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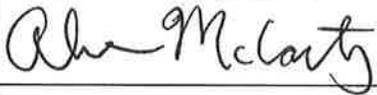
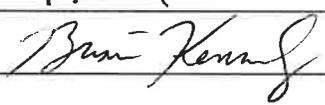
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**ENVIRONMENTAL ASSESSMENT (EA) FORM**

ES-020-2009-46

PROJECT NAME: EOI #716, Natchitoches and Red River Parishes, Louisiana Lease EA

TECHNICAL REVIEW:

X	Program	Reviewer	Signature	Date
X	Air Quality	Alison McCartney Natural Resource Specialist		9/19/12
X	ACEC	Alison McCartney Natural Resource Specialist	ASM	9/19/12
X	Botanical including T&E Spp.	Alison McCartney Natural Resource Specialist	ASM	9/19/12
	Communications (Dispatch)			
X	Cultural/Paleontology	John Sullivan Archeologist		9/19/12
X	Energy Policy	Alison McCartney Natural Resource Specialist	ASM	9/19/12
X	Environmental Justice	Alison McCartney Natural Resource Specialist	ASM	9/19/12
	Farmlands (Prime & Unique)			
	Fire Management			
X	Floodplain	Alison McCartney Natural Resource Specialist	ASM	9/19/12
X	Hazardous Material	Brian Kennedy Physical Scientist		9/19/12
X	Invasive & Non-Native Spp.	Alison McCartney Natural Resource Specialist	ASM	9/19/12
	Lands/Realty			
	Land Law Examiner			
	Law Enforcement			
X	Minerals	Alison McCartney Natural Resource Specialist	ASM	9/19/12
X	Native American Religious Concerns	John Sullivan Archeologist		9/19/12
	Operations			
	Range Management			
X	Recreation	Alison McCartney Natural Resource Specialist	ASM	9/19/12

X	Soils	Alison McCartney Natural Resource Specialist	ASM	9/19/12
	Surface Protection			
	Visual Resources			
	Water Rights			
X	Water Quality (Surface & Ground)	Alison McCartney Natural Resource Specialist	ASM	9/19/12
X	Wetlands/Riparian Zones	Alison McCartney Natural Resource Specialist	ASM	9/19/12
X	Wild & Scenic Rivers	Alison McCartney Natural Resource Specialist	ASM	9/19/12
X	Wilderness	Alison McCartney Natural Resource Specialist	ASM	9/19/12
	Wild Horse & Burro			
X	Wildlife including T&E Spp.	Alison McCartney Natural Resource Specialist	ASM	9/19/12

Prepared by: Alison McCartney  
Alison McCartney  
Natural Resource Specialist

Date: 9/19/12

Reviewed by: Gary Taylor  
Gary Taylor  
NEPA Coordinator

Date: 9/25/12

Reviewed by: Duane Winters  
Duane Winters  
Resource Supervisor

Date: 9-24-2012

Reviewed by: Brian Kennedy  
Brian Kennedy  
Acting Minerals Supervisor

Date: 9/19/12



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Southeastern States Field Office  
411 Briarwood Drive, Suite 404  
Jackson, Mississippi 39206



### **Environmental Assessment ES-020-2009-46**

EOI #716, Natchitoches and Red River Parishes, Louisiana Lease EA

**Prepared by: Alison McCartney  
Date: September 4, 2012**

## **CH 1 – PURPOSE OF AND NEED FOR THE PROPOSED ACTION**

### **Introduction**

This environmental assessment (EA) is prepared to address a proposed federal oil and gas lease nomination in Natchitoches and Red River Parishes, Louisiana pursuant to the Minerals Leasing Act of 1920, as amended. A federal oil and gas lease is a legal contract that grants exclusive rights to the lessee to develop federally owned oil and gas resources.

### **Need for the Proposed Action**

The development of oil and natural gas is essential to meeting the nation's future needs for energy. Private exploration and development of federal oil and gas reserves are integral to the Bureau of Land Management's (BLM) oil and gas leasing programs under the authority of the Mineral Leasing Act 1920, as amended, the Mineral Leasing Act for Acquired Lands of 1947, as amended, the Federal Land Policy and Management Act of 1976 and the Energy Policy Act of 2005. The oil and gas leasing program managed by BLM encourages the development of domestic oil and gas reserves and reduction of U.S. dependence on foreign sources of energy. The tracts considered for lease in this analysis was nominated by an Expression of Interest (EOI) from private industry.

On June 8, 2009, the BLM Southeastern States Field Office (SSFO) received a request from the BLM Eastern States Office for a National Environmental Policy Act (NEPA) analysis report on 1321.39 acres of land with the following legal description: T12N, R7W, Sec. 19, Lot8, Sec. 20, SWNW, Sec. 30, Lots 5 - 14, Sec. 31, Lots 1 - 16, Sec. 32, Lots 5 – 12, Natchitoches and Red River Parishes, Louisiana Meridian, Louisiana (1321.39 acres). This nomination is located on privately owned land.

### **Management Objectives of the Action**

The objective of the proposed action is to make available for lease 1321.39 acres in Natchitoches and Red River Parishes, Louisiana to provide exclusive rights to the lessee to develop federally owned oil and gas resources.

### **Land Use Plan Conformance**

The proposed action does not conflict with any known State or local planning, ordinance or zoning. This area is not covered by a BLM Resource Management Plan. According to the regulations at 43 CFR 1610.8 (b) (1), however, this environmental assessment will be used as a basis for making a decision on the proposal.

### **Applicable Regulatory Requirements and Required Coordination**

Applicable regulatory requirements and required coordination for lease development of federal oil and gas minerals is authorized by several statutes including: The Mineral Leasing Act, as amended and supplemented (30 U.S.C. 181), The Mineral Leasing Act of 1947, as amended (30

U.S.C. 351-359), The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.

The following agencies/tribes were contacted (Appendix C):

Louisiana State Historic Preservation Officer

Tunica-Biloxi Tribe

Caddo Indian Tribe

Chickasaw Nation

Alabama Coushatta Tribe

Coushatta Tribe

Chitimacha Tribe of Louisiana

Alabama-Quassarte Tribal Town

Muscogee (Creek) Nation of Oklahoma

Thlopthlocco Tribal Town

Choctaw Nation of Oklahoma

Mississippi Band of Choctaw

Quapaw Tribe of Oklahoma

The proposed lease was subject to public review for a 30-day period per publication of a newspaper of local distribution (Appendix E).

### **Decision(s) That Must Be Made**

There are two decisions under consideration from the BLM for the proposed action. The first is to offer the federal oil and gas mineral estate for competitive leasing. The other decision would be to deny the action so that no development and surface disturbance would take place. BLM's policy is to promote oil and gas development as long as it meets the guidelines and regulations set forth by the National Environmental Policy Act of 1969 and other subsequent laws and policies passed by the U.S. Congress.

## **CH 2 – ALTERNATIVES INCLUDING THE PROPOSED ACTION**

### **Introduction**

Tracts of land have been nominated for a federal oil and gas lease in Natchitoches and Red River Parishes, Louisiana. A federal oil and gas lease is a legal contract that grants exclusive rights to the lessee to develop oil and gas resources that may exist on split estate property.

### **Location**

Legal description for the nominated parcels is:

T12N, R7W, Sec. 19, Lot8, Sec. 20, SWNW, Sec. 30, Lots 5 - 14, Sec. 31, Lots 1 - 16, Sec. 32, Lots 5 - 12 Natchitoches and Red River Parishes, Louisiana Meridian, Louisiana (1321.39 acres)

### **Proposed Action**

The BLM, SSFO received a nomination or EOI, to lease 1321.39 acres of federal mineral estate for oil and gas development in Natchitoches and Red River Parishes, Louisiana. This lease would give the lessee exclusive rights to explore and develop oil and gas reserves on the lease, but does not in itself authorize surface disturbing activities. This competitive lease provides exclusive rights to develop the federal oil and gas resources, but does not obligate the company to drill a well on the federal mineral estate. The lease can be used to consolidate acreage to meet well spacing requirements, and/or the mineral estate may be acquired for speculative value. The BLM will require applicants to adhere to stipulations and lease notices/best management practices for gas wells (Appendix B). The attached stipulations and lease notices/best management practices have been formulated while conducting our impact analysis and are made part of the proposed action.

The proposed nomination, if approved, would be offered for competitive sale with stipulations and notices generated through this and other consultations, as well as the National Environmental Policy Act (NEPA) process. Once awarded, the successful bidder is required to submit an Application for Permit to Drill (APD) to the BLM before any ground disturbance is authorized. In the APD, the company identifies a proposed drill site and provides the BLM with specific details on how and when they propose to drill the well within the constraints of the lease document. Upon receipt of an APD, BLM conducts an onsite inspection with the company, and when possible the private land owner or surface managing agency. NEPA and the Endangered Species Act (ESA) requirements must also be met at the APD stage and in those cases where there is the potential to affect federally or state-listed species, a site specific biological assessment is written, including the results of any biological surveys that may be indicated. This is submitted to U.S. Fish and Wildlife Service and/or the state wildlife agency for consultation, as appropriate. The lessee is required, as per lease stipulations, to comply with the recommendations of these consultations.

Typically, after approval of an APD, the petroleum industry follows a general plan and process for all proposed drill sites, as follows:

Spacing for the tract will be 40 acres per well. Preparation for the drilling process includes construction of a road, drilling pad, and reserve pit. Constructed access roads normally have a running surface width of approximately 30 feet; the length is dependent upon the well site location in relation to existing roads or highways. The average length of road construction will be about 0.5 miles. Therefore, about 2 acres would be affected by road construction. Typically 2.5 acres are cleared and graded level for the construction of the drilling pad for a well. If the well is gas and productive, and the flowline is in the road, we can estimate that another 0.5 acres may be affected by flowline construction. The total disturbed area for drilling a productive well will be approximately 5 acres. These disturbances are typical for private or Federal Ownership well locations. The excavation reserve pit is usually about five feet deep and is lined with

bentonite clay to retain drilling fluids, circulated mud, and cuttings. Plastic or butyl liners (or its equivalent), that meet state standards for thickness and quality, are used on occasions when soils are determined incapable of holding pit fluids.

