

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: 8/31/13

Well information;

Operator Elm Ridge, Well Name and Number Jicarilla Apache F 23

API# 30-039-31199, Section 21, Township 25 N/S, Range 5 E/W

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

☒ Hold C-104 for 5.9 compliance
Charlie Hesse
NMOCD Approved by Signature

1-6-14 ca
Date

RECEIVED

Form 3160-3
(August 2007)

SEP 17 2013

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Farmington Field Office
Bureau of Land Management

APPLICATION FOR PERMIT TO DRILL OR REENTER

| | | |
|--|---|--|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER | | 5. Lease Serial No. BIA 149 |
| 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone | | 6. If Indian, Allottee or Tribe Name JICARILLA APACHE NATION |
| 2. Name of Operator ELM RIDGE EXPLORATION COMPANY, LLC | | 7. If Unit or CA Agreement, Name and No. |
| 3a. Address P. O. BOX 156 BLOOMFIELD, NM 87413 | | 8. Lease Name and Well No. JICARILLA APACHE F 23 |
| 3b. Phone No. (include area code) 505 632 3476 | | 9. API Well No. 30-039- 31199 |
| 4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 733' FNL & 859' FWL At proposed prod. zone SAME | | 10. Field and Pool, or Exploratory LINDRITH GALLUP-DAKOTA, WEST |
| 14. Distance in miles and direction from nearest town or post office* 13 AIR MILES NE OF COUNSELOR, NM | | 11. Sec., T. R. M. or Blk. and Survey or Area NWNW (D) 21-25N-5W NMMP |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 859' | 16. No. of acres in lease 2,559.40 | 17. Spacing Unit dedicated to this well NW4 (= 160 acres) |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 827' (F 7 (PC & Chacra)) | 19. Proposed Depth 7,500' | 20. BLM/BIA Bond No. on file BIA nationwide OKC 606114 |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,671' GRADED | 22. Approximate date work will start* 10/15/2013 | 23. Estimated duration 5 WEEKS |

24. Attachments

RCVD DEC 26 '13

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

OIL CONS. DIV.

DIST. 3

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

| | | |
|---------------------------------|---|--------------------|
| 25. Signature <i>B. Wood</i> | Name (Printed/Typed) BRIAN WOOD (505 466-8120) | Date 08/31/2013 |
|---------------------------------|---|--------------------|

Title

CONSULTANT

(FAX 505 466-9682)

| | | |
|---|---|------------------|
| Approved by (Signature) <i>Troy Salyers (Acting AFM)</i> | Name (Printed/Typed) Troy Salyers (Acting AFM) | Date 12/23/13 |
| Title Petroleum Engineer | Office FFO | |

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)

BLM'S 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

NMOC
AV

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

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6181 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

OIL CONSERVATION DIVISION

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

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

SEP 17 2013

Farmington Field Office
Bureau of Land Management

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | |
|---|--|--|
| ¹ API Number 30-039- 31199 | ² Pool Code 39189 | ³ Pool Name LINDRITH GALLUP-DAKOTA, WEST |
| 19029 | ⁶ Property Name JICARILLA APACHE F | ⁸ Well Number 23 |
| 149052 | ⁹ Operator Name ELM RIDGE EXPLORATION COMPANY, LLC | ⁹ Elevation 6671 |

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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| D | 21 | 25 N | 5 W | | 733 | NORTH | 859 | 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 <i>NW 1/4</i> | | ¹³ Joint or Infill | | ¹⁴ Consolidation Code | | ¹⁵ 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 | N 88°50'45" W WEST LAT: 36.3909082° N LONG: 107.3713671° W NAD 83 LAT: 36°23.45379' N LONG: 107°22.24591' W NAD 27 | 5289.02' (CALC.) 79.90 CHAINS (R) |
| 5272.19' (CALC.) 80 CHAINS (R) | SECTION 21 | 5315.29' (CALC.) 80 CHAINS (R) |
| N 01°13'50" E NORTH | | N 01°17'55" E NORTH |
| LEGEND: ○ = SURFACE LOCATION ◇ = D.P. SECTION CORNER ⊕ = FOUND MARKED STONE | | |
| N 88°22'43" W WEST | | 5282.81' (CALC.) 79.87 CHAINS (R) |

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.

