

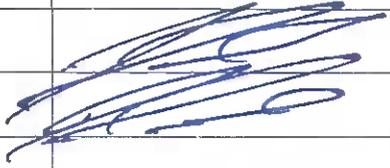
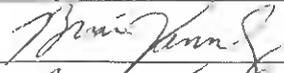
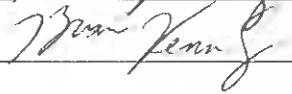
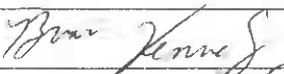
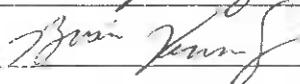
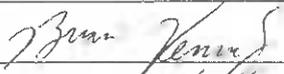
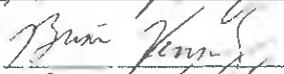
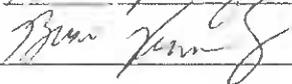
**BUREAU OF LAND MANAGEMENT
SOUTHEASTERN STATES FIELD OFFICE
411 Briarwood Drive, Suite 404
Jackson, Mississippi 39206**

ENVIRONMENTAL ASSESSMENT (EA) FORM

ES-020-2013-19

PROJECT NAME: Mayfield 9-14 #5-33H34 APD EA

TECHNICAL REVIEW:

X	Program	Reviewer	Signature	Date
	Lands/Realty			
X	Environmental Justice	Brian Kennedy Physical Scientist		5/30/13
	Wild Horse & Burro			
	Communications (Dispatch)			
X	Cultural/Paleontology	John Sullivan Archeologist		5/30/13
X	Native American Religious Concerns	John Sullivan Archeologist		5/31/13
	Wilderness			
	Farmlands (Prime & Unique)			
X	Recreation	Brian Kennedy Physical Scientist		5/30/13
X	Visual Resources	Brian Kennedy Physical Scientist		5/30/13
	Operations			
	Fire Management			
	Range Management			
	Law Enforcement			
	Land Law Examiner			
X	Energy Policy	Brian Kennedy Physical Scientist		5/30/13
X	Minerals	Brian Kennedy Physical Scientist		5/30/13
	ACEC			
X	Surface Protection	Brian Kennedy Physical Scientist		5/30/13
X	Hazardous Material	Brian Kennedy Physical Scientist		5/30/13
X	Soils	Brian Kennedy Physical Scientist		5/30/13

X	Air Quality	Brian Kennedy Physical Scientist	<i>Brian Kennedy</i>	5/30/13
X	Water Quality (Surface & Ground)	Brian Kennedy Physical Scientist	<i>Brian Kennedy</i>	5/30/13
	Water Rights			
X	Floodplain	Brian Kennedy Physical Scientist	<i>Brian Kennedy</i>	5/30/13
X	Wetlands/Riparian Zones	Brian Kennedy Physical Scientist	<i>Brian Kennedy</i>	5/30/13
	Wild & Scenic Rivers			
X	Invasive & Non-Native Spp.	Alison McCartney Natural Resource Specialist	<i>Alison McCartney</i>	6/4/13
X	Wildlife/Botanical Spp.	Alison McCartney Natural Resource Specialist	<i>Alison McCartney</i>	6/4/13
X	T&E Wildlife/Botanical Spp.	Faye Winters Wildlife Biologist	<i>Faye Winters</i>	6/6/13

Prepared by: *Brian Kennedy*
 Brian Kennedy
 Physical Scientist

Date: 5/30/13

Reviewed by: *Gary Taylor*
 Gary Taylor
 NEPA Coordinator

Date: 6/6/13

Reviewed by: *Duane Winters*
 Duane Winters
 Resource Supervisor

Date: 6/6/13

Reviewed by: *Randall Mills*
 Randall Mills
 Minerals Supervisor

Date: 6/6/2013



**United States Department of the Interior
Bureau of Land Management**

Eastern States

Southeastern States Field Office

411 Briarwood Drive, Suite 404

Jackson, Mississippi 39206

<http://www.es.blm.gov>

Environmental Assessment

EA-020-2013-19

Mayfield 9-14 #5-33H34 APD EA

Prepared by: Brian Kennedy, Physical Scientist

Date: May 30, 2013

CH 1 – PURPOSE OF AND NEED FOR THE PROPOSED ACTION

Introduction

On March 27, 2013, SEECO, Inc. submitted an Application for Permit to Drill (APD) for the proposed: Mayfield 9-14 #5-33H34 natural gas well to the Bureau of Land Management (BLM), Southeastern States Field Office (SSFO). The well location is approximately 3.6 miles east of the community named Center Ridge, Arkansas and located 1/10 of a mile south off of Morris Mountain Road. The APD was submitted in accordance with Onshore Oil and Gas Order No. 1 (43 CFR 3164), administered by the BLM. The well site for the APD is located on private property. The wells, if approved, will drill into federally owned and leased oil and gas mineral rights. The leasing and 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), and The Mineral Leasing Act for Acquired Lands, as amended (30 U.S.C. 351-359).

Need for the Proposed Action

An APD is a proposed action under BLM jurisdiction requiring federal approval for a permit to drill and as such must be reviewed for compliance with various statutes, laws and regulations including the National Environmental Policy Act of 1969 (NEPA).

A federal oil and gas lease is a legal contract that grants exclusive rights to the lessee to drill for and remove all oil and gas from the lease with the right to build and maintain necessary improvements. The subject lease was issued by the BLM following a decision by the Authorized Officer to allow leasing of the oil and gas rights on the property. The leasing decision and leasing action represent a commitment to allow exploration and development of potential oil and gas resources on the property. Hence, the drilling activity on the lease constitutes a valid lease right and is needed in order to fulfill the purpose and intent of the lease.

SEECO, Inc. submitted an APD in accordance to Onshore Order #1 as directed by BLM for the development of oil and gas resources under BLM jurisdiction. BLM's responsibility is to review such applications in accordance with federal and state laws, policies, and regulations so that oil and gas resources can be developed in a way that is beneficial to the American public as well as ensure the U.S. Government's interests are not being drained and/or trespassed on oil and gas activity.

Management Objectives of the Action

The desired outcome of the proposed action is the approval of SEECO, Inc.'s APD for the extraction of natural gas submitted to BLM. Approval of the APD from SEECO, Inc. would allow the continued extraction and production of federally owned natural gas. Not approving this proposed natural gas well would stop the development of federal minerals in this area and create a loss of royalties to the federal government.

Land Use Plan Conformance

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 can be used as a basis for making a decision on the proposal.

