot has a predominance of facultative vegetation but lacked wetland hydrology indicators and lacked hydric soil. It is an upland floodplain of Wolf Creek at this location. Basically all of the upland floodplains were planted with loblolly pine down into the upper edges of the wetland areas.**

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Moss trim Lines (B16)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crawfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Stunted or Stressed Plants (D1)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Microtopographical Relief (D4)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:	
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: There were no hydrology indicators found in this pine plantation just east of larger beaver influenced wetland except the secondary indicator of passing the FAC neutral test.

SOIL

Sampling Point: Plot 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-2	10YR5/4	100	—	—	—	—	silty loam	
2-5	10YR5/4	100	—	—	—	—	loam	
5-8	10YR5/6	100	—	—	—	—	loam	
8-18	10YR5/6	100	—	—	—	—	loam	
—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	

¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coastal Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			
<input type="checkbox"/> Sandy Redox (S5)			
<input type="checkbox"/> Stripped Matrix (S6)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):	
Type:	
Depth (Inches):	
	Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks: The soil has no indicators of hydric soil.



Poe tract, pine plantation adjacent to 9.55 acre wetland
Plot 5, August 16, 2011

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Mobile District, Little spring Creek Mine, proposed Wolf Creek Mitigation, SAM-2011-0880-CHE

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Alabama County/parish/borough: Walker City: near Corona
Center coordinates of site (lat/long in degree decimal format): Lat. 34.7020° N, Long. 87.4640° W.
Universal Transverse Mercator:

Name of nearest waterbody: Wolf Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Mulberry Fork of the Black Warrior River

Name of watershed or Hydrologic Unit Code (HUC): 03160109

- Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
- Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date:
- Field Determination. Date(s): August 16, 2011

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

- Waters subject to the ebb and flow of the tide.
- Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Pick List** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: 2150 linear feet: 50 feet width (ft) and/or acres.
Wetlands: 12.49 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain:

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**

Identify TNW:

Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**

Watershed size: 1380 square miles

Drainage area: 50+ square miles

Average annual rainfall: 56 inches

Average annual snowfall: 2 inches

(ii) **Physical Characteristics:**

(a) **Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 15-20 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 10-15 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵: Wolf creek to Lost Creek to the Mulberry Fork of the Black Warrior River.

Tributary stream order, if known:

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

- Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: 50 feet
Average depth: 1 to 5 feet
Average side slopes: **Vertical (1:1 or less)**.

Primary tributary substrate composition (check all that apply):

- | | | |
|---|--|-----------------------------------|
| <input checked="" type="checkbox"/> Silts | <input checked="" type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input checked="" type="checkbox"/> Bedrock | <input checked="" type="checkbox"/> Vegetation. Type/% cover: Forest cover on east just line if trees on west bank of site | |
| <input type="checkbox"/> Other. Explain: | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Banks are stable but high sided. Chiefly wooded up stream and down stream of this mitigation site.

Presence of run/riffle/pool complexes. Explain: During extremely low flow there are a shallow riffle where bottom is a rock outcrop but only during very low flow condition. Stream drops only 20 feet in over 4 miles.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 0.00086 %

(c) Flow:

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **20 (or greater)**

Describe flow regime: Stream is perennial It was flowing through out the recent 3 year drought.

Other information on duration and volume: Computed average annual flow over 72.5 cubic feet per second.

Surface flow is: **Discrete and confined**. Characteristics: Stream has very steep and high banks in this area.

Subsurface flow: **Unknown**. Explain findings:

- Dye (or other) test performed:

Tributary has (check all that apply):

- | | |
|--|---|
| <input checked="" type="checkbox"/> Bed and banks | |
| <input checked="" type="checkbox"/> OHWM ⁶ (check all indicators that apply): | |
| <input checked="" type="checkbox"/> clear, natural line impressed on the bank | <input checked="" type="checkbox"/> the presence of litter and debris |
| <input checked="" type="checkbox"/> changes in the character of soil | <input checked="" type="checkbox"/> destruction of terrestrial vegetation |
| <input checked="" type="checkbox"/> shelving | <input type="checkbox"/> the presence of wrack line |
| <input checked="" type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> sediment sorting |
| <input checked="" type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> scour |
| <input checked="" type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community |
| <input checked="" type="checkbox"/> other (list): Wolf creek flows year round. | |
| <input type="checkbox"/> Discontinuous OHWM. ⁷ Explain: | |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> High Tide Line indicated by: | <input checked="" type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input checked="" type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): | |

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: Water at low flow stages is clear but during flood stages it is very turbid. This stream jumps its banks every spring.

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

Identify specific pollutants, if known: Possible high Ph from acid mine runoff. Most of farmland in flood plain has been abandoned or converted to pasture and planted pine so nitrates and phosphates should be very low. Water shed development chiefly Coal Strip mines and timber production. Stream is on states 303d list .

(iv) **Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): At site corridor is plantation pine and semi open wetlands. Below the site it is ungoing wetland and stream mitigation activities. Average width is 1500 feet or greater.

Wetland fringe. Characteristics: Wetlands are located in depression drainage ways and intermittent streams from the steep hill the run through and parallel the main wolf Creek separated by the higher upland stream banks.

Habitat for:

Federally Listed species. Explain findings: According to Daphne office of USFWS the Flatted musk turtle has been observed a short distance downstream in Wolf Creek However this stream is not designated as critical habitat for any T & E species.

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: Beavers inhabit the flood plain's drainageways and intermittent streams but have not dammed up Wolf Creek as it is to big..

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: 12.49 acres

Wetland type. Explain: Wetland were forested but severely highgraded when adjacent flood plain converted to pine, wetlands are chiefly open and influenced by beavers but are only ponded in loest portions and dry up in late summer .

Wetland quality. Explain: Wetland have very little tree and shrub canopys.

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: The stream that flows along the west edge in intermittent. Additionally the whole floodplain is undated briefly during flood events.

Surface flow is: **Overland sheetflow**

Characteristics: The intermittent stream flows along the west edge and the upper edges of the wetland receive overland sheet flow and storm flood watwers.

Subsurface flow: **Yes**. Explain findings: There is an intermittent stream that hydrates the wetlands and a spring that also comtributs to the water budget..

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **15-20** river miles from TNW.

Project waters are **10-15** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters**.

Estimate approximate location of wetland as within the **2-year or less** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: The water that ponds in the temporary beaver ponded areas is slightly turbid. However the flood flows that ovetop the entire area and it's wetlands are very turbid.

Identify specific pollutants, if known: During low flows Ph may be a little more acidic due to the numerous stripmines operation in the area. However there are no known pollutants except for silt and collodial particles in the water colum during floods at this time as mining is no longer allowed in the flood plain of the creek.

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): The buffer for Wolf Creek is forested upstream with a canopy dominated with large privet and Sweetgum saplings. At the mitigation site the wetlands make up just over 1/3 of the buffer on the westside of the creek. The wetlands have been high graded with all merchantable trees cut. there are a few softwo saplings left on west side of the wetlands. Buffer is about 1500 feet wide and 2/3 pine plantation.

