

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 8/31/12

Well information;

Operator Elm Ridge, Well Name and Number Jicarilla Apache F 20

API# 30-039-31144, Section 16, Township 25 NS, Range 5 EW

Conditions of Approval:
(See the below checked and handwritten conditions)

- Notify Aztec OCD 24hrs prior to casing & cement.
- Hold C-104 for directional survey & "As Drilled" Plat
- Hold C-104 for NSL, NSP, DHC
- Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils



NMOCD Approved by Signature

8-13-2013
Date ca

RECEIVED

Form 3160-3
(August 2007)

SEP 10 2012

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Albuquerque Field Office
Bureau of Land Management

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
BIA 149 Jicarilla Contract 149

6. If Indian, Allottee or Tribe Name
JICARILLA APACHE NATION

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
JICARILLA APACHE F 20

9. API Well No.
30-039- 31144

10. Field and Pool, or Exploratory
LINDRITH GALLUP-DAKOTA, WEST

11. Sec., T. R. M. or Blk. and Survey or Area
NWSW (L) 16-25N-5W NMPM

12. County or Parish
RIO ARRIBA

13. State
NM

1a. Type of work: DRILL REENTER

1b. Type of Well: Oil Well Gas Well Other Single Zone Multiple Zone

2. Name of Operator ELM RIDGE EXPLORATION COMPANY, LLC

3a. Address P. O. BOX 156
BLOOMFIELD, NM 87413

3b. Phone No. (include area code)
505 632 3476

WPA

4. Location of Well (Report location clearly and in accordance with any State requirements.)*
At surface 1746' FSL & 877' FWL
At proposed prod. zone SAME

14. Distance in miles and direction from nearest town or post office*
13 AIR MILES NE OF COUNSELOR, NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
1,953'

16. No. of acres in lease
2,559.40

17. Spacing Unit dedicated to this well
SW4 (= 160 acres) ROVD AUG 9 '13 OIL CONS. DIV.

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
2,364' (F 8)

19. Proposed Depth
7,500'

20. BLM/BIA Bond No. on file
BIA nationwide OKC 606114 DIST. 3

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
6,675' GRADED

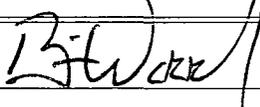
22. Approximate date work will start*
10/15/2012

23. Estimated duration
5 WEEKS

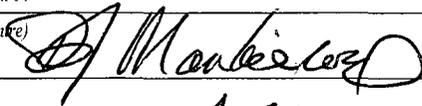
24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- 1. Well plat certified by a registered surveyor.
- 2. A Drilling Plan.
- 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- 5. Operator certification
- 6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature  Name (Printed/Typed) BRIAN WOOD (505 466-8120) Date 08/31/2012

Title CONSULTANT (FAX 505 466-9682)

Approved by (Signature)  Name (Printed/Typed) AFM Date 8/7/13

Title AFM Office FFD

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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 representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

NMOCD
PV

OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

This action is subject to technical and procedural review pursuant to 43 CFR 316 and appeal pursuant to 43 CFR 3165.4

DISTRICT I
 1625 N. French Dr., Hobbs, N.M. 88240
 Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
 811 S. First St., Artesia, N.M. 88210
 Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
 1000 Rio Brazos Rd., Aztec, N.M. 87410
 Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
 1220 S. St. Francis Dr., Santa Fe, N.M. 87505
 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
 Energy, Minerals & Natural Resources Department

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Form C-102

Revised August 1, 2011

OIL CONSERVATION DIVISION

SEP 10 2011

one copy to appropriate
 District Office

1220 South St. Francis Dr.
 Santa Fe, N.M. 87505

Farmington Field Office
 Bureau of Land Management

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-31144		² Pool Code 39189		³ Pool Name LINDRITH GALLUP-DAKOTA, WEST	
⁴ Property Code 19029		⁵ Property Name JICARILLA APACHE F			⁶ Well Number 20
⁷ OGRID No. 149052		⁸ Operator Name ELM RIDGE EXPLORATION COMPANY, LLC			⁹ Elevation 6675