Because of the cost of the drilling rig, drilling usually continues around the clock. Wells in this area are usually drilled in 30 days. Once drilling is completed, excess fluids are pumped out of the pit and disposed of in a state authorized disposal site and the cuttings are buried. Wells would be drilled by rotary drilling using mud as the circulating medium. Mud pumps would be used to force mud down the drillpipe, thereby forcing the rock cuttings out the wellbore. Water would normally be from a well drilled on the site, however, water could be pumped to the site from a local pond, stream or lake through a pipe laid on the surface. Approximately 1500 barrels of drilling mud would be typically kept on the location. If a tract is adjacent to a producing field and water production will be expected during the life of the field, separation, dehydration and other production processing may be necessary. Construction of facilities off the Federal lease may be needed to handle this processing. Some processing or temporary storage may be necessary on site.

During well pad construction, the topsoil is stockpiled to be used during restoration activities. If the well is successful, the drill pad would be reduced to about 100' x 100' with the remaining surface area, including the reserve pit, re-graded and restored as per the BLM and surface owner requirements. A lease notice in these proposed leases encourages the use of non-invasive cover plants during all restoration and stabilization activities. Final seed mixtures and plantings are determined with recommendations from BLM with approval of the land owner. The remaining 100' x 100' pad is maintained for the life of the well. The life of a productive well may be 25 years. Following abandonment, the pad is subject to the same restoration parameters.

The following information on the federal mineral tracts is based on information collected during site visits conducted in 2012, aerial photographs, and topographic maps. Mitigation methods for potential negative impacts are listed in Appendix B as lease stipulations and lease notices. These recommended lease stipulations and notices have been developed to provide general habitat protection and setbacks to exclude sensitive habitats from oil and gas development. Recommended mitigation for the proposed action is suggested as stipulations for freshwater aquatic habitat, cultural resources and tribal consultations, endangered species and special plant species (Appendix B). Additional surveys may be required for special status species after site-specific proposals have been received by BLM during the development phase.

### **No Action**

Under the No Action Alternative, the request to offer the proposed tracts for oil and gas lease would be denied. Potential economic benefits of production from this lease would be jeopardized.

## **CH. 3 – DESCRIPTION OF THE AFFECTED ENVIRONMENT**

### **Introduction**

EOI #716 is located in Natchitoches and Red River Parishes in northwest Louisiana. This parcel is entirely within the West Gulf Coastal Plain Ecoregion within the Coastal Plain Province. This region is characterized by a southward facing plain of low, slightly hilly terrain that becomes a flat plain to the south and a broad marshy zone near the coast (USGS 1998).

The legal description for the proposed parcels is: T12N, R7W, Sec. 19, Lot8, Sec. 20, SWNW, Sec. 30, Lots 5 - 14, Sec. 31, Lots 1 - 16, Sec. 32, Lots 5 – 12, Natchitoches and Red River Parishes, Louisiana Meridian, Louisiana (1321.39 acres) (Appendix A).

### **Description of Project Area**

Based on review of the elements listed on the SSFO NEPA Form and consideration of the Purpose and Need statement prepared for this EA, the following elements will be addressed in this EA:

Air Quality, Environmental Justice, Cultural Resources, Native American Religious Concerns, Invasive/Exotic Species, Soils, Special Status Species, Migratory Birds of Concern, Wildlife and Vegetation, Wastes, Hazardous or Solid, Water Quality, Surface/Ground, Wetland/Riparian Areas/Floodplains, and Energy Policy.

### **Air Quality**

The Clean Air Act of 1970, as amended, requires the establishment of National Ambient Air Quality Standards (NAAQS). Both primary and secondary standards are now in effect. Primary standards define levels of air quality that the Administrator of the Environmental Protection Agency (EPA) judges to be necessary, with an adequate margin of safety, to protect the public health. Secondary standards define levels of air quality that the Administrator of the EPA judges to be necessary to protect the public from any known or anticipated adverse effects of a pollutant. The NAAQS pollutants are monitored in Louisiana by the Louisiana Department of Environmental Quality (LDEQ). These include carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, total suspended particulate, particulate matter less than 10 microns, and lead. Ambient air quality measurements taken by the Louisiana Division for Environmental Quality (LDEQ) indicate that ambient air quality is within the standards, except in the Baton Rouge area where air quality is in nonattainment for ozone (2008).

### **Environmental Justice**

Title IV of the Civil Rights Act of 1964 and related statutes ensure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal assistance on the basis of race, color, national origin, age, sex, or disability. Executive Order 12898 on Environmental Justice directs that programs, policies, and activities not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations.

## **Cultural Resources**

There are known cultural resources (36 CFR 800.16(l)) on the tracts. Sections of the tracts have had limited cultural resource surveys. The tracts may have other undiscovered sites that would contribute important information about our country's prehistory.

## **Native American Religious Concerns**

Federally recognized Native Americans have been contacted about this proposed undertaking. However, currently, there are no known sites used by Native Americans for religious purposes. There are no known Sacred Sites or traditional cultural properties on these tracts. If any such sites are present, access would be by an agreement between the landowner and the Native Americans. The BLM has no authority over access to these tracts. The BLM's responsibility is limited to the area of surface disturbance if or when a proposal for development is submitted.

## **Invasive Exotic Species**

There are a number of non-native species that are considered invasive in Louisiana and are monitored by the Louisiana State University (LSU) Ag Center. The following provides a list of some of the invasive species that can be found in Louisiana:

<b>COMMON NAME</b>	<b>SCIENTIFIC NAME</b>
Alligator weed	<i>Alternanthera philoxeroides</i>
Japanese climbing fern	<i>Lygodium japonicum</i>
Chinaberry	<i>Melia azedarach</i>
Johnson grass	<i>Sorghum halepense</i>
Brazilian verain	<i>Verbena brasiliensis</i>
Cogon grass	<i>Imperata cylindrica</i>
Chinese tallow tree	<i>Triadica sebifera</i>
Common salvinia	<i>Salvinia minima</i>
Hydrilla	<i>Hydrilla verticillata</i>
Mimosa	<i>Albizia julibrissin</i>
Water hyacinth	<i>Eichhornia crassipes</i>

Source: LSU, 2004; USDA 2007.

No exotic species are known to occur on the nominated parcels.

## **Soils**

### **T12N, R7W, Sec. 20 SWNW**

There are 2 soil types in this parcel: Sacul fine sandy loam, 1-5% slopes and Sacul fine sandy loam, 5-12% slopes. Sacul, 1-5% slopes, comprises about 73% and Sacul, 5-12% slopes, comprises about 27% of the tract. Sacul is commonly found on the shoulders and summits of interfluves. Its parent material is clayey fluviomarine deposits and it is moderately well-drained with a high available water capacity.

**T12N, R7W, Sec. 19, 30-32**

There are 8 soil types in this parcel: Gore silt loam, 1-5% slopes; Guyton silt loam, frequently flooded; Keithville silt loam, 1-5% slopes; Morse clay, 5-12% slopes; Sacul fine sandy loam, 5-12% slopes; Yorktown clay, frequently flooded; Guyton-Messer association, and Kolin-Wrightsville association. Gore silt loam comprises 4%, Guyton silt loam comprises about 14%, Yorktown clay comprises about 50%, Guyton-Mess association comprises about 7%, Kolin-Wrightsville comprises about 3%, Keithville, Morse, and Sacul all comprises <1%, and water comprises about 21% of the tract. Gore is found on terraces. Its parent material is clayey alluvium and it is moderately well-drained with a moderate available water capacity. Guyton is commonly found flood plains and alluvial flats. Its parent material is loamy alluvium of the Holocene age and it is poorly drained with a high available water capacity. Yorktown is commonly found in backswamps. Its parent material is clayey alluvium and it is very poorly drained with a moderate available water capacity. Messer is commonly found on flats. Its parent material is loamy eolian deposits over loamy fluviomarine deposits and it is moderately well-drained with a high available water capacity. Kolin is commonly found on hillslopes. Its parent material is loamy over clayey alluvium and it is moderately well-drained with a high available water capacity. Wrightsville is commonly found in depressions. Its parent material is silty over clayey alluvium and it is poorly drained with a high available water capacity.

**Special Status Species**

The following is a list of threatened, endangered, and special concern animal and plant species and communities documented in Red River Parish, LA by the Louisiana Natural Heritage Program:

Scientific Name	Common Name	State Rank	Global Rank	State Status	Federal Status
<i>Amorpha paniculata</i>	Panicled indigobush	S2	GNR		
<i>Ammocrypta clara</i>	Western Sand Darter	S2	G3		
<i>Amsonia ludoviciana</i>	Louisiana Blue Star	S3	G3		
<i>Cycleptus elongatus</i>	Blue Sucker	S2S3	G3G4		
<i>Cypripedium kentuckiense</i>	Southern Lady's-slipper	S1	G3		
<i>Eleocharis wolfii</i>	Wolf Spikerush	S3	G3G4		
<i>Helianthemum rosmarinifolium</i>	rosemary rockrose	S2	G4		
<i>Isotria verticillata</i>	Large Whorled Pogonia	S3	G5		
<i>Minuartia muriculata</i>	Minuartia	S3	G4		
<i>Platanthera lacera</i>	Green-fringe Orchis	S1	G5		
<i>Pleurobema riddellii</i>	Louisiana Pigtoe	S1S2	G1G2		
<i>Rhynchospora capitellata</i>	Brownish Beakrush	S1	G5		
<i>Saline prairie</i>	Saline Prairie	S1	G1G2		
<i>Schoenolirion wrightii</i>	Texas Sunnycbell	S2	G3		
<i>Silene virginica</i>	Fire Pink	S2	G5		
<i>Spartina pectinata</i>	Prairie Cordgrass	S2	G5		
<i>State champion tree</i>	State Champion Tree	SNR	GNR		
<i>Sterna antillarum</i>	Interior Least Tern	S1B	G4T2Q	Endangered	PS:LE