Vegetation type/percent cover. Explain: 10 to 15 tree and sapling cover with rank ground cover with little tree requitment..

Habitat for:

Federally Listed species. Explain findings:

- Fish/spawn areas. Explain findings:
- Other environmentally-sensitive species. Explain findings:
- Aquatic/wildlife diversity. Explain findings:

Area was frequented by wild drunk humans while mud track to immediate south was operational but now one can find a few deer and turkey tracks crossing the area and a an occasional coyote track.

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **2**

Approximately (12,49) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
YES	9.55	Yes	2.94

Summarize overall biological, chemical and physical functions being performed: The 9.555 acre damaged wetland is the upper part of the 12.49acre beaver influenced wetland located upstream on an intermittent stream that is within the floodplain of Wolf Creek. The lower 2.94 wetlands are downstream and located adjacent to intermittent stream. These two wetland areas provide limited food and cover for wood ducks and beaver. These wetlands provide storage area for flood waters and attenuate the velocity of flood flows. They filter silts and sediments from the runoff as it crosses the bare dirt access road. The herbaceous vegetation removes nitrates and phosphates from runoff and buffers the intermittent stream.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 TNWs: linear feet width (ft), Or, acres.
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Wolf Creek at this location is 50 feet across and has never gone dry it is a large perennial stream.

- Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The intermittent stream that originates in the steep hill to the west and flows through the floodplain of Wolf Creek supplies the wetlands and the existing beaver ponded areas with water on an intermittent basis. The stream has 125 acre water shed and is inundated by flood waters of Wolf Creek. The stream was not flowing for a short period in the fall of 2007 but has enough flow from seeps to keep the wetlands and lower beaver ponds saturated and full of water respectively. The stream was flowing ever so slightly on August 16, 2011.

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters: **2150** linear feet **50 feet** in width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: **1650 linear feet of intermittent stream in mitigation area.**

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **The wetland extends along this intermittent tributary through the floodplain parallel to Wolf Creek and the wetlands continue through the restored stream channel as it passes the restored Mud Track area to Wolf Creek, where the restored wetland is contiguous with the waters of Wolf Creek.**
- Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: These wetlands also abut the intermittent stream that flows through the floodplain of Wolf Creek. This intermittent stream has no upland banks on the east side which directly abuts the wetlands and ponds a portion of the wetlands during the wet season..

Provide acreage estimates for jurisdictional wetlands in the review area: **12.49** acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters: .
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1 to 24,000 Oakman, Ala 7.5 Quadrangle 1949, photorevised 1981.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey of Walker County, Alabama, map sheet 32 .
- National wetlands inventory map(s). Cite name: .

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):Gogle undated, Black and White 1997-99.
or Other (Name & Date):Digital August 16, 2011 and October 18, 2011.
- Previous determination(s). File no. and date of response letter:SAM 2007-01557-HWL, Robison Lake May 5, 2011 permit issued.
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

APPENDIX C

Wetland Rapid Assessment Procedure

Check One: Existing Condition Proposed Condition **(WRAP)**

Applicant Number	Project Name	Date	Evaluator	Wetland Type
	Little Spring Creek Mine	2/15/2010	Stubbs	Streamside/Adjacent

Land Use	FLUCCS Code	Description	Wetland Acreage
Woodland	640	Wetlands adjacent to intermittent drainage way and the area floods frequently..	Area # 8- 0.56 Ac.

Wildlife Utilization (WU)	Wetland Canopy (O/S)	Wetland Ground Cover (GC)
2.5	2	2.5

Field Hydrology (HYD)	WQ Input & Treatment (WQ)*
2.5	2.0

Habitat Support/Buffer

Buffer Type	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
			2.00

Land Use Category (LU)

Land Use Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
(LU) TOTALS			2.0

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
(PT) TOTALS			2.0

WRAP Score 0.750

<p>Wildlife Utilization (WU): The area is located adjacent to an intermittent stream segment. There is evidence of wildlife utilization by mammals and reptiles. Additionally, habitat is suitable for aquatic species of wildlife because there is evidence of good hydrology and instream habitat structures are present.</p> <p>Wetland Canopy (O/S): There is a moderate amount of desirable wetland overstory. The wetland canopy is providing habitat support. There are dens and nesting areas for a variety of wildlife species.</p> <p>Wetland Ground Cover (GC): There is an adequate amount of desirable plant species providing ground cover for this wetland area. There is minimal or no disturbance to ground cover observed within the wetland area.</p> <p>Habitat Support: Adjacent upland buffer is greater than 300 wide. It is a mixed hardwood/pine forest that provides habitat support such as food source, nesting, roosting and dens areas.</p> <p>Field Hydrology: Hydrologic regime adequate to maintain a viable wetland system. The wetlands exhibit a natural hydroperiod and there is very little soil/vegetation disturbance of the wetland area.</p> <p>WQ Inputs & Treatment (WQ): The vegetation adjacent to the wetland area is mainly a pine/hardwood forest with good leaf ground cover and an adequate amount of small shrubs and saplings.</p>

*The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment category then dividing by 2

Wetland Rapid Assessment Procedure

Check One: Existing Condition Proposed Condition **(WRAP)**

Applicant Number	Project Name	Date	Evaluator	Wetland Type
	Little Spring Creek Mine	2/15/2010	Stubbs	Streamside/Adjacent

Land Use	FLUCCS Code	Description	Wetland Acreage
Cropland/food plot	640	Wetland area is mainly isolated with a small portion adjacent to an ephemeral stream.	Area # 7 – 4.04 Ac.

Wildlife Utilization (WU)	Wetland Canopy (O/S)	Wetland Ground Cover (GC)
1.5	0.5	0.5

Field Hydrology (HYD)	WQ Input & Treatment (WQ)*
2.5	2.0

Habitat Support/Buffer			
Buffer Type	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
			2.0

Land Use Category (LU)

Land Use Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	2.0	2.0
(LU) TOTALS			2.0

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	2.0	2.0
(PT) TOTALS			2.0

WRAP Score 0.500

- Wildlife Utilization (WU): There is evidence of wildlife utilization but wildlife activity is limited because the wetland area in an open cultivated field. There is very little close buffer on the north side to provide escape and cover for wildlife utilizing the area.
- Wetland Canopy (O/S): The area does not have adequate wetland canopy cover. It is mainly an open field with grasses and a few shrubs. There are a few wetland shrubs/trees on the southern side of the wetland that provides minimal wetland canopy for wetland.
- Wetland Ground Cover (GC): The wetland ground is mainly annuals in this wetland. They are mainly undesirable plants that provide very little functional support to the wetland area. The field has been cultivated recently and natural OBL plants are sparsely populated in the area.
- Habitat Support: The buffer areas are not adjacent to most of the delineated wetlands. There are open areas between the wetlands and a continuous buffer corridor and that diminishes wildlife utilization and habitat use.
- Field Hydrology: Hydrologic regime is adequate to maintain a viable wetland system. The wetlands exhibit a natural hydroperiod. The delineated wetland area is located on a stream terrace and receives drainage water from several acres of upland watershed.
- WQ Inputs & Treatment (WQ): The area adjacent to the wetland and the wetlands are plowed fields with bare soils. There are woodlands with some filtering of water flowing into the wetland area.

