

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE
REGION 4

**FY05 ENVIRONMENTAL CONTAMINANTS PROGRAM
ON-REFUGE INVESTIGATIONS SUB-ACTIVITY**

**AL – Cahaba River National Wildlife Refuge
Coal Waste Hazard Characterization**

Project ID: New
(filename: AL-04 Cahaba coal pile survey4.doc)

by

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for

Stephen Miller, Manager,
Cahaba River National Wildlife Refuge
and
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Daphne Field Office, Daphne, AL

June 16, 2004

Congressional District 06

II. INTRODUCTION

II.A. Background and Justification

The Cahaba River, stretching across eight Alabama counties before entering the Alabama River at Selma, is Alabama's longest free-flowing river (Hartup et al. 2002). The Cahaba River ecosystem is nationally recognized as supporting one of the highest levels of biodiversity in North America (Masters et al. 1998). However, water quality and habitat degradation are severely impacting the River. Several factors, including urban development, wastewater and stormwater discharges, agriculture and silviculture activities, water withdrawal, and coal mining have contributed to the degradation of the Cahaba River (Masters et al. 1998; Hartup et al. 2002). Degradation has contributed to an alarming level of species loss. Several species have been locally extirpated or have become extinct. In 1998, the Cahaba River Basin was listed as a critical watershed and ranked fifth nationally in the number of "At-Risk" fish and mussel species (Masters et al. 1998). Currently, 69 rare and imperiled species, including 10 Federally listed fish and mussels, occur in the Cahaba River. In an effort to preserve and manage an ecologically unique reach of the Cahaba River, the Cahaba River National Wildlife Refuge (NWR) was established in September of 2002 as a partnership between The Nature Conservancy and the U.S. Fish and Wildlife Service. The 3.5-mile reach of river within the NWR boundary is extremely rich in species diversity and provides habitat for five federally listed threatened or endangered species.

As throughout much of the Cahaba River Basin, historic coal mining activities have occurred on the Cahaba River NWR. Coal mining first occurred within the area that is now the refuge in the mid-1800's. Piper #2 underground coal mine cut through the refuge. A portion of the area was strip mined in the mid-1900's. These activities have resulted in unreclaimed mined areas, process ponds (coal fines settling ponds), and mine waste rock remaining on the NWR. The implications of historic coal mine impacts to future management of the Cahaba NWR or to aquatic species occurring on the refuge are largely uncertain. Coal mining has a long history of impacts to aquatic ecosystems receiving runoff or drainage from mined areas (Starnes and Gasper 1995) and has been identified as a significant factor contributing to the decline of freshwater mussels in Alabama (U.S. Fish and Wildlife 2000). Drainage from mine sites has been associated with a variety of acute and chronic effects to aquatic life and the degradation of aquatic ecosystems (Tuttle 1998). Impacts may result from acid generation of exposed mine rock and the mobilization of acid-soluble metals. The occurrence of an orange precipitate in a stream receiving drainage from one coal pile on the Cahaba NWR suggests acid generation and metal mobilization is occurring on the NWR. Aquatic ecosystem impacts may also result from the enrichment of metal and trace elements in aquatic sediment of impacted streams. **Coal from the Warrior Coal Fields in Alabama, which include portions of the Cahaba River Basin, has been recognized as having some of the highest metal and trace element concentrations when compared to coals nationwide (Goldhaber et al. 2000). Metal concentration in sediments in mine-impacted streams in Alabama are elevated (Goldhaber et al. 2001).** Coals are also recognized as a source of polycyclic aromatic hydrocarbons (PAH) in aquatic systems. PAH-contaminated sediments are known to affect aquatic organisms (Ingersoll et al. 2000).