Applicable Regulatory Requirements and Required Coordination

Applicable Regulatory Requirements and Required Coordination include: 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), Leasing Reform Act of 1987, 43 CFR 3162.3, 43 CFR 3162.5, Onshore Oil & Gas Order No. 1, Energy Policy Act of 2005, National Environmental Policy Act, 1969 (NEPA), Arkansas Department of Environmental Quality (AR DEQ), 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 for cultural compliance under Section 106:

- Quapaw Tribe of Oklahoma
- Osage Nation
- Choctaw Nation of Oklahoma
- Chickasaw Nation
- Cherokee Nation of Oklahoma
- United Keetoowah Band of Cherokee Indians in Oklahoma
- Seminole Nation of Oklahoma
- Muscogee (Creek) Nation of Oklahoma
- Thlopthlocco Tribal Town
- Caddo Indian Tribe of Oklahoma
- Tunica-Biloxi Tribe of Louisiana
- Alabama-Quassarte Tribal Town
- Arkansas Historic Preservation Program (AHPP), State Historic Preservation Officer

Consultation completed by BLM staff:

- Arkansas Historic Preservation Program (AHPP), State Historic Preservation Officer
- U.S. Fish and Wildlife Service
- Arkansas Natural Heritage Commission

The following BLM employees attended an onsite visit in January 11, 2013:

- (1) John Sullivan, SSFO Archeologist
- (2) Brian Kennedy, SSFO Physical Scientist

Decision(s) That Must Be Made

The Bureau of Land Management (BLM) has two decisions under consideration for the proposed action of approving the APD submitted by SEECO, Inc. The “Proposed Action” and the “No Action” options are considered the only two reasonable alternatives under decision by BLM. No issues were raised during the scoping process and/or onsite inspection that would suggest or identify other alternatives for consideration. The No Action alternative is considered and analyzed to provide a baseline for comparison of the impacts of the proposed action.

First and preferred decision for consideration is the approval of the APD which is located private property in Conway County, Arkansas submitted by SEECO, Inc. The preferred decision would allow the drilling of one natural gas well to protect federal mineral interests from being drained from nearby oil and gas production. Approving the APD would give SEECO, Inc. the permission to begin developing the federal minerals of ARES-54973 in return the U.S. Government would be paid royalties for those minerals developed. The no action or second decision to consider would be to disapprove the APD submitted by SEECO, Inc. If the second decision was proven to be the appropriate and best course of action by BLM, the proposed well site for the APD submitted would not be recommended by BLM to SEECO, Inc. for development or any future submittal of an APD for that location. Royalties would not be collected and drainage of federal minerals would continue take place from the neighboring private leases. This EA will discuss and review all SSFO NEPA elements taken under consideration to provide management with the best decision appropriate for all proposed actions. 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 as other subsequent laws and policies passed by the U.S. Congress.

CH 2 – ALTERNATIVES INCLUDING THE PROPOSED ACTION

Introduction

BLM will review an APD submitted by SEECO, Inc. for the Mayfield 9-14 #5-33H34 well. The APD is a proposed natural gas well. The well site/location is on private property in Conway County, Arkansas approximately 3.6 miles east of Center Ridge, Arkansas.

APD Location

Mayfield 9-14 #5-33H34 - 2091' FNL and 63' FWL in Section 33, T. 9 N., R. 14 W.; 5th Principal Meridian, Conway County, Arkansas

Proposed Action (Preferred Option)

The proposed action is to approve the well pad location for an APD submitted by SEECO, Inc. with approximately 8.1 acres of total surface disturbance for construction of a well pad, reserve pit, and access road plus clearing limits. SEECO, Inc. provided plats detailing both well pad design and area of coverage for the proposed APD. The proposed federal well will be drilled horizontally for gas development. Drilling plans for the well was submitted with the APD and will be reviewed by BLM as part of the approval process.

Construction

The specific plans for construction of the site are included in the Surface Use Program (SUP) of the APD. The SUP is incorporated by reference into this EA, is maintained in the appropriate well file at the BLM, Southeastern States Field Office, and is available for review.

The APD is located on a well pad which utilizes a square-shaped pad (300' X 380') approximately 2.62 acres of disturbance in size. A reserve pit will be constructed on the north side of the well pad for discharge of the drilling cuttings/fluids. The reserve pit is 150' X 300' and approximately 1.03 acres of disturbance. The reserve pit is mainly for cuttings due to the use of a "closed-loop" system. The access road right-of-way (ROW) dimensions are 20' X 1135' being approximately 0.52 acres in disturbance on private land across a wooded area. The well pad area will be leveled for support of a drilling rig and the area will be cleared around the proposed dimensions given by SEECO, Inc. for the well pad, reserve pit, and access road. Those disturbed areas around the well pad are known as clearing limits and are calculated in the total disturbed acres amount of 8.1 acres. The clearing limits are 550' X 600' for the well pad and reserve pit. The pad's elevation is at $\pm 660'$. Other design features are included in the SUP.

Drilling

The specific plans for drilling operations are included in the Drilling Programs (DP) of the APD submitted by SEECO, Inc. This program is incorporated by reference into this EA. The DP is maintained in the well file at the BLM, Southeastern States Field Office and is available for review. The proposed well will be drilled to a depth of approximately 4,400 feet total volume

depth (TVD). The casing and cementing program for the APD was submitted and reviewed by BLM and, if necessary, will be modified to meet BLM standards, if an issue of safety or integrity is found. BLM regulations require that the operator isolate freshwater-bearing strata and other usable safe drinking water formations containing 10,000 ppm or less of dissolved solids, and other mineral-bearing formations, and protect them from contamination (43 CFR 3162.5-2d). Surface casing would be placed below surface and cemented back to the surface to protect usable safe drinking water. The circulated mud and drilling fluids will be contained onsite in tanks due to operator using a closed-loop system. Cuttings will be discharged into a reserve pit. No water will be used from the private landowner's property in conjunction with drilling operations for this well. SEECO, Inc. has an agreement with the private landowner to transport by truck material and fluids needed in their operations across their property.

The blowout prevention program has been reviewed by BLM for assurance that, in the event of a blowout, the well can be controlled. SEECO, Inc. provided BLM the details of the well's production casing in the APD. The production casing of the well is in accordance with BLM regulations/standards. Other design features pertaining to drilling are included in the DP.

Production Facilities

The well, when completed, will result in natural gas production. Production equipment will be put in place located on the well pad site. Production and gathering lines are detailed in the facility diagram which is part of the APD and DP submitted. Lines leaving the well pad will be laid in the well site's road right-of-way (ROW) established by the private landowner. Any new facilities or lines, SEECO, Inc. will have to submit them to BLM for approval by a Sundry Notice. Any new surface disturbance is subject to NEPA review. Any production facilities will be reviewed by BLM as part of the APD approval process to ensure proper construction, usage, and management.