*The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment category then dividing by 2

Wetland Rapid Assessment Procedure

Check One: Existing Condition Proposed Condition (WRAP)

Applicant Number	Project Name	Date	Evaluator	Wetland Type
	Little Spring Creek Mine	2/15/2010	Stubbs	Streamside/Adjacent

Land Use	FLUCCS Code	Description	Wetland Acreage
Cropland/food plot	640	Wetland area is mainly isolated with a small portion adjacent to an ephemeral stream.	Area # 5 - 1.74 Ac.

Wildlife Utilization (WU)	Wetland Canopy (O/S)	Wetland Ground Cover (GC)
1.5	0.5	0.5

Field Hydrology (HYD)	WQ Input & Treatment (WQ)*
2.5	2.0

Habitat Support/Buffer			
Buffer Type	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
			2.0

Land Use Category (LU)

Land Use Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
(LU) TOTALS			2.0

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	2.0	2.0
(PT) TOTALS			2.0

WRAP Score 0.500

Wildlife Utilization (WU): There is evidence of wildlife utilization but wildlife activity is limited because the wetland area in an open cultivated field. There is very little close buffer on the north side to provide escape and cover for wildlife utilizing the area.
Wetland Canopy (O/S): The area does not have adequate wetland canopy cover. It is mainly can open field with grasses and a few shrubs. There are a few wetlands shrubs/trees on the southern side of the wetland that provides minimal wetland canopy for wetland.
Wetland Ground Cover (GC): The wetland ground is mainly annuals in this wetland. They are mainly undesirable plants that provide very little functional support to the wetland area. The field has been cultivated recently and natural OBL plants are sparsely populated in the area.
Habitat Support: The buffer areas are not adjacent to most of the delineated wetlands. There are open areas between the wetlands and a continuous buffer corridor and that diminishes wildlife utilization and habitat use.
Field Hydrology: Hydrologic regime is adequate to maintain a viable wetland system. The wetlands exhibit a natural hydroperiod. The delineated wetland area is located on a stream terrace and receives drainage water from several acres of upland watershed.
WQ Inputs & Treatment (WQ): The area adjacent to the wetland and the wetlands are plowed fields with bare soils. There are woodlands with some filtering of water flowing into the wetlands

*The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment category then dividing by 2

Wetland Rapid Assessment Procedure

Check One: Existing Condition Proposed Condition (WRAP)

Applicant Number	Project Name	Date	Evaluator	Wetland Type
	Little Spring Creek Mine	2/15/2010	Stubbs	Streamside/Adjacent

Land Use	FLUCCS Code	Description	Wetland Acreage
Woodland	640	Semi isolated wetland in a semi concave landscape position that is receiving water from the surrounding area.	Area # 4- 0.23 Ac.

Wildlife Utilization (WU)	Wetland Canopy (O/S)	Wetland Ground Cover (GC)
2.5	2.0	2.0

Field Hydrology (HYD)	WQ Input & Treatment (WQ)*
2.5	2.0

Habitat Support/Buffer			
Buffer Type	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
			2.0

Land Use Category (LU)

Pretreatment Category (PT)

Land Use Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	2.0	2.0
(LU) TOTALS			2.0

Pretreatment Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
(PT) TOTALS			2.0

WRAP Score 0.722

- Wildlife Utilization (WU): The area is located adjacent to an intermittent stream segment. There is evidence of wildlife utilization by mammals and reptiles. Additionally, habitat is suitable for aquatic species of wildlife because there is evidence of good hydrology and instream habitat structures are present.
- Wetland Canopy (O/S): There is a moderate amount of desirable wetland overstory. The wetland canopy is providing minimal habitat support. There are dens and nesting areas for a variety of wildlife species. The canopy is mainly large trees with dense understory of shrubs and saplings. The large tree canopy provides shade cover for the ground.
- Wetland Ground Cover (GC): There is a minimal amount of desirable plant species providing ground cover for this wetland area. The ground cover species are sparse in some areas and leaf litter is the dominant cover the ground.
- Habitat Support: Adjacent upland buffer is greater than 300 wide. It is a mixed hardwood/pine forest that provides habitat support such as a food source, nesting, habitat cover, and roosting and dens areas.
- Field Hydrology: Hydrologic regime adequate to maintain a viable wetland system. The wetlands exhibit a natural hydroperiod and there is very little soil/vegetation disturbance of the wetland area.
- WQ Inputs & Treatment (WQ): The vegetation adjacent to the wetland area is mainly a pine/hardwood forest with leaf ground cover and an adequate amount of small shrubs and saplings.

*The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment category then dividing by 2

Wetland Rapid Assessment Procedure

Check One: Existing Condition Proposed Condition **(WRAP)**

Applicant Number	Project Name	Date	Evaluator	Wetland Type
	Little Spring Creek Mine	2/15/2010	Stubbs	Streamside/Adjacent

Land Use	FLUCCS Code	Description	Wetland Acreage
Woodland	640	Wetlands adjacent to intermittent drainage way and the area floods frequently.	Area # 2- 0.59 Ac.

Wildlife Utilization (WU)	Wetland Canopy (O/S)	Wetland Ground Cover (GC)
2.5	2	2.5

Field Hydrology (HYD)	WQ Input & Treatment (WQ)*
2.5	2.0

Habitat Support/Buffer			
Buffer Type	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
			2.00

Land Use Category (LU)

Pretreatment Category (PT)

Land Use Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
(LU) TOTALS			2.0

Pretreatment Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.0
(PT) TOTALS			2.0

WRAP Score 0.750

Wildlife Utilization (WU): The area is located adjacent to an intermittent stream segment. There is evidence of wildlife utilization by mammals and reptiles. Additionally, habitat is suitable for aquatic species of wildlife because there is evidence of good hydrology and instream habitat structures are present.
Wetland Canopy (O/S): There is a moderate amount of desirable wetland overstory. The wetland canopy is providing habitat support. There are dens and nesting areas for a variety of wildlife species.
Wetland Ground Cover (GC): There is an adequate amount of desirable plant species providing ground cover for this wetland area. There is minimal or no disturbance to ground cover observed within the wetland area.
Habitat Support: Adjacent upland buffer is greater than 300 wide. It is a mixed hardwood/pine forest that provides habitat support such as food source, nesting, roosting and dens areas.
Field Hydrology: Hydrologic regime adequate to maintain a viable wetland system. The wetlands exhibit a natural hydroperiod and there is very little soil/vegetation disturbance of the wetland area.
WQ Inputs & Treatment (WQ): The vegetation adjacent to the wetland area is mainly a pine/hardwood forest with good leaf ground cover and an adequate amount of small shrubs and saplings.