In June 2004, the Cahaba NWR Manager was contacted by Dr. Jim Parker of M&B Excavating Company, LLC (M&B Excavating) with a proposal to reprocess mining waste on a portion of the Cahaba NWR (Attachment A). The operation, if approved, will remove coal wastes rock and/or coal fines on the refuge if they are found to be economically viable. Any areas disturbed during this process will be reclaimed to the specification of the ASMC and Cahaba NWR. M&B Excavating has expressed a desire to conduct the removal operations in the Spring or Summer of 2005. The removal of the coal offers the potential to reduce or remove chemical hazards to fish and wildlife on the refuge, should they occur, at little or no cost to the Service. However, at this time, the occurrence, extent, and severity of chemical hazards associated with coal wastes on the refuge are uncertain. Therefore, it is unclear if the proposed action will provide a net benefit or detriment toward the attainment of NWR objectives and the recovery of listed species.

This proposed investigation is designed to evaluate the potential chemical hazards associated with historic coal mining activities on the Cahaba NWR. Information generated through the investigation will enable the Cahaba NWR Manager to make informed decisions regarding the final disposition of coal, coal waste rock, and coal process ponds on the refuge. If the degree of risk warrants large-scale disturbance, the Refuge Manager may elect to enter into a contract with M&B Excavating to remove and reclaim economic coal deposits from the refuge. Further, if it is determined that the degree of chemical hazards warrant remedial action on non-economic mining wastes, information generated under the proposed investigation may be used to petition the Alabama Surface Mining Commission ASMC and the Office of Surface Mining (OSM) to include portions of the Cahaba NWR in ongoing efforts of to restore coal mine impacted areas in Alabama. The proposed investigation also fulfills some of the data needs on coal mining identified in the Mobile Basin Aquatic Ecosystem Recovery Plan (U.S. Fish and Wildlife Service 2000)

II.B. Scientific Objective(s)

Specific objectives of the proposed investigation include:

- 1) characterize the chemical quality (e.g., trace element and PAH composition) of coal in coal-mine waste rock on the Cahaba NWR;**
- 2) characterize the quality (e.g., water quality parameters and trace element composition) of drainage emerging from coal water rock on the NWR;**
- 3) characterize sediment quality (e.g., trace element and PAH concentrations) in streams receiving drainage from mined areas and coal waste rock; and**
- 4) characterize chemical composition (e.g., trace element and PAH concentrations) of coal fines in mine process ponds on Cahaba NWR.**
- 5) conduct a screening-level risk assessment to better ascertain constituents of concern and the relative degree of risk to aquatic life, wildlife, and refuge habitat quality.**

Additional information on the methodologies used to accomplish each task are provided in section III of this proposal.

II.C. Management Action(s)

This proposed investigation will provide information needed by the Cahaba NWR Manager to make informed decisions regarding the final disposition of coal, coal waste rock, and coal process ponds on the refuge. There are a number of potential management options available. Options are briefly discussed below.

- 1) If it is determined that the contaminant hazards are insignificant, the Refuge Manager may elect to proceed with efforts to stabilize and reclaim the coal wastes using Refuge staff and resources.**
- 2) If it is determined that potential benefits of removing coal wastes and associated contaminant concerns outweigh potential detriments of disturbance, the Refuge Manager may elect to enter into a contract with M&B Excavating to remove and reclaim economic coal deposits from the refuge. Removal and reclamation by M&B Excavating would result in substantial cost savings to the Service.**
- 3) If it is determined that corrective measures are warranted, but removal is not economical, the Service may petition ASCM and OSM to reclaim coal waste features of concern on the Cahaba NWR. Contaminant data generated as part of the proposed investigation would be provided to justify removal and/or reclamation of all or part of the wastes. The Abandoned Mine Lands Reclamation Program is largely funded by OSM and is, therefore, subject to compliance with section 7 of the Endangered Species Act. If it is determined that mine related hazards have the potential to adversely affect listed species on or downstream of the Refuge, the Service may request reinitiation of a consultation previously completed with OSM for their activities in Alabama.**

It is possible, if not likely that a combination of the available options may be used to address potential coal hazards on the refuge. For example, insignificant hazards may be addressed using Refuge resources, economic coal wastes may be removed and reclaimed by M&B Excavating, and the remaining hazards may be addressed via the Abandoned Mine Lands Program.