Reclamation

The reclamation plan applies to all disturbed areas following a dry hole or abandonment of any well and to all areas not needed for production of that producing well. No limbs, trees, or tops will be placed in the reserve pit when closed. When a well is no longer producing economical or capable of producing, a well will be plugged to BLM specifications. Other aspects of the project relative to reclamation are addressed in the SUCOA submitted by BLM. Upon final abandonment and reclamation, BLM will inspect the plugging operations completed by SEECO, Inc. and inspect final reclamation of the site to ensure it has met BLM reclamation standards. Well site is located on private surface and a surface use agreement (SUA) is in place between the private landowner and SEECO, Inc. BLM will respect the private landowner's wishes of surface use in the SUA. If private landowner has no plans for final reclamation, BLM will propose that SEECO, Inc. restore the well site to conditions prior to well construction for final reclamation approval. Plugging and reclamation stages are subject to BLM's approval before well site can be released from SEECO, Inc.'s responsibility and liability.

No Action

The only other alternative to the two decisions being considered by BLM is “No Action”. The “No Action” decision’s result would be to not authorize the proposed APD submitted by SEECO, Inc. to BLM. No revenues would be obtained by this action and potential drainage from private wells neighboring the federal lease could occur. The “No Action” alternative would potentially jeopardize BLM’s policy 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. 3 – DESCRIPTION OF THE AFFECTED ENVIRONMENT

Introduction

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: Environmental Justice, Cultural/Paleontology, Native American Religious Concerns, Recreation, Visual Resources, Minerals, Energy Policy, Surface Protection, Hazardous Material, Soils, Air Quality, Floodplain, Water Quality, Wetlands/Riparian Zones, Invasive & Non-Native Spp., Wildlife/Botanical Spp., and T&E Wildlife/Botanical Spp.

Description of Project Area

This area is situated in the Arkansas Valley Eco-region in Northern Arkansas. The Arkansas Valley Eco-region is a synclinal and alluvial valley lying between the Ozark Highlands and the Ouachita Mountains. The Arkansas Valley is, characteristically, diverse and transitional. It generally coincides with the Arkoma Basin that developed as sand and mud were deposited in a depression north of the rising Ouachita Mountains during the Mississippian and Pennsylvanian eras. The Arkansas Valley contains plains, hills, floodplains, terraces, and scattered mountains. It is largely underlain by inter-bedded Pennsylvanian sandstone, shale, and siltstone. Prior to the 19th century, uplands were dominated by a mix of forest, woodland, savanna, and prairie whereas floodplains and lower terraces were covered by bottomland deciduous forest. Today, less rugged upland areas have been cleared for pastureland or “hayland” (land used for the production of hay). Poultry and livestock farming are important land uses.

The proposed well site is located on an area of private property that is wooded. The property is used for timber and recreational hunting. No man-made building/structures were seen during onsite. Location is best described as of being rural countryside and of rolling topography. Well site construction will involve the removal of trees and brush and leveling of an area for a square-shaped well pad.

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.

The setting around the proposed well site is of a rural community with a few homes located in and around the project area. The private land owner does not live on the side of the road in which the proposed well site is to be constructed. The proposed site is a forested area.

Cultural Resources

An archaeological survey has been conducted of the general area (Panamerican Consultants, Inc.). No cultural resources had been previously recorded for this location. No evidence of either historical, archeological or occupation sites were discovered by the field investigations.

Native American Religious Concerns

Federally recognized Native Americans have been contacted. Known areas used for religious practices are not present. However, areas that may be considered sacred may be present. These areas would be evidenced by the discovery of unknown human burials or the traditional location for gathering an herb used in religious practice.

Recreation/Visual/Noise Resources

Boating, ATV riding, fishing and hunting are the normal outdoor recreation for this area. Conway County, Arkansas has abundant resources and land (private and government) available to accommodate these types of activities. However, access to these recreational resources can be limited due to remoteness or private property.

The visual resources found in the project area consist of wooded areas, cattle and chicken farms, small house structures, county road to the south, secondary roads, existing well pads, and small ponds/lakes. The existing visual resources in the immediate vicinity of the proposed action have more of a rural appearance even though of its close proximity to the community of Center Ridge, Arkansas being only about 3.6 miles away to the west.

Existing sources of noise are limited to petroleum development activities, vehicular traffic on state highways, county roads and other existing secondary roads, and/or private landowners nearby.

Energy Policy/Minerals

As manager of more public land than any other Federal agency, the Bureau of Land Management has a key role in implementing the Energy Policy Act of 2005. The BLM's management of 256 million surface acres and 700 million subsurface acres of mineral estate provides for multiple uses of the land, including energy development. The proposed APD looks to produce gas from the approximate depth of 4,400 feet in Conway County, Arkansas.

Wastes, Hazardous or Solid

During the on-site inspection, no waste site (hazardous or non-hazardous) being solid or liquid was found in the project area. The private property is utilized for recreational hunting. From the onsite, nothing in the surrounding area has had signs of being impacted from trash or other waste material.

Soils

The soil type associated with this project area according to the Natural Resource Conservation Service (NRCS) is of Mountainburg soil.

The Mountainburg series consist of shallow, well drained, moderately rapidly permeable soils that formed in residuum of sandstone. These nearly level to very steep soils are upland ridgetops, pleateus and mountainsides. Slopes range from 1 to 65 percent. The soils formed in residuum of hard, massive, horizontally bedded sandstone. The mean annual temperature is about 59 degrees F. Average annual rainfall ranges from 42 to 52 inches. Most areas are in woodland. Vegetation is dominantly mixed hardwood forests of upland oaks, elms, and hickories, or is in mixed hardwood pine-forest. Minor areas have been cleared and are in pasture.

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 Arkansas by the Arkansas Department of Environmental Quality (ADEQ). These include carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, total suspended particulate, particulate matter less than 10 microns, and lead. The area of the proposed well is within standard ranges for air quality. No emissions are present on said property that would be outside the parameters of federal and/or state air emission and quality standards.

Water Quality, Surface/Ground

Surface Water Quality

The Arkansas River Valley Region exhibits distinct seasonal characteristics of its surface waters with zero flows common during summer critical conditions. Peak runoff events from within this region tend to introduce contaminants from the predominantly agricultural land use, which are primarily pasture lands with increasing poultry production. The development of natural gas has resulted in some site-specific water quality degradation. Soil types in much of this area are highly erosive and tend to easily go into colloidal suspension, thus causing long-lasting, high-turbidity values (ADEQ 2008).

Ground Water Quality

Almost all of the surficial aquifers supply water of good to very good quality, ranging from calcium-bicarbonate to sodium-bicarbonate water types. Areas of poor water quality can result from both natural and anthropogenic sources. Natural sources of contamination are typically regional in extent and are related to water-rock interactions. Anthropogenic impacts include both point and nonpoint sources of contamination. Nonpoint sources can result in large areas of

impact, although contaminant concentrations typically are significantly lower than point sources, and the contaminants typically represent soluble, non-reactive species. Point sources of contamination often result in elevated levels of contaminants that exceed federal maximum contaminant levels; however, the extent of contamination normally is confined to a small area, with little to no offsite migration or impact on receptors (ADEQ 2008).