*The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment category then dividing by 2

Wetland Rapid Assessment Procedure

Check One: Existing Condition Proposed Condition **(WRAP)**

Applicant Number	Project Name	Date	Evaluator	Wetland Type
	Little Spring Mine	2/15/2010	Stubbs	Streamside/Adjacent

Land Use	FLUCCS Code	Description	Wetland Acreage
Woodland	640	Wetlands adjacent to an intermittent drainage way and the area floods frequently.	Area # 1- 0.20Ac.

Wildlife Utilization (WU)	Wetland Canopy (O/S)	Wetland Ground Cover (GC)
2.0	2	2.5

Field Hydrology (HYD)	WQ Input & Treatment (WQ)*
2.5	2.0

Habitat Support/Buffer			
Buffer Type	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.00
(LU) TOTALS			2.00

Land Use Category (LU)

Pretreatment Category (PT)

Land Use Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.00
(LU) TOTALS			2.00

Pretreatment Category	(Score) X	(% of area)	= Sub Totals
Woodland	2.0	100	2.00
(PT) TOTALS			2.00

WRAP Score 0.722

Wildlife Utilization (WU): The area is located adjacent to an intermittent stream segment. There is evidence of wildlife utilization by mammals and reptiles. Additionally, habitat is suitable for aquatic species because there is evidence of good hydrology and habitat cover.
Wetland Canopy (O/S): There is a moderate amount of desirable wetland overstory. The wetland canopy is providing habitat support. There are dens and nesting areas for a variety of wildlife species.
Wetland Ground Cover (GC): There is an adequate amount of desirable plant species providing ground cover for this wetland area. There is minimal or no disturbance to ground cover observed within the wetland area.
Habitat Support: Adjacent upland buffer is greater than 300 wide. It is a mixed hardwood/pine forest that provides habitat support such as food source, nesting, roosting and dens areas.
Field Hydrology: Hydrologic regime adequate to maintain a viable wetland system. The wetlands exhibit a natural hydroperiod and there is very little soil/vegetation disturbance of the wetland area.
WQ Inputs & Treatment (WQ): The vegetation adjacent to the wetland area is mainly a pine/hardwood forest with leaf ground cover and an adequate amount of small shrubs and saplings.

*The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment category then dividing by 2

ADVERSE IMPACT

FACTORS FOR RIVERINE SYSTEMS WORKSHEET (INC. # 2)

(Little Spring Creek)

Stream Type Impacted	Intermittent 0.1			1 st or 2 nd Order Perennial Stream 0.8			> 2 nd Order Perennial Stream 0.4		
Priority Area	Tertiary 0.1			Secondary 0.4			Primary 0.8		
Existing Condition	Impaired 0.1			Somewhat Impaired 0.8			Fully Functional 1.6		
Duration	Temporary 0.05			Recurrent 0.1			Permanent 0.3		
Dominant Impact	Shade/ Clear 0.05	Utility Crossing 0.15	Below Grade Culvert 0.3	Armor 0.5	Detention /Weir 0.75	Morpho- logic Change 1.5	Impound- ment (dam) 2.0	Pipe >100' 2.2	Fill 2.5
Cumulative Impact Factor	<100' 0	100'-200' 0.05	201-500' 0.1	501-1000' 0.2	> 1000 linear feet (LF) 0.1 reach 500 LF of impact (example: scaling factor for 5,280 LF of impacts = 1.1)				

Factor	WFP 7						
Stream Type Impacted	0.1						
Priority Area	0.1						
Existing Condition	0.8						
Duration	0.3						
Dominant Impact	2.5						
Cumulative Impacts Factor	0.20						
Sum of Factors M=	4.0						
Linear Feet of Stream Impacted in Reach LF=	660						
M X LF	2,640						

Total Mitigation Credits Required = (M x LF) = 2,640

ADVERSE IMPACT

FACTORS FOR RIVERINE SYSTEMS WORKSHEET (INC. # 1)

(Little Spring Creek)

Stream Type Impacted	Intermittent 0.1			1 st or 2 nd Order Perennial Stream 0.8			> 2 nd Order Perennial Stream 0.4		
Priority Area	Tertiary 0.1			Secondary 0.4			Primary 0.8		
Existing Condition	Impaired 0.1			Somewhat Impaired 0.8			Fully Functional 1.6		
Duration	Temporary 0.05			Recurrent 0.1			Permanent 0.3		
Dominant Impact	Shade/Clear 0.05	Utility Crossing 0.15	Below Grade Culvert 0.3	Armor 0.5	Detention/Weir 0.75	Morpho-logic Change 1.5	Impoundment (dam) 2.0	Pipe >100' 2.2	Fill 2.5
Cumulative Impact Factor	<100' 0	100'-200' 0.05	201-500' 0.1	501-1000' 0.2	> 1000 linear feet (LF) 0.1 reach 500 LF of impact (example: scaling factor for 5,280 LF of impacts = 1.1)				

Factor	WFP 7	WFP 19					
Stream Type Impacted	0.1	0.1					
Priority Area	0.1	0.1					
Existing Condition	0.8	0.8					
Duration	0.3	0.3					
Dominant Impact	2.5	2.5					
Cumulative Impacts Factor	0.35	0.2					
Sum of Factors M=	4.15	4.0					
Linear Feet of Stream Impacted in Reach LF=	1,510	760					
M X LF	6,266	3,040					

Total Mitigation Credits Required = (M x LF) 9,306.

Wetland Rapid Assessment Procedure

Check One: Existing Conditions Proposed Conditions

(WRAP)

Application Number	Project Name	Date	Evaluator	Wetland Type
	Little Spring Creek Mine	8/16/201	Art Hosey	Softwood

Land Use	FLUCCS Code	Description	Wetland Acreage
Timber land	615	Stream Bottom Floodplain	12.49

Wildlife Utilization (WU)	Wetland Canopy (O/S)	Wetland Ground Cover (GC)
2	1	2

Field Hydrology (HYD)	WQ Input & Treatment (WQ)*
2.5	3

* The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment Category then dividing by 2

Buffer Type	Habitat Support / Buffer (Score) X	(% of area)	= Sub Totals
pine	3	50	1.5
hardwood	3	50	1.5
			3.0

Land Use Category (LU)

Land Use Category	(Score) X	(% area)	= Sub Totals
pine plantation	3	50	1.5
natural hardwoods	3	50	1.5
(LU) TOTAL			3.0

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of area)	= Sub Totals
pine plantation	3	50	1.5
natural hardwoods	3	50	1.5
(PT) TOTAL			3.0

WRAP Score

0.750

Field Notes:

<p>Wildlife Utilization (WU)</p> <p>Evidence of travel and bedding by deer, utilization by beaver and othe small mammals, Amphibians and macroinvertebrates present in stream. mast scarce and upland food supply in pine plantation fair with adequate food supply in natural hardowws to the weswt and north.</p>
<p>Wetland Canopy (O/S)</p> <p>Few mature trees as area severely hgh-graded when uplands flat converted to pine . No snags and a 20 percent shrub cover of Ligustrum sinense. Majority of wetland area is devoid of trees with minimal recruitment.</p>
<p>Wetland Ground Cover (GC)</p> <p>Ground cover is diverse and lush with little human disturbance but has a 20 percent aerial coverage of privet.</p>
<p>Habitat Support / Buffer</p> <p>Buffers of natural hardwoods to the west and north and the pine plantation to the east and south are over 300 feet wide and are within an extensive wildlife corridor along Wolf Creek that contain adequate food, cover and nesting sites.</p>
<p>Field Hydrology (HYD)</p> <p>The intermittent stream has been widened on the lower end and man has used the bed in the past to race four wheelers. Beavers have constructed dams that irregularly pond the lower portions of the wetland sreas</p>
<p>WQ Input & Treatment (WQ)</p> <p>The surrounding lands that provide hydrology to the wetlands are natural forested slopes and plantation pine. the pretreatment is runoff and spring fed water from natural forest and occasional flooding of Wolf Creek</p>

Wetland Rapid Assessment Procedure

Check One: Existing Conditions Proposed Conditions

(WRAP)

Application Number	Project Name	Date	Evaluator	Wetland Type
	Little Spring Creek Mine	8/16/201	Art Hosey	Softwood

Land Use	FLUCCS Code	Description	Wetland Acreage
Timber land	615	Stream Bottom Floodplain	12.49

Wildlife Utilization (WU)	Wetland Canopy (O/S)	Wetland Ground Cover (GC)
2.5	2.5	2.5

Field Hydrology (HYD)	WQ Input & Treatment (WQ)*
2.5	3

* The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment Category then dividing by 2

Buffer Type	Habitat Support / Buffer (Score) X	(% of area)	= Sub Totals
Hardwoods	3	100	3
(LU) TOTAL			3.0

Land Use Category (LU)

Land Use Category	(Score) X	(% area)	= Sub Totals
hardwood forests	3	100	35
(LU) TOTAL			3.0

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of area)	= Sub Totals
Hardwood forest	3	100	3
(PT) TOTAL			3.0

WRAP Score

0.889

Field Notes:

Wildlife Utilization (WU)	Excellent habitat for deer, beaver and othe small mammals, Amphibians and macroinvertebrates present in stream. Mast will be produced by planted hardwooda and upland food supplywill be mixed hardwood as pine plantation harverted and replanted to natural decidious trees.
Wetland Canopy (O/S)	Ligustrum sinense has been controlled. Wetland and uplands in floodplain have been planted to natural bottomland hardwoods. The wetlands will now have better habitat for ducks and beavers due to mast and food production.
Wetland Ground Cover (GC)	Ground cover is diverse and lush with little human disturbance and privet has been controled.
Habitat Support / Buffer	Buffer of natural hardwoods will exist around the wetlands. the buffer will be over 300 feet wide and within an extensive wildlife corridor along Wolf Creek that contain adequate food, cover and nesting sites.
Field Hydrology (HYD)	The intermittent stream has been widened on the lower end and four whelling up and down the creek and the banks will be prohibited by restrictive covenant
WQ Input & Treatment (WQ)	The surrounding lands that provide hydrology to the wetlands are natural forested slopes and bottom land hardwoods. The water input will be runoff from woodee hilside and floodplain with the intermittent stream being spring feed

Wetland Credit Calculation Worksheet

Site	WRAP Existing	WRAP Proposed	Gain or Loss	X	Acres	=	Credits	
Little Spring Creek								
Mine Impacts								
Wetland Area								
8	0.750	0.000	-0.750	X	0.30	=	-0.23	
7	0.500	0.000	-0.500	X	0.30	=	-0.15	
5	0.500	0.000	-0.500	X	1.20	=	-0.60	
4	0.720	0.000	-0.720	X	0.11	=	-0.08	
2	0.750	0.000	-0.750	X	0.31	=	-0.23	
1	0.720	0.000	-0.720	X	0.10	=	-0.07	
Ephemeral	1.000	0.000	-1.000	X	0.32	=	<u>-0.32</u>	
<u>Stream segments</u>								
Total wetland credit loss							- 1.68	
Wolf Creek	0.750	0.889	+0.139	X	12.49	=	+1.74	
Mitigation								
							Credits Gained	+1.74
							Credits Lost	<u>-1.68</u>
							Credit Balance	+0.06

RIPARIAN BUFFER RESTORATION AND PRESERVATION WORKSHEET

Stream Type	Intermittent 0.05	>2 nd Order Perennial Stream 0.2	1 st or 2 nd Order Perennial 0.4
Priority Area	Tertiary 0.05	Secondary 0.2	Primary 0.4
Net Benefit (for each side of stream)	Riparian Restoration, Enhancement, and Preservation Factors (select values from Table 1) (MBW = Minimum Buffer Width = 50' + 2' / 1% slope)		
System Protection Credit	Condition : MBW restored or protected on both streambanks To calculate: (Net Benefit Stream Side A + Net Benefit Stream Side B) / 2		
Timing of Mitigation	Before 0.15	During 0.05	After 0

Factors		Net Benefit 1	Net Benefit 2	Net Benefit 3	Net Benefit 4	Net Benefit 5	Net Benefit 6
Stream Type		0.2					
Priority Area		0.4					
Net Benefit	Stream Side A	1.6					
	Stream Side B	1.2					
System Protection Credit Condition Met (Buffer on both sides)		1.4					
Timing of Mitigation (None for primarily riparian preservation)	Stream Side A	0.05					
	Stream Side B	0.05					
Sum Factors (M)=		4.9					
Linear Feet of Stream Buffer (LF)= (don't count each bank separately)		2,440					
Credits (C) = M X LF		11,956					
Mitigation Factor Use (MF) = 0.5 or 1.0		1.0					
Total Credits Generated C X MF =		11,956					