III. METHODS

III.A. Data Collection and Analysis

The proposed investigation is designed to identify and characterize potential ecological hazards presented by historic coal mining activities on Cahaba River NWR. Data collection activities will include:

- 1) evaluate historic mining activities on Cahaba River NWR;
- 2) chemical characterization of coal/coal waste rock;
- 3) characterization of acidic drainage potential;

- 4) characterization of contaminant mobilization from coal wastes;
- 5) characterization of coal-related contaminants in historic process ponds, and
- 6) assessment of chemical risks associated with historic mining activities on the NWR.

Specific objectives and methodologies for each investigation task are provided below.

To comply with the time schedule identified by M&B Excavating, field data collection activities for the proposed investigation will be conducted during first quarter of fiscal year 2005 and a final report of investigation findings will be prepared in the second quarter. Daphne Field Office staff will continue to work with the Cahaba NWR Manager in negotiations with M&B Excavating and oversight of the activities if it is determined to proceed with the coal removal action. Similarly, Daphne Field Office staff will assist the refuge in any discussions with ASMC and OSM regarding any potential activities under the Abandoned Mine Lands Reclamation Program.

1) Evaluation of Historic Coal Mining Activities on Cahaba River NWR

Staff of DFO will review historic records of coal mining activities on and near properties managed as part of the Cahaba NWR. Historic coal mining records for Alabama are available from the Geological Survey of Alabama (GSA), the Alabama Surface Mining Commission, the U.S. Geological Survey, the U.S. Department of Interior Office of Surface Mining, and the Bureau of Land Management. Appropriate records will be reviewed to assess the general period of mining on the refuge, types mining operations, specific locations of mine facilities (e.g., surface and underground mines, waste rock piles, process ponds, etc.), coal quality, and water quality controls and/or water quality monitoring. Significant mining sites/facilities will be visited to ascertain current conditions. Significant features will be georeferenced in the field using Garmin Etrex Vista Global Positioning System (GPS) receiver and imported in a Geographic Information System (GIS) work project.

2) Chemical Characterization of Coal Waste Rock

Three coal/coal waste rock samples will be collected from coal waste piles on the refuge. Each sample will consist of a minimum of 5 subsamples collected from various locations around the sampled coal pile. All subsamples will be collected at least 0.5 m below the surface of the pile. The composite samples will be placed in paper bags then in plastic ziplock bags. Coal samples will be stored on blue ice in the field and transferred to a freezer within 8 hours of collection. The samples will be provided to the Geological Survey of Alabama (GSA) for processing (i.e., grinding and homogenization), determination of total sulfide concentrations, and determination of acid generation potential (e.g., acid-base accounting). Portions of the homogenized samples will be submitted to an analytical laboratory specified by the Patuxent Analytical Control Facility (PACF) for determination of metal/trace element concentrations (metals scans) and polycyclic aromatic hydrocarbons (PAH scans). Samples for chemical analyses will be placed in certified clean 125 ml glass jars with teflon-lined closure and frozen. Samples will remain frozen before and during shipment to the analytical laboratory. The types

of analyses and costs are provided in Table 1.

Prior to use at each site, all sample collecting and processing equipment will be washed with a brush and mild detergent, rinsed with deionized water, rinsed with a dilute nitric acid solution, rinsed with acetone, and triple rinsed with deionized water. Between collection of subsamples at each site, collection equipment will be brushed to remove soil and rinsed with deionized water.

3) Characterization of Acid Drainage and Contaminant Mobilization Potential

In addition to total sulfide and acid-base accounting analyses performed by GSA, the coal piles will be surveyed for potential signs of acidic drainage (i.e., staining from metal precipitates). Staff of the Daphne FO will visit all sites exhibiting signs of acidic drainage during or immediately following significant rain events. Water quality parameters (temperature, pH, specific conductance, turbidity, and dissolved oxygen) of drainage will be determined using a Hydrolab Datasonde 4a. The meter will be calibrated per the manufacture's specification prior to use each day. Water hardness, alkalinity, and acidity of drainage will be measured using protocol provided in Alabama Water Watch (2002).

