

PTGW
ConocoPhillips
217817
San Juan 31-6 Unit #27F

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST *30-039-30246*

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

6590

Application Acronyms:

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]**
- [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]**
- [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]**
- [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]**
- [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]**
- [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]**

[1] **TYPE OF APPLICATION - Check Those Which Apply for [A]**

- [A] Location - Spacing Unit - Simultaneous Dedication
 NSL NSP SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
 DHC CTB PLC PC OLS OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR

[D] Other: Specify _____

2012 MAR 16 AM 10:28
 RECEIVED
 31-6-6W

[2] **NOTIFICATION REQUIRED TO: - Check Those Which Apply, or XX Does Not Apply**

- [A] Working, Royalty or Overriding Royalty Interest Owners
- [B] Offset Operators, Leaseholders or Surface Owner
- [C] Application is One Which Requires Published Legal Notice
- [D] Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Patsy Clugston

Print or Type Name

Patsy Clugston
 Signature

Sr. Regulatory Specialist

Title

3/15/12

Date

San Juan 31-6 Unit #27F
 API - 30-039-30246

Patsy.L.Clugston@conocophillips.com
 e-mail Address



3401 East 30th Street
Farmington, NM 87402

March 15, 2012
Sent Overnight UPS

New Mexico Oil Conservation Division
NSL Examiner
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: San Juan 31-6 Unit #27F; NSL application for Mancos Pool
UL K (NESW), 1940' FSL & 2175' FWL, Sec. 28, T31N, R6W
API – 30-039-30246

Dear Sir:

This is a request for administrative approval for a non-standard gas well location in the Basin Mancos Pool. The proposed San Juan 31-6 Unit #27F was originally staked as a commingled MV/DK well and a decision was made to also add the Mancos pool, see sundry attached dated 3/14/12. The placement of this well is non-standard for the Mancos pool per Order R-12984 because a Mancos Participating Area (PA) does not exist in this unit. Both the Mesaverde and the Dakota are within a PA therefore both are considered standard locations as per Order R-10987-A (1) for Mesaverde and Order R-10987-B (2) for Dakota. The well was staked with the bottomhole closer than 660' from the half section line therefore it is considered non-standard in the Mancos pool.

The San Juan 31-6 Unit 27F surface location was selected due to existing topography, archaeology and wildlife. As identified in the attached Environmental Assessment, this area lies within the BLM's La Jara ACEC (area of critical environmental concern) which is considered to be a Cultural Resource Area. This area is also part of the BLM's Rose Mesa Wildlife Area. All of these issues were taken into consideration with the placement of the well. Production from the Basin Dakota, Basin Mancos and Blanco Mesaverde are included in the 320.00 acre gas spacing unit W2 Section 28, T31N, R6W.

To comply with the New Mexico Oil Conservation Division rules, we are submitting the following to help with your decision process:

1. Approved APD cover page and sundry adding the Mancos formation and its C102 plat
2. 9 Section Plat showing wells in the area
3. Offset Operator plat for Section 28, T31N, R6W
4. Topo and aerial maps showing the location of the well
5. Copy of the BLM required Environmental Assessment

Since there are no Mancos wells in the east half of section 28, there is not an offset operator. Burlington Resources owns 100% leasehold in the Mancos in the offset half section; therefore no notification was required on this NSL application. Please let me know if you have any questions about this application by calling me at 505-326-9518.

Respectfully,

Patsy Clugston
Sr. Regulatory Specialist



3401 East 30th Street
Farmington, New Mexico 87402

San Juan 31-6 Unit #27F
UL K (NESW), 1940' FSL & 2175' FWL,
Section 28, T31N, R6W
API – 30-039-30246

I hereby certify that ConocoPhillips owns 100% leasehold in the Mancos in all offset half section,
therefore no notification is required.

A handwritten signature in cursive script that reads "Patsy Clugst".

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	RECEIVED BLM 210 FARMINGTON NM	5. Lease Number SF-078995
1b. Type of Well GAS		Unit Reporting Number NMNM-78421B-DK NMNM-78421A-MV
2. Operator ConocoPhillips		6. If Indian, All. or Tribe
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87408. DIV. DIST. 3 (505) 326-9700	RECEIVED JUN 2010 1819202122232425262728293031 123456789101112131415161718	7. Unit Agreement Name San Juan 31-6 Unit
4. Location of Well Unit K (NESW), 1940' FSL & 2175' FWL, Latitude 36° 52.1174 N Longitude 107° 28.1480 W		8. Farm or Lease Name
		9. Well Number #27F
		10. Field, Pool, Wildcat Blanco MV/Basin DK
		11. Sec., Twn, Rge, Mer. (NMPM) Sec. 28, T31N, R6W API # 30-039-30246
14. Distance in Miles from Nearest Town 48 miles/Blanco		12. County Rio Arriba
		13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 1940'		
16. Acres in Lease		17. Acres Assigned to Well DK & MV - 320 - (W/2)
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease		
19. Proposed Depth 8130'		20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6494' GL		22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Rhonda Rogers</u> Rhonda Rogers (Regulatory Technician)		<u>4-13-07</u> Date

PERMIT NO. _____ APPROVAL DATE _____
 APPROVED BY [Signature] TITLE AFM DATE 6/22/2010

Archaeological Report attached
 Threatened and Endangered Species Report attached
 NOTE: This format is issued in lieu of U.S. BLM Form 3160-3
 Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or presentations as to any matter within its jurisdiction.

**NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT**

Example Master Plan Type 3

NMOCD
 JUL 06 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

1. Type of Well: GAS
2. Name of Operator: ConocoPhillips
3. Address & Phone No. of Operator: PO Box 4289, Farmington, NM 87499 (505) 326-9700
4. Location of Well, Footage, Sec., T, R, M: Surface: Unit K (NESW), 1940' FSL & 2175' FWL, Section 28, T31N, R6W, NMPM
5. Lease Number: SF-078995
6. If Indian, All. or Tribe Name
7. Unit Agreement Name: San Juan 31-6 Unit
8. Well Name & Number: San Juan 31-6 Unit 27F
9. API Well No.: 30-039-30246
10. Field and Pool: Blanco MV/Basin DK/ Basin Mancos
11. County and State: Rio Arriba, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Table with columns: Type of Submission, Type of Action, and checkboxes for various actions like Abandonment, Recompletion, Plugging, etc.

13. Describe Proposed or Completed Operations

ConocoPhillips Company would also like to complete the Basin Mancos formations and trimingle production on this well (DK/MV/Mancos). Attached is a new plat that includes the Basin Mancos and C107A will be submitted and approval received before the well is commingled.

14. I hereby certify that the foregoing is true and correct.

Signed: Arleen Kellywood, Title: Staff Regulatory Technician, Date: 3/14/12

(This space for Federal or State Office use)

APPROVED BY: _____ Title: _____ Date: _____

CONDITION OF APPROVAL, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

DISTRICT I
1625 N. Franch Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised October 12, 2005

DISTRICT II
1301 West Grand Avenue, Artesia, N.M. 88210

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-		*Pool Code 72319/71599/97232	*Pool Name BLANCO MESAVERDE/BASIN DAKOTA/BASIN MANCOS
*Property Code 31328	*Property Name SAN JUAN 31-6 UNIT		*Well Number 27F
*OGRID No. 217817	*Operator Name CONOCOPHILLIPS COMPANY		*Elevation 6494'

¹⁰ Surface Location

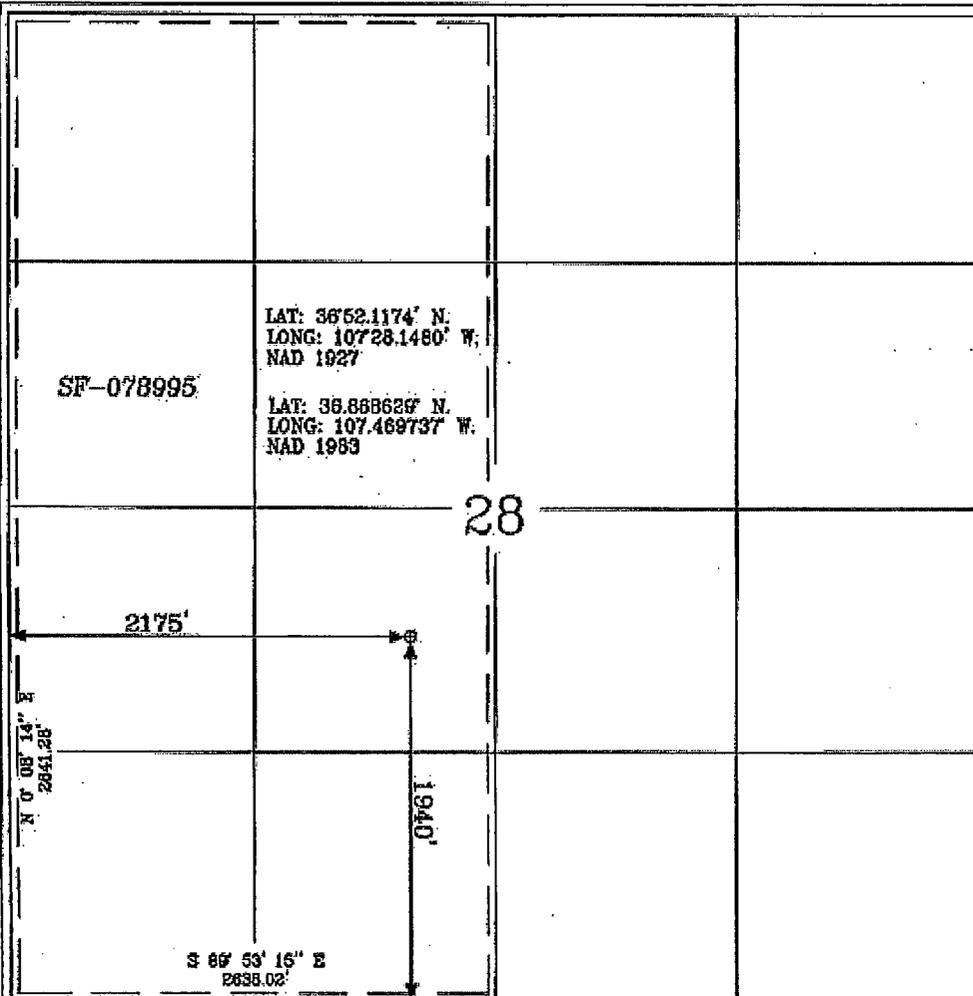
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	28	31-N	6-W		1940'	SOUTH	2175'	WEST	RIO ARRIBA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
*Dedicated Acres MV/DK/MC 320 W/2			*Joint or Infill		*Consolidation Code		*Order No.		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16



¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or a working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Arleen Kellywood 3/1/12
Signature

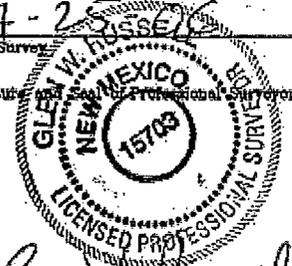
Arleen Kellywood
Printed Name

¹⁸ SURVEYOR CERTIFICATION

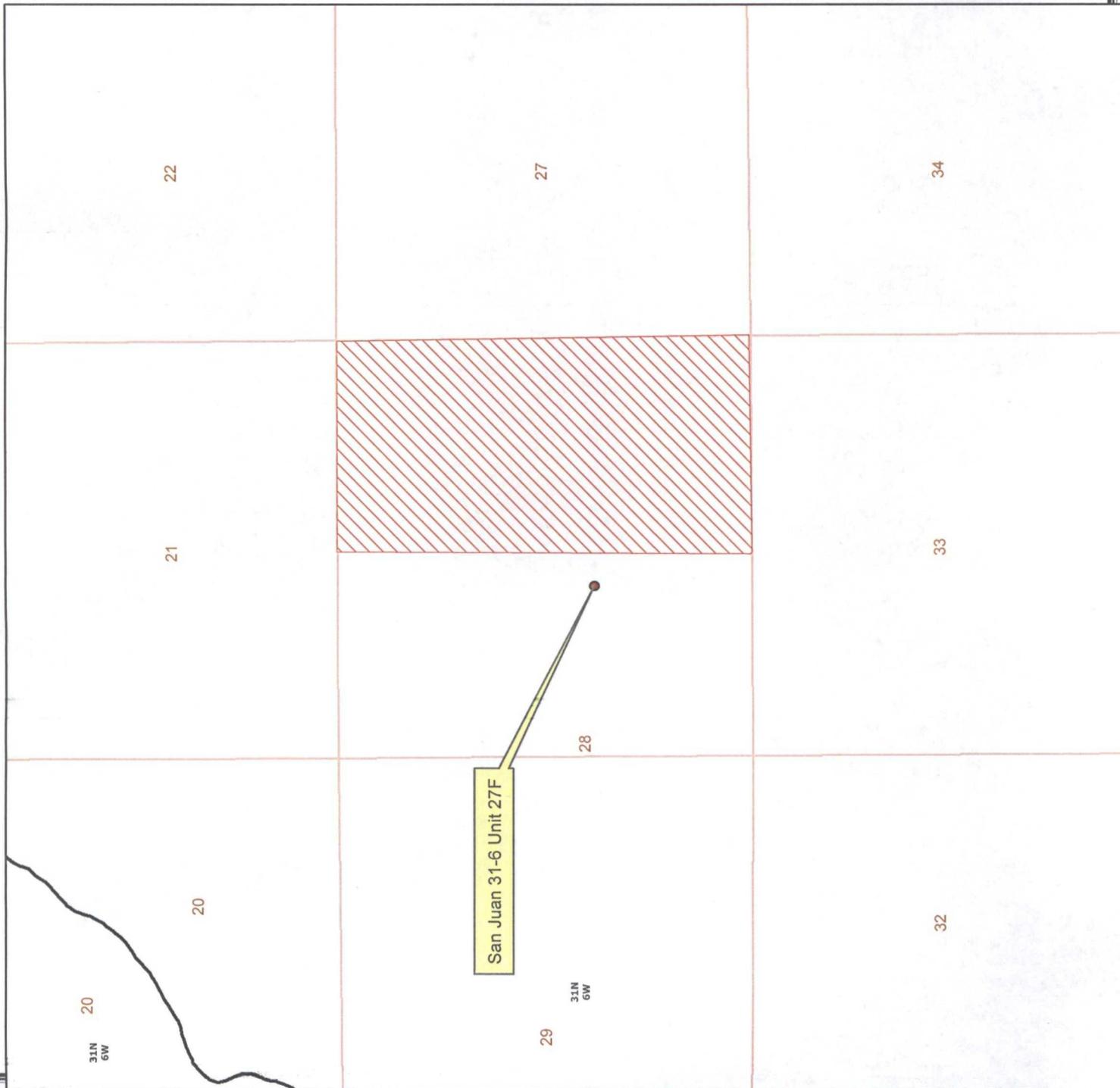
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true, and correct to the best of my belief.

7-25
Date of Survey

Signature: *Glen W. Russell*
Professional Surveyor



Glen W. Russell
Certificate Number 15703



Legend

Mancos Offset.shp
SJ 31-6 Unit 27F.shp



No offset Operator. No existing Mancos wells in the E/2 of Section.

COPC owns 100% leasehold below the base of the Mesaverd



1:21,266 - 1" = 1,772'
GCS Assumed Geographic 1



ConocoPhillips
© Unpublished Work, ConocoPhillips

San Juan 31-6 Unit 27F
Sec. 28, T31N, R6W
Offset Plat

Author: Richard Davis	Date: 3/14/2012
Compiled by: Project\Phillips\Projects\and_Template\Template_1.mxd	Scale:

31N
6W

20

21

22

29

31N
6W

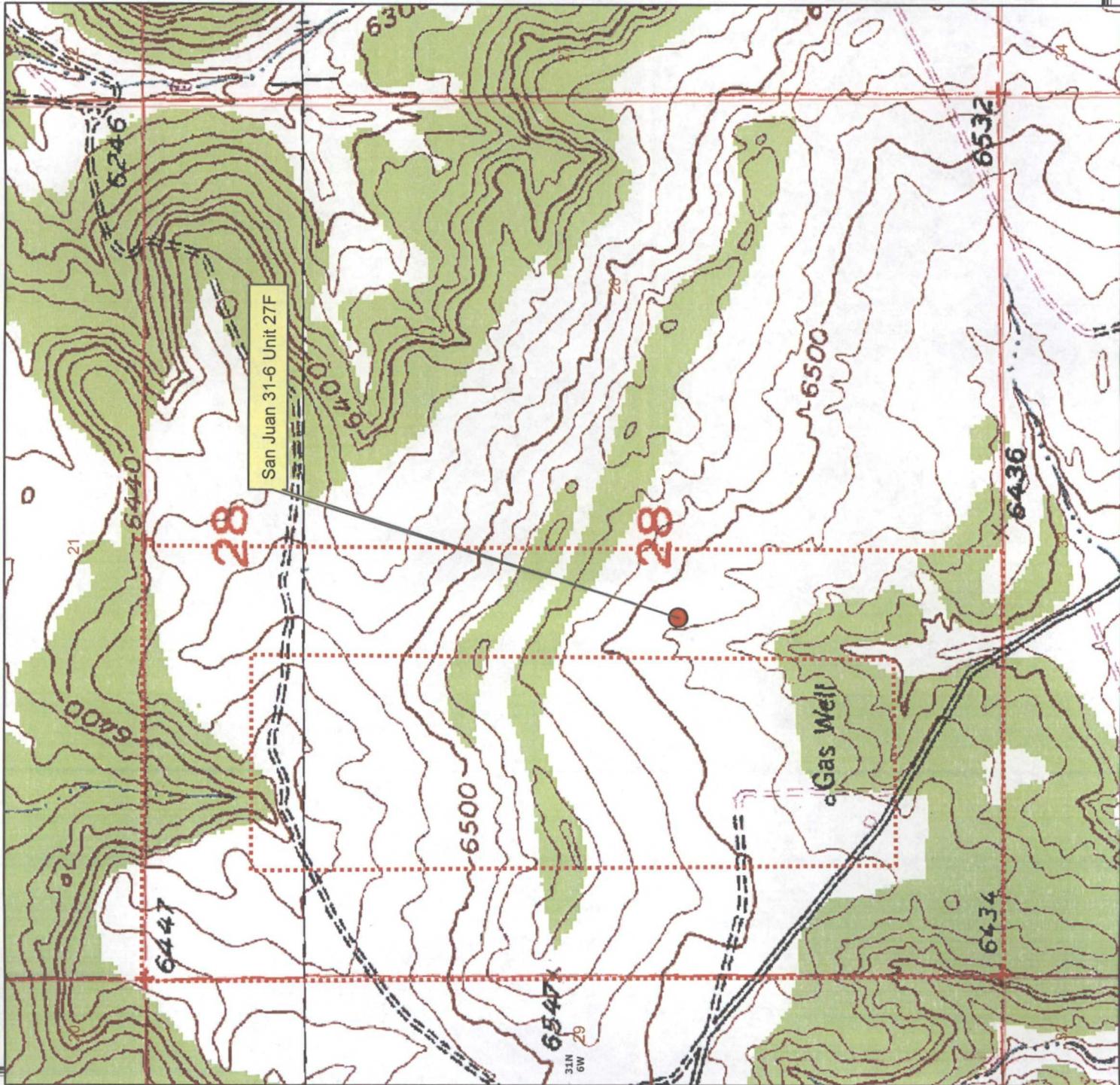
28

27

32

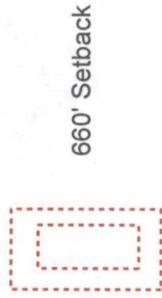
33

34

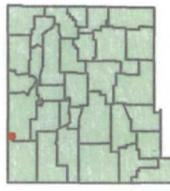
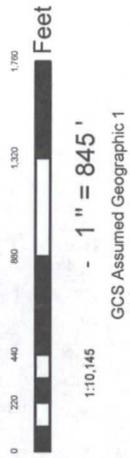


Legend

SJ 31-6 Unit 27F.shp



COPC owns 100% leasehold below the base of the Mesaverde



ConocoPhillips
© Unpublished Work, ConocoPhillips

San Juan 31-6 Unit 27F
Sec. 28, T31N, R6W
1940' FSL, 2175' FWL
Topographic Plat

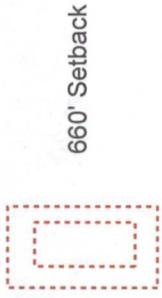
Author:	Richard Davis	Date:	3/14/2012
Compiled by:		Scale:	
ProjectPath\Davis\Projects\Land_Template\Template_1.mxd			



Legend



SJ 31-6 Unit 27F.shp



COPC owns 100% leasehold below the base of the Mesaverd



1:10,145 - 1" = 845'
GCS Assumed Geographic 1



ConocoPhillips
© Unpublished Work, ConocoPhillips

San Juan 31-6 Unit 27F
Sec. 28, T31N, R6W
1940' FSL, 2175' FWL
Aerial Plat

Author: Richard Davis	Date: 3/14/2012
Compiled by: ProjectFile\rdavis\Projects\Land_Template\Template_1.mxd	Scale:

**BUREAU OF LAND MANAGEMENT
FARMINGTON FIELD OFFICE**

**ENVIRONMENTAL ASSESSMENT
FOR**

**ConocoPhillips Company
San Juan 31-6 Unit #27F**

210-07-

March 2007

1.0 Introduction

A representative of ConocoPhillips Company (COPC) filed an Application for a Permit to Drill (APD) with the BLM for the well pad, access road, and well-tie pipeline San Juan 31-6 Unit #27F. The proposed project is located in the NESW/4 of Section 28, Township 31 North, Range 6 West, in Rio Arriba County, New Mexico.