<i>athalassos</i>					
<i>Talinum parviflorum</i>	Small-flowered Flame-flower	S3	G5		
<i>Waterbird Nesting Colony</i>	Waterbird Nesting Colony	SNR	GNR		

The following is a list of threatened, endangered, and special concern animal and plant species and communities documented in Natchitoches Parishes, LA by the Louisiana Natural Heritage Program:

<b>Scientific Name</b>	<b>Common Name</b>	<b>State Rank</b>	<b>Global Rank</b>	<b>State Status</b>	<b>Federal Status</b>
<i>Amorpha paniculata</i>	Panicled indigobush	S2	GNR		
<i>Agalinis skinneriana</i>	Skinner's purple false foxglove	S1S2	GNR		
<i>Aimophila aestivalis</i>	Bachman's Sparrow	S3	G3		
<i>Ammocrypta clara</i>	Western Sand Darter	S2	G3		
<i>Amorpha paniculata</i>	panicled indigobush	S2	GNR		
<i>Amsonia ludoviciana</i>	Louisiana Blue Star	S3	G3		
<i>Asclepias rubra</i>	Red Milkweed	S3	G4G5		
<i>Astragalus crassicaarpus</i>	Ground Plum	SNR	G5		
<i>Bottomland hardwood forest</i>	Bottomland Hardwood Forest	S4	G4G5		
<i>Brachycercus flavus</i>	Yellow Brachycercus Mayfly	S1	G4		
<i>Calopogon barbatus</i>	Bearded Grass-pink	S1	G4?		
<i>Camassia scilloides</i>	Atlantic Camas	S3	G4G5		
<i>Canis rufus</i>	Red Wolf	SX	G1Q		LE, XN
<i>Carex meadii</i>	Mead's Sedge	S3	G4G5		
<i>Carex microdonta</i>	Little Tooth Sedge	S3	G4		
<i>Cave</i>	Cave	S1	GNR		
<i>Chaetodipus hispidus</i>	Hispid Pocket Mouse	S2	G5		
<i>Chamaelirium luteum</i>	Fairy Wand	S2S3	G5		
<i>Cheilanthes lanosa</i>	Hairy Lipfern	S1	G5		
<i>Cirsium muticum</i>	Swamp Thistle	SU	G5		
<i>Cyperus grayoides</i>	An Umbrella-sedge	S3	G3		
<i>Cypress-tupelo swamp</i>	Cypress-tupelo Swamp	S4	G3G5		
<i>Cypripedium kentuckiense</i>	Southern Lady's- slipper	S1	G3		
<i>Didiplis diandra</i>	Water-purslane	S2?	G5		
<i>Dodecatheon meadia</i>	Common Shooting- star	S2	G5		
<i>Echinacea purpurea</i>	Purple Coneflower	S2	G4		
<i>Eptesicus fuscus</i>	Big Brown Bat	S1S2	G5		
<i>Eriogonum longifolium</i>	Long-leaved Wild- buckwheat	S2	G4		PS
<i>Eriogonum multiflorum</i>	Many-flowered Wild- buckwheat	S3	G5		
<i>Faxonella beyeri</i>	Sabine Fencing Crawfish	S1S2	G4		

<i>Fleming calcareous prairie</i>	Fleming Calcareous Prairie	S1	G1		
<i>Forested seep</i>	Forested Seep	S3	G3?		
<i>Galium virgatum</i>	Southwest Bedstraw	S2	G5		
<i>Haliaeetus leucocephalus</i>	Bald Eagle	S2N,S3B	G5	Endangered	Delisted
<i>Hardwood slope forest</i>	Hardwood Slope Forest	S3S4	G2G3		
<i>Heliotropium tenellum</i>	Slender Heliotrope	S2	G5		
<i>Helmitheros vermivorus</i>	Worm-eating Warbler	S4B	G5		
<i>Hexalectris spicata</i>	Crested Coral-root	S2	G5		
<i>Lachnocaulon digynum</i>	Pineland Bog Button	S3	G3		
<i>Liatis tenuis</i>	Slender Gay-feather	S1	G3		
<i>Lithospermum incisum</i>	Narrow-leaved Puccoon	S1	G5		
<i>Lophodytes cucullatus</i>	Hooded Merganser	S2S3B,S4 N	G5		
<i>Lycopodiella cernua var. cernua</i>	Staghorn Clubmoss	S2	G5T5		
<i>Mirabilis albida</i>	Pale Umbrella-wort	S2	G5		
<i>Mixed hardwood-loblolly forest</i>	Mixed Hardwood-loblolly Forest	S4	G3G4		
<i>Monotropa hypopithys</i>	American Pinesap	S2	G5		
<i>Nemastylis geminiflora</i>	Prairie Pleat-leaf	S2S3	G4		
<i>Orconectes maletae</i>	Kisatchie Painted Crawfish	S2	G2		
<i>Pandion haliaetus</i>	Osprey	S2B,S3N	G5		
<i>Panicum rigidulum var. combsii</i>	Redtop Panicum	S1	G5T5?		
<i>Panicum tenerum</i>	Southeastern Panic Grass	S4	G4		
<i>Parnassia grandifolia</i>	large leaved grass of Parnassus	S1	G3		
<i>Paronychia drummondii</i>	Drummond Nailwort	S2	G4G5		
<i>Pediomelum hypogaeum var. subulatum</i>	Awl-shaped Scarf-pea	S2	G5T4		
<i>Phacelia strictiflora</i>	Phacelia	S2	G5		
<i>Picoides borealis</i>	Red-cockaded Woodpecker	S2	G3	Endangered	LE
<i>Pituophis ruthveni</i>	Louisiana Pine Snake	S2S3	G2Q		C
<i>Platanthera integra</i>	Yellow Fringeless Orchid	S3	G3G4		
<i>Plethodon kisatchie</i>	Louisiana Slimy Salamander	S1S2	G3G4Q		
<i>Plethodon serratus</i>	Southern Red-backed Salamander	S1	G5	Prohibited	
<i>Pleurobema riddellii</i>	Louisiana Pigtoe	S1S2	G1G2		
<i>Polanisia erosa</i>	Large Clammy-weed	S2	G5		
<i>Polygonella polygama</i>	Jointweed	S2	G4		
<i>Ponthieva racemosa</i>	Shadow-witch Orchid	S2	G4G5		
<i>Prenanthes barbata</i>	Barbed Rattlesnake-root	S2	G3		
<i>Ratibida pinnata</i>	Yellow Coneflower	S2?	G5		
<i>Rhynchospora capitellata</i>	Brownish Beakrush	S1	G5		

<i>Rhynchospora macra</i>	Large Beakrush	S3	G3		
<i>Rudbeckia scabrifolia</i>	Sabine Coneflower	S3	G3		
<i>Rudbeckia triloba</i>	Three-lobed Coneflower	S3	G5		
<i>Sandstone glade</i>	Sandstone Glade	S1S2	G1G2		
<i>Schisandra glabra</i>	Scarlet Woodbine	S3	G3		
<i>Schoenolirion wrightii</i>	Texas Sunnybell	S2	G3		
<i>Seiurus motacilla</i>	Louisiana Waterthrush	S3S4B	G5		
<i>Selaginella arenicola ssp. riddellii</i>	Riddell's Spike Moss	S3	G4T4		
<i>Setophaga ruticilla</i>	American Redstart	S3B	G5		
<i>Shortleaf pine/oak-hickory forest</i>	Shortleaf Pine/oak- hickory Forest	S2S3	G2G3		
<i>Silene virginica</i>	Fire Pink	S2	G5		
<i>Small stream forest</i>	Small Stream Forest	S3	G3		
<i>Solidago auriculata</i>	Eared Goldenrod	S4	G4		
<i>State champion tree</i>	State Champion Tree	SNR	GNR		
<i>Sterna antillarum athalassos</i>	Interior Least Tern	S1B	G4T2Q	Endangered	PS:LE
<i>Streptanthus hyacinthoides</i>	Smooth Twistflower	S2	G4		
<i>Taenidia integerrima</i>	Yellow Pimpernell	S2	G5		
<i>Talinum parviflorum</i>	Small-flowered Flame-flower	S3	G5		
<i>Tetragonotheca ludoviciana</i>	Louisiana Square-head	S3	G4		
<i>Triosteum perfoliatum</i>	Perfoliate Tinker's- weed	SH	G5		
<i>Triphora trianthophora</i>	Nodding Pogonia	S2	G3G4		
<i>Utricularia juncea</i>	Southern Bladderwort	S3	G5		
<i>Uvularia sessilifolia</i>	Sessile-leaved Bellwort	S2	G5		
<i>Veronicastrum virginicum</i>	Culver's-root	SH	G4		
<i>Western acidic longleaf pine savannah</i>	Western Acidic Longleaf Pine Savannah	S1S2	G2G3		
<i>Western hillside seepage bog</i>	Western Hillside Seepage Bog	S2	G2G3		
<i>Western upland longleaf pine forest</i>	Western Upland Longleaf Pine Forest	S2S3	G2G3		
<i>Western xeric sandhill woodland</i>	Western Xeric Sandhill Woodland	S2S3	G2G3		
<i>Xyris drummondii</i>	Drummond's Yellow- eyed Grass	S3	G3		
<i>Xyris scabrifolia</i>	Harper's Yellow-eyed Grass	S2	G3		
<i>Xyris stricta</i>	Pineland Yellow-eyed Grass	S1	G3G4		
<i>Zigadenus densus</i>	Black Snakeroot	S2	G5		
<i>Zornia bracteata</i>	Viperina	S2	G5?		

The interior least tern is federally and state listed as endangered. It breeds on sand bars of rivers and lakes. In Louisiana, the interior least tern nests on sand bars associated with the Mississippi River and the upper portion of the Red River. There are no documented winter records for this species in Louisiana (LDWF, 2004a). The nominated parcels do not contain suitable habitat for this species. The BLM SSFO has determined that the proposed lease will have “no effect” on the interior least tern given that it is unlikely to occur due to a lack of suitable habitat.