Five samples of drainage from various points on coal waste rock piles will be collected for analysis metals and trace elements. Samples will be collected in certified clean 250 ml nalgene bottles and acidified with nitric acid to pH 2 upon collection. Samples will not be filtered in the field to enable determination of total metal concentrations. Water samples will be stored on blue ice in the field and transferred to a refrigerator within 8 hours of collection. Samples will remain chilled before and during shipment to the analytical laboratory specified by PACF for metals scans. PACF will oversee analytical laboratory performance and certify analytical results.

Three sediment samples will be collected from drainages down gradient of coal waste piles and coal mine process ponds for assessment of metal/trace element and PAH concentrations. Each sample will consist of a minimum of 5 subsamples of fine-grained surficial sediment collected within a 10-m reach of the stream. Samples will be mixed in a stainless steel bowl and placed in certified clean 125 ml glass jars with teflon-lined closure. Samples will be stored on blue ice in the field and frozen within 8 hours of collection. Samples will remain frozen before and during shipment to the analytical laboratory. Samples will be submitted to an analytical laboratory specified by the Patuxent Analytical Control Facility (PACF) for determination of metal/trace element concentrations (metals scans) and polycyclic aromatic hydrocarbons (PAH scans). Prior to use at each site, all sample collecting and processing equipment will be washed with a brush and mild detergent, rinsed with deionized water, rinsed with a dilute nitric acid solution, rinsed with acetone, and triple rinsed with deionized water. Between collection of subsamples at each site, collection equipment will be brushed to remove soil and rinsed with deionized water.

4) Characterization of Coal-related Contaminants in Historic Process Ponds

Samples of coal fines will be collected from each of two coal mine process ponds on the refuge. Each sample will consist of a minimum of 5 subsamples collected from various locations

around the pond. All subsamples will be collected at least 0.25 m below the surface of the coal fines samples will be mixed in a stainless steel bowl and placed in certified clean 125 ml glass jars with teflon-lined closure. Samples will be stored on blue ice in the field and frozen within 8 hours of collection. Samples will remain frozen before and during shipment to the analytical laboratory. Samples will be submitted to an analytical laboratory specified by the Patuxent Analytical Control Facility (PACF) for determination of metal/trace element concentrations (metals scans) and polycyclic aromatic hydrocarbons (PAH scans). Samples will also be provided to GSA for determination of total sulfides and acid-base accounting.

Prior to use at each site, all sample collecting and processing equipment will be washed with a brush and mild detergent, rinsed with deionized water, rinsed with a dilute nitric acid solution, rinsed with acetone, and triple rinsed with deionized water. Between collection of subsamples at each site, collection equipment will be brushed to remove soil and rinsed with deionized water.

5) Assessment of Chemical Risks of Mining-related Contaminants

The results of coal waste rock, water quality, and sediment quality characterization will be used to identify any current acid generation and metal mobilization concerns and to evaluate the potential for future development of such concerns.

A screening level risk assessment will be conducted using the results of chemical analyses. Methods provided in EPA (1997) will be followed.

Table 1. Number of samples and costs of chemical analyses for the proposed investigation entitled “Cahaba River National Wildlife Refuge Coal Waste Hazard Characterization.”

Sample matrix	analyte	no. of samples	cost per analysis	total cost
water	metal scan	5	\$205	\$ 1,025
coal/coal fines	metal scan	5	225	1,125
coal/coal fines	PAH scan	5	410	2,050
coal	sulfide/A-B accounting	5	100	500
sediment	metal scan	3	225	675
sediment	PAH scan	3	410	1,230
Total		26		\$ 6,605

III.B. Proposed Schedule of Milestones

To comply with the time schedule identified by M&B Excavating, field data collection activities for the proposed investigation will be conducted during first quarter of fiscal year 2005 and a final report of investigation findings will be prepared in the second quarter of 2005. Daphne Field Office staff will continue to work with the Cahaba NWR Manger in negotiations with M&B Excavating and oversight of the activities if it is determined to proceed with the coal removal action. Similarly, Daphne Field Office staff will assist the refuge in any discussions with ASMC and OSM regarding any potential activities under the Abandoned Mine Lands Reclamation Program.