Brian Wood 8-31-13
Signature Date
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 or other surveys made by me or under my supervision and that the same is true and correct to the best of my belief.

11/23/11
Date of Survey
Signature and Title of Professional Surveyor
14831
Certificate Number
2-9-2012

Elm Ridge Exploration Company, LLC
Jicarilla Apache F 23
733' FNL & 859' FWL
Sec. 21, T. 25 N., R. 5 W.
Rio Arriba County, New Mexico

PAGE 1

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' | +6,671' |
| Ojo Alamo | 2,196' | 2,206' | +4,475' |
| Kirtland | 2,371' | 2,381' | +4,300' |
| Fruitland | 2,471' | 2,481' | +4,200' |
| Pictured Cliffs Ss | 2,766' | 2,776' | +3,905' |
| Chacra Ss | 3,636' | 3,646' | +3,035' |
| Mesa Verde Ss | 4,431' | 4,441' | +2,240' |
| Mancos Shale | 5,211' | 5,221' | +1,460' |
| Gallup Ss | 6,126' | 6,136' | +545' |
| Graneros | 6,951' | 6,961' | -280' |
| Dakota Ss | 7,061' | 7,071' | -390' |
| Total Depth (TD) | 7,500' | 7,510' | -829' |

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.

Elm Ridge Exploration Company, LLC
Jicarilla Apache F 23
733' FNL & 859' FWL
Sec. 21, T. 25 N., R. 5 W.
Rio Arriba County, New Mexico

PAGE 2

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

Elm Ridge Exploration Company, LLC
Jicarilla Apache F 23
733' FNL & 859' FWL
Sec. 21, T. 25 N., R. 5 W.
Rio Arriba County, New Mexico

PAGE 4

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 $\approx 5,011'$ ($\approx 200'$ 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 |

Elm Ridge Exploration Company, LLC
Jicarilla Apache F 23
733' FNL & 859' FWL
Sec. 21, T. 25 N., R. 5 W.
Rio Arriba County, New Mexico

PAGE 5

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.

Elm Ridge Exploration Company, LLC
Jicarilla Apache F 23
733' FNL & 859' FWL
Sec. 21, T. 25 N., R. 5 W.
Rio Arriba County, New Mexico

PAGE 6

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 2.8 miles on dirt J-6

Then turn right and go Northeast 177' 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. The 177' 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 on each side. Ditch turnouts will be feathered out. Maximum disturbed width will be 20'. Maximum cut or fill = 2'. Maximum grade = 1%. 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)

There are 14 gas or oil wells, 2 plugged and abandoned wells, and 1 water well within a mile radius. There are no injection wells within a mile.

Elm Ridge Exploration Company, LLC
Jicarilla Apache F 23
733' FNL & 859' FWL
Sec. 21, T. 25 N., R. 5 W.
Rio Arriba County, New Mexico

PAGE 7

4. PROPOSED PRODUCTION FACILITIES (See PAGES 12 & 13)

Production facilities will include a separator, dehydrator, meter run, and two \approx 300 bbl tanks. All of the equipment will be painted a flat juniper green.

A 1,224.32' long steel \approx 4-1/2" O. D. natural gas pipeline will be laid southeast along roads to Elm Ridge's existing Jicarilla Apache F 7 pad. The pipeline will be buried \approx 36" deep and \approx 10' from the road.

5. WATER SUPPLY

Water will be trucked from water well one mile northwest of the junction of NM 537 and J-22.