Total Riparian Restoration Credits Generated = 11,956

Final Corrected Worksheet
For

**Wolf Creek Buffer Restoration, Enhancement and Preservation
Mitigation for Little Spring Creek Mine
Increments 1 & 2**

Stream Mitigation Credits Little Spring Creek Mine

Stream Impacts at permitted Little Spring Creek Mine

Increment # 1

WFP 7 -6,266

WFP 19 -3,040

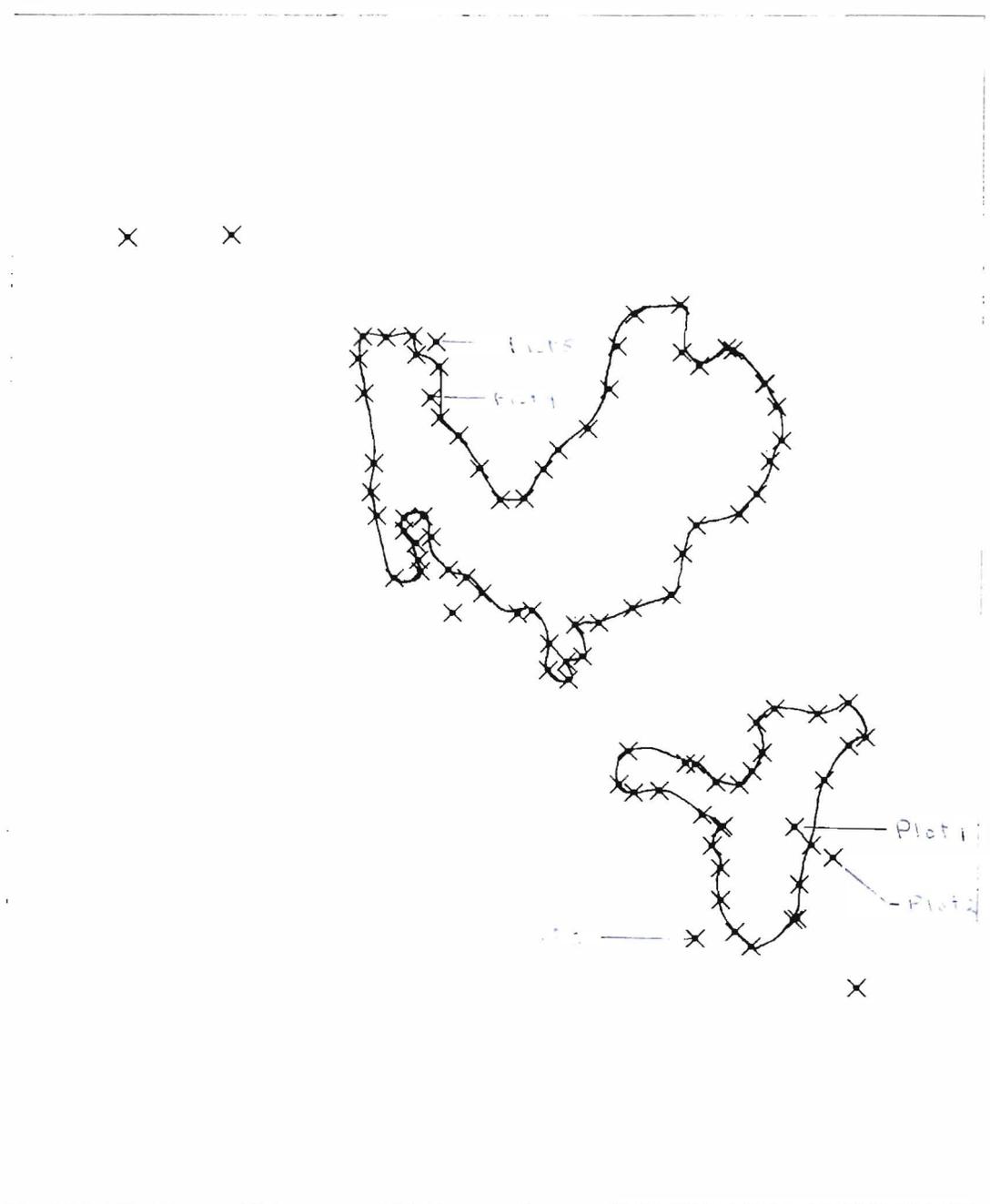