This site-specific analysis tiers into and incorporates by reference the information and analysis contained in the Farmington Proposed Resource Management Plan Final Environmental Impact Statement (PRMP/FEIS). This project EA addresses site-specific resources and/or impacts that are not specifically covered within the PRMP/FEIS, as required by the National Environmental Policy Act of 1969 (NEPA), as amended (Public Law 91-90, 42 U.S.C. 4321 et seq.).

1.1 Purpose and Need

The purpose for the proposal is to define and produce natural gas or oil on one or more valid federal or Indian oil and gas mineral leases issued to the applicant by the BLM. It is the policy of the BLM to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs. The Mineral Leasing Act of 1920 (MLA), as amended [30 USC 181 et seq.], authorizes the BLM to issue oil and gas leases for the exploration of oil and gas and permit the development of those leases. The existing lease is a binding legal contract that allows development of the mineral by the holder. An approved Application for Permit to Drill (APD), issued by the BLM, would authorize the applicant to construct and drill the proposed well.

1.2 Conformance with Applicable Land Use Plan and Other Environmental Assessments

Pursuant to 40 Code of Federal Regulations (CFR) 1508.28 and 1502.21, this site-specific environmental assessment (EA) tiers to and incorporates by reference the information and analysis contained in the Farmington Proposed Resource Management Plan/Final Environmental Impact Statement [(PRMP/FEIS) BLM 2003a], which was approved as the Final Resource Management Plan for the Farmington Field Office (FFO) of the BLM by the Record of Decision (ROD) signed September 29, 2003 (BLM 2003b). The PRMP/FEIS and ROD are available for review at the FFO, Farmington, New Mexico. This EA addresses the resources and impacts on a site-specific basis as required by the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-90, 42 USC 4321 et seq.). The proposed action would be located in the BLM/FFO designated La Jara Area of Critical Environmental Concern (ACEC). The RMP allows for oil and gas development in the ACEC (BLM 2003b, p.C-8). The proposed project would not be in conflict with any local, county, or state plans.

1.3 Federal, State or Local Permits, Licenses or Other Consultation Requirements

Under Section 402 of the Clean Water Act (as amended), the U.S. Environmental Protection Agency (EPA), was directed to develop a phased approach to regulate storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. Industrial activities disturbing land may require permit coverage through a NPDES storm water discharge. Depending on the acreage disturbed, either a Phase I industrial activity (five or more acres disturbance) or a Phase II small construction activities (between one and five acres disturbance) permit may be required. Additionally, an U.S. Army Corps of Engineers Section 404 permit for the discharge of dredge and fill materials may also be required. Operators are required to obtain all necessary permits and approvals prior to any disturbance activities.

Farmington Field Office staff reviewed the proposed action and determined it would be in compliance with threatened and endangered species management guidelines outlined in the September 2002 Biological Assessment (Cons. #2-22-01-I-389). No further consultation with the U.S. Fish and Wildlife Service is required.

Compliance with Section 106 responsibilities of the National Historic Preservation Act are adhered to by following the BLM – New Mexico SHPO protocol agreement, which is authorized by the National Programmatic Agreement between the *BLM*, the *Advisory Council on Historic Preservation*, and the *National Conference of State Historic Preservation Officers*, and other applicable BLM handbooks..

Additionally, the Operator is required to:

- Comply with all applicable Federal, State and Local laws and regulations.
- Obtain the necessary permits for the drilling, completion and production of these wells including water rights appropriations, the installation of water management facilities, water discharge permits, and relevant air quality permits.
- Certify that a Surface Use Agreement has been reached with private landowners where required.

2.0 Alternatives Including the Proposed Action

2.1 Alternative A - No Action

The BLM NEPA Handbook (H-1790-1) states that for Environmental Assessments (EAs) on externally initiated proposed actions, the No Action Alternative generally means that the proposed activity will not take place. This option is provided in 43 CFR 3162.3-1 (h) (2). This alternative would deny the approval of the proposed application, and the current land and resource uses would continue to occur in the proposed project area. No mitigation measures would be required.

2.2 Alternative B Proposed Action

COPC proposes to construct a well pad, access road, and well-tie pipeline in order to drill and develop federal minerals in the Blanco Mesaverde and Basin Dakota formations. Access to the proposed San Juan 31-6 Unit #27F well location will be gained by traveling north from US 64 near Gobernador, NM along NM 527 (Simms Mesa Highway) for 8.0 miles, then turning right on Rosa Road and traveling 6.6 miles, and lastly turning left and traveling 4.6 miles to the proposed action. This project is on federal land with federal minerals. The proposed location is within the La Jara ACEC (BLM 2003b, pg. C-8). Refer to maps in Section 7.3 (page 25) for more detail.

The well pad would be 230' X 300' with an additional 50 foot construction buffer zone on all four sides of the well pad. The well pad would require between 4 and 11 feet of cut on the east side and between 3 and 12 feet of fill on the west side of the location. Corners #2, #5, and #6 would be rounded to avoid excess disturbance. A silt trap would be required above the cut slope within the construction zone to control erosion. The construction buffer zones may be used to stockpile topsoil or vegetative material that will be utilized later during reclamation. With the construction zones, new surface disturbance from the well location would be approximately 3.03 acres.

Runoff will be diverted around the well site. A diversion ditch would need to be constructed above the cuts on the east side of the location draining away from the pad.

A 300' access road would be needed to access the proposed location. The proposed access road would disturb 0.21 acres. Culverts 18" minimum in diameter will be placed in low areas where necessary. Small silt traps would be constructed above culverts. The surfacing and repair of deteriorated sections of the existing access roads may also be required.

If the well is productive, a well-tie pipeline will be needed to transport produced gas. The pipeline is proposed to be approximately 377' in length within a 40' wide construction area. Approximately 207' of the length would overlap the proposed well pad. Potential new disturbance would be approximately 0.16 acres.

Construction of the well-tie pipeline would consist of digging a trench with excavation equipment such as a wheel-ditcher or backhoe, laying pipe, and back filling the trench. A 4.5-inch carbon steel pipeline manufactured to American Petroleum Institute 5L specifications will be used. The wall thickness of the pipe would be .156". The pipe wall strength would be 42,000 pounds per square inch (PSI).

Production equipment used during the life of the well may include a 3-phase separator - dehydrator, a meter run, 400-barrel tanks and/or smaller fiberglass or galvanized tanks for water disposal. It is also likely that a compressor will be placed on the location during the life of the well. The use of compressors provides an increase in the economic life of the well, increases the ultimate recovery of gas from low-pressure reservoirs and prevents waste of the gas resource.

For a detailed description of design features and construction practices associated with the proposed action, refer to the APD (attached as Appendix 7.1). Also see the subject APD for maps showing the proposed well locations and associated facilities described above. Implementation of committed

mitigation measures contained in the Conditions of Approval (COAs), also listed in Appendix 7.1, are incorporated and analyzed in this alternative.

Table 2.2 – Proposed Well Information

Well Name	Well Number	Township	Range	Section	Footages in Section	Lease Number	Date Lease Issued
San Juan 31-6 Unit	#27F	31N	6W	28	1940 FSL 2175 FWL	NMSF 078995	02.01.1949

County: Rio Arriba

Applicant: ConocoPhillips Company

Surface Owner: Bureau of Land Management

2.3 Alternative C

In order to mitigate disturbances within the La Jara ACEC, the proposed well could be relocated outside of the ACEC and directionally drilled to the targeted bottom hole location. The nearest alternative location outside of the ACEC would be offset 1,300 feet northeast of the proposed location in the SWNE/4 of Section 28. The next closest alternative location outside of the ACEC would require 2,400 feet of offset and would be difficult to directionally drill due to this large offset. Refer to maps in Section 7.3 (page 25) for more detail.

Disturbance associated with the well pad would be similar to or greater than the proposed well pad (Alternative B) as the topography is rougher at the Alternative C location. The access road for Alternative C would be approximately 1,200', or 900' longer than Alternative B. The pipeline would likely tie-in at the existing access road. The pipeline would be approximately 1,400' long or approximately 1,000' longer than the proposed pipeline. Total surface disturbance for Alternative C would be approximately 4.48 acres, or 1.08 acres greater than that of Alternative B.

Alternative C would be located on State of New Mexico Department of Game and Fish land. Alternative C would be on the same lease as Alternative B. Other than those differences listed above, Alternative C mitigation measures and construction and production specifics would be similar to those described for Alternative B in section 2.2.

2.4 Alternatives Considered But Not Analyzed In Detail

During the onsite inspection of the proposed location 3.3.23, the alternative of twinning the proposed well with the existing San Juan 31-6 Unit #229R was discussed. It was determined that

3.0 Description of Affected Environment

This section describes the environment that would be affected by implementation of the alternatives described in Section 2. Aspects of the affected environment described in this section focus on the relevant major resources or issues. Certain critical environmental components require analysis under BLM policy. These items are included below in Table 3.0. Following the table, only the aspects of the affected environment that are potentially impacted are described.