IV. INTERIM REPORT

IV.A. Results to Date

Not applicable.

IV.B. Significant Changes to Previous Proposal

Not applicable.

V. REFERENCES

- Alabama Water Watch. 2002. Water Chemistry Monitoring Manual. Alabama Water Watch Program, Auburn, AL, 79p.
- Goldhaber, M.B., R.C. Bigelow, J.R. Hatch, and J.C. Pashin. 2000. Arsenic in Warrior Field Coal. U.S. Department of the Interior Miscellaneous Field Studies Map MF-2333, U.S. Geological Survey, Denver, Colorado.
- _____, E. Irwin, B. Atkins, L. Lee, , D.D. Black, H. Zappia, J. Hatch, J. Pashin, L. Barwick, W. Cartwright, R. Sanzolone, L. Ruppert, A. Kolker, and R. Finkelman. 2001. Arsenic in stream sediments in northern Alabama: U.S. Geological Survey Miscellaneous Field Studies Map MF-2357, U.S. Geological Survey, Denver, Colorado.
- Hartup, W., A. Busby, and B. Deutsch, editors. 2002. Citizen guide to Alabama rivers: Black Warrior and Cahaba. Alabama Water Watch, Auburn, Alabama. 16pp.
- Ingersoll, C.G., D.D MacDonald, N. Wang, J.L. Crane, L.J. Field, P.S. Haverland, N.E. Kemble, R.A. Lindskoog, C. Severn, and D.E. Smorong. 2000. Prediction of sediment toxicity using consensus-based sediment quality guidelines. EPA report EPA 905/R-00/007, 26 p. plus tables.
- Masters, L.L., S.R. Flack, B.A. Stein, editors. 1998. Rivers of life: Critical watersheds for protecting freshwater biodiversity. The Nature Conservancy, Arlington, Virginia. 71pp.

- Starnes, L.B., and D.C. Gasper. 1995. AFS Policy Statement 13: Effects of surface mining on aquatic resources in North America. American Fisheries Society Policy Statement No. 13. American Fisheries Society, Bethesda, MD, 6 p.
- Tuttle, P.L. 1998. Ecological Concerns Associated with Waste Rock Management and Drainage from Hard Rock Mines. U.S. Fish and Wildlife Nevada State Office Report, 11 pp.
- U.S. Environmental Protection Agency. 1992. Framework for Ecological Risk Assessment. Washington DC, Risk Assessment Forum, EPA/630/R-02/-11.
- U.S. Fish and Wildlife Service. 2000. Mobile River Basin Aquatic Ecosystem Recovery Plan. Southeast Region, U.S. Fish and Wildlife Service, Atlanta, GA, 128 p.

VI. ROLES, RESPONSIBILITIES, AND PARTNERSHIPS

VI.A. Roles and Responsibilities

Peter Tuttle and Scott Floyd of the Daphne FO will be responsible for collection of all samples and other field data directly related to the proposed investigation. The Daphne FO will also have primary responsibility for the completion of reports and publications specific to data generated and funded as part of the proposed investigation. Peter Tuttle and Scott Floyd will also assist the Manager of Cahaba River NWR in any discussions or negotiations with M&B Excavating, ASMC, and/or OSM.

VI.B. Partnerships

The proposed investigation is in response to a proposal by M&B Excavating to remove coal wastes (and potential chemical hazards associated with those wastes) from the Cahaba River NWR. If it is determined that the removal of the coal wastes would provide a benefit to the refuge and/or Federally listed species, M&B Excavating will bear the costs of the coal removal. In this event, the proposed action would result in a tremendous cost savings to the Service. Additionally, the cost of the proposed removal activities would be expected to far surpass the cost of the proposed investigation.

