

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 3160-4 or 3160-5 form.

Operator Signature Date: July 24th, 2013

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	UL	Sec	Twp	N/S	Rng	W/E	Feet	NS	Ft	EW	
30-039-31185-00-00	JICARILLA APACHE TRIBAL 125	017	ENERVEST OPERATING L.L.C.	O	N	Rio Arriba	J	D	25	25	N	4	W	737	N	1032	W

Conditions of Approval:

\*Hold C-104 for NSL

AUG 15 2013

\_\_\_\_\_  
NMOCD Approved by Signature

\_\_\_\_\_  
Date

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

JUL 26 2013

FORM APPROVED  
OMB No. 1004-0137  
Expires: October 31, 2014

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.**

5. Lease Serial No.  
Jicarilla Contract 125

6. If Indian, Allottee or Tribe Name  
Jicarilla Apache Tribe

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well

Oil Well     Gas Well     Other

2. Name of Operator  
EnerVest Operating, L.L.C.

3a. Address  
1001 Fannin St., Suite 800  
Houston, TX 77002

3b. Phone No. (include area code)  
713-659-3500

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
737' FNL & 1032' FWL (UL D)  
Sec. 25 T25N R04W

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

8. Well Name and No.  
Jicarilla Apache Tribal 125 #17

9. API Well No.  
30-039-31185

10. Field and Pool or Exploratory Area  
Lindreth Gallup-Dakota, West

11. County or Parish, State  
Rio Arriba, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Change Drilling Plan
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

RCVD AUG 1 '13  
OIL CONS. DIV.  
DIST. 3

EnerVest Operating, L.L.C. respectfully requests approval for a change of plans for our casing & cement program. Also, due to a correction in location footages (BLM & NMOCD notified via sundry dated May 20, 2013), the Elevation (GL), proposed TD, and estimated formation tops have been revised.

Attached: Revised Drill Plan and (proposed) WBD

**CONDITIONS OF APPROVAL**  
Adhere to previously issued stipulations.

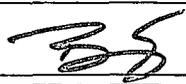
**BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS**

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Bart Treviño

Title Regulatory Analyst

Signature



Date 07/24/2013

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

William Tambekae

Title

Petroleum Engineer

Date

7/30/2013

Conditions of approval, if any, are attached. Approval of this notice 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.

Office FFO

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.

(Instructions on page 2)

# EnerVest Operating, LLC

## Jicarilla Apache Tribal 125 # 017

737' FNL, 1032' FWL Unit D, Sec. 25, T25N R04W Rio Arriba County, NM

GL Elev: 7085'

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### Drilling Plan

All Lease and /or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations, BLM Onshore orders and EnerVest's approved Further Development Project Plan. The operator is fully responsible for the actions of its subcontractors. A copy of the APD and Conditions of Approval will be available to the field representatives to ensure compliance.

#### 4.1, 4.2 ESTIMATED FORMATION TOPS (KB) and NOTABLE ZONES:

The following formation depths and proposed casing depths are estimates only and may be modified as determined by well conditions while drilling.

<u>Formation Name</u>	<u>Depth</u>	<u>Rock Type</u>	<u>Comments</u>
San Jose	Surface	Sandstone	
Ojo Alamo	2903'	Sandstone	Possible Gas, Water
Fruitland	3369'	Coal, Shale, Sandstone	Possible Lost Circ, Gas, Water
Pictured Cliffs	3456'	Sandstone	Possible Lost Circ, Gas, water
Lewis	3534'	Shale	Sloughing Shale
Mesa Verde (Cliffhouse)	5140'	Sandstone	Possible Lost Circ, Gas, Water
Mesa Verde (Menefee)	5191'	Coal, Sandstone, Shale	Possible Lost Circ, Gas, Water
Mesa Verde (Point Lookout)	5652'	Sandstone	Possible Lost Circ, Gas, Water
Mancos	5820'	Shale	Sloughing Shale
Gallup	6791'	Siltstone, Shale	Gas, Oil
Greenhorn	7571'	Limestone	Gas, Oil
Graneros	7640'	Shale	Gas, Oil, Water
Dakota	7672'	Sandstone	Gas, Oil, Water
Proposed Total Depth	7987'		

Fresh water zones will be adequately protected by setting and cementing the surface casing. All zones containing commercial quantities of oil or gas will be cased and cemented.

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4.3 PRESSURE CONTROL:

Maximum expected pressure is ~1757 (.22 pressure gradient) psi. The drilling contract has not yet been awarded, thus the exact BOP and Choke Manifold model to be used is not yet known. A typical 11" 2000 psi model is pictured in Exhibits A & B.

A remote accumulator will be used, the pressures, capacities location of the remote and manual controls will be identified at the time of the BLM supervised BOP test.

BOP equipment, accumulator, choke manifold and all accessories will meet or exceed BLM requirements as listed in Onshore Order #2 for the 2M systems. The pressure control equipment considerations include but will not be limited to:

1. BOP will be a double gate ram preventer with a set of blind rams and a set of properly-sized pipe rams.
2. Accumulator will have sufficient capacity to close the BOP rams and retain 200 psi above pre charge.
3. Accumulator fluid volume is to be maintained at manufacturer's recommendations.
4. BOP will also have manual closing handles available.
5. 2" minimum kill line and kill line valves (2).
6. Choke manifold (2" lines) with 2 adjustable chokes with valves and gauge.
7. Manually operated Kelly cocks available.
8. Safety valve and sub(s) with adequate opening for all drill strings used.
9. Fill line and flow line above the upper-most BOP rams.

BOPs will be pressure tested; after initial installation, before drilling out from under all set and cemented casing strings and any time a seal is broken. The BOPs will also be pressure tested a minimum of once every 21 days by a 3<sup>rd</sup> party. Additionally, the BOPs will be operationally checked every 24 hours.

All tests and pressure tests will be recorded on IADC log.

Ram type preventors, choke manifold and related pressure control equipment will be pressure tested to the rated working pressure of 2000 psi (high) and 250 psi (low).

The casing strings will be pressure tested per BLM Onshore Order #2 for 30 min as follows:

- a. Surface casing tested to 600 psi prior to drilling out the shoe.
- b. Production casing will be tested to 6000 psi at the commencement of completion operations.

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4.4 PROPOSED CASING PROGRAM:

<b>Casing Design</b>								
<b>Hole/Casing Description</b>	<b>Hole Size</b>	<b>Casing OD</b>	<b>Weight lb/ft</b>	<b>Grade</b>	<b>Age</b>	<b>Connection</b>	<b>Top MD</b>	<b>Bottom MD</b>
<b>Surface Casing</b>	12 1/4"	9 5/8"	36	J-55	New	ST&C	0	500'
<b>Prod Casing</b>	7 7/8"	4 1/2"	11.6	N-80	New	LT&C	0	7987'

**Surface casing is to be cemented to surface. The production casing is to be cemented in 3 stages covering all zones of production potential and the 3<sup>rd</sup> stage is intended to circulate cement to surface.**

4.5 CASING CEMENT:

A prototypical cementing program is listed as follows, site-specific cement designs will be produced for each well as the hole conditions warrant. The cement program will be designed to meet the BLM Onshore Order #2 and NMOCD requirements.

**Surface casing** will be cemented to the surface.

Cement and properties; Mix and pump 225 sacks (313 cu ft) Type III cement (or equivalent) cement. Slurry density is to be 14.6 (yield = 1.39 cu ft/sx). Volume will include 100% excess. Cement is to be displaced using a top plug.

Two centralizers will be run on the shoe joint, one centralizer each on the next two joints and then one centralizer on every third joint thereafter.

The surface casing will be pressure tested to 600 psi prior to drilling out the shoe.

**Production casing** will be cemented in 3 stages covering all zones of production potential and the 3<sup>rd</sup> stage is intended to circulate cement to surface. Volumes based on 45% - 50% excess over OH gauge volume.

**Stage 1 cement;** mix and pump 525 sacks (1056 cu ft) premium lite slurry with CaCl<sub>2</sub>, cello flake and gilsonite. Estimated slurry density is to be 12.1 (yield = 2.13 cu ft/sx).

DV tool at +/- 4800 ft.

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**Stage 2 Lead cement;** mix and pump 271 sacks (577 cu ft) premium lite slurry with CaCl<sub>2</sub>, cello flake and gilsonite. Estimated