Table 3.0 – Affected Environment and Basis for Determination No Further Analysis

Resource	Located in Project Area	Not in Project Area	Further Analysis Presented in Text	Basis for Determination
CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT				
Air Quality	X		X	
Areas of Critical Environmental Concern	X		X	Alternative B would be located in the La Jara ACEC (Cultural)
Cultural Resources	X		X	Alternative B would be located in the La Jara ACEC (Cultural)
Native American Religious Concerns		X		A review of existing information indicates the project is outside any known Traditional Cultural Property.
Environmental Justice		X	X	
Farmlands, Prime or Unique		X	X	
Floodplains *		X	X	
Invasive, Non-native Species		X	X	
Threatened or Endangered Species		X	X	
Wastes, Hazardous or Solid		X	X	
Water Quality - Surface/Ground	X		X	
Wetlands/Riparian Zones		X	X	
Wild and Scenic Rivers		X		There are no Wild and Scenic Rivers in Farmington Field Office no indirect effects are projected outside the FFO.
Wilderness		X		Project is approximately 30 miles from the nearest Wilderness Area or Wilderness Study Area. No indirect effects are projected.
NON-CRITICAL ELEMENTS				
General Topography/Surface Geology	X		X	
Mineral Resources	X		X	
Paleontology		X	X	
Soils	X		X	
Watershed/Hydrology	X		X	
Vegetation, Forestry	X		X	

Resource	Located in Project Area	Not in Project Area	Further Analysis Presented in Text	Basis for Determination
Livestock Grazing	X		X	
Wild Horse and Burros		X	X	
Wildlife	X		X	
Special Status Species		X	X	
Visual Resources	X		X	
Recreation	X		X	
Public Health and Safety		X	X	

3.1 Air Quality

Air quality in the San Juan Basin is affected both by nearby industry and by natural terrain. The primary sources of air pollutants in the basin are from electrical power generation plants, oil/gas refineries and treating facilities and compressor stations. Additional air quality impairment results from the cumulative impact of area motor vehicle emissions and dust, and natural gas well pads. Since the San Juan Basin is a natural depression, air masses sometimes stagnate from lack of circulation resulting in diminishing air quality. The New Mexico Air Quality Bureau (NMAQB) is responsible for enforcing the state and national ambient air quality standards in New Mexico. Any emission source must comply with the NMAQB regulations (USDI, BLM 2003b).

The project area lies within the Four Corners Interstate Air Quality Control Region. Initial cumulative air quality analysis was conducted in the final EIS for the Proposed Farmington Resource Management Plan (USDI, BLM 2003a). At the present time, the counties that lie within the jurisdictional boundaries of the FFO are classified as in attainment of all state and national ambient air quality standards as defined in the Clean Air Act of 1972, as amended (USDI, BLM 2003b). However, during the summers of 2000 through 2002, ozone levels in San Juan County were approaching non-attainment. Additional modeling and monitoring was conducted by Alpine Geophysics, LLC and Environ International Corporations, Inc., in 2003 and 2004. Results of the modeling suggest the episodes recorded in 2000 through 2002 were attributable to regional transport and high natural biogenic source emissions. The model also predicted that the region will not violate the ozone NAAQS through 2007 and that the trends in the 8-hr ozone values in the region are declining. There is no indication at this time that the approval of any of the action alternatives would result in a violation of ambient air quality standards.

3.2 Areas of Critical Environmental Concern (ACECs)

Alternative B would be located in the La Jara ACEC. The La Jara ACEC is managed to provide proactive, long-term protection and preservation of the cultural and natural resources, which are necessary for the educational, cultural, heritage, architectural, historic and other values contained within the FFO. There are approximately 1,769 acres within the boundary of the La Jara ACEC, of which 1,045 acres are public lands (BLM) and 1,764 acres contain federal minerals. There are approximately 22 existing natural gas wells, with associated pipelines, and 5.8 miles of access road within the boundaries of the ACEC. Management prescriptions for the La Jara ACEC allow for the development of existing oil and gas leases under a controlled surface use constraint (BLM 2003b, p. C-8).

3.3 Cultural Resources

Cultural or historic values are normally considered within the realm of the National Historic Preservation Act (NHPA) of 1966 (PL 89-665), as amended. The NHPA requires that federal agencies take into account the effect of federal undertakings upon "historic properties" and ensure that proposed land uses, initiated or authorized by BLM, avoid inadvertent damage to federal and non-federal "historic properties".

The protection and potential criminal or administrative penalties for disturbing without authorization important cultural or historic sites, also known as "archaeological resources", is governed by the Archaeological Resources Protection Act (ARPA) of 1979 (PL 96-95), as amended. The identification of "historic properties" and "archaeological resources" is normally completed with field inventories or through reference to existing records.

A level III inventory was conducted on the proposed project (Alternative B) and no cultural or historical sites were located. No cultural resources inventory has been conducted for Alternative C. If Alternative C was developed, a level III inventory would need to be conducted prior to any construction activities. If as a result of the inventory it was determined that cultural or historic sites would be damaged or disturbed, then Alternative C, in its present form, would cease to be a viable alternative.

Alternative B would be located in the La Jara ACEC (see Section 3.2 above). The La Jara ACEC was designated to provide proactive, long-term protection and preservation of the cultural resources in the ACEC. Management prescriptions have been developed to achieve this and include:

1. Manage existing oil and gas leases under Controlled Surface Use constraint.
2. Apply Controlled Surface Use constraint to new oil and gas leases.
3. Close to all other forms of mineral entry.
4. Acquire non-federal surface and easement.
5. New ROWs will be placed within existing ROW corridors. Coordinate with ROW holders on maintenance and use of ROWs.
6. Designate as Limited OHV Area and close identified roads.
7. Designate as a Class II VRM Area.
8. Restrict surface disturbing activities to identified areas to minimize disturbance and impacts.
9. Prepare and implement CRMP.
10. Complete Class III inventory.
11. Promote and continue research under Regional Research Design.
12. Include in FFO Patrol and Surveillance Program.
13. Continue current permitting for livestock grazing.
14. Land ownership not available for disposal.

3.4 Native American Religious Concerns

American Indian religious concerns are legislatively considered under several acts and Executive Orders, namely the American Indian Religious Freedom Act of 1978 (PL 95-341), the Native American Graves Protection and Repatriation Act of 1990 (PL 101-601), and Executive Order 13007 (1996; Indian Sacred Sites).

A review of existing information compiled during previous land use planning efforts, existing studies, or via direct consultation indicates the action alternatives are not within a known Traditional Cultural Property.

3.5 Environmental Justice

Executive Order 12898 requires federal agencies to assess projects to ensure there is no disproportionately high or adverse environmental, health, or safety effects on minority and low-income populations. Minorities comprise a large proportion of the population residing inside the boundaries of the Farmington Field Office (see pages 3-106 to 3-107 of the PRMP/FEIS for more details on ethnicity and poverty rates).

3.6 Farmlands, Prime or Unique

Several of the watersheds within the Farmington Field Office boundaries have some soils meeting the definition of prime farmland, all of which must be irrigated to produce high quality crops (BLM 2003a, pg 3-19).

None of the action alternatives would be located within soil units known to contain prime or unique farmlands (BLM 2003a, pg 3-22).

3.7 Floodplains

A review of the BLM GIS data on active and 100-year floodplains (derived from Federal Emergency Management Agency floodplain maps) indicates the action alternatives (Alternatives B&C) are not located within any designated floodplains.

3.8 Invasive, Non-native Species

The objective of the Farmington Field Office weed management program is to detect invasive plant species populations, prevent the spread of new invasive populations, manage existing populations using the tools of integrated weed management and eradicate invasive populations, using the safest environmental methods available. For all actions on public lands that involve surface disturbance or rehabilitation, reasonable steps would be required to prevent the introduction or spread of noxious weeds, including requirements for using weed seed-free hay, mulch and straw.

No invasive or noxious weeds encountered during the onsite inspection of the Alternative B location. Field inspection of the Alternative C location has not been made. Potential exists for non-native weeds to be present along the existing access road and pipeline ROW. BLM GIS data of known invasive or noxious weed populations indicate no known weed populations to be in or nearby the area of the action alternatives.

3.9 Threatened or Endangered Species

Under Section 7 of the Endangered Species Act of 1973 (as amended), the BLM is required to consult with the U.S. Fish and Wildlife Service on any proposed action which may affect federal listed threatened or endangered species or species proposed for listing. FFO reviewed and determined the action alternatives are in compliance with listed species management guidelines outlined in the September 2002 Biological Assessment (Cons. #2-22-01-I-389). No further consultation with the Service is required.

Table 3.9 – Species listed by the United States Fish and Wildlife Service (USFWS) under the authority of the Endangered Species Act of 1973, with potential to occur in Rio Arriba County.

Common Name (scientific name)	Status*	Habitat Associations	Presence**
MAMMALS			
Black-footed ferret (<i>Mustela nigripes</i>)	E	Open grasslands with year-round prairie dog colonies.	NP
BIRDS			
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	E	Breeds in dense, shrubby riparian habitats, usually in close proximity to surface water or saturated soil.	NP
Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Nests in forested areas adjacent to large bodies of water.	NP
Least tern (<i>Sterna antillarum</i>)	E	Breeds on sandbars or sandy shorelines or perennial rivers, lakes, and reservoirs and forages over open waters.	NP

Common Name (scientific name)	Status*	Habitat Associations	Presence**
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	T	Nests in caves, cliffs, or trees in steep-walled canyons of mixed conifer forests.	NP
FISH			
Rio Grande silvery minnow (<i>Hybognathus amarus</i>)	E	Perennial reaches of the Rio Grande and Pecos Rivers	NP

Sources: New Mexico Natural Heritage Program 2005, NM Rare Plant 1999, USFWS 2005

Status*

E = Federally listed Endangered; T = Federally listed Threatened

Presence**

K = Known, documented observation within project area.

S = Habitat suitable and species suspected to occur within the project area.

NS = Habitat suitable but species is not suspected to occur within the project area.

NP = Habitat not present and species unlikely to occur within the project area.

3.10 Wastes, Hazardous or Solid

The Resource Conservation and Recovery Act (RCRA), passed in 1976, established a comprehensive program for managing hazardous wastes from the time they are produced until their disposal. U.S. Environmental Protection Agency (EPA) regulations define solid wastes as any "discarded materials" subject to a number of exclusions. A "hazardous waste" is a solid waste that is: (1) is listed by the EPA as a hazardous waste, (2) exhibits any of the characteristics of hazardous wastes (ignitability, corrosivity, reactivity, or toxicity or (3) is a mixture of solid and hazardous waste. A 1980-amendment to RCRA conditionally exempts from regulation as hazardous wastes, "drilling fluids, production waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas". On July 6, 1988, EPA determined that oil and gas exploration, development and production (ED&P) wastes would not be regulated as hazardous wastes under RCRA. A simple rule of thumb was developed for determining if an ED&P waste is likely to be considered exempt or non-exempt from RCRA regulations: If (1.) the waste came from down-hole, or (2.) the waste was generated by contact with the oil and gas production stream during removal of produced water or other contaminants, the waste is most likely to be considered exempt by EPA. The Comprehensive Environmental Response Compensation and Liability Act (CERCLA) passed in 1980, deals with the release (spillage, leaking, dumping, accumulation, etc.) or threat of a release of hazardous substances into the environment. Despite many oil and gas constituent wastes being exempt from hazardous waste regulations, certain RCRA exempt contaminants could be subject to regulations as hazardous substances under CERCLA. The Oil Conservation Division (OCD) administers hazardous waste regulations for oil and gas activities in New Mexico.