VII. BUDGET					
EXPENDITURES	Year 1 FY 2005	Year 2 FY 2006	Year 3 FY 2007	Year 4 FY 2008	All Years
Field Operations	\$ -	\$ -	\$ -	\$ -	\$ -
Personnel - Field	\$ 3,700.00	\$ -	\$ -	\$ -	\$ 3,700.00
Personnel - Data Analysis	\$ 3,060.00		\$ -	\$ -	\$ 3,060.00
Personnel - Report Writing	\$ 3,700.00		\$ -	\$ -	\$ 3,700.00
Travel	\$ 300.00	\$ -	\$ -	\$ -	\$ 300.00
Supplies	\$ 100.00	\$ -	\$ -	\$ -	\$ 100.00
Equipment	\$ -	\$ -	\$ -	\$ -	\$ -
Non-PACF Analytical	\$ 500.00	\$ -	\$ -	\$ -	\$ 500.00
Other (Specify)	\$ -	\$ -	\$ -	\$ -	\$ -
Other (Specify)	\$ -	\$ -	\$ -	\$ -	\$ -
Other (Specify)	\$ -	\$ -	\$ -	\$ -	\$ -
Other (Specify)	\$ -	\$ -	\$ -	\$ -	\$ -
Regional Overhead (X%)	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Operational Subtotal</i>	<i>\$11,360.00</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$11,360.00</i>
<i>PACF Analytical</i>	<i>\$ 6,105.00</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ 6,105.00</i>
Total Funding	\$ 17,465.00	\$ -	\$ -	\$ -	\$ 17,465.00

1 Personnel costs are calculated at \$612/day.

VIII. REVIEW AND APPROVAL

Proposal Title: Cahaba River National Wildlife Refuge Coal Waste Hazard Characterization

Project ID#: New

Submitted by: _____ Date: _____
Contaminant Specialist, Field Office

Reviewed by: _____ Date: _____
Refuge Manager, (required for On-Refuge Investigations)

Reviewed by: _____ Date: _____
Program Manager, (e.g., Hatchery, Endangered Species, etc.) (if appropriate)

Reviewed by: _____ Date: _____
Environmental Contaminants Coordinator

Approved by: _____ Date: _____
Regional Director

Scientific Peer Review Form

1. Is the experimental design well thought out and scientifically valid? Please comment:

The experimental design is fine. I would however suggest two minor clarifications. At present it appears that there are two options if impacts are predicted. One is the removal of coal waste by the excavating company, the other is the Abandoned Mine Lands Reclamation Program. However it is really more complicated than that with a second tier of options. A combination of the excavating company and the Abandoned Mine Lands Reclamation Program or a combination of the Abandoned Land Mines Reclamation and refuge clean-up proposals. This second tier needs a bit more clarification because of the mention of the clean up proposal development in the text.

Response: *Section II.C. (Management Actions) has been revised to clarify management options.*

2. Is there a good probability of achieving the objectives of the investigation? Please comment:

I think there is a good probability of achieving the objectives of the investigation and potentially saving the Service a great deal of money, if the Refuge can accomplish the restoration at virtually no cost.

3. Does the investigation integrate current information with accepted methodologies to close data gaps, and establish a cause and effect relationship? Please comment:

Since the Refuge knows nothing about the characteristics of the coal getting information to predict risk to the resources of the Refuge is closing a huge data gap. Although no direct cause and effect will be addressed, there is adequate information on impacts at other mined sites to make the risk assessment relevant. Considering the potential saving to the Service this lack of concrete proof of direct impacts is acceptable

4. Are the costs well researched, clearly spelled out and defensible? Please comment:

Costs are estimated on biologist day calculations for the Daphne Field Office and the most current prices available from PACF. They are therefore well spelled out and defensible.

5. Commensurate with investigation objectives, does the proposal describe or cite scientifically acceptable operating procedures that include QA/QC sufficient to ensure the integrity of the data? Please comment:

Yes scientifically acceptable operating procedures that include QA/QC sufficient to ensure the integrity of the data. Adequate QA/QC is performed on data at PACF and methods for collecting the samples are adequately spelled out in the proposal.