De-listed on June 28, 2007, the Bald Eagle continues to be protected under the Bald and Golden Eagle Protection Act of 1940 and the Migratory Bird Treaty Act. Bald Eagles typically build their nests in tall trees or cliffs that offer unrestricted flight patterns and visibility, within 1 to 2 miles of large water bodies. In Louisiana, the Bald Eagle nests primarily in southeastern coastal parishes, and is occasionally observed on large lakes in the northern or central parishes during the winter. This parcel does not contain suitable habitat for bald eagles. The BLM SSFO has determined that the proposed lease will have “no effect” on bald eagles given that it is unlikely to occur due to a lack of suitable habitat.

The red-cockaded woodpecker (RCW) is both federally and state-listed as endangered. Appropriate habitat for the woodpecker includes mature pine forests and mixed pine-upland hardwood forest with little or no hardwood midstory. The average cavity tree age ranges from 60 to 126 years for longleaf pine, 70 to 90 years for loblolly pine, and 75 to 149 years for shortleaf pine. The woodpeckers forage in habitat consisting of pine stands with an average diameter at breast height (DBH) of 9 inches or greater, and in pole stands with 4 to 9 inches DBH. There are fewer than 400 known colonies of the red-cockaded woodpecker in Louisiana, most of which are in Kisatchie National Forest (LDWF, 2004a). This parcel does not have adequate habitat to support woodpecker colonies. The BLM SSFO has determined that the proposed lease will have “no effect” on RCWs given that it is unlikely to occur due to a lack of suitable habitat.

### **Migratory Bird Species of Concern**

The following provides a list of migratory birds of conservation concern with the potential to occur on the southwestern parcel based on species preference for bottomland hardwood forests (Peterson 1980, Hamel 1992, and USFWS 2020):

<b>Species</b>	<b>Habitat Suitability</b>
Little blue heron	Suitable
Swallow-tailed kite	Optimal
Red-headed woodpecker	Optimal
Acadian flycatcher	Optimal
Wood thrush	Optimal
Prairie warbler	Marginal
Cerulean warbler	Suitable
Prothonotary warbler	Optimal
Worm-eating warbler	Suitable
Swainson’s warbler	Optimal

Kentucky warbler	Optimal
Louisiana waterthrush	Marginal

The following provides a list of migratory birds with the potential to occur on the northeastern parcel based on species preference for pine/mixed hardwood forests:

Species	Habitat Suitability
American swallow-tailed kite	Marginal
Chuck-will's-widow	Optimal
Red-headed woodpecker	Marginal
Scissor-tailed flycatcher	Marginal
Brown-headed nuthatch	Marginal
Wood thrush	Suitable
Bell's vireo	Marginal
Prairie warbler	Marginal
Worm-eating warbler	Marginal
Kentucky warbler	Marginal
Harris's sparrow	Marginal

No migratory bird species of concern are known to occur on the proposed tracts.

### **Wildlife and Vegetation**

The legal description for the nominated parcels is: T12N, R7W, Sec. 19, Lot8, Sec. 20, SWNW, Sec. 30, Lots 5 - 14, Sec. 31, Lots 1 - 16, Sec. 32, Lots 5 – 12, Natchitoches and Red River Parishes, Louisiana Meridian, Louisiana (Appendix A). There are two tracts in this nomination with the northeastern tract consisting of 40 acres and the southwestern tract consisting of 1281.39 acres. They are located < 4 miles west of Highway 153 and the town of Creston. Tributaries of Black Lake are located on the southwestern parcel. The northeastern parcel consists of a mixed hardwood/pine forest and the southwestern parcel consists of bottomland hardwood forest.

Dominant tree species on the 40 acre northeastern tract include: loblolly pine (*Pinus taeda*), post oak (*Quercus stellata*), water oak (*Q. nigra*), southern red oak (*Q. falcata*), willow oak (*Q. phellos*), sweetgum (*Liquidambar styraciflua*), and red cedar (*Juniperus virginiana*). Mammal species likely to occur due to their preferences for mixed hardwood/pine forests include: fox squirrel (*Sciurus niger*), Virginia opossum (*Didelphis virginiana*), and red bat (*Lasiurus borealis*). Bird species that likely occur on this tract include: barred owl (*Strix varia*), chuck-will's-widow (*Caprimulgus carolinensis*), and ruby-throated hummingbird (*Archolochus colubris*). Reptile and amphibian species likely to occur include: Rio Grande Chirping Frog (*Eleutherodactylus cystignathoides*), Broad-headed Skink (*Eumeces laticeps*), and Kisatchie Corn Snake (*Pantherophis slowinskii*).

Dominant tree species on the southwestern tract include: black locust (*Robinia pseudoacacia*), sugarberry (*Celtis occidentalis*), willow oak, laurel oak (*Q. laurifolia*), shagbark hickory (*Carya*

*ovata*), mockernut hickory (*C. tomentosa*), southern catalpa (*Catalpa bignonioides*), persimmon (*Diospyros virginiana*), overcup oak (*Q. lyrata*), nuttall oak (*Q. texana*), hackberry (*Celtis laevigata*), ash (*Fraxinus sp.*), yaupon (*Ilex vomitoria*), cedar elm (*Ulmus crassifolia*), post oak, American elm (*Ulmus americana*), and red maple (*Acer rubra*).

Mammal species likely to occur on the tract due to their preferences for bottomland hardwood forests include the: least shrew (*Cryptotis parva*), Rafinesque's big-eared bat (*Corynorhinus rafinesquii*), southeastern myotis (*Myotis austroriparius*), Seminole bat (*Lasiurus seminolus*), Eastern woodrat (*Neotoma floridana*), northern river otter (*Lontra canadensis*), American mink (*Mustela vison*), and swamp rabbit (*Sylvilagus aquaticus*). The surface owner reported several bald eagle sightings on the parcel although he is not aware of any nests. He has also observed numerous turkeys (*Meleagris gallopavo*). Additional bird species that could occur include: swallow-tailed kite (*Elanoides forficatus*), Mississippi kite (*Ictinia mississippiensis*), bachman's warbler (*Vermivora bachmanii*), red-shouldered hawk (*Buteo lineatus*), yellow-billed cuckoo (*Coccyzus americanus*), and barred owl. Amphibians and reptiles that likely occur are: marbled salamander (*Ambystoma opacum*), southern dusky salamander (*Desmognathus auriculatus*), eastern cricket frog (*Acris crepitans crepitans*), river cooter (*Pseudemys consinna*), red-eared slider (*Trachemys scripta elegans*), yellow-bellied water snake (*Nerodia erythrogaster flavigaster*), and diamondback water snake (*Nerodia rhombifer rhombifer*).

### **Wastes, Hazardous or Solid**

During the on site inspections, no hazardous or solid waste disposal site were found on the lease tracts.

### **Water Quality, Surface/Ground**

#### **Surface Water Quality**

The most frequently cited suspected causes of impairment for all water bodies combined in Louisiana are fecal coliforms, primarily from septic tanks and municipal sewage treatment systems; low dissolved oxygen from sewage, agriculture, or natural causes; sediment-related problems such as turbidity, suspended solids, and siltation caused by agriculture, forestry, sewage systems, construction, hydro-modification, resource extraction, or natural processes; and mercury related to fish consumption advisories, due primarily to atmospheric deposition of mercury on the watershed. Many of the suspected sources of water quality impairment are known collectively as nonpoint source pollution because it typically does not come from a single point of discharge but runs across the land when it rains and is carried through small canals and streams to major water bodies (LDEQ 2008).

Many of Louisiana's water bodies remain impaired for the designated use of fish and wildlife propagation. This is largely because there are many possible causes and sources of impairment impacting this use, and any one of these causes can result in a water body being considered impaired for fish and wildlife propagation. There are more than 30 different suspected causes of impairment reported as impacting fish and wildlife propagation. With the exception of mercury, all of the top eight suspected causes of impairment generally can be related to nonpoint sources of pollution. The remaining causes of impairment generally are related to various forms of industry, small business, or municipal sources (LDEQ 2008)

**T12N, R7W, Sec.19 Lot 8, Sec. 30 Lots 5 – 14, Sec. 31 Lots 1 – 16, Sec. 32 Lots 5 – 12**

This complex of parcels is located approximately 12 miles east of the Red River near Coushatta, Louisiana. Aerial images indicate that much of the surrounding land has been utilized for agricultural purposes, but the acreage within the parcels appears to be relatively undisturbed. The area is reasonably flat as a majority of the territory contains portions of Black Lake and its associated wetlands. Due to this topography, it is possible that Black Lake and the surrounding wetlands could serve as an accumulation point for surface runoff, redistributed sediments, and developmental effluent. Black Lake is listed as being impaired for fish and wildlife propagation due to sulfate concentrations and mercury levels in fish tissues. Clear Lake, which connects to the southern tip of Black Lake, is listed for the same impairment due to concentrations of nitrates, phosphorus, dissolved oxygen, and suspended solids (LDEQ 2008).

**T12N, R7W, Sec. 20, SW1/4NW1/4**

This parcel is located roughly one mile east of the northern tip of the above described complex. Aerial images reveal that the lands within and surrounding the parcel have been used for agricultural purposes. The land slopes moderately in all directions from the higher elevations that occur in the central region of the acreage. No major surface water bodies are located within the parcel, but there is evidence of nearby intermittent streams. Due to the gradient and the presence of ephemeral waterways, there is a potential for surface runoff, re-deposited sediments via erosion, and developmental effluent to flow into neighboring water bodies, such as Black Lake.

**Ground Water Quality**

The results of the Baseline Monitoring Program indicate that water quality is good in Louisiana aquifers. Although the overall quality of the state's ground water is good, there are more than 200 sites where active investigation or remediation of contaminated ground water is taking place, not including underground storage tank or Superfund sites. There also were 14 public water supply systems impacted by VOC contamination of ground water between 1989 and 2002 (GWPC 2009b).