Increment # 2

WFP 7 - 2,640

Total Mitigation credits Required -11,946

Wolf Creek Buffer Restoration +11,956

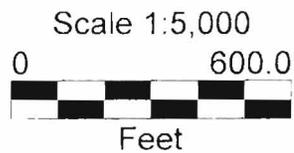
Credit Balance +10



Poe tract wetlands and Plot locations

Lat/Long
WGS 1984

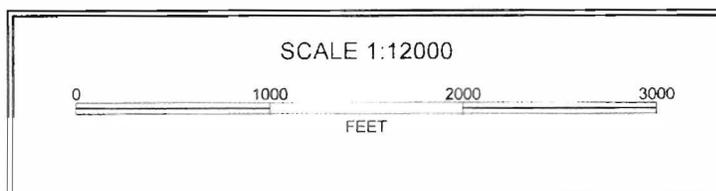
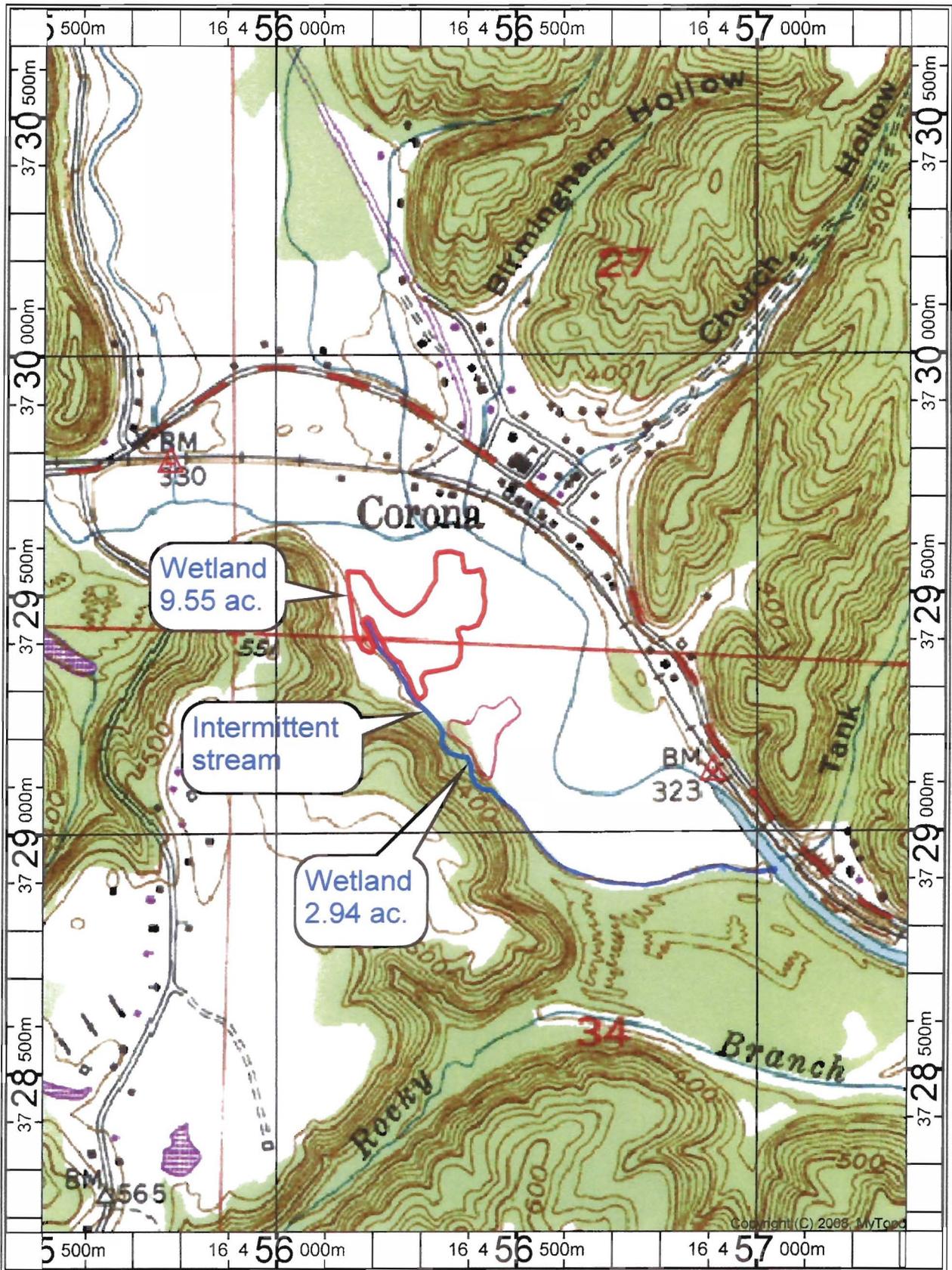
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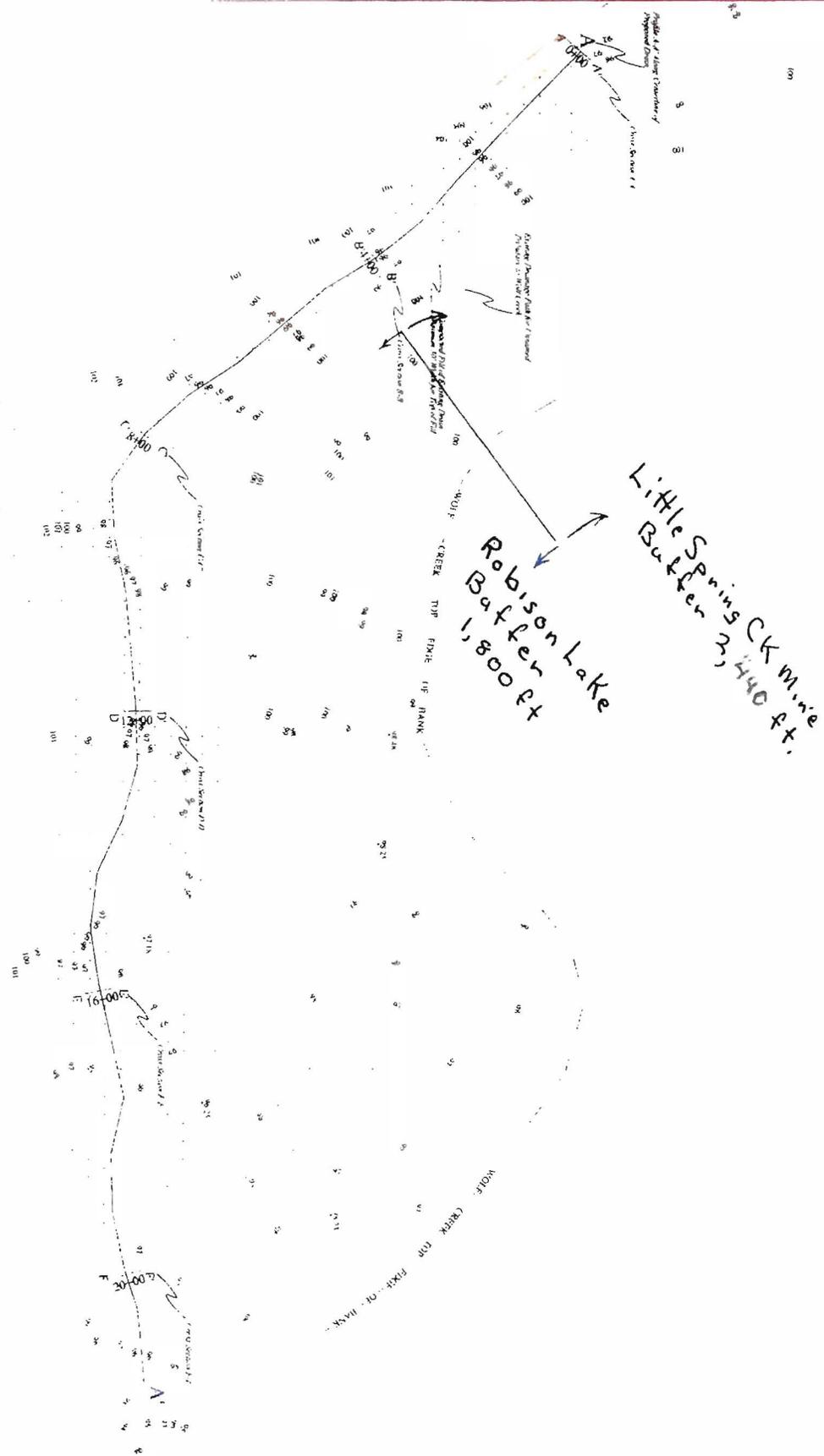