The initial Arkansas Nonpoint Source Pollution Assessment (1988) assessed approximately 4,068 miles of stream and found that 58 percent of the assessed streams were not meeting all designated uses. Limited data for the 79 significant publicly owned lakes indicated no use impairment by nonpoint sources. The 1988 assessment identified agriculture and mining as the primary categories of nonpoint source pollution causing impairments to water bodies of the state (ADEQ 2008).

The 1988 assessment was updated in June 1997, using updated assessment criteria. The 1997 report assessed 8,700 stream miles and indicated that nonpoint source pollution was impacting (but not necessarily impairing) more than 4,100 stream miles. Agricultural impacts were identified as the major cause of impacts on 3,197 stream miles. Other major impacts were related to silviculture activities, road construction/maintenance activities, and unknown sources. The unknown source was mercury contamination of fish tissue (ADEQ 2008).

Wetlands/Riparian Areas/Floodplains

The project area is within the Arkansas River valley. Surrounding land usage for the area is farmland, livestock ranching, and timber production. Drainage is usually north to south. Drainage from the site flows southeast 0.04 miles to an unnamed tributary of Hog Branch, thence to Hog Branch roughly 1.8 miles away from the property. Storm water from the tract flows to Hog Branch thence to Cedar Creek thence to Cadron Creek and ultimately to the Arkansas River. There is a small stream to the east approximately 355 feet away from the proposed well site with little to no likely-hood of impacts from well pad construction with erosion protection measures put in place by the operator.

Invasive/Exotic Species

Harbor Environmental and Safety conducted a field survey of the proposed project site. No exotic species were observed on the area of interest. However, there are several exotic species with the potential to occur including: Bacteria leaf streak of rice, channeled apple snail (*Pomacea canaliculata*), cogongrass (*Imperatica cylindrical*), hydrellia wirthi (*Hydrella wirthi*), hydrilla hydrilla (*Hydrilla hydrilla*), old world bollworm (*Helicoverpa armigera*), rice nematode (*Ditylenchus angustus*), sirex wood wasp (*Sirex noctilio*), sudden oak death (caused by *Phytophthora a ramorum*), and topical soda apple (*Soanum viarum*).

Special Status Species

Current state and federal lists of rare, threatened, endangered, and candidate species were reviewed with regards to potential impacts from construction of the subject project. Infrared aerial photography, the National Resources Conservation Service (NRCS) Web Soil Survey, and

websites for the U.S. Fish and Wildlife Service (USFWS) and the Arkansas Natural Heritage Commission (ANHC) were also accessed to determine potential affects that the proposed project could have on special status species. Table 1 provides a list of federally listed species with the potential to occur at the proposed project site because they are documented to occur within that county. Also included in the table is a determination for each species. Below the table is a description of each species and known habitat requirements:

Table 1: Summary of Effects		
Species	Federal Status	Determination
Florida panther (<i>Felis concolor coryi</i>)	Endangered	No Effect Due to Unsuitable Habitat
Interior least tern (<i>Sternula antillarum</i>)	Endangered	No Effect Due to Unsuitable Habitat
Piping plover (<i>Charadrius melodus</i>)	Threatened	No Effect Due to Unsuitable Habitat
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Delisted	No Effect Due to Unsuitable Habitat

Florida Panther (*Felis concolor coryi*) (Endangered)

The Florida panther was historically present throughout Arkansas, but was extirpated around 1920. This species is currently only known to exist in Florida and therefore is unlikely to occur on the proposed site.

Interior Least Tern (*Sternula antillarum* = *Sterna antillarum*) (Endangered)

The interior least tern is a migratory shorebird species which breeds, nests, and rears young on non-vegetated areas of sand bars and beaches along the Mississippi River and its major tributaries, including the Red River. Nesting colonies have been found along the Red River in northwestern Louisiana, and the species is extending its breeding habitat further south along the Red River.

Least terns in Arkansas are typically passing migrants, but from May through September, a few birds nest in small colonies on exposed sandbars in the Arkansas, Mississippi and White Rivers. One to three eggs are laid directly on the sand. The camouflaged eggs and chicks are hard to find, but it's not difficult to detect a nesting colony since intruders are besieged by screeching, dive-bombing adults. Interior populations of the least tern were formerly well distributed in the Mississippi Basin, but now survive only in scattered remnants. Arkansas nesting habitat is threatened by manipulations of river flows. Reduced flows allow encroachment of woody vegetation, eliminating some bare sandbars. High flows during nesting wash away eggs and drown chicks. Nests are also lost to dredging operations, trampling by cattle, all-terrain vehicle use, storms and predation. Least tern breeding ground includes the Arkansas River system. The interior least tern is unlikely to occur on the tract because of the distance to the Arkansas River (over 18 miles away) or other significant water bodies.

Piping Plover (*Charadrius melodus*) (Threatened)

The piping plover is a migratory bird which often returns to the same nesting area in consecutive years. This species lives near ocean beaches or on sand or algal flats in protected bays. It is most abundant on expansive sandflats, sandy mudflats, and sandy beaches in close proximity; usually in areas with high habitat heterogeneity.

Arkansas suitable breeding habitats are wide beaches (<20 meters) with highly clumped vegetation, having less than 5% overall vegetation cover and/or with extensive gravel. There are no water bodies on the tract to support the piping plover.

Bald Eagle (*Haliaeetus leucocephalus*) (Delisted)

The bald eagle was delisted in 2007 due to recovery. A five year monitoring program has been established to ensure that bald eagle populations are stable, and that delisting continues to be appropriate for this species. Bald eagles will remain protected under the Bald and Golden Eagle Protection Act, as well as the Migratory Bird Treaty Act. Bald eagles are associated with large inland lakes, large rivers and coastal waters and use large old growth pine, bald cypress and some oak species, usually within ¼ mile of inland lakes and large rivers for nesting and loafing. There are no large lakes or rivers near the proposed site therefore suitable habitat for this species is not present.

Migratory Bird Species of Concern

There are no large, shallow water bodies typically used as breeding and feeding areas for migratory birds present on the tract. However, an existing pond (approximately 6 acres in size) northwest of the tract could potentially be used by migrating birds as a staging area. Historic aerial photographic review reveals that this pond was made sometime between 2006 and 2009.

No birds were seen on the tract during the site visit. However, the proposed project area contains optimal habitat for several migratory birds including the: wood thrush (*Hylocichla mustelina*), Swainson's warbler (*Limnothypis swainsonii*), Kentucky warbler (*Oporornis formosus*), and painted bunting (*Passerina ciris*). The proposed site offers suitable or marginal habitat for several additional migratory birds. Activities during nesting season (March 1 – August 1) have the potential to impact nesting birds.