The proposed sites are located within the Mississippi embayment aquifer system which consists of 6 aquifers that crop out as an arcuate band of poorly consolidated to unconsolidated, bedded sand, silt and clay. Geologic units of the aquifer system range from Late Cretaceous to middle Eocene in age. These tracts are located within the Middle Claiborne aquifer. Aquifers of the Mississippi embayment aquifer system consist of an interbedded sequence of poorly consolidated fluvial, deltaic, and marine deposits in which diagenesis or postdepositional geochemical processes have not greatly altered the original pattern of permeability. The hydraulic conductivity of the unconsolidated to poorly consolidated sediments that compose the aquifers of the Mississippi embayment aquifer system does not appear to have been greatly reduced by cementation or compactions. Consequently, the distribution of hydraulic conductivity and transmissivity of the Mississippi embayment aquifer system can be inferred from maps of sediment lithofacies, if a direct correlation between sediment type and aquifer permeability is assumed.

**Wetlands/Riparian Areas/Floodplains**

Several tributaries to Black Lake occur within the southwestern parcel. The remainder of the southern parcel is within the floodplain of Black Lake.

## **Energy Policy**

The area contains no features related to energy development, production, supply or distribution.

## **Ch. 4 - ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES**

### **Introduction**

This chapter assesses potential environmental consequences associated with direct, indirect, and cumulative effects of the Proposed Action and alternatives.

Based on review of the elements listed on the JFO NEPA Form and consideration of the Purpose and Need statement prepared for this EA, the following elements will be addressed in this EA: Air Quality, Environmental Justice, Cultural Resources, Native American Religious Concerns, Invasive/Exotic Species, Soils, Special Status Species, Migratory Birds of Concern, Wildlife and Vegetation, Wastes, Hazardous or Solid, Water Quality, Surface/Ground, Wetland/Riparian Areas/Floodplains, and Energy Policy.

### **Air Quality**

If the lease is developed for oil and gas production, impacts to air quality associated with construction, drilling, production and abandonment could come from the following sources: (1.) fugitive dust generated from vehicle traffic along dirt or gravel roads during transportation of employees and equipment; (2.) exhaust from heavy machinery, vehicles, compressors, drilling rig prime movers, generators, and other internal combustion engines used during site construction, drilling, flowline installation, production, and abandonment and other production equipment such as pumps, separators, heater treaters, boilers; and (3.) fugitive VOC escaping from leaky pipe valves, flanges, and storage tanks during loading of crude on to tank trucks, and accidental releases/spills of hydrocarbons.

Fugitive dust created during road, drill pad, flowline construction, and abandonment would increase suspended particulates in the air. Also, the regulated air pollutants nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), VOC, and particulates (P<sub>m</sub>) will be emitted from the above referenced sources. These conditions could temporarily impact the ambient air quality in the immediate vicinity of the leased area. The generation of suspended particulates, a regulated pollutant, could cause a temporary and localized disturbance to people who work in the area. However, the impacts from the combined frequency and volume of fugitive dust and regulated air pollutants are expected to be minimal, very localized, and of short duration.

### **Environmental Justice**

There is no adverse human health and environmental effects anticipated from potential development on minority and low-income populations in the areas surrounding this tract.

## **Cultural Resources and Native American Religious Concerns**

Cultural resource surveys have not been conducted, therefore direct and indirect impacts may occur to cultural resources or to a potentially sacred Native American religious site if there is ground disturbance. Direct impacts are those such as completely destroying a site by bulldozing the area and workers picking up artifacts. Indirect impacts are those such as erosion or compaction of the soil on the site. However, if sites are located and recorded before ground disturbance begins, these impacts can be avoided or mitigated. A stipulation regarding cultural resources and Native American religious concerns applies to this lease (Appendix B) and is applicable for all the proposed parcels. The stipulation states that the BLM will not approve any ground disturbing activities that may affect historic properties and/or resources until it completes its obligations under applicable requirements of the National Historic Preservation Act and other authorities. If currently unknown burial sites are discovered during development activities associated with this lease, these activities must cease immediately, applicable law on unknown burials will be followed and, if necessary, consultation with the appropriate tribe/group of federally recognized Native Americans will take place.

## **Invasive/Exotic Species**

Surface disturbing activities have the potential to introduce or promote the spread of invasive, nonnative plant species. Impacts are dependent on the species planted during restoration activities and the management of the site during and following restoration. Revegetating areas after soil disturbance with competitive grasses greatly reduces the ability for invasive species to take hold in an area. The Natural Resources Conservation Service recommends the mixture below for revegetation efforts in Louisiana:

### **Blend #1 LA (weight in pure live seed or PLS lb/ac)**

- Switchgrass 60% = 2.4 lb
- IL Bundleflower 20% = 2.4 lb
- Partridge Pea 15% = 1.2 lb
- Black-eyed Susan 3% = .03 lb
- Plains Coreopsis 2% = .02 lb

A lease notice regarding invasive/exotic species applies to this lease (Appendix B) and is applicable for all of the proposed parcels. The lease notice states that the use of native or non-invasive plants in seeding mixtures will be encouraged to stabilize disturbed areas and during restoration activities. Construction sites will be surveyed for invasive species prior to ground disturbance. If invasive species are found, the proper control measures will be used to either eradicate the species from the area or minimize its spread to other areas.

## **Soils**

Well site and access road construction would have direct impacts to soils. These impacts would be limited to those areas where vegetation is removed and construction occurs. The direct impacts would be of two types: (1) physical removal, leveling and mixing of surface soils and (2) soil compaction. The first impact would be caused by site preparation for construction of the

well pad, related structures, road construction, flowline construction and wind and water erosion after vegetation is removed. This would cause a mixing of soil horizons and cause a short term loss of soil productivity. The second impact, soil compaction, would be caused by vehicle and machinery travel. Compaction decreases air and water infiltration into the soil profile thus reducing soil productivity. The indirect impact would be that of erosion and siltation of drainages and streams. Prompt cultivation and re-vegetation of impacted soil areas should reduce the possibility of soil erosion thus preventing an increase of siltation into drainages or streams from run-off. Site specific conditions of approval would be developed prior to approval of an APD to address soil erosion.

### **Special Status Species**

No special status species are known or expected to occur on these parcels, due to a lack of suitable habitat so impacts from potential development will not occur. According to guidelines detailed in the U.S. Fish and Wildlife (FWS) Section 7 Consultation Handbook, consultation is not required for projects in which special status, threatened, or endangered species are not known to be in the project area and suitable habitat is not available. BLM has concluded with a no effect determination for any special status species from the proposed project due to the fact that suitable habitat is not present for any listed species known to occur in that county. Although special status species are not known or expected to occur on the proposed sites, stipulations and lease notices regarding rare species apply to this proposal, due to potential future changes in species habits, habitat, and range and changes in our knowledge thereof. The stipulation states that the BLM may recommend modifications to exploration and development proposals to further the conservation and management objectives for threatened, endangered, or other special status plant or animal species or their habitat to avoid BLM-approved activity that would contribute to a need to list such a species or their habitat. The lease notice gives recommendations for disposing produced water in such a way as to protect aquatic habitats for and to avoid potential impacts to special status fish, mussels, turtles, snails, plants, and migratory birds.

To protect threatened, endangered, candidate, proposed, and BLM sensitive plant species a second stipulation applies to this lease and applies to all proposed parcels. The stipulation states that all suitable special status plant species habitat will be identified during environmental review of any proposed surface use activity. If field examination indicates that habitat of one or more of these species is present, the BLM will require a survey by a qualified botanist for special status plants during periods appropriate to each species. Operations will not be allowed in areas where sensitive plants would be affected.

### **Migratory Bird Species of Concern**

The lists of migratory birds that have the potential to occur on the proposed tracts are based on the presence of mixed pine/hardwood forests for the northeastern tract and bottomland hardwood forest for the southwestern tract. Nesting and foraging habitat for birds will be altered dramatically if forests are cut for oil and gas development. Many of the species with the potential to occur on these tracts could move to similar habitats in surrounding areas. After the well is put

into production and during reclamation activities bird species diversity would be altered depending on successional stage of the site and adequacy of restoration efforts.

To protect perch and roosting sites and terrestrial habitats for and to avoid potential impacts to migratory birds and federally listed wildlife a lease notice applies to this lease and applies to all proposed parcels. The lease notice provides recommendations regarding reserve pits, maximum design speeds for roads, and powerline construction to minimize effects on migratory birds.

### **Wildlife and Vegetation**

The Reasonable Foreseeable Development Scenario (RFD) for EOI #716 predicts that 9 horizontal wells will be drilled from 5 pads. The total disturbance predicted would be 29.1 acres, with 28.7 acres disturbed for the well pad and pit, 2.1 acres for the access road, and 1.7 acres reclaimed (Appendix D).

Many of the species expected to occur on these sites have broad habitat requirements and would continue to be found in a variety of habitats in the surrounding areas. Wildlife use of the sites after wells are put into production would vary depending on vegetation and succession stage. Once put into production well pads would be reduced in size and reserve pits would be graded and seeded. The producing well sites would be subject to regular maintenance and inspection. Wildlife use of sites are dependent on the adequacy of restoration. However, over the life of the wells, some of the acreage would be excluded from utilization by most wildlife species.

### **Wastes, Hazardous or Solid**

The operations would typically generate the following wastes; (a) discharge of drilling fluids and cuttings into the reserve pits; (b) wastes generated from used lubrication oils, hydraulic fluids, and other fluids used during production of oil and gas, some of which may be characteristic or listed hazardous waste; and (c) service company wastes from exploration and production activities as well as containment of some general trash. Certain wastes unique to the exploration, development, and production of crude oil and natural gas have been exempted from Federal Regulations as hazardous waste under Subtitle C of the Resource Conservation and Recovery Act (RCRA) of 1976. The exempt waste must be intrinsic to exploration, development or production activities and is not generated as part of a transportation or manufacturing operation. The drilling fluids, drill cuttings, and produced waters are classified as a RCRA exempt waste, and the proposed action would not introduce hazardous substances into the environment if they are managed and disposed of properly under Federal, State, and local waste management regulations and guidelines.