Multiple Files
2/11/2012

GPS Pathfinder® Office







MAP LEGEND

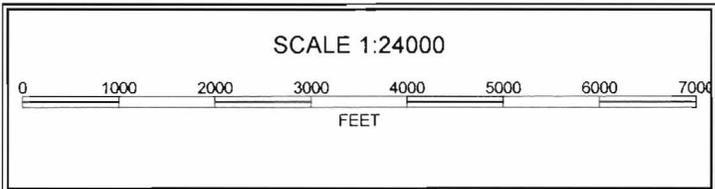
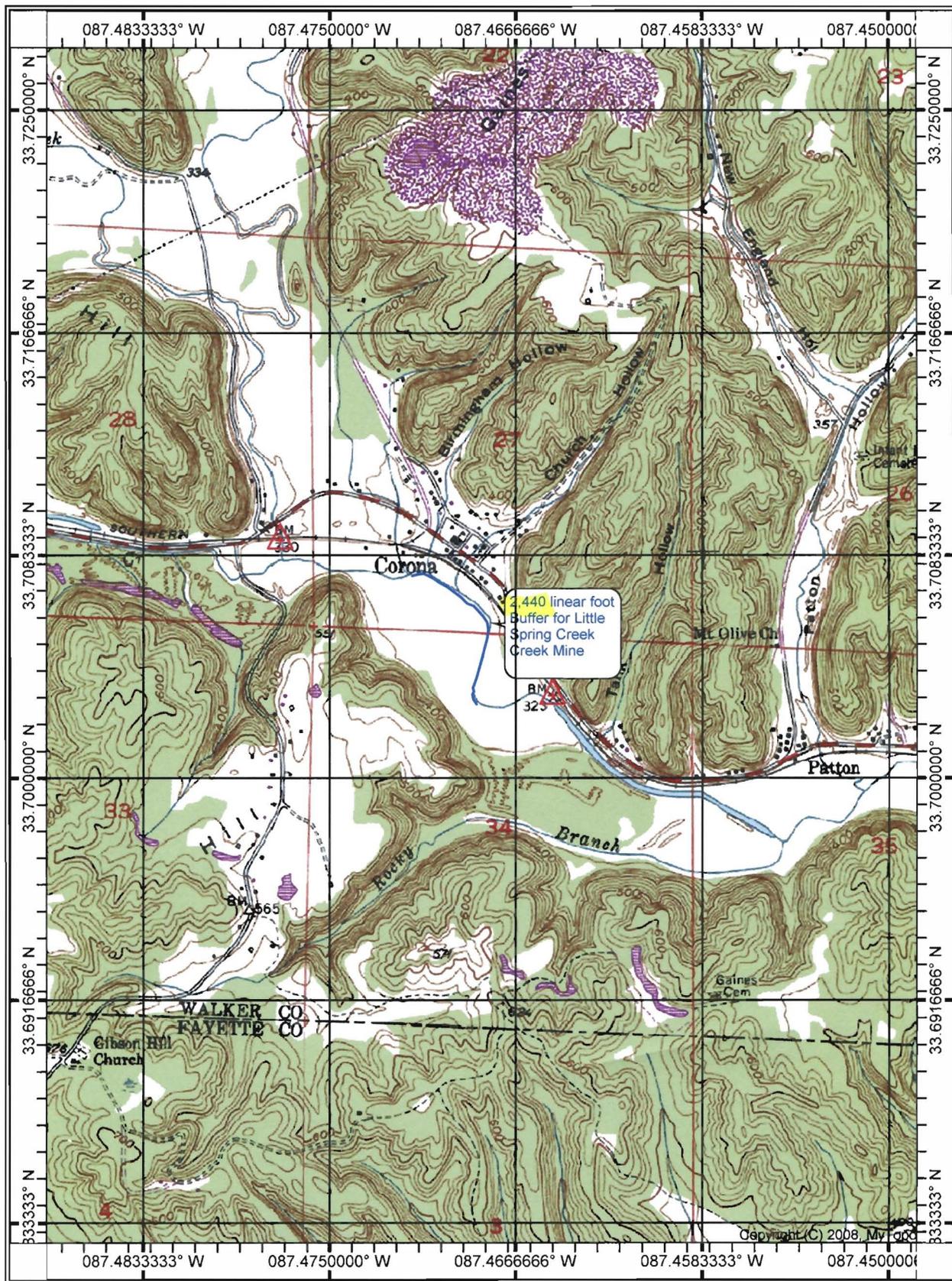
- Original Wetland Boundary*
- Proposed Wetland Restoration Area*
- Proposed Contours*
- Proposed Contours*
- Bottom of Proposed Drainage Minimum Width 10'*

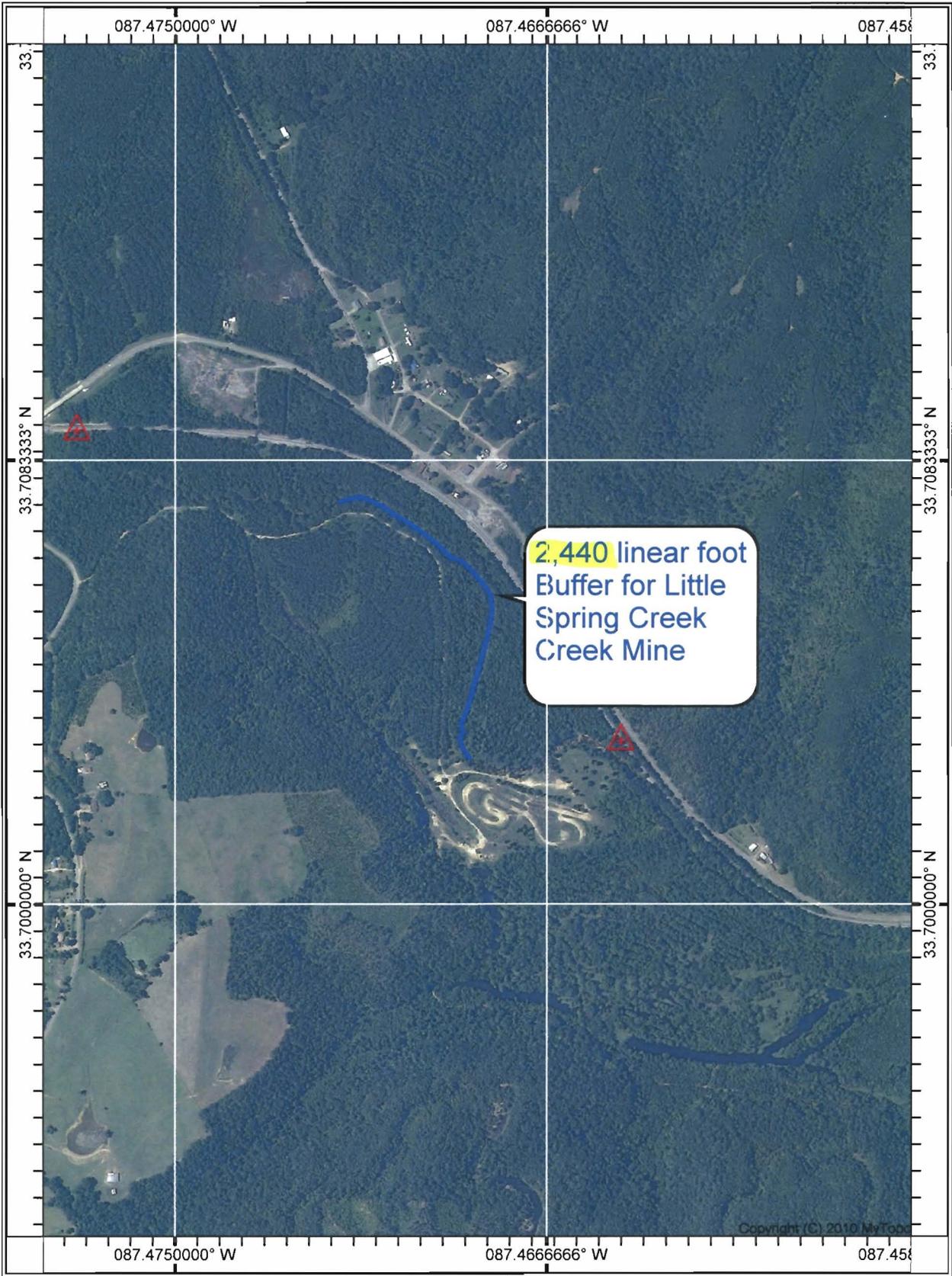


ROBISON LAKE PROJECT
Corona Mud Track Wetland Restoration
Planview Drawing
Scale 1" = 100'

SECTION 34 TOWNSHIP 15 SOUTH
 RANGE 9 WEST, WALKER COUNTY, ALABAMA
 BASE MAP: OAKMAN U.S.G.S. QUAD.
 U.S.G.S. QUAD.

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SCALE 1:12000