¹⁰ Surface Location

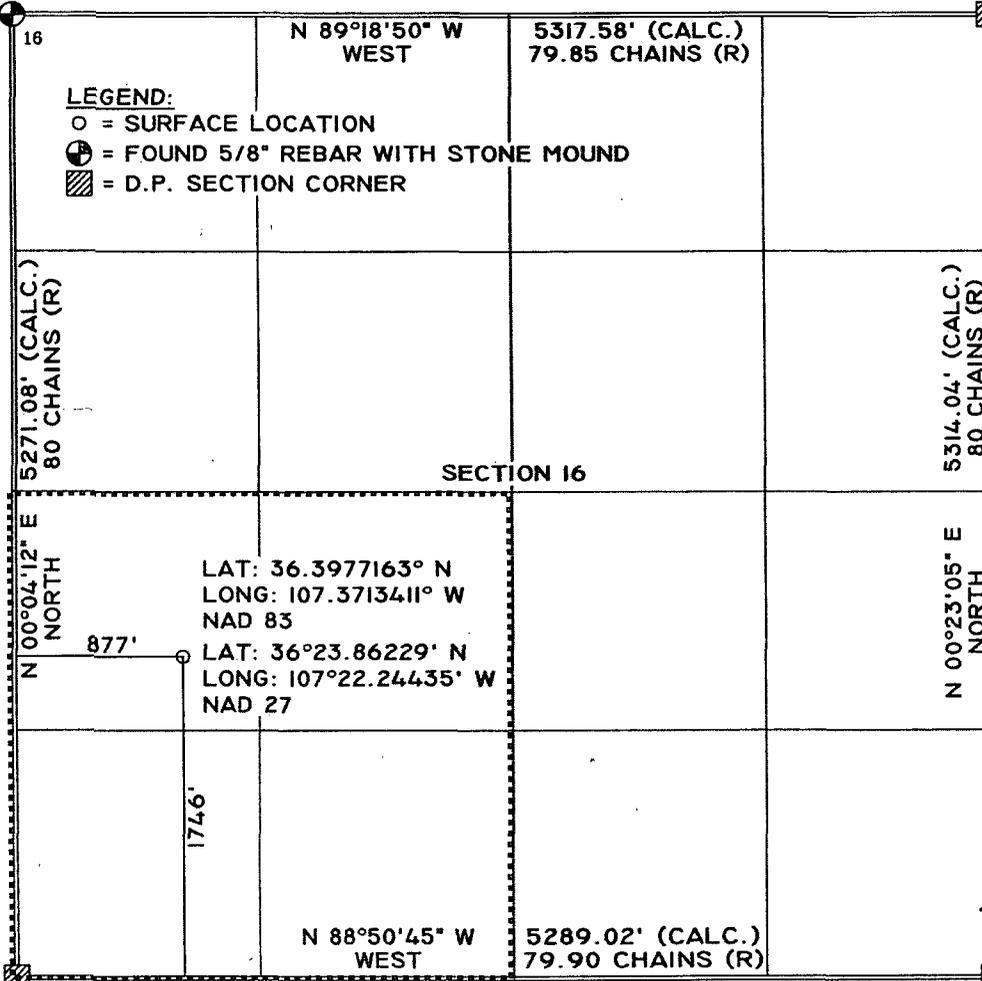
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	16	25 N	5 W		1746	SOUTH	877	WEST	RIO ARRIBA

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

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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



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 working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: *Brian Wood* Date: 8-31-12
 BRIAN WOOD
 brian@permitswest.com
 E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes and that the same is true and correct to the best of my belief.

Date of Survey: 11/29/11
 Signature and Seal of Professional Surveyor: *[Signature]*

Certificate Number: 14831 2-9-2012

Elm Ridge Exploration Company, LLC
 Jicarilla Apache F 20
 1746' FSL & 877' FWL
 Sec. 16, T. 25 N., R. 5 W.
 Rio Arriba County, New Mexico

Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
San Jose	0'	10'	+6,675'
Fruitland	2,435'	2,445'	+4,240'
Pictured Cliffs Ss	2,800'	2,810'	+3,875'
Chacra Ss	3,660'	3,670'	+3,015'
Mesa Verde Ss	4,485'	4,495'	+2,190'
Mancos Shale	5,215'	5,225'	+1,460'
Gallup Ss	6,160'	6,170'	+515'
Graneros	6,985'	6,995'	-310'
Dakota Ss	7,165'	7,175'	-490'
Total Depth (TD)	7,500'	7,510'	-825'

2. NOTABLE ZONES

<u>Oil & Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zone</u>
Ojo Alamo	San Jose	Fruitland
Pictured Cliffs	Ojo Alamo	
Chacra	Fruitland	
Gallup		
Dakota		

Water zones will be protected with casing, cement, and weighted mud. Fresh water will be recorded by depth, cased, and cemented. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.

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3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. A typical 3,000-psi model is on PAGE 3. The $\geq 3,000$ -psi BOP and choke manifold system will be installed and tested to 2,000-psi before drilling the surface casing plug. It will remain in use until the well is completed or abandoned. A safety valve and sub with a full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when the Kelly is not in use.