### **Water Quality, Surface/Ground**

Construction would cause some minor erosion and re-deposition of soil a short distance away from the construction area. Due to the topography within and around these parcels, Black Lake and the surrounding wetlands could serve as an accumulation point for surface runoff, re-deposited sediments via erosion, and developmental effluent. Site specific conditions of approval would be developed prior to approval of an APD to protect surface water quality. This may

include but is not limited to construction of ditches, berms, terraces or other similar structures. Areas not needed for production would be reclaimed and stabilized to control erosion.

Improper casing and/or cementation can result in contamination of ground water aquifers. The BLM requires that the operator must isolate freshwater-bearing formations and other usable water containing 10,000 ppm or less of total dissolved solids (TDS) and other mineral-bearing formations and protect them from contamination by using proper casings. In addition, the BLM requires lining the reserve and water pit with a suitable liner on a case-by-case basis.

### **Wetlands/Riparian Areas/Floodplains**

No disturbance would be permitted within 250 feet of streams, rivers, wetlands or springs. Because the southern parcel for this EOI contains tributaries to Black Lake and the remainder of the parcel is within the floodplain of Black Lake the lease for this EOI would be a "No surface occupancy" lease.

### **No Action**

Under this alternative, the parcels within the proposed action would remain unleased at this point in time. It could be offered for leasing in the future, but may be subject to additional environmental analysis at that point in time. If the parcels were not leased there would be no direct impacts to the potential drill location and therefore no effects on all of the critical elements above except Cultural Resources and Native American Religious Concerns (see below). As compared to the proposed action, there would be less disturbance resulting from oil and gas related actions.

### **Cultural Resources**

If the area is not leased and cultural resource surveys are not conducted, direct and indirect impacts may occur. Direct impacts are those such as completely destroying a site by "relic hunters" or by people picking up artifacts. Other direct impacts may be the mixing of layers in a site by plowing or the destruction of a site by land leveling. Indirect impacts are those such as after timber thinning or clear-cutting erosion of the remains of a site. Hunting activities may cause other impacts to the surface such as the deposition of spent ammunition shells and other items. However, the use of the property is the purview of the land owner, and any cultural resource site and its artifacts are the property of the land owner.

### **Native American Religious Concerns**

Under this alternative, places of Native American Religious Practice could be impacted by activities of the landowner, unless there was a formal agreement between the landowner and the Native American tribe. Direct impacts could be the destruction of a site, and an indirect impact could be the landowner placing a fee on the use of the area.

## **Cumulative Impacts**

Cumulative impacts are the impacts to the environment which result from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions. Since the proposed action would not authorize surface occupancy, no environmental impacts are anticipated on the lease. Hence, the proposed action will not contribute to the impacts to other past, present, or reasonable foreseeable actions. For Cultural Resources and Native American Religious Concerns this is dependent upon cultural resource surveys being conducted.

## **Energy Policy**

Energy Policy Act of 2005 – Sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

### **Title III: Oil and Gas**

#### **Subtitle B: Natural Gas**

(Sec. 313) Designates FERC as the lead agency for coordinating federal permits and other authorizations and compliance with the National Environmental Policy Act of 1969 (NEPA). Directs FERC to establish a schedule for all federal authorizations.

#### **Subtitle C: Production**

(Sec. 322) Amends the Safe Drinking Water Act to exclude from the definition of underground injection the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil or gas, or geothermal production activities.

#### **Subtitle F: Access to Federal Lands**

(Sec. 361) Requires the Secretary of the Interior to perform an internal review of current federal onshore oil and gas leasing and permitting practices.

(Sec. 364) Amends the Energy Act of 2000 to revise the requirement that the Secretary of the Interior, when inventorying all onshore federal lands, identify impediments or restrictions upon oil and gas development.

(Sec. 366) Amends the Mineral Leasing Act to set deadlines for an expedited permit application process.

(Sec. 368) Prescribes guidelines governing energy right-of-way corridors on federal land.

Directs the Secretaries of Agriculture, of Commerce, of Defense, of Energy, and of the Interior (the Secretaries), in consultation with FERC, states, tribal or local government entities, affected utility industries, and other interested persons, are directed to consult with each other and to: (1) designate corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on federal land in the 11 contiguous Western States; (2) incorporate the designated corridors into the relevant energy land use and resource management or equivalent plans; and (3) ensure that additional corridors are promptly identified and designated.

(Sec. 371) Amends the Mineral Leasing Act to cite conditions for the reinstatement of oil and gas leases terminated for certain failure to pay rentals.

**Subtitle G: Miscellaneous**

(Sec. 390) States that action by the Secretary of the Interior in managing the public lands, or the Secretary of Agriculture in managing National Forest System Lands, with respect to certain oil or gas drilling related activities shall be subject to rebuttable presumption that the use of a categorical exclusion under NEPA would apply if the activity is conducted pursuant to the Mineral Leasing Act for the purpose of exploration or development of oil or gas.

**CH. 5 - LIST OF AGENCIES AND PERSONS CONSULTED**

The following agencies/tribes were contacted (Appendix C):

Louisiana State Historic Preservation Officer

Tunica-Biloxi Tribe

Caddo Indian Tribe

Chickasaw Nation

Alabama Coushatta Tribe

Coushatta Tribe

Chitimacha Tribe of Louisiana

Alabama-Quassarte Tribal Town

Muscogee (Creek) Nation of Oklahoma

Thlopthlocco Tribal Town

Choctaw Nation of Oklahoma

Mississippi Band of Choctaw

Quapaw Tribe of Oklahoma

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## **List of Preparers**

### **Specialist Name**

Alison McCartney  
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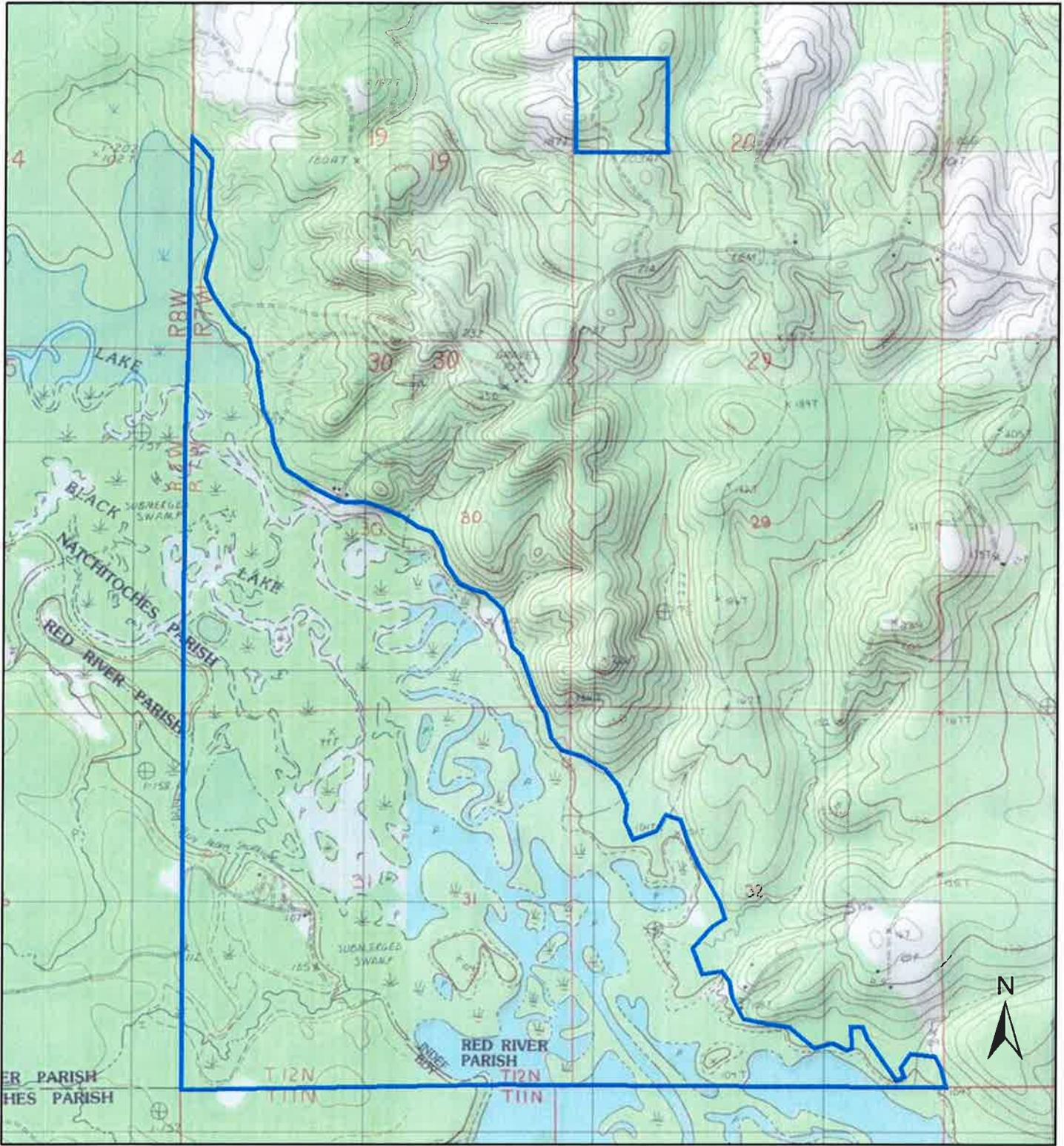
### **Title, Organization**

Natural Resource Specialist  
Archaeologist  
Planning and Environmental Coordinator

**APPENDIX A**

**Proposed Lease Tract Locations**

Proposed Federal Oil and Gas Lease  
EOI 716



 Proposed Lease Area



Natchitoches and Red River Parishes, Louisiana, Louisiana Meridian  
 T. 12N., R. 7W., Sec.19, Lot 8  
 T. 12N., R. 7W., Sec.20, SWNW  
 T. 12N., R. 7W., Sec.30, Lots 5 - 14  
 T. 12N., R. 7W., Sec.31, Lots 1 - 16  
 T. 12N., R. 7W., Sec.32, Lots 5 - 12  
 Approximately 1321.39 acres

**U.S. Department of the Interior  
 Bureau of Land Management  
 Eastern States, Jackson Field Office  
 Jackson, Mississippi 39206**

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**APPENDIX B**

**Proposed Lease Stipulations and Lease Notices**

## **Stipulations**

### **Cultural Resources and Tribal Consultation**

**Stipulation:** This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. These obligations may include a requirement that you provide a cultural resources survey conducted by a professional archaeologist approved by the State Historic Preservation Office (SHPO). If currently unknown burial sites are discovered during development activities associated with this lease, these activities must cease immediately, applicable law on unknown burials will be followed and, if necessary, consultation with the appropriate tribe/group of federally recognized Native Americans will take place. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.