Please check one of the following:

☐ Proposal is acceptable as is ☒ Minor revisions required ☐ Major revisions require (no changes required)

PROPOSAL TITLE: Cahaba River National Wildlife Refuge Coal Waste Hazard Characterization

REVIEWER* _____ **TITLE** _____ **DATE** _____

*If peer reviewer is anonymous, EC coordinator should indicate such and initial the signature line.

2005 National Criteria Score Sheet

TITLE: Cahaba River National Wildlife Refuge Coal Waste Hazard Characterization

PROJECT I.D.: _____ REGION: 4 RO RANK: _____ TARGET STATES: AL

Pass/Fail Criteria

The investigation proposal **DOES** ___ **DOES NOT** ___ pass the minimum required standards of the Environmental Contaminants Program.

Yes/No Proposal clearly identifies (1) an environmental problem related to anthropogenic contaminants and (2) site-specific management actions designed to resolve that problem. If not, explain:

Yes/No The proposal clearly identifies a level of biological impacts that must be investigated. Abiotic only sampling is clearly linked to an established threshold level of concern. If not, explain:

Yes/No At least one substantive peer review has been conducted and is attached. The proposal has been revised as appropriate. The study design is sufficient to meet the objectives of the proposal. If not, explain:

Yes/No The required surnames have been obtained. If not, explain:

Ranking Criteria

For the above referenced proposal, determine a score for each of the following criteria in accordance with the criteria definitions described in Chapter 5 of the investigations manual. Identify the location of the text that supports the score. If you disagree with a score previously provided, explain why.

A. *Threats to resources are **DOCUMENTED (20 pts)** or **SUSPECTED (15 pts)**.*

Field Office Supporting Text (**in bold**): Section II.A., ¶ 6 Score: 20

Regional Office Supporting Text: Section _____, ¶ _____ Score: _____
Explanation (if scores differ):

Reviewer Supporting Text: Section _____, ¶ _____ Score: _____
Explanation (if scores differ):

B. *Management actions are **DIRECT (15 pts)** or **INDIRECT (10 pts)**.*

Field Office Supporting Text (**in bold**): Section II.C., ¶ 2 Score: 15

Regional Office Supporting Text: Section _____, ¶ _____ Score: _____
Explanation (if scores differ):

Reviewer Supporting Text: Section _____, ¶ _____ Score: _____
Explanation (if scores differ):

*C.1. The study question(s) or hypotheses being addressed by the investigation **ARE (4 pts) or ARE NOT (0 pts)** clearly stated.*

Field Office Supporting Text (**in bold**): Section II.A., ¶ 4 Score: 4

Regional Office Supporting Text: Section _____, ¶ _____ Score: _____
Explanation (if scores differ):

Reviewer Supporting Text: Section _____, ¶ _____ Score: _____
Explanation (if scores differ):

*C.2. The study design as described in the proposal **WILL (4) or WILL NOT (0 PTS)** answer the study question(s)/hypotheses.*

Field Office Supporting Text (**in bold**): Section II.B., ¶ 1 Score: 4

Regional Office Supporting Text: Section _____, ¶ _____ Score: _____
Explanation (if scores differ):

Reviewer Supporting Text: Section _____, ¶ _____ Score: _____
Explanation (if scores differ):

*C.3. The scope or complexity of impacts being addressed by the investigation **IS (4 pts) or IS NOT (0 pts)** appropriate.*

Field Office Supporting Text (**in bold**): Section II.B., ¶ 1 Score: 4

Regional Office Supporting Text: Section _____, ¶ _____ Score: _____
Explanation (if scores differ):

Reviewer Supporting Text: Section _____, ¶ _____ Score: _____
Explanation (if scores differ):

C4. The most severe type of biological impact addressed by the investigation is an **INDICATOR OF ADVERSE EFFECTS (4 pts) or ACTUAL ADVERSE EFFECTS (7 pts)**.