6. CONSTRUCTION MATERIALS & METHODS (See PAGES 15 & 16)

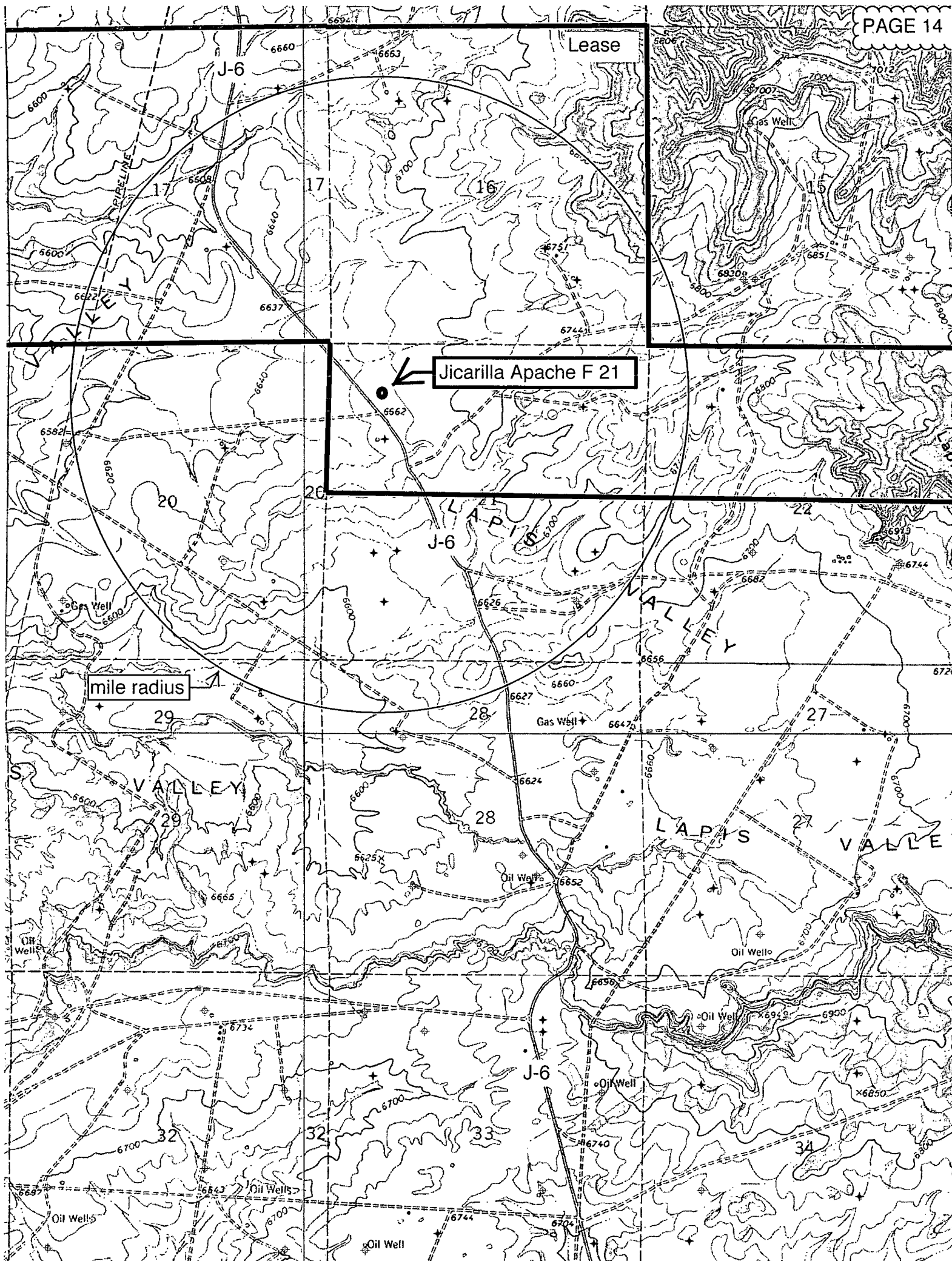
The top 6" of soil and brush will be bladed and piled east of the pad. A diversion ditch will be cut east of the pile.