Wildlife and Vegetation

The tract area is currently undeveloped and primarily forested around the proposed well site. The general topography of the location is slightly sloped with slopes increasing on the southeast corner of the tract. Two small ephemeral stream crossings are present on the future lease road; however both were dry during the site visit. A stream east of the eastern tract boundary was observed at the time of the site visit and was running freely.

The lease road is comprised primarily of small underbrush and immature pine trees, typically 2 to 6 inches in diameter. The main tract is a mature wooded area made up of pine, cedar, and hardwood trees. The pine trees are primarily shortleaf pine (*Pinus echinata*) ranging from 6 to 10 in. in diameter. Cedar trees are on the tract, primarily Eastern red cedar (*Juniperus virginiana*) and typically range from 4 – 12 in. in diameter. White oak (*Quercus alba*), post oak (*Q. stellata*),

and red oak (*Q. rubra*) make up the majority of hardwoods typically ranging from 6 – 12 in. in diameter. A select number of mature hardwoods on site have diameters ranging up to 18 in.

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 SSFO NEPA Form and consideration of the Purpose and Need statement prepared for this EA, the following elements will be addressed in this EA: Environmental Justice, Cultural/Paleontology, Native American Religious Concerns, Recreation, Visual Resources, Energy Policy, Minerals, Surface Protection, Hazardous Material, Soils, Air Quality, Water Quality, Floodplain, Wetlands/Riparian Zones, Invasive & Non-Native Spp., Wildlife/Botanical Spp., and T&E Wildlife/Botanical Spp.

Environmental Justice

No adverse human health and environmental effects will be anticipated that would encompass or affect minority and low-income populations in the area surrounding the well sites discussed in this EA. No homes will be directly impacted by well pad construction.

Cultural Resources:

Direct and indirect impacts to known Historic Properties listed, eligible for listing, or potentially eligible for listing on the National Register of Historic Places will not occur with this action as proposed. However, direct and indirect impacts to currently unknown sites may occur. Impacts may include destruction by ground disturbing activities associated with the military mission of the Arkansas National Guard, or the movement of surface artifacts through degradation processes. Direct and indirect impacts could lead to the total destruction of a site. If an unknown site is discovered through any aspect of this undertaking, and if activities causing disturbance to the site would cease until additional consultation among the SMA, the operator, the SHPO, Native Americans, other interested persons/agencies and the BLM occurs, adverse impacts to any potentially significant sites could be mitigated.

Native American Religious Concerns:

Direct and indirect impacts to known places used by Native Americans for religious activities will not occur, because none is known. However, if such a place is discovered or a place of

religious importance such as human remains, through activities associated with this action, and the condition of approval is followed, impacts would be mitigated.

Recreation/Visual/Noise Resources

The proposed well site is not near areas used for recreational purposes other than hunting from private landowner, nor is either this well site visible from any neighboring residences. There are six well pads within a mile radius with multiple wells on each pad but none affect the visual resources in the area nor affect noise levels for the community. Residences in the area are accustomed to seeing oil and gas activity with no known objections to BLM of such activity.

Because hunting is regulated by the state of Arkansas and wild game in Conway County is plentiful, hunting activities occur only at certain times of the year for each game species by state law. Hunting prohibitions for the well sites would be a short-term, direct impact while drilling but long-term impacts are not expected. Cumulative impacts to hunting wild game in this area should not occur.

Noise generation from well operations, would be associated with vehicle movements and the operation of production equipment. Impacts from noise on people and wildlife species inhabiting the areas are expected to be minimal and of occasional, short duration in case of required maintenance onsite.

Energy Policy/Minerals

Approving SEECO, Inc.'s APD would be keeping in line with BLM's responsibility for energy development and management. Approving the APD will ensure that the U.S. government resources are not drained from private drilling in the surrounding area and that production of natural gas provides the U.S. government with appropriate royalties. 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.

Wastes, Hazardous or Solid

With approval of an APD, the operations for drilling would typically generate the following wastes; (a) discharge of drilling fluids and cuttings into the reserve pits, (b) waste generated from used lubrication oils and hydraulic fluids, some of which may be characteristic of, or listed as, hazardous waste, and (c) service company wastes as well as some general trash. Certain wastes unique to the exploration, development, or production of crude oil and natural gas have been exempted from federal regulation 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 not generated as a part of a transportation or manufacturing operation. The drilling fluids, drill cuttings, and the produced waters are classified as a RCRA exempt waste, and the proposed action would not introduce any hazardous substance into the environment, if they are managed and disposed of properly under federal and state waste management regulations and guidelines. No cumulative impacts are anticipated to occur.

Soils

The action of constructing a well pad would have a direct, adverse impact on soils. These impacts would be limited to those areas where vegetation is removed and construction occurs.

The 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, flow line construction, and wind and water erosion. 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. Prompt cultivation and re-vegetation will be specified in BLM Surface Use Conditions of Approval (SUCOA) to minimize the loss of soil productivity. This would also prevent an increase of siltation into drainages or streams from run-off. Most disturbances have already taken place due to both wells pads are in production. Any further soil impacts would be limited to maintenance of the well site and vehicle traffic. No cumulative impacts would be anticipated to result from this action.

Air Quality

Air quality would be slightly affected locally by exploration, development and abandonment. Dust created during road and well site construction would increase suspended particulates in the air. However, this impact would be localized to the immediate vicinity of the well sites and flow line construction and would be of short duration. Dust from traffic and smoke and other emissions from vehicles and stationary engines used in drilling operations and flow line construction could increase air pollutants but again, these impacts would be localized and of short duration. Cumulative impacts to air quality should not occur with approval of this action.

Wetlands/Riparian Areas/Floodplains:

Any disturbances from drilling activities would avoid contamination and sedimentation into surrounding drains, creeks, streams, rivers, wetlands and/or springs. A small stream is located to the east and southeast of the proposed well site. It is approximately 355 feet away. The Operator will be required to use silt fencing and other erosion protective practices to minimize anything leaving the well pad before, during, and after construction. Due to the well site's location and BLM conditions for erosion control, the project is found to have no concern/issue in regards to its proximity to the small stream.

Water Quality, Surface/Ground:

Waste fluids associated with oil and gas operations could potentially have an adverse impact on surface and ground waters if allowed to leach into surface and ground water, possibly degrading water quality. SEECO, Inc. informed BLM and is stated in each APD that all drilling fluids will contained in tanks due to SEECO, Inc. using a "closed-loop" system and those tanks will be trucked off location and the fluid disposed of at an appropriate facility. No cumulative impacts are anticipated as a result of this action.

Invasive/Exotic Species

Surface disturbances can result in increased occurrence of invasive and exotic species. The Natural Resource Conservation Service (NRCS) provides guidelines for mulching, preparation,

and planting of vegetation during site restoration (NRCS 1999). Native species are preferred for site restoration. Because of unreliable and/or slow germination and establishment rates of native species, however, site restoration typically is accomplished with a mixture of native and nonnative species. The nonnative species are quickly established to provide erosion control and wildlife support and are slowly replaced by native species (both by species that have been planted and by those recruited).