### **Endangered Species**

**Stipulation:** The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. ' 1531 et seq., including completion of any required procedure for conference or consultation.

**Exception:** None

**Modification:** None

**Waiver:** None

### **Sensitive Plant Species**

**Stipulation (CSU):** All suitable special status plant species habitat will be identified during environmental review of any proposed surface use activity. If field examination indicates that habitat of one or more of these species is present, the BLM will require a survey by a qualified botanist for special status plants during periods appropriate to each species. Operations will not be allowed in areas where sensitive plants would be affected.

**Objective:** To protect threatened, endangered, candidate, proposed, and BLM sensitive plant species.

**Exception:** An exception may be granted if the operator agrees to implement measures developed in consultation with USFWS and in coordination with State agencies.

**Modification:** The stipulation may be modified if it is determined that a portion of the lease area does not contain sensitive plant species habitat.

**Waiver:** The stipulation may be waived if, based on field surveys, it is determined that the lease area does not contain sensitive plant species habitat.

### **Freshwater Aquatic Habitat**

**Stipulation (NSO):** No surface occupancy or disturbance, including discharges, are permitted within 250 feet of a river, stream, wetland spring, headwater, wet meadow, wet pine savanna, pond, tributary, lake, coastal slough, sand bar, vernal pools, calcareous seepage marsh, or small, marshy calcareous stream. If the slope exceeds 10 percent, the buffer may be extended to 600 feet to provide adequate protection for aquatic habitats and associated species.

**Objective:** To protect the water quality of watersheds and natural stream substrate and morphology and to avoid potential impacts to aquatic species and their habitat.

**Exception:** An exception may be granted if the operator agrees to 1) span creeks, rivers, wetlands, and floodplains by attaching pipelines to bridges; 2) directionally drill wells and pipelines from upland sites under creeks, rivers, other waters, and wetlands or 3) implement other measures developed in consultation with USFWS and in coordination with State agencies.

**Modification:** The buffer may be reduced if the adjacent waterway has been surveyed for 100 yards upstream and 300 yards downstream of the site, and the results document the lack of suitable/occupied/critical habitat for listed species which may be affected by the project, as determined by the BLM and USFWS.

**Waiver:** None

## Lease Notices/Best Management Practices

### Disposal of Produced Water

**Objective:** To protect aquatic habitats for and to avoid potential impacts to special status fish, mussels, turtles, snails, plants, and migratory birds.

The preferred method for disposal of produced water will be through reinjection to a permeable formation with total dissolved solids (TDS) content higher than 10,000 milligrams per liter (mg/L) where the aquifer is not hydrologically connected to caves, wetlands, or surface water. In Alabama, the injection of produced water is regulated by the Alabama State Oil and Gas Board. In Mississippi, the injection of produced water is regulated by the Mississippi Department of Environmental Quality (MDEQ) and the Mississippi Oil and Gas Board.

If reinjection is not practicable, closed-containment treatment systems should be used to contain and treat produced water for those contaminants and sediments exceeding State standards or EPA criteria. Salt content of any surface ponds for produced water, pigging pits, or other fluids must be less than 7,500 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ). If surface pond salt content is greater than 7,500  $\mu\text{S}/\text{cm}$ , if other bird toxicity is present, or if the surface exhibits sheen, then the ponds must be netted or covered with floating balls, or other methods must be used to exclude migratory birds.

Produced waters may be released into an impounded reservoir if there is documentation that the discharge site and affected waters do not support special status species, are not designated critical habitat, and State and Federal water quality standards/criteria are met.

Produced waters may be released into a stream/river if the discharge site and affected waters have been recently surveyed and lack special status species, or if the applicant conducts approved surveys documenting the absence of special status species, State and Federal water quality standards/criteria are met, and a National Pollution Discharge Elimination System (NPDES) permit is obtained. The applicant should be aware that some species can be surveyed only during certain times of the year.

Produced waters may be released into a stream/river if the applicant can document that the produced waters would not adversely affect special status species. Water quality tests would be conducted on stream segment(s) or other locations proposed as discharge points, volumes to be released, and any settling ponds or other treatments proposed to improve wastewater quality. The water quality test data, any monitoring proposed, and other available information about general coalbed methane effluent characteristics (from published or unpublished literature) shall be reviewed by USFWS. Information about timing of the releases in relation to low water and other planned BMPs would also be required. Testing would include analysis of the discharge site and affected waters for chemical oxygen demand (COD), conductivity, total suspended solids (TSS), As, Hg, Se, and polycyclic aromatic hydrocarbons (PAH). Dissolved oxygen and ammonia standards/criteria must be met in bottom waters if they support listed benthic or epibenthic species. If a special status species has been documented to be more sensitive than State/Federal standards/criteria, site-specific standards for that species may be imposed. Calculations would be

based on State standards (or Federal CCC criteria for protection of freshwater aquatic life when the State has not determined a standard for these parameters).

### **Migratory Birds and Federally Listed Wildlife**

**Objective:** To protect perch and roosting sites and terrestrial habitats for and to avoid potential impacts to migratory birds and federally listed wildlife.

Any reserve pit that is not closed within 10 days after a well is completed and that contains water must be netted or covered with floating balls, or another method must be used to exclude migratory birds.

All powerlines must be built to protect raptors and other migratory birds, including bald eagles, from accidental electrocution, using methods detailed by the Avian Power Line Interaction Committee (APLIC 2006)

### **Perching and Nesting Birds and Bats**

**Objective:** To prevent birds and bats from entering or nesting in or on open vent stack equipment.

Open vent stack equipment, such as heater-treaters, separators, and dehydrator units, will be designed and constructed to prevent birds and bats from entering or nesting in or on such units and, to the extent practical, to discourage birds from perching on the stacks. Installing cone-shaped mesh covers on all open vents is one suggested method. Flat mesh covers are not expected to discourage perching and will not be acceptable.

### **Invasive and Non-Native Species**

**Objective:** To discourage the spread of invasive, non-native plants.

Use of native or non-invasive plants in seeding mixtures will be encouraged to stabilize disturbed areas and during restoration activities. Construction sites will be surveyed for invasive species prior to ground disturbance. If invasive species are found, the proper control measures will be used to either eradicate the species from the area or minimize its spread to other areas. If cogongrass is found on site, equipment will be washed before exiting the site to prevent the spread of this highly invasive species to other locations. Post-construction monitoring for cogongrass and other invasive plant species should be conducted to ensure early detection control. In the case of split-estate lands, final seed mixtures will be formulated in consultation with the private landowner.

### **Pesticide Application**

**Objective:** To protect the water quality of watersheds and natural stream substrate and morphology supporting special status species and their host species.

Any ground application of herbicides or other pesticides, sterilants, or adjuvants within 150 feet of listed species or habitat will require site-specific control measures developed in coordination or formal consultation with USFWS. No aerial application of herbicides or pesticides will be permitted.

## **APPENDIX C**

### **Correspondence**



# United States Department of the Interior



## Bureau of Land Management

Southeastern States Field Office  
411 Briarwood Drive, Suite 404  
Jackson, Mississippi 39206  
<http://www.es.blm.gov>

**IN REPLY REFER TO:**

8100 (020) JMS Natchit-RedRiver Parishes, LA EOI 716

December 16, 2010

Mr. Scott Hutcheson  
State Historic Preservation Officer  
Louisiana Office of Cultural Development  
P.O. Box 44247  
Baton Rouge, LA 70804-44247

Dear Mr. Hutcheson:

The Bureau of Land Management (BLM) has received an Expression of Interest (EOI 716) to lease federal minerals under privately owned surface, i.e. split-estate minerals. The Bureau's Reasonably Foreseeable Development Scenario for this proposed lease is 9 wells from 5 pads to be constructed on private surface with no more than 30.8 acres total, access road and pads, to be disturbed accessing federal minerals. The legal locations of the approximately 1321.39 acres of federal mineral tracts are as follows (map enclosed):

Louisiana Meridian

Natchitoches Parish (Chestnut, Fairview Alpha, Campti and Martin Quadrangles)  
T. 12 N., R. 7 W., Sec. 19, Lot 8,  
T. 12 N., R. 7 W., Sec. 20, SWNW  
T. 12 N., R. 7 W., Sec. 30, Lots 5-14  
T. 12 N., R. 7 W., Sec. 31, Lots 1-16  
T. 12 N., R. 7 W., Sec. 32, Lots 5-12 (Approx. 1321.39 ac.)

A review of the Louisiana Division of Archaeology online site files shows one site within the lease sale and 6 sites within one mile of the proposed sale area. All but one site is listed as historic and their eligibility for the inclusion to the National Register is unknown/undetermined.



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Development locations have not been determined on a site-specific basis. Specific locations proposed for development are determined by the developer and surface owners. The BLM's surface responsibilities rest only within the boundaries of any proposed development.

An archaeological report will be requested when specific locations are proposed. The report must be approved by both the Louisiana Division of Archaeology and the BLM before any ground disturbing activities take place. Any needed consultation will be concluded before ground-disturbing activities begin.

Your concurrence of these procedures for Section 106 compliance is requested in 30 days. If you have any questions or concerns, please contact John M. Sullivan, Archeologist, at (601) 977-5439 or email at [John\\_M\\_Sullivan@BLM.Gov](mailto:John_M_Sullivan@BLM.Gov).