Field Office Supporting Text (**in bold**): Section II.B, ¶ 1 Score: 7

Regional Office Supporting Text: Section , ¶ Score:
Explanation (if scores differ):

Reviewer Supporting Text: Section , ¶ Score:
Explanation (if scores differ):

C.5. Source of the contaminant **IS (3 pts) or IS NOT (0 pts)** sufficiently addressed.

Field Office Supporting Text (**in bold**): Section III.A.2, ¶ 2 Score: 3

Regional Office Supporting Text: Section , ¶ Score:
Explanation (if scores differ):

Reviewer Supporting Text: Section , ¶ Score:
Explanation (if scores differ):

C.6. Pathway of the contaminant **IS (3 pts) or IS NOT (0 pts)** sufficiently addressed.

Field Office Supporting Text (**in bold**): Section III.A.3, ¶ 3 Score: 3

Regional Office Supporting Text: Section , ¶ Score:
Explanation (if scores differ):

Reviewer Supporting Text: Section , ¶ Score:
Explanation (if scores differ):

D. Final regional rank order is of proposals submitted. Score:

E1. Regional Performance Score Score:

E2. Total Partnership Effort

Field Office Supporting Text: Section , ¶ Score:

Regional Office Supporting Text: Section , ¶ Score:
Explanation (if scores differ):

Reviewer Supporting Text: Section , ¶ Score:
Explanation (if scores differ):

General Reviewer Comments or Major Concerns:

Attachment A

M & B Excavating Co. L.L.C.
1001 Heflin Ave West - Birmingham, Alabama 35214
Office 205-798-4003
Fax 205-798-9045

June 1, 2004

Mr. Steve Miller
Refuge Manager
Cahaba National Wildlife Refuge
P.O. Box 5087
Fort McClellan, AL. 36205-0087

VIA E-MAIL TO: stephen_a_miller@fws.gov

Dear Mr. Miller;

It was good to see you at the dedication ceremony. What a great day for all those who love the Cahaba River. Thank you for the time you spent with me. I'm sure it was probably one of the busiest days of your life, so I am grateful for your attention.

Although we have discussed our company's removing the gob pile on the property where the ceremony was held, I thought it best to memorialize those discussions, so please allow this to serve as our formal request.

As you know, we are currently working in the Cahaba River Water-shed near West Blocton in Bibb County to eliminate several gob piles and fines ponds that were left over as a result of mining operations as early as the 1870's. These projects are being done on land owned by U.S. Steel Corporation and are being carried out under permits with both ADEM and Alabama Surface Mining Commission (ASMC).

In order to determine if your pile would be a candidate for removal, and we are reasonably sure it would, we need to do several types of testing including but not limited to drilling of the piles, sampling (up to 250 tons), topographic surveying, and other non-intrusive type tests. This testing is done under the watch-care of the ASMC (State of Alabama) and the Office of Surface Mining (Federal). Any disturbances are reclaimed to their satisfaction.

With U.S. Steel, we have entered into an agreement, which gives us a lease option on the property for one year. This lease option is renewable for three years. If we find that the pile is

viable, we then enter into a full lease. At the time the lease is enacted and the project goes forward, U.S. Steel will be paid a royalty on every clean ton of coal that is recovered. The lease option is made for this length of time due to the fact that a considerable investment in engineering and due diligence is made before the project is determined to be viable and the project is permitted. This helps assure that our investment is protected until such a time as we are ready to start the project. As we discussed, we would probably be interested in starting removal by Spring or Summer 2005. We obviously would need to do our testing sometime late this Summer or in the early Fall to make sure the project is indeed viable. We would not necessarily need a lease agreement with you, however, we would have some form of a contract that would spell out all of the terms and conditions.

We believe that we have arrived at a way to pay for the clean up of the Cahaba Water-shed without cost to the taxpayers. In fact, the project will actually provide some royalties that can perhaps be invested in the Preserve. I trust that this endeavor will be found worthy and that we can move forward with our project to eliminate coal waste material from the Cahaba Water-shed. We will be awaiting your earliest reply regarding the status of our request.

Yours Truly;

Jim Parker, PhD
For M&B Excavating Co., LLC