A Surface Use Condition of Approval (SUCOA) regarding invasive species applies to this proposal and recommends the use of native grasses for re-vegetation efforts and requires post-construction monitoring for invasive species.

Special Status Species

No special status species (threatened, or endangered) are known to occur or expected to occur at the proposed site due to a lack of suitable habitat. BLM has determined that there should be “no affect” for the Florida panther, interior least tern, piping plover, and bald eagle by the proposed project.

Informal consultation was initiated with the USFWS regarding the proposed project. FWS responded on April 23, 2013 concurring with our determination of “no effect” for any endangered or threatened species in the region and stated that the project would not have any significantly adverse impacts on any non-listed species (Appendix C).

An information request was submitted to the ANHC to determine if they have any records of rare species in their database on or near the project site. ANHC responded on May 10, 2013 stating that they have no records in their database for rare species within 5 miles of the proposed site (Appendix C).

To ensure the conservation of listed animals and plants, SUCOAs regarding rare species apply to this proposal.

Wildlife and Vegetation

Some species may be affected by initial clearing of the area. In addition, the increased number of cleared acreage surrounding the proposed site for oil or gas projects has likely diminished less mobile species populations, such as reptiles or amphibians, in the area or forced more mobile species such as birds and mammals to move elsewhere. Wildlife use of the site after the well is put into production would vary depending on vegetation and successional stages. Once put into production the well pad would be reduced in size and the reserve pit area would be graded and seeded. The producing well site would be subject to regular maintenance and inspection. Wildlife use of the site is dependent on the adequacy of the restoration. Particular care should be given to ensure that erosion or other sediments from construction activities do not drain into Hog Branch which flows into Cedar Creek thence to Cadron Creek and ultimately to the Arkansas River.

No Action

There are no environmental impacts associated with the “No Action Alternative”. However, selection of that alternative would result in the loss of potential revenue from the proposed development of the gas well. Future drilling activities from private wells in the area could pose future issues of drainage of federal minerals. “No Action” decision would not allow the BLM to protect federal mineral interests from drainage of private wells around the BLM lease area.

Cumulative Impacts

Oil and Gas development does create impact that is cumulative as more development occurs. The cumulative impacts currently, though, are negligible since new disturbance from oil and gas development is minimal. The well site could have the possibility for more additional wells depending on SEECO’s future production plans. Having multiple wells on one pad will help curve cumulative impacts from oil and gas development. When a well site is no longer producing, it is plugged, abandoned, and surface is reclaimed, so no cumulative impacts are expected to occur due to oil and gas production from the well.

CH. 5 - LIST OF PERSONS CONSULTED

List of Preparers

Specialist Name

Title, Organization

Brian Kennedy

Physical Scientist, BLM

John Sullivan

Archeologist, BLM

Gary Taylor

Planning and Environmental Coordinator, BLM

Alison McCartney

Natural Resource Specialist

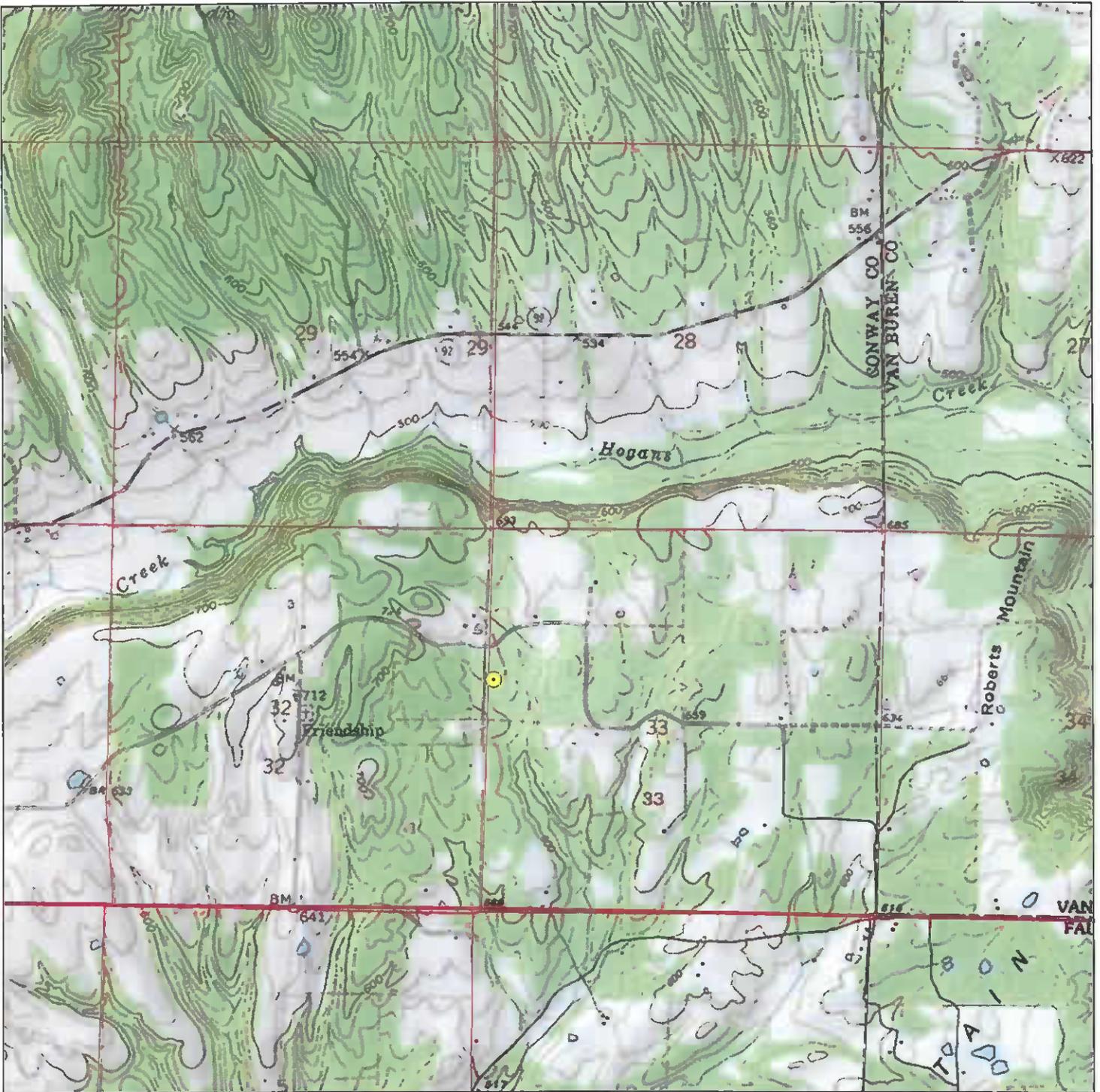
Faye Winters

Wildlife Biologist, BLM

APPENDIX A

Maps

Proposed Federal Oil & Gas Well
 Company: SEECO, Inc.
 Well Name: Mayfield 09-14 #5-33H34
 Conway County, Arkansas; T. 9N, R. 14W, Sec. 33; 5th Principal Meridian



Legend

 Proposed Well Location

Mayfield 09-14 #5-33H34:
 (T9N, R14W, Sec 33 - 2091' FNL & 63' FWL)



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



This map contains portions of the following USGS 1:24,000 Topographic Quadrangles: Bee Branch, Formosa, Damascus, and Springfield

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of this data for individual use or aggregate use with other data.