Sincerely,

Gary Taylor

Acting for Duane Winters  
Assistant Field Manager  
Division of Lands and Renewable Resources

Enclosure  
1 Map

bc:  
JFO CF & RF  
ES RF  
DWinters  
AMcCartney  
ES020: JMSullivan:09/29/10:601-977-5400:Natchitoches.T.12N.R.7W.Sec.19.EOI 716.SHPO.Ltr



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# United States Department of the Interior



## Bureau of Land Management

Southeastern States Field Office  
411 Briarwood Drive, Suite 404  
Jackson, Mississippi 39206  
<http://www.es.blm.gov>

**IN REPLY REFER TO:**

8100 (020) JMS Natchit-Red River Parishes, LA EOI 716

December 16, 2010

Chairman Earl Barbry, Sr.  
Tunica-Biloxi Tribe of Louisiana  
P.O. Box 332  
Marksville, Louisiana 70523

Dear Chairman Barbry:

The Bureau of Land Management (BLM) has received an Expression of Interest (EOI 716) to lease federal minerals under privately owned surface, i.e. split-estate minerals. The Bureau's Reasonably Foreseeable Development Scenario for this proposed lease is 9 wells from 5 pads to be constructed on private surface with no more than 30.8 acres total, access road and pads, to be disturbed accessing federal minerals. The legal locations of the approximately 1321.39 acres of federal mineral tracts are as follows (map enclosed):

### Louisiana Meridian

Natchitoches and Red River Parishes (Chestnut, Fairview Alpha, Campti and Martin Quadrangles)

T. 12 N., R. 7 W., Sec. 19, Lot 8,

T. 12 N., R. 7 W., Sec. 20, SWNW

T. 12 N., R. 7 W., Sec. 30, Lots 5-14

T. 12 N., R. 7 W., Sec. 31, Lots 1-16

T. 12 N., R. 7 W., Sec. 32, Lots 5-12 (Approx. 1321.39 ac.)

A review of the Louisiana Division of Archaeology online site files shows one site within the lease sale and 6 sites within one mile of the proposed sale area. All but one site is listed as historic and their eligibility for the inclusion to the National Register is unknown/undetermined.

Development locations have not been determined on a site-specific basis. Specific locations proposed for development are determined by the developer and surface owners. The BLM's surface responsibilities rest only within the boundaries of any proposed development.



An archaeological report will be requested when specific locations are proposed. The report must be approved by both the Louisiana Division of Archaeology and the BLM before any ground disturbing activities take place. Any needed consultation will be concluded before ground-disturbing activities begin.

If you are aware of any Native American religious sites which are currently used for religious purposes or are recognized as sacred sites on these privately owned lands, please let us know the locations so that impacts will not occur. As provided by law, these locations will be held in confidence.

Your information is requested within 30 days. If you have any questions, comments, or concerns about the BLM's processes or procedures concerning its consideration of cultural resources for this undertaking, please contact John M. Sullivan, Archaeologist, at (601) 977-5400 or email at [John\\_M\\_Sullivan@BLM.Gov](mailto:John_M_Sullivan@BLM.Gov).

Sincerely,

Bruce Dawson  
Field Manager

Enclosure  
1 Map

cc via email: Mr. Earl Barbry, Jr., Tribal Historic Preservation Officer

Same letter sent as an original w/ a cc via email: to the attached list.

bc:

JFO CF & RF

ES RF

DWinters

AMcCartney

ES020: JMSullivan:09/29/10:601-977-5400:Natchit-RedRiver.T.12N.R.7W.Sec.19.EOI 716.NA.Ltr



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<b>Original to:</b>	<b>cc: to these:</b>
Mr. Earl Barbry, Sr., Chairman Tunica-Biloxi Tribe of Louisiana P.O. Box 331 Marksville, Louisiana 70523	Mr. Earl Barbry, Jr., Tribal Historic Preservation Officer Tunica - Biloxi Tribe 151 Melacon Dr. Marksville, LA 71351 <a href="mailto:earlii@tunica.org">earlii@tunica.org</a>
Brenda Shemayne Edwards, Chairwoman Caddo Nation of Oklahoma P.O. Box 487 Binger, Oklahoma 73009	Mr. Robert Cast, Tribal Historic Preservation Officer Caddo Nation of Oklahoma P.O. Box 487 Binger, OK 73009 <a href="mailto:rcast@caddonation.org">rcast@caddonation.org</a> and <a href="mailto:mboatone@caddonation.org">mboatone@caddonation.org</a>
Mr. Bill Anoatubby, Governor Chickasaw Nation P.O. Box 1548 Ada, OK 74821	Julie Ray, Historic Preservation Manager Gingy Nail, Historic Preservation Officer Chickasaw Nation P.O. Box 1548 Ada, OK 74821 <a href="mailto:julie.ray@chickasaw.net">julie.ray@chickasaw.net</a> and <a href="mailto:gingy.nail@chickasaw.net">gingy.nail@chickasaw.net</a>
Oscola Clayton Sylestine, Chairman Alabama-Coushatta Tribe of Texas 571 State Park Road 56 Livingston, TX 77351	Bryant J. Celestine, Historical Preservation Alabama-Coushatta Tribe of Texas 571 State Park Road 56 Livingston, TX 77351 <a href="mailto:celestine.bryant@actribe.org">celestine.bryant@actribe.org</a>
Kevin Sickey, Chairman Coushatta Indian Tribe P.O. Box 818 Elton, LA 70532	Linda Langley, Cultural/Historic Preservation P.O. Box 818 Elton, LA 70532 <a href="mailto:llangley@mcneese.edu">llangley@mcneese.edu</a>
John Paul Darden, Chairman Chitimacha Tribe of Louisiana P.O. Box 661 Charenton, LA 70523	Kimberly S. Walden, Cultural Director Chitimacha Tribe of Louisiana P.O. Box 661 Charenton, LA 70523 <a href="mailto:kim@chitimacha.gov">kim@chitimacha.gov</a>
<b>Only send email to Preservation Officer</b> Tarpie Yargee, Chief Alabama-Quassarte Tribal Town P.O. Box 187	Augustine Asbury, 2nd Chief/ Cultural Preservation Officer P.O. Box 187 Wetumka, OK 74883



<b>Original to:</b>	<b>cc: to these:</b>
Wetumka, OK 74883	<a href="mailto:aqtcultural@yahoo.com">aqtcultural@yahoo.com</a>
Vernon Yarholar, Town King Thlopthlocco Tribal Town P.O. Box 188 Okemah, Oklahoma 74859	Charles Coleman, Cultural/Historic Preservation Office P.O. Box 188 Okemah, Oklahoma 74859 <a href="mailto:chascoleman@prodgy.net">chascoleman@prodgy.net</a>
A.D. Ellis, Principal Chief Muscogee (Creek) Nation of Oklahoma P.O. Box 580 Okmulgee, Oklahoma 74447	Emman Spain, Cultural/Historic Preservation Office Muscogee (Creek) Nation of Oklahoma P.O. Box 580 Okmulgee, OK 74447 <a href="mailto:espain@muscogeenation-nsn.gov">espain@muscogeenation-nsn.gov</a> and <a href="mailto:tthompson@muscogeenation-nsn.gov">tthompson@muscogeenation-nsn.gov</a>
Gregory Pyle, Chief Choctaw Nation of Oklahoma Drawer 1210 Durant, Oklahoma 74702-1210	Mr. Terry Cole, Tribal Historic Preservation Officer P.O. Drawer 1210 Durant, OK 74702 <a href="mailto:tcole@choctawnation.com">tcole@choctawnation.com</a>
Beasley Denson, Chief Mississippi Band of Choctaw Indians P.O. Box 6010 Philadelphia, MS 39350	Mr. Ken Carleton, Cultural/Historic Preservation Office Mississippi Band of Choctaw Indians P.O. Box 6257 Philadelphia, MS 39350 <a href="mailto:kcarleton@choctaw.org">kcarleton@choctaw.org</a>
John Berrey, Chairman Quapaw Tribe of Oklahoma P.O. Box 765 Quapaw, Oklahoma 74345	Jean Ann Lambert, Cultural/Historic Preservation Office P.O. Box 1556 Miami, OK 74355 <a href="mailto:jlambert@quapawtribe.com">jlambert@quapawtribe.com</a>



## **Appendix D**

### **Reasonably Foreseeable Development Scenario**

## REASONABLY FORESEEABLE DEVELOPMENT SCENARIO

**Case File Number:** EOI 716

**Project Number:** DOI-BLM-ES-0020-2009-0046-EA

**Acres:** 1321.39

**Location:** LA, Natchitoches and Red River Parishes, Louisiana Meridian, T12N, R7W, Sec. 19, Lot 8, Sec. 20, SWNW, Sec. 30, Lots 5 - 14, Sec. 31, , Lots 1 - 16, Sec. 32, Lots 5 - 12

### I. Reasonably Foreseeable Development

#### A. RFD Baseline Scenario Assumptions and Discussion

Objective horizon is Haynesville Shale. Mineral commodity is natural gas.

Federal acreage will be incorporated into a state determined drilling unit. Drilling and production units are 640 acres. Project 9 horizontal wells drilled from 5 pads.

A 30' wide well access road will be constructed consisting of a 16' wide travel surface with a 7' buffer on each side.

If productive, multiple wells may be drilled from the existing pad.

If productive, oil and gas handling and production facilities will be constructed on the existing pad.

If productive, the reserve pit and part of the drill pad will be reclaimed when drilling and completion activities are concluded.

All disturbed acreage will be reclaimed if the well is non-productive.

#### B. Surface Disturbance Due to Oil and Gas Activity

**Access Road:** 2.1 acres (3000'X30')

**Well Pad & Pit:** 28.7 acres (5X500'X500')

**Utility and/or Pipeline R.O.W:** 0 – Use access road ROW

**Initial Disturbance:** 30.8 acres

**Partial Reclamation of Drill Site:** 1.7 acres (5X0.34acres)

**Net Disturbance for Productive Wells:** 29.1 acres