No hazardous or solid waste materials are present at the Alternative B site. No such waste is expected to exist at the Alternative C location as the immediate area is relatively undeveloped. The notification of releases such as natural gas, natural gas liquids, and petroleum, outside a facility site is required under CERCLA and under BLM NTL-3A.

3.11 Water Quality – Surface/Ground

Availability of water quality data, like stream-flow data, is largely limited to the perennial streams in the northern part of the San Juan Basin. The water quality of the perennial streams varies from upstream to downstream and is strongly influenced by the type of rock and soils with which the water has been in contact. In the upper reaches, the perennial streams have relatively low concentrations of dissolved solids. In the middle and lower reaches, the streams contain progressively more magnesium, calcium, sodium and sulfate concentrations and vary according to flow conditions.

Quality data for the ephemeral runoff south of the San Juan River are limited to only a few observations at sampling stations associated with the USGS coal hydrology program. Ephemeral flows are generally very poor quality water due to the highly erosive and saline nature of the soils. Sparse vegetative cover and rapid runoff conditions are characteristic of the area.

There are no perennial water resources within the project area (all action alternatives) or immediate vicinity. An unnamed ephemeral tributary of the La Jara Canyon arm of Navajo Reservoir lies 2,900 feet south of Alternative B. An unnamed ephemeral tributary of the San Juan River arm of Navajo Reservoir lies 2,900 feet east of Alternative C.

The San Juan Basin is underlain by sandstone aquifers and unconsolidated sand and gravel aquifers. The Colorado Plateaus Aquifers are sandstone while the Rio Grande Aquifer system is unconsolidated sand and gravel. The primary Colorado Plateaus Aquifers underlie the vast majority of the San Juan Basin are the Unita-Animas Aquifer and the Mesa Verde Aquifer.

The quality of groundwater in the San Juan Basin generally ranges from fair to poor. The Unita-Animas contains fresh to moderate saline water and the quality of the Mesa Verde is extremely variable. In general, areas of the aquifer that are recharged by infiltration from precipitation or surface water sources contain relatively fresh water.

The operator proposes to set surface casing to a depth of 250 feet, or as specified by the BLM, to protect any shallow aquifers (all action alternatives). An operation plan with the proposed casing program to protect the aquifers would be submitted with the APD.

3.12 Wetlands /Riparian Zones

Field inspection of the Alternative B site and a review of BLM GIS data indicate the action alternatives are not located within any riparian or wetlands habitat.

3.13 General Topography/Surface Geology

The proposed project is located on the gradually to moderately sloping top of a mesa that separates the La Jara Canyon and San Juan River sections of Navajo Reservoir. Alternative B generally slopes south eventually into the La Jara Canyon arm of Navajo Reservoir. Alternative C generally slopes east eventually into the San Juan River arm of Navajo Reservoir. Elevation in the immediate project area ranges from 6,450' to 6,510'.

3.14 Mineral Resources

Federal lands in the San Juan Basin are important sources of mineral materials for construction projects in the region, including sand and gravel, rock and stone and other fill materials. The action alternatives are not located on any permitted surface mineral mining operation or free use area.

3.15 Paleontology

Eight (8) Specially Designated Areas (SDA) have been established within the Farmington Field Office area of oversight for the protection of important paleontological formations. The action alternatives do not fall within any paleontology SDA.

3.16 Soils

The soils in the San Juan Basin were formed primarily in two kinds of parent material: alluvial sediment and sedimentary rock. The alluvial sediment is material that was deposited in river valleys and on mesas, plateaus, and ancient river terraces. The material has been mixed and sorted in transport and has a wide range in mineralogy and particle size. Sedimentary parent material consists mainly of sandstone and shale bedrock. These shale and resistant sandstone beds form prominent structural benches, buttes and mesas bounded by cliffs.

Soils in the immediate project area (all action alternatives) are comprised of the Vessila-Menefee-Orlie complex 1-30% slopes. The different characteristics of this soil type are listed below.

Table 3.16 – Vessila-Menefee-Orlie complex 1-30% slopes

Character	Vessilla	Menefee	Orlie
Type	Pale brown sandy loam	Grayish brown clay loam	Brown silt loam
Slope	1-30 percent	1-30 percent	1-30 percent
Depth	1-15 inches	1-10 inches	1-60
Surface Runoff	Medium	Medium	Medium
Water erosion	Moderate	Moderate	Moderate
Soil Blowing	Severe	Severe	Slight
Drainage Class	Well Drained	Well drained	Well drained
Available Water cap.	Very low	Very low	Very high
Permeability	Moderately rapid	Slow	Moderately slow
Parent Material	Sandstone	Shale	SS and Shale

3.17 Watershed – Hydrology

The San Juan Basin consists of broad mesas interspersed with many deep canyons with steep canyon walls, dry washes, entrenched narrow valleys, and alluvial fans and floodplains. Elevations range from approximately 4,800 feet, where the San Juan River flows into Utah, to approximately 8,800 feet near the Jicarilla Apache land, and near 7,300 feet near Lindrith, New Mexico. The planning area is divided into watersheds based on the Hydrologic Units (4th level) delineated by the USGS. Principally, the administrative area under the jurisdiction of the Farmington Field Office consists of five of these 4th level hydrologic watershed units. These watershed units are: (1) Middle San Juan, (2) Animas, (3) Upper San Juan, (4) Blanco Canyon, and (5) Chaco. The action alternatives are within the Upper San Juan watershed.

3.18 Vegetation, Forestry

The action alternatives are all located in a mix of piñon-juniper woodland, previously chained piñon-juniper re-growth, and sagebrush-grassland vegetation communities. Alternatives B would remove approximately 100-150 piñon and juniper trees. The population of trees that would be removed from the proposed action consisted of approximately 40% saplings, 50% old-growth and 10% standing dead. Alternative C would remove as much as twice as many trees of a similar age make-up.

3.19 Livestock Grazing

Livestock grazing is authorized by FLPMA, the Taylor Grazing Act of 1937 and the Public rangelands Improvement Act of 1978. The principle objective of the rangeland program is to promote healthy, sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangeland to properly functioning condition; to promote the orderly use, improvement and development of the public lands.

The action alternatives are located within the Rosa Community Grazing Allotment # 5058. The grazing allotment is operated from May 1st thru October 31st annually with a maximum of 259 head of cattle. This allotment consists of 100% public land.

3.20 Wild Horse and Burros

There are no areas managed for wild horse or burros within the action area (all alternatives). The action area lies approximately 5.5 miles west of the Jicarilla Wild Horse Territory. No wild horses or burros, or sign of wild horses or burros, exist nor are suspected to exist in the action area.

3.21 Wildlife

Mule deer and elk are common in the project area as are other common mammalian species such as the coyote, deer mouse, and the black-tailed jackrabbit. Game birds found in the area may include mourning dove. Migratory birds that may be present can include the western bluebird, scrub jay, juniper titmouse, and common raven, principal raptors that may be seen are the red-tailed hawk and American kestrel. Nesting neo-tropical migratory birds could include the western bluebird, gray vireo, violet-green swallow, and ash-throated flycatcher. No evidence of nesting birds was observed in the Alternative B action area at the time of field inspections. Potential exists for birds to nest in the Alternative C action area. The most notable reptiles are the eastern fence lizard and the short-horned lizard.

The action area for Alternative B appeared to be heavily browsed by deer and elk with a browse line evident on the trees. Alternative C could be expected to show similar evidence of heavy browsing.

The action alternatives would be located in the BLM/FFO designated Rosa Mesa Wildlife Area (BLM 2003a, pg. C-173). No construction will be allowed in this area between December 1st and March 31st to protect wintering game. There are a total of 69,762 acres within the boundary of this management area, of which 47,375 are public land acres (BLM) and 61,406 are federal mineral acres. Standard mitigation measures to protect or restore wildlife habitat can be found in the Farmington Resources Management Plan (December 2003) pages 2-25 and 2-26.

3.22 Special Status Species

In accordance with BLM Manual 6840, BLM manages certain sensitive species not federally listed as threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered in the future. Included in this category are state listed endangered species and federal candidate species which receive no special protections under the Endangered Specie Act. Special status species with potential to occur in the project area (all action alternatives) are listed in Table 3.22.

Table 3.22 – Species with special conservation status in Rio Arriba County that occur or have the potential to occur in the project or action area.

Common Name (scientific name)	Status*	Habitat Associations	Presence**
MAMMALS			

Common Name (<i>scientific name</i>)	Status*	Habitat Associations	Presence**
American marten (<i>Martes americana</i>)	NM-T	Dense, mature, coniferous forested areas	NP
BIRDS			
Golden eagle (<i>Aquila chrysaetos</i>)	SMS	In the west, mostly open habitats in mountainous, canyon terrain. Nests primarily on cliffs and trees.	NS
Ferruginous hawk (<i>Buteo regalis</i>)	S	Breed in open country, usually prairies, plains and badlands; semidesert grass-shrub, sagebrush-grass & piñon-juniper plant associations.	NP
American peregrine falcons (<i>Falco peregrinus anatum</i>)	SMS NM-T	Nest in ledges or potholes on cliffs in wooded/forested habitats; Forage over riparian woodlands, coniferous & deciduous forests, shrublands, prairies.	NS
Prairie falcon (<i>Falco mexicanus</i>)	SMS	Open: grassland, desert scrub, rangeland, agricultural; nest in cavities, ledges, on cliffs, trees, power structures.	NP
Mountain plover (<i>Charadrius montanus</i>)	SMS	Lowland grasslands, sites with grassland characteristics (alkali flats, agricultural lands)	NP
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	C SMS	Breeds in riparian woodlands with dense, understory vegetation.	NP
FISH			
Roundtail chub (<i>Gila robusta</i>)	NM-E	San Juan River, Animas River	NP
PLANTS			
Brack's hardwall cactus (<i>Sclerocactus cloveriae</i> ssp <i>brackii</i>)	S NM-E	Sandy clay of the Nacimiento Formation in sparse shadscale scrub (5,000-6,000 ft.)	NP
Aztec gilia (<i>Aliciella formosa</i>)	S NM-E	Salt desert scrub communities in soils of the Nacimiento Formation (5,000-6,000 ft).	NP

Sources: BLM 2005, New Mexico Natural Heritage Program 2005, NM Rare Plant 1999, USFWS 2005

Status*

C = Federal Candidate; **S** = BLM Sensitive; **SMS** = BLM Special Management Species;
NM-E = State of NM Endangered; **NM-T** = State of NM Threatened

Presence**

K = Known, documented observation within project area.
S = Habitat suitable and species suspected to occur within the project area.

NS = Habitat suitable but species is not suspected to occur within the project area.

NP = Habitat not present and species unlikely to occur within the project area.

3.23 Visual Resources

Visual Resource Management (VRM) on public lands is conducted in accordance with BLM Handbook 8410 and BLM Manual 8411. Further details of the Farmington Field Office VRM Program are contained on pages 2-9 to 2-10 and 3-61 to 3-63 of the Farmington PRMP/FEIS.

The La Jara ACEC is designated as VRM Class II. Alternative C, which is outside the La Jara ACEC, is also in an area designated as VRM Class II. Management objectives for Class II designation include retaining the existing character of the landscape. The level of change to the characteristic landscape should be low. The project may be seen, but should not attract the attention of the casual observer. Changes must repeat the basic elements found in the predominant natural features of the characteristic landscape (BLM Manual 8431, Appendix 2).

3.24 Recreation

The Farmington Field Office has set aside several areas for special use and manages them as Specially Designated Areas (SDA). The action alternatives would not be in a SDA for recreation. Recreational use of the action area may include some occasional hunting during the hunting season.

3.25 Public Health and Safety

All worker safety is governed by Occupational Safety and Health Administration (OSHA) safety laws and regulations. Worker safety incidents must also be reported to the BLM under the procedures of Notice to Lessee (NTL)-3A. Pipeline safety regulations are administered by OSHA as well as Department of Transportation (DOT) regulations. Pipeline safety regulations (49 CFR Parts 190 and 192) govern design, construction and operation of gas transmission lines. Any incidents involving DOT-regulated pipelines must be reported under these regulations (District 2003a).

Most substances and wastes generated at oil and gas facilities are exempt from regulation under the Resource Conservation and Recovery Act (1976). The Environmental Protection Agency (EPA) and DOT regulate materials associated with well construction and production activities that are classified as hazardous. When significant amounts of chemicals are stored on-site, governmental agencies will be notified as required under the Emergency Planning and Community Right to Know Act (1986). The notification of releases such as natural gas, natural gas liquids, and petroleum, outside the facility site is required under the Comprehensive Environmental Response Compensation and Liability Act, 1980 (CERCLA) and under BLM NTL-3A. The well location must have an informational sign, as directed under 43 CFR 3160.

Additional hazards to the general public in the action area include safety hazards associated with increased traffic during the construction of the proposed or alternative well. General hazards around producing oil and gas fields such as accidental pipeline failures and moving equipment like pump jacks are potential/present in the action area. Hydrogen sulfide gas is not known to be or expected to be a problem in the action area (all alternatives).

4.0 Environmental Consequences and Proposed Mitigation Measures

No Action Alternative

Under the No Action Alternative, the proposed well would not be drilled. There would be no new impacts from oil and gas production to the resources. The No Action Alternative would result in the continuation of the current land and resource uses in the project area and is used as the baseline for comparison of alternatives.

Action Alternatives

A summary of potential surface disturbance is presented in Table 4.0. Descriptions of potential effects on individual resources for action alternatives is presented in the following text. Also described are potential mitigation measures that could be incorporated by the BLM where appropriate as Conditions of Approval attached to the permit.

Table 4.0 – Summary of Disturbance.

Facility		Alternative B		Alternative C		Duration
		Feet	Acres	Feet	Acres	
Well Pad		230 x 300	1.58	230 x 300	1.58	Long Term
Well Pad Construction Zone		1260 x 50	1.45	1260 x 50	1.45	Short Term
Compressors			0		0	Long Term
Pipeline	W/in New Disturbance	170 x 40	0.16	1350 x 20	0.62	Short Term
	W/in Existing Disturbance	207 x 40	0.19	1350 x 20	0.62	Long Term
Road		300 x 30	0.21	1200 x 30	0.83	Long Term
Total disturbance			3.40		4.48	

Short-term impacts are those which can be stabilized or mitigated rapidly (within 5 years). Long-term impacts are those that would substantially remain for more than 5 years.

For the purpose of this EA, potential impacts have been divided into three categories:

High: - as defined in CEQ guidelines (40 CFR 1500-1508), impacts which are substantial in severity and therefore should receive the greatest attention in decision-making.

Moderate: - impacts that cause a degree of change that is easy to detect, but do not meet the criteria for significant impacts.

Low: - impacts which cannot be easily detected, and cause little change in the existing environment.

4.1 Air Quality

4.1.1 Direct and Indirect Effects

During construction and drilling of the action alternatives, there would be temporary increases in fugitive dust (particulate matter less than 10 microns in diameter) from earth moving activities and vehicle traffic, and increases in combustion emissions (volatile organic compounds, nitrogen oxides, and carbon monoxide) from vehicles and drilling activities. These impacts are expected to be short-term (six-eight weeks) and moderate for dust emissions; low for combustion emissions.

During operation of the proposed well (all action alternatives), combustion emissions associated with vehicle traffic, mobile equipment, water separator units, tank heaters, dehydrators, and potential future wellhead compressors would increase. These effects are anticipated to be low and long-term (20-30 years). New and replacement compressors will be required to limit their NO_x (nitrogen oxides) emissions to less than 2 grams per horsepower-hour per BLM requirements. Maintenance practices during production could potentially increase the emission of hydrocarbons as a result of blowdowns, vents, and accidental leaks from broken equipment. These effects, while unpredictable, are anticipated to be low. Additional vehicle traffic during the life of the well and associated dust emissions would be low and long-term (20-30 years) as maintenance personnel would need to visit the well periodically over the life of the well.

Effects associated with gas well abandonment would be similar to or less than those associated with well construction as abandonment is less involved. Pollutant emissions associated with drilling and pipeline construction would not be experienced during well abandonment. The action alternatives would be within all legal standards for air quality, as designated by Region VIII of the Environmental Protection Agency (EPA). Air quality permitting through the permitting and enforcement authority, the NMAQB, is not currently required for typical emissions sources on well pads. These relatively small point sources generally do not emit high enough amounts of regulated pollutants to require permitting, and air quality in the area is presently within state attainment standards (District 2003a).

The implementation of any of the action alternatives would not result in any applicable air quality standards being exceeded.

4.1.2 Potential Mitigation

Dust levels could be mitigated by spraying fresh water, only under the direct supervision of a BLM Representative.

4.2 Areas of Critical Environmental Concern

4.2.1 Direct and Indirect Effects

Construction, drilling, and production of the well under Alternative B would result in increased human activity, construction activity, and production activity and equipment in the La Jara ACEC. Approximately 3.40 acres would be disturbed within the ACEC. The proposed action would not noticeably affect the stated management goal of protecting and preserving necessary cultural and natural resources as the action would not disturb any such resources. A Class III inventory of cultural resources has shown no cultural resources would be disturbed by the proposed action. The action area for Alternative B does not contain any natural resources that would be considered necessary for the educational, cultural, heritage, architectural, historic, and other values in the FFO.

Alternative C would be located outside the boundaries of the La Jara ACEC.

4.2.2 Potential Mitigation

Management prescriptions have been developed for the La Jara ACEC to limit the effects of gas and oil development on the stated management goal of the ACEC (see section 3.3 above).

4.3 Cultural Resources

4.3.1 Direct and Indirect Effects

A potential indirect effect from any of the action alternatives is the increased use of the vicinity and consequently the likelihood of removal of, or damage to, heritage artifacts. The increase in human activity in the area increases the possibility of irretrievable loss of information pertaining to the heritage of the project region. Conversely, the benefits to heritage resources derived from the action alternatives are the heritage and historic survey that adds to literature, information, and knowledge of these irreplaceable

resources. The action area of Alternative B has been surveyed for heritage resources, while Alternative C would be surveyed prior to construction if it was to be implemented.

4.3.2 Potential Mitigation

If selected, Alternative C would be surveyed for cultural resources prior to any construction. Should a site be discovered and evaluated as eligible for inclusion in the National Register of Historic Places, it would be treated in the proper manner to mitigate any effects of construction, according to the guidelines set by the BLM and NM SHPO. Mitigation strategies would be required to protect sites adjacent to the action area. If mitigation strategies are not sufficient to protect cultural resources discovered, then Alternative C would be abandoned as a viable alternative.

If any heritage materials are encountered during the construction phase of the chosen action alternative, the contractor will immediately stop all construction activities and notify the BLM. Mitigation strategies as described above would then be applied.

4.4 Native American Religious Concerns

No effect.

4.5 Environmental Justice

4.5.1 Direct and Indirect Effects

No minority or low income populations would be directly affected in the vicinity of the action alternatives. Indirect effects could include effects due to overall employment opportunities related to the oil and gas and service support industry in the region as well as the economic benefits to state and county governments related to royalty payments and severance taxes. Other effects could include a small increase in activity and noise disturbance in areas used for grazing, wood gathering, or hunting. However, these effects would apply to all public land users in the project area. A more detailed description of potential impacts is contained in the PRMP/FEIS p.4-120 and 4-129.

4.6 Farmlands, Prime or Unique

No effect.

4.7 Floodplains

No effect.

4.8 Invasive, Non-native Species

4.8.1 Direct and Indirect Effects

Weeds (invasive/nonnative vegetation) can be introduced in many ways, including wind, vehicles, heavy equipment, livestock, and wildlife. The potential for weeds to invade or spread within an area is increased when native vegetation is removed and physical disturbance to the soil occurs. Establishment of weeds usually occurs in disturbed sites such as oil/gas pads, pipelines, stock water ponds, and edges of roads. The Farmington Field Office and COPC would follow BLM policy to control and manage invasive nonnative vegetation species.

There where no invasive weeds encountered during the onsite inspection of Alternative B. Field inspection of the Alternative C location has not been made. Potential exists for invasive or noxious weeds to be present along the existing access road and pipeline ROW adjacent to the Alternative C location.

4.8.2 Potential Mitigation

It would be the responsibility of the operator to control and eradicate all noxious/invasive weeds within the proposed project area during the life of the project.

4.9 Threatened or Endangered Species

No effect.

4.10 Wastes, Hazardous or Solid

Typical wastes associated with the action alternatives would include trash, sewage, produced water, and produced hydrocarbons. During drilling and completion, a trash receptacle and a chemically treated portable toilet would be on location for trash and sewer disposal. Produced hydrocarbons would be put in tanks on location during completion work. Produced water would be put in onsite tanks or within lined reserve pit during completion work. All wastes would be disposed of in a proper manner as required by federal and state law and as described in the COAs.

When significant amounts of chemicals are stored on-site, governmental agencies would be notified as required under the Emergency Planning and Community Right to Know Act (1986). The notification of releases such as natural gas, natural gas liquids, and petroleum, outside the facility site is required under the Comprehensive Environmental Response Compensation and Liability Act, 1980 (CERCLA) and under BLM NTL-3A. The well location must have an informational sign, as directed under 43 CFR 3160.

4.11 Water Quality: Surface and Groundwater

4.11.1 Direct and Indirect Effects

There are no perennial water sources, springs, seeps, wetlands or well defined ephemeral drainages within the project area (all action alternatives). Effects to ground water resources would be low due to mitigation measures such as casing. Below casing depth, losses of produced water or mud may occur to differing degrees in various formations, but the losses are considered to be low and contained to within a few feet of the well bore. These losses are not considered to be substantial because of the very small amount of groundwater that could be affected (BLM 2003a, p. 4-14).

4.11.2 Potential Mitigation

Culverts and silt traps, where indicated in the attached COA's, will be used to stabilize and reduce sediment flow. The Operator would be responsible to ensure an adequate casing program is designed to protect ground water from contamination. Onshore Order #2 requires that all useable aquifers be protected by casing or cementing. All pits would be lined to prohibit drilling and production fluids from infiltrating into groundwater resources or flowing into surface water resources.

4.12 Wetlands/Riparian Zones

No effect.

4.13 General Topography/Surface Geology

No prominent topographical features would be removed or disturbed by any of the action alternatives.

4.14 Mineral Resources

No effect.

4.15 Paleontology

No effect.

4.16 Soils

4.16.1 Direct and Indirect Effects

Due to the nature of drilling for oil and gas there would be soil disturbance for this proposed location. All areas to be disturbed would be bladed as needed to create flat surfaces for operating equipment and vehicles. Depth of soil disturbance would increase with rougher topography. Available topsoil would be stockpiled for reclamation. The cut and fill slopes of the proposed action will be especially susceptible to wind and water erosion until vegetation has been reestablished (one to two growing seasons). The potential impacts would be dependant, in part, on seasonal variation in rainfall and snowmelt run-off, terrain, soil type, prevailing winds, and vegetative cover. The heaviest amounts of erosion will be short-term (one to two growing seasons) until the vegetation has established. Effects to soils would likely be least for Alternative B as it would disturb the smallest area, while Alternative C effects would be low to moderate.

4.16.2 Potential Mitigation

Revegetation will reduce or minimize impacts created by water or wind erosion. Approximately half of the well location and all of the well-tie pipeline disturbance would be reclaimed. The remaining surface disturbances would remain disturbed for the life of the well for production equipment and vehicle travel surfaces. Following final down-hole plugging and abandonment of the well, the entire well pad and access road would be reclaimed.

Conditions of approval may include culverts, diversion ditches, berms, and other such soil erosion control structures. Existing dirt roadways may be re-ditched and re-crowned, at the direction of the BLM, to minimize sedimentation.

4.17 Watershed – Hydrology

4.17.1 Direct and Indirect Effects

The action alternatives would comply with water quality, quantity, and ground water protection standards under the Clean Water Act of 1977, and the Safe Drinking Water Act of 1974 as amended. All action alternatives would disturb less than five (5) acres; currently, a Storm Water Pollution Prevention Plan for the Environmental Protection Agency (EPA) under the Clean Water Act would not required.

The Operator would be required to comply with any future changes to the National Pollutant Discharge Elimination System permitting process for storm water discharge from construction activities enacted by the EPA prior to the completion of well construction and site stabilization. None of the action alternatives would cross any ephemeral washes; therefore, a Nationwide 404 Permit from the U.S. Army Corps of Engineers, Albuquerque District Office would not be required.

4.17.2 Potential Mitigation

Drainage diversions would be constructed for all of the action alternatives. The diversions would be above the cut slope of the well pad and directed such that water would drain away from the pad. Culverts would be installed where needed to maintain drainages along access roads.

4.18 Vegetation, Forestry

4.18.1 Direct and Indirect Effects

Direct impacts would be the removal of trees, sagebrush, and grasses to construct the well pad, access road, and pipeline for the action alternatives. Alternative B would remove approximately 3.40 acres of established vegetation. Alternative C would remove approximately 4.48 acres of established vegetation. Alternative B would remove 100-150 piñon and juniper trees, with Alternative C potentially removing twice as many trees. Indirect impacts would be the remaining long-term (20-30 years) disturbance of the well location used for production equipment and vehicle driving surfaces. The removal of trees and

understory is projected to have low effects on the general vegetation as the species of plants to be removed are widespread and abundant in the action area and throughout the San Juan Basin.

4.18.2 Potential Mitigation

Upon completion of the construction, drilling and the well being placed into service, the rehabilitation and reseeded of the unused portion of the well pad and pipeline would occur. Those surfaces used for production equipment and vehicle travel would be reclaimed as directed by the COAs after final abandonment of the well.

4.19 Livestock Grazing

4.19.1 Direct and Indirect Effects

There would be a temporary loss of forage prior to rehabilitation and reseeded. The loss would be greatest for Alternative C and least for Alternative B. No reduction in AUMs is expected from any of the action alternatives after the site is rehabilitated.

4.19.2 Potential Mitigation

Mitigation measures associated with soils, water, riparian and wildlife serve to lessen impacts to the rangeland components essential for rangeland health.

4.20 Wild Horse and Burros

No effect

4.21 Wildlife

Some temporary displacement of wildlife would occur during the construction, drilling and completion phase of the proposed project. Potentially affected species include the cottontail, blacktailed jackrabbit, mule deer, coyote, scrub jay, junco, juniper titmouse, and other species that typically utilize such habitat. The action alternatives would remove 3.40 to 4.48 acres of potential habitat for such species. Alternative C would result in more habitat fragmentation than Alternative B as Alternative C would require a longer access road in an area further removed from existing disturbances. There are approximately 435,500 acres of sagebrush or desert scrub habitat and 633,400 acres of piñon-juniper woodland in the BLM/FFO planning area (BLM 2003a, pg 3-31). Habitat in the action area is not unique to the planning area and is common throughout the northern half of the planning area. Effects to wildlife would be low for oil and gas development that adheres to proper conditions of approval. Standard mitigation measures to protect or restore wildlife habitat can be found in the RMP (December 2003) pages 2-25 and 2-26.

4.22 Special Status Species

4.22.1 Direct and Indirect Effects

None of the action alternatives would result in any direct effect on any special status species or their nests or roosts. Increases in noise and activity would be minimal and consistent with current activities in the area. The action alternatives are not in close proximity to any raptor nests. There would be a temporary loss of potential foraging habitat for the Golden eagle and the American peregrine falcon prior to rehabilitation and reseeded. The loss would be least for Alternative B (approximately 3.40 acres) and greatest for Alternative C (approximately 4.48 acres).

4.22.2 Potential Mitigation

Standard conditions of approval designed to protect wildlife and migratory birds would serve to protect special status species (see Appendix 7.1).

4.23 Visual Resources

4.23.1 Direct and Indirect Effects

All action alternatives would be located in an area designated a Class II VRM. The action alternatives would not be visible from any highway, county road, or recreational area.

4.23.2 Potential Mitigation

Alternative B would be easiest to mitigate as it would blend in easily with the nearby well site. Alternative C may require mitigation such as a tree screen, low profile equipment, and scenery matching paint to attain a Class II level visual effect. Alternative B and C would be located in piñon-juniper cover that would help to mitigate visual impacts.

4.24 Recreation

4.24.1 Direct and Indirect Effects

Construction, drilling, and production of the well (all action alternatives) would result in increased human activity, construction activity, and production activity and equipment in the area. Noise levels within the area would increase moderately during construction and drilling of the proposed well. Long-term increases in noise would be low. Equipment and activities would also similarly increase visual disturbance in the immediate area with moderate short-term and low long-term effects. Noise and visual impacts would be buffered as there are numerous existing gas and oil developments in the area. A potential indirect effect would be the displacement of some wildlife species from the area surrounding the well location. This could detract from the recreational experience for those recreationists hoping to encounter such wildlife.

4.24.2 Potential Mitigation

The action alternatives would be painted juniper green to help blend in with the surrounding piñon-juniper tree cover. Standard conditions of approval designed to protect wildlife and migratory birds would serve to limit effects to the activities of recreationally important animal species (see Appendix 7.1).

4.25 Public Health and Safety

4.25.1 Direct and Indirect Effects

The action alternatives are located in a relatively remote area rarely frequented by individuals not involved in the gas and oil industry. No residences are located within one mile of the action alternatives. Effects to public safety would be low for the short and long-term and would include increase traffic risks, chemical spills, pipeline failures, and equipment accidents.

4.25.2 Potential Mitigation

The operator is responsible for the proper training and the health of its employees. Safety and Health Administration (OSHA) safety laws and regulations, BLM Notice to Lessee (NTL)-3A, pipeline safety regulations 49 CFR Parts 190 and 192, the Emergency Planning and Community Right to Know Act (1986), and CERCLA 1980, amongst other legislation, have been enacted to ensure the health and safety of workers and the public at large. The well location must have an informational sign, as directed under 43 CFR 3160.

5.0 Cumulative Effects

Analysis of cumulative effects for reasonably foreseeable development of 9,942 new oil and gas wells on public lands in the San Juan Basin was presented in the Farmington PRMP/FEIS (BLM 2003a, pages 4-121 to 4-129). This proposed action is included in the total analyzed. Total surface disturbance projected by the plan was 18,577 acres with 805 miles of new roads.

Development within the La Jara ACEC is estimated to increase from 22 wells to approximately 35 wells (13 new wells) with as much as 9 miles of total roads. This represents an increase from approximately 65 acres to approximately 121 acres of total long-term disturbance in the ACEC.

Long-term disturbance in the Upper San Juan sub-basin watershed (where the action alternatives are located) was estimated to increase from 24,978 acres to 30,695 acres.

- Alternative B would account for 1.61 acres of short term surface disturbance, 1.79 acres of long term disturbance, and 300 feet of new road.
- Alternative C would account for 2.07 acres of short term surface disturbance, 2.41 acres of long term disturbance, and 1200 feet of new road.

There has been no change in the basic assumptions or projections described in the PRMP/FEIS analysis except in regard to air quality. Additional monitoring and modeling conducted by the State of New Mexico Air Quality Bureau since completion of the PRMP/FEIS indicate that projected development is unlikely to elevate ozone concentrations to significant levels for the foreseeable future (see New Mexico Environment Department website for more details : <http://www.nmenv.state.nm.us/aqb/ozonetf/SanJuanEAC.update.3.17.04.ppt>).

The cumulative air quality impact assessment performed for the Northern San Juan Basin Coal Bed Methane Project (BLM and USFS 2004), which included Farmington's potential emission sources, determined that potential visibility impacts to federal PSD Class I Areas (Mesa Verde National Park and the Weminuche Wilderness Area) could occur at some time in the future. Partly in response to these findings, the State of New Mexico organized the multi-agency Four Corners Interagency Air Quality Task Force to address air quality issues throughout the entire Four Corners Region. Participants in the task force include representatives from the states of New Mexico, Colorado, Arizona, and Utah, the Navajo Nation, the Southern Ute Tribe, the USDA Forest Service, the National Park Service, the Bureau of Land Management, the Bureau of Indian Affairs, and the Environmental Protection Agency Regions 6, 8, & 9. The goal of the task force is to compile a report analyzing air quality in the Four Corners, support ongoing air quality monitoring efforts and establish new ones (ammonia), and to suggest mitigation measures for the improvement of air quality in the Four Corners. The final draft of the report is expected to be completed by November 2007, with mitigation measures intended to be implemented by early 2008.

6.0 Consultation/Coordination

This section includes individuals or organizations from the public, public land users, the interdisciplinary team, and permittees that were contacted during the development of this document.

Table 6.0 – Summary of Public Contacts Made During Preparation of Document and Interdisciplinary Team

Public Contact	Title	Organization	Present at Onsite?
ID Team Member	Title	Organization	Present at Onsite?
Scott Hall	Environmental Protect. Spec.	BLM	YES
Wink Meador	Construction Contractor	Aztec Excavating Company	YES
Bob Busse	Surveyor	NCE Surveys, Inc.	YES
Maria Adkins	Third Party Contractor	Adkins Consulting	YES

6.1 References

New Mexico Natural Heritage Program. 2005. <http://nmnhp.unm.edu>. (Latest update: 27 June 2005)

New Mexico Rare Plant Technical Council. 1999. *New Mexico Rare Plants*. Albuquerque, NM: New Mexico Rare Plants Home Page. <http://nmrareplants.unm.edu> (Latest update: 9 June 2005).

U.S. Department of the Interior, Bureau of Land Management. 2003a. *Farmington Proposed Resource Management Plan and Final Environmental Impact Statement*. Farmington, New Mexico.

U.S. Department of the Interior, Bureau of Land Management. 2003b. *Farmington Resource Management Plan Record of Decision*. Farmington, New Mexico.

U.S. Department of the Interior, Bureau of Land Management U.S. Department of Agriculture Forest Service San Juan Public Lands Center. 2004. *Draft Environmental Impact Statement for the Northern San Juan Basin Coal Bed Methane Project*. Durango, Colorado.

U.S. Department of the Interior, Bureau of Land Management, Farmington Field Office. 2005. *Farmington Field Office Special Status Species Management Policy*. Instruction Memorandum No. IM-NM200-2005-02.

U.S. Fish and Wildlife Service (USFWS) .W.S. 2005.
<http://ifw2es.fws.gov/EndangeredSpecies/lists/ListSpecies.cfm>.

7.0 Appendices

7.1 APD

See attachment. The APD contains additional information about the proposed action including maps of all facilities, roads, pipelines, powerlines, etc.

7.2 Authorities

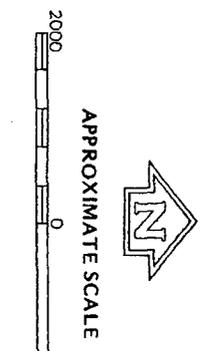
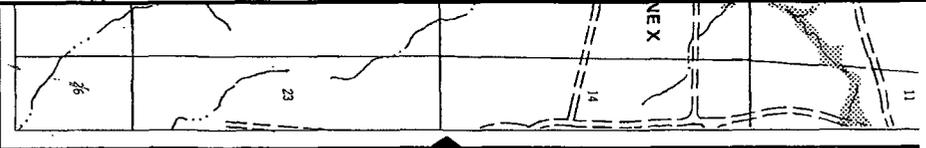
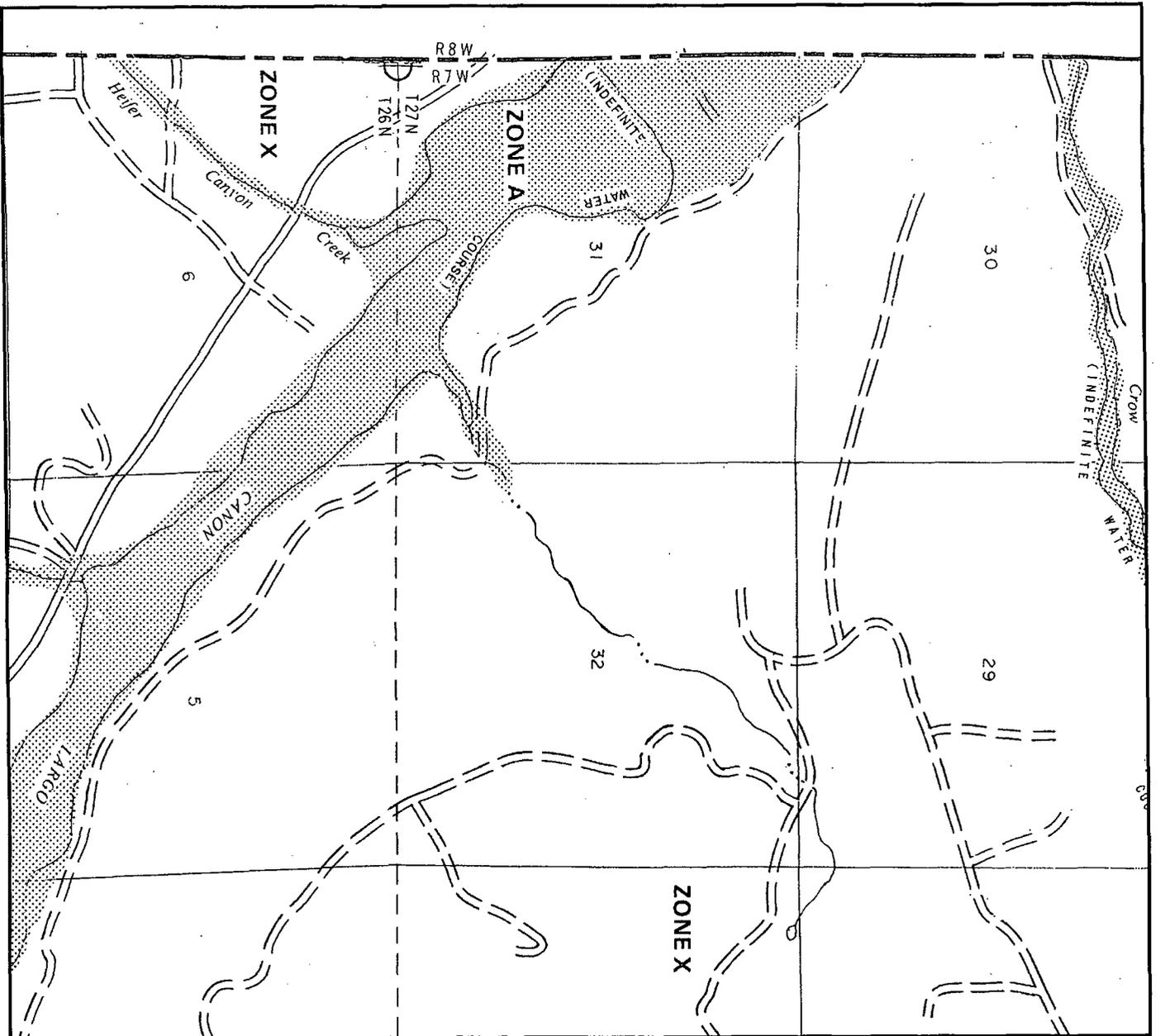
Code of Federal Regulations (CFR)

40 CFR All Parts and Sections inclusive Protection of Environment, Revised as of July 1, 2001.

43 CFR, All Parts and Sections inclusive - Public Lands: Interior. Revised as of October 1, 2000.

U.S. Department of the Interior, Bureau of Land Management and Office of the Solicitor (editors). 2001. The Federal Land Policy and Management Act, as amended. Public Law 94-579.

7.3 Map of Alternatives



FIRM
FLOOD INSURANCE RATE MAP

NATIONAL FLOOD INSURANCE PROGRAM

**RIO ARRIBA COUNTY,
NEW MEXICO
UNINCORPORATED AREAS**

PANEL 525 OF 1325
(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

COMMUNITY-PANEL NUMBER
350049 0525 B

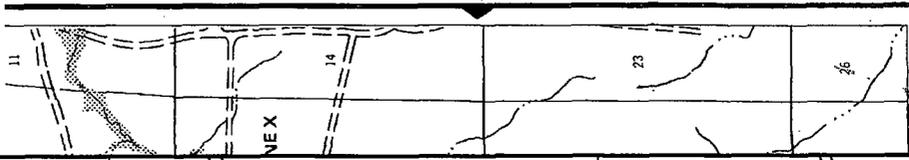
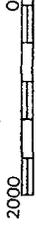
EFFECTIVE DATE:
JANUARY 5, 1989

Federal Emergency Management Agency

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APPROXIMATE SCALE



NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

RIO ARRIBA COUNTY,
NEW MEXICO
UNINCORPORATED AREAS

PANEL 525 OF 1325
(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION

COMMUNITY-PANEL NUMBER
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