APPENDIX B

Surface Use Conditions of Approval

Bureau of Land Management's
Surface Use Conditions of Approval (SUCOA)

**Section 33, T. 9 N., R. 14 W., 5th Principal Meridian, Conway County, Arkansas on
BLM Lease ARES-54973**

Well: Mayfield 9-14 #5-33H34

1. If previously unknown sites of religious activities and previously unknown Native American burials are discovered during any ground disturbing activity or any part of this action, these activities will cease so that consultation with appropriate Native American groups will take place. The Authorizing Officer will tell the operator within five (5) working days when or if work may proceed.

2. The operator will avoid known cultural/historic sites during all construction and will be held responsible for informing all persons working at the drill site that they are subject to prosecution for knowingly disturbing human remains, historic or archaeological sites and for collecting artifacts (Archaeological Resources Protection Act of 1979, as amended [16 United States Code 470] [43 CFR 7.4]). If human remains, historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials and contact the BLM, the landowner, and the State Historic Preservation Officer (SHPO) (36 CFR 800.11(b)(3)). Within five working days, the BLM, in consultation with the landowner and the SHPO, will inform the operator as to options available and how/if operation in the area of the human remains, historic or archaeological material may proceed. In addition, if a previously unknown site is discovered, consultation with the Advisory Council on Historic Preservation and Native American groups may also be conducted before operations may proceed.

3. 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 should have been 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.

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 Best Management Practices 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).

4. The operator is required to take necessary measures to ensure that the final graded slopes are stabilized and to prevent the movement of soil from the pad area for the life of the project. Because of the short term nature of the project and to allow for complete decomposition, only all organic fibers including both the filler and web will be used to allow for complete decomposition. This could include the use of natural matting (jute, coconut fiber, etc.) on steeper slopes and/or use of silt fence at the toe of the slope, or additional mulching. No plastic or inorganic netting will be permitted. Silt fences and other sediment control objects must be maintained throughout the construction and initial phases of drilling and production. After seeding of natural grasses has taken hold to stop erosion of sediments off the pad location, such sediment control devices can be removed.

5. Any construction activities should, by using preventative measures, avoid drainage of fluids, sediments, and/or other contaminants from the well pad into any nearby water bodies or natural drainage areas off of the well pad location.

6. Equipment, fuels, and other chemicals will be properly stored to minimize the potential for spills to enter surface waters. Secondary containment will be provided for all containers stored on site.

7. For safety and protection to the surface and surrounding area, operator must keep the area clean of trash and other debris as much as possible to avoid damaging or contaminating the human and environmental health surrounding the well pad location.

8. No aerial application of herbicides or pesticides will be permitted. 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.

9. 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.

10. All power-lines 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)

11. 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.

12. Speed on all operator-constructed and maintained (non-public) roads is advised to be around 25 miles per hour or less to minimize the chance of a collision with migratory birds or other federally listed wildlife species. Slower speeds allow for more reaction time to reduce potential vehicular injuries to wildlife. *Note: BLM can only advise of slower speeds.*

13. Disturbed lands will be re-contoured back to conform to existing undisturbed topography. No depressions will be left that trap water or form ponds. The operator will be responsible for re-contouring of any subsidence areas that may develop from after closing of the pit.

14. To discourage the spread of invasive, non-native plants it is recommended that native cover plants in seeding mixtures be used during reclamation activities. Final seed mixtures will be formulated in consultation with the private landowner. Post-construction monitoring for cogon grass and other invasive plant species should be conducted to ensure early detection and control. If invasive species are found, the proper control techniques should be used to either eradicate the species from the area or minimize its spread to other areas. If cogon grass is found on site, equipment should be washed before exiting the site to prevent the spread of this highly invasive species to other locations.

Regarding invasive species, SEECO, Inc. will apply BLM's recommended use of native grasses for re-vegetation efforts. Before interim and final reclamation of the well site, SEECO, Inc. will contact BLM for recommended native seed mixtures to be planted. BLM will also require post-construction monitoring for invasive species.

15. Phased reclamation plans will be submitted to BLM for approval prior to abandonment via a Notice of Intent (NOI) Sundry Notice. Individual facilities, such as well locations, pipelines, discharge points, impoundments, etc. need to be addressed in these plans as they are no longer needed. BLM will inspect those reclamation actions submitted by the operator to ensure that the operator has met all reclamation goals of the BLM and surface owner. A Notice of Intent to Abandon and a Subsequent Report of Abandonment must be submitted for abandonment approval by BLM. Final Abandonment Notice will be filed at the end awaiting BLM's approval of final reclamation. After BLM's approval of final reclamation, operator can be relinquished of its obligations and responsibilities to the well site.

ARES 54973 BLM Lease Stipulations

(1) 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

(2) 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.

(3) 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

(4) 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.

APPENDIX C

Correspondence



United States Department of the Interior



FISH AND WILDLIFE SERVICE
110 S. Amity Road, Suite 300
Conway, Arkansas 72032
Tel: 501/513-4470 Fax: 501/513-4480

April 23, 2013

Alison McCartney
Bureau of Land Management
411 Briarwood Dr., Suite 404
Jackson, MS 39206

Dear Ms. McCartney,

The U.S. Fish and Wildlife Service (Service) has reviewed your e-mail from April 10, 2013, and the associated biological survey concerning the proposed construction of the Mayfield 9-14 5-33H34 well pad by Southwestern Energy Company near the city of Center Ridge, Conway County, Arkansas. Our comments are submitted in accordance with the Fish and Wildlife Coordination Act (FWCA; 16 U.S.C. 661-667e) and the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.).

The Service concurs with your determination that the proposed construction of the well pad will have no effect on any endangered or threatened species in the region, which includes the Florida Panther (*Felis concolor coryi*), Interior Least Tern (*Sterna antillarum athalassos*), and Piping Plover (*Charadrius melodus*), and would not have any significantly adverse impacts on any non-listed species. Florida Panthers have been extirpated from the state since the mid 1900's. Interior Least Terns and Piping Plovers are associated with the Arkansas and Red Rivers and other large bodies of water in Arkansas. They are unlikely to occur on this tract; the Arkansas River is over 18 miles away and there are no water bodies on the tract.