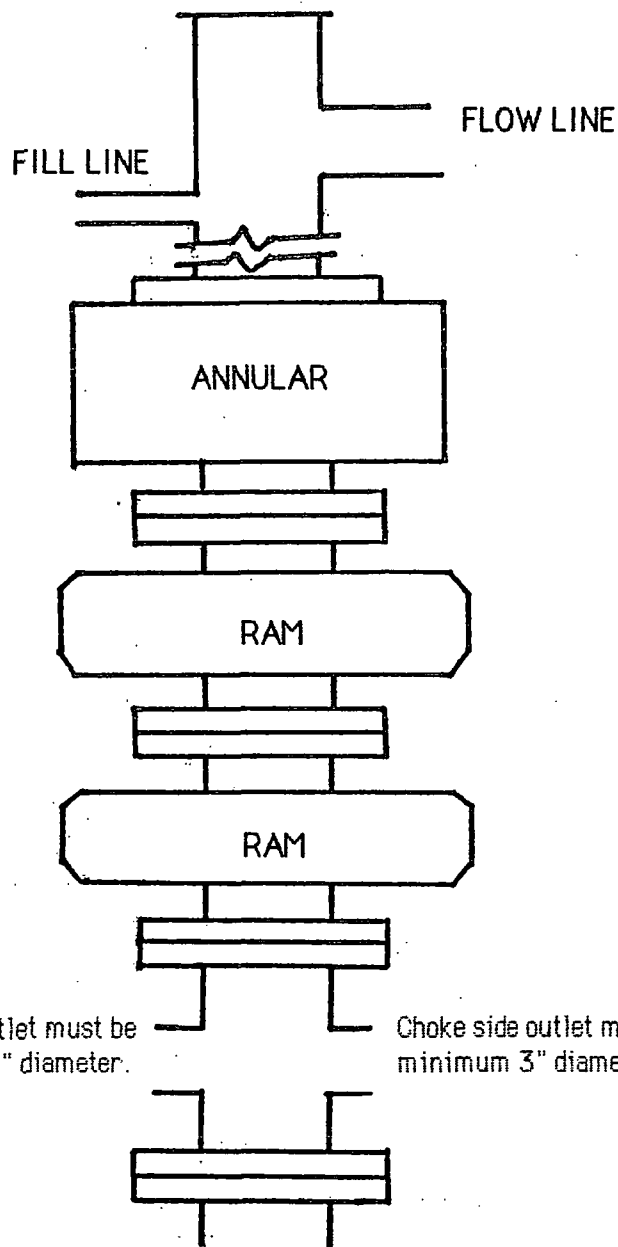
7. WASTE DISPOSAL

- ✓ A closed loop system will be used instead of a reserve pit. Tank contents will be hauled to a State approved disposal site off the Jicarilla Apache Nation. All trash will be placed in a portable trash cage. It will be hauled to an approved landfill. Human waste will be disposed of in chemical toilets.

8. ANCILLARY FACILITIES

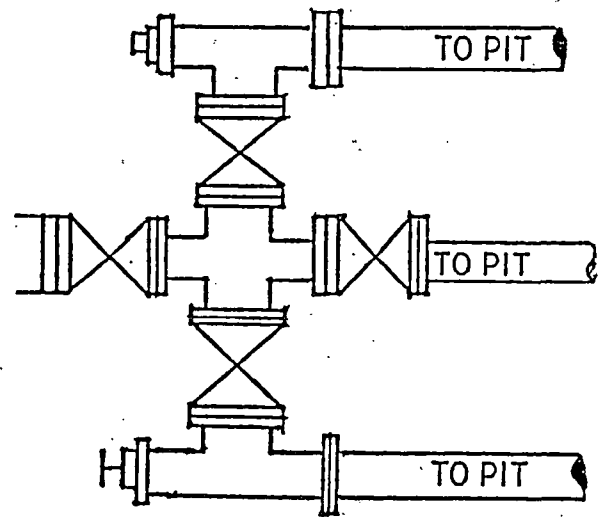
There will be no airstrip or camp. Camper trailers will be on location for the company man, tool pusher, and mud logger.





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 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.