All BOP mechanical and pressure tests will be recorded on the driller's log. BOPs will be inspected and opened and closed at least daily to assure good mechanical working order. Inspections will be recorded on the daily drilling report. Pressure tests will be conducted before drilling out from under all casing strings that are set and cemented in place.

4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>GL Setting Depth</u>
12-1/4"	8-5/8"	24	J-55	S T & C	New	360'
7-7/8"	5-1/2"	15.5	J-55	L T & C	New	7,500'

	<u>Drift inch</u>	<u>Torque feet-pounds</u>	<u>Burst psi</u>	<u>Collapse psi</u>	<u>Tension 1000 psi</u>	<u>Pressure Test psi</u>
Surface	7.972	3070	2950	1370	381	1000
Production	4.653	2020	4810	4040	248	3500

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Surface casing will be cemented to the surface with ≈ 310 cubic feet (≈ 262 sacks) Class B with 1/4 pound per sack cellophane + 2% CaCl_2 . Yield = 1.18 cubic feet per sack. Weight = 15.2 pounds per gallon. Volume = 100% excess. Centralizers will be installed on the middle of the shoe joint and every other centralizer thereafter. Thread lock the guide shoe and bottom of float collar only. Use API casing dope. Will test to ≈ 800 -psi for ≈ 30 minutes.

Production casing will be cemented to the surface in two stages with $\geq 75\%$ excess. A DV tool will be set at $\approx 5,015'$ ($\approx 200'$ above the Mancos). Will pressure test to $\approx 2,000$ -psi for ≈ 30 minutes.

First stage volume will be $\approx 1,572$ cubic feet. First stage will consist of 390 sacks (≈ 729 cubic feet) Halliburton light with 65/35 poz mix + 1/4 pound per sack Flocele + 2% CaCl_2 mixed at a yield of 1.87 cubic feet per sack and a weight of 12.7 pounds per gallon. That will be followed by 715 sacks (843 cubic feet) Class B + 2% CaCl_2 mixed at a yield of 1.18 cubic feet per sack and a weight of 15.2 pounds per gallon.

Second stage volume will be $\approx 1,499$ cubic feet. Second stage will consist of ≈ 770 sacks (1,440 cubic feet) of Halliburton light with 65/35 poz mix + 1/4 pound per sack Flocele + 2% CaCl_2 mixed at a yield of 1.87 cubic feet per sack and a weight of 12.7 pounds per gallon. That will be followed by ≈ 50 sacks (59 cubic feet) Class B + 2% CaCl_2 mixed at a yield of 1.18 cubic feet per sack and a weight of 15.2 pounds per gallon.

5. MUD PROGRAM

<u>Depth</u>	<u>Type</u>	<u>ppg</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>pH</u>
0' - 360'	Fresh water gel	9.0	50	NC	9
360' - TD'	Fresh water gel	9.0	38-50	6.0	9

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Sufficient material to maintain mud properties, control lost circulation, and prevent a blowout will be available at the well site while drilling. Rig personnel will check mud hourly. Material to soak up possible oil or fuel spills will be on site.

6. CORES, TESTS, & LOGS

No cores or drill stem tests are planned. Spectral density, high resolution induction, and cement bond logs will be run the base of the surface casing to TD. Samples will be collected every $\approx 10'$ from $\approx 200'$ above the Point Lookout to and through the Gallup and Dakota.

7. DOWN HOLE CONDITIONS

No abnormal pressures, temperatures, nor hydrogen sulfide are expected. Maximum bottom hole pressure will be $\leq 3,225$ psi.

8. OTHER INFORMATION

The anticipated spud date is upon approval. It is expected it will take ≈ 2 weeks to drill and ≈ 3 weeks to complete the well.

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Surface Use Plan

1. DIRECTIONS & EXISTING ROADS (See PAGES 10 - 13)

From the junction of US 550 and NM 537...

Go N 17.2 miles on NM 537

Then turn left and go SW 7.9 miles on dirt J-18 to a 5 way junction

Then turn right and go North 3.9 miles on dirt J-6

Then turn right and go Northeast 0.45 mile on a dirt road

Then turn right and go Southeast 0.25 mile on a dirt road to Elm Ridge's F 10 pad

Then follow an existing steel surface pipeline (not Elm Ridge) Southeast 0.2 mile

Then turn right and go Southwest 0.4 mile cross-country to the proposed pad

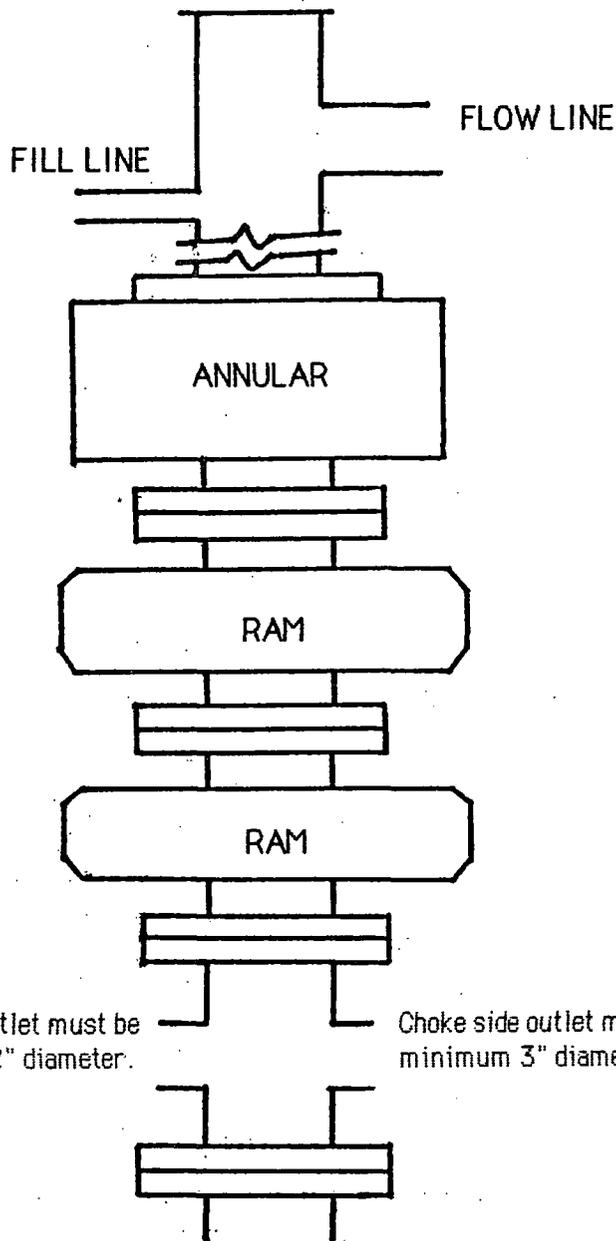
Roads will be maintained to at least equal to their present condition.

2. ROAD TO BE BUILT OR UPGRADED (See PAGES 12 & 13)

Upgrades will consist of repairing ruts. Barriers will be built around production equipment on the F 10 pad before road construction starts. The 3,159' of new road will be built to BLM Gold Book standards. Road will be crowned and ditched, have a $\approx 14'$ wide running surface, and will be rocked where needed. Borrow ditches will be turned out at least once every ≈ 100 yards on each side. Ditch turnouts will be feathered out. Maximum disturbed width will be 20'. Maximum cut or fill = 3'. Maximum grade = 7%. No cattle guard or culvert is needed. A silt trap and rocked low water crossing will be built ≈ 100 yards north of the well.

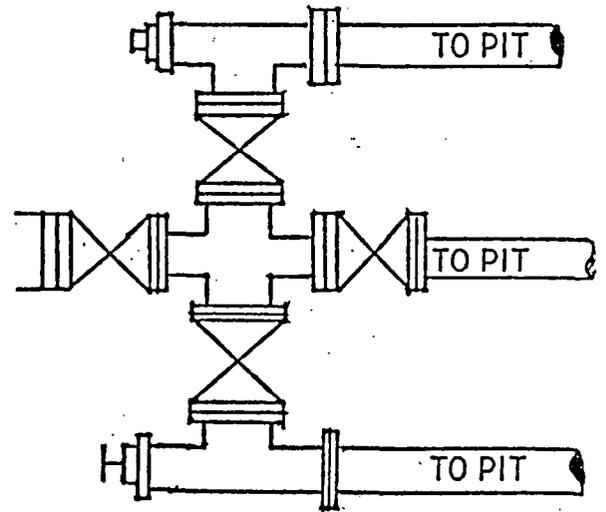
3. EXISTING WELLS (See PAGE 14)

Oil Conservation Division and State Engineer records show 16 gas or oil wells and 1 plugged and abandoned well within a mile radius. There are no injection or water wells within a mile.



TYPICAL BOP STACK
& CHOKE MANIFOLD

There will be at least 2 chokes and 2 choke line valves (3" minimum). The choke line will be 3" in diameter. There will be a pressure gauge on the choke manifold.



Kill side outlet must be minimum 2" diameter.

Choke side outlet must be minimum 3" diameter.

Kill line will be minimum 2" diameter and have 2 valves, one of which shall be a minimum 2" check valve.

Upper kelly cock will have handle available.

Safety valve and subs will fit all drill string connections in use.

All BOPE connections subjected to well pressure will be flanged, welded, or clamped.