We appreciate your interest in the conservation of endangered species. If you have any questions, please contact the Erin Leone at (501) 513-4472 or Erin_Leone@fws.gov.

Sincerely,

Melvin Tobin
Deputy Project Leader



THE DEPARTMENT OF ARKANSAS
HERITAGE

Mike Beebe
Governor

Martha Miller
Director

Arkansas Arts Council

Arkansas Historic
Preservation Program

Delta Cultural Center

Mosaic Templars
Cultural Center

Old State House Museum

Historic Arkansas Museum



Arkansas Natural Heritage
Commission



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e-mail:
arkansas@naturalheritage.com
website:
www.naturalheritage.com

An Equal Opportunity Employer

Date: May 10, 2013
Subject: Elements of Special Concern
Mayfield 9-14 5-331134
Conway County, Arkansas
ANHC No.: F-BLM.-13-002

Ms. Alison McCartney
Bureau of Land Management
411 Briarwood Drive, Suite 404
Jackson, MS 39206

Dear Ms. McCartney:

Staff members of the Arkansas Natural Heritage Commission have reviewed our files for records indicating the occurrence of rare plants and animals, outstanding natural communities, natural or scenic rivers, or other elements of special concern within or near the following site:

<u>Project Name</u>	<u>County</u>	<u>Quad. Name</u>	<u>Location</u>
Mayfield	Conway	Bee Branch 7.5'	T9N/R14W/S33

We find no records at present time.

Conway and Van Buren County Element Lists are enclosed. Represented on these lists are elements for which we have records in our database. The lists have been annotated to indicate those elements known to occur within a one and a five mile radius of the project site. A legend is enclosed to help you interpret the codes used on these lists.

Please keep in mind that the project area may contain important natural features of which we are unaware. Staff members of the Arkansas Natural Heritage Commission have not conducted a field survey of the study site. Our review is based on data available to the program at the time of the request. It should not be regarded as a final statement on the elements or areas under consideration. Because our files are updated constantly, you may want to check with us again at a later time.

Thank you for consulting us. It has been a pleasure to work with you on this study.

Sincerely,

Cindy Osborne
Data Manager/Environmental Review Coordinator

Enclosures: Legend
Conway and Van Buren County Element Lists (annotated)



United States Department of the Interior
Bureau of Land Management



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

85829
BLM

IN REPLY REFER TO: 8160 (020) JMS
APD SEECO Mayfield 9-14 5-33H34

RECEIVED

APR 17 2013

April 10, 2013

BUREAU OF LAND MANAGEMENT

AHPP SFO

APR 19 2013

Ms. Cathie Mathews
State Historic Preservation Officer
1500 Tower Building
323 Center
Little Rock, AR 72201

Date 4/17/13
No known historic properties will be affected by this undertaking. This effect determination could change should new information come to light.

for Frances McSwain, Deputy State Historic Preservation Officer

Dear Ms. Matthews:

The Bureau of Land Management (BLM) has received an Application for Permit to Drill from SEECO, Inc. for Mayfield 9-14 5-33H34 in Conway County. The well pad, access road and connecting pipe line are on private surface. Areas of disturbance will include the well pad, access road and the connecting pipeline. The legal location of the proposed well pad is as follows (map included):

Fifth Principal Meridian
Conway County (Bee Branch, Formosa, Damascus, and Springfield Quadrangles)
T9N, R14W, Sec 33 - 2091' FNL & 63' FWL

The project area has been surveyed by Panamerican Consultants, Inc; their report should be on file at your office. No archaeological or historic properties were identified within the proposed project area.

The BLM accepts their report and will not require additional archeological work before approval of this permitting action. However, a stipulation covering accidental discovery and avoidance of known sites will be included as a condition of approval in the permitting documents.





Wed, Apr 24, 2013 4:27 PM

Conway County T19 R14W, Sec 33, Arkansas

Lisa LaRue-Baker - UKB THPO <ukbthpo-larue@yahoo.com>

Wed, Apr 24, 2013 at 2:07 PM

Reply-To: ukbthpo-larue@yahoo.com

To: john_m_sullivan@blm.gov

Cc: lstapleton@unitedkeetoowahband.org

mayfield APP

The United Keetoowah Band of Cherokee Indians in Oklahoma has reviewed your project under Section 106 of the NHPA, and at this time have no comments or objections. However, if any human remains are inadvertently discovered, please cease all work and contact us immediately.

Thank you,

Lisa C. Baker

Acting THPO

United Keetoowah Band of Cherokee Indians in Oklahoma

PO Box 746

Tahlequah, OK 74465

c 918.822.1952

ukbthpo-larue@yahoo.com

Please FOLLOW our historic preservation page and LIKE us on FACEBOOK

APPENDIX D

References

References Cited:

United States Department of Agriculture, Natural Resource Conservation Service.
<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

U.S. Fish and Wildlife Service (USFWS), Southeast Region.
<http://www.fws.gov/southeast/>

U.S. Fish and Wildlife Service (USFWS). 2002. Birds of Conservation Concern.

Hamel, P. 1992. The Land Manager's Guide to the Birds of the South.

Peterson, R. 1980. Birds of Eastern and Central North America.

Arkansas Department of Environmental Quality (ADEQ).
<http://www.adeq.state.ar.us/>

Arkansas Historic Preservation Program, State Historic Preservation Office.
<http://www.arkansaspreservation.com/>

FINDING OF NO SIGNIFICANT IMPACT/DECISION RECORD

FINDING OF NO SIGNIFICANT IMPACT

Based on the analysis of potential environmental impacts contained in the attached environmental assessment (EA), I have determined that the proposed action, with the mitigation measures and stipulations described under "Surface Use Conditions of Approval", will not have any significant impacts on the human environment, and an environmental impact statement (EIS) is not required.

DECISION RECORD

It is my decision to authorize the Mayfield 9-14 #5-33H34 APD submitted by SEECO, Inc. in Conway County, Arkansas to flow natural gas produced from BLM's federal oil and gas lease: ARES-54973. The APD was reviewed and accepted under NEPA guidelines and policy. The applicant's surface protection procedures, set forth in the proposed action, are included in the application and need not be formulated into stipulations. Measures identified for the proposed action in the environmental impact section of the EA have been formulated into "Surface Use Conditions of Approval" (SUCOA). SEECO, Inc. will adhere and follow said SUCOAs for the proposed APD as part of their permit's approval. This decision incorporates by reference those measures and conditions addressed in the EA for approval of the APD submitted to BLM by SEECO, Inc.

RATIONALE FOR DECISION

The decision to allow the proposed action does not result in any undue or unnecessary environmental degradation and is in conformance with applicable plans.

Authorized Officer: Bruce Dawson Date: 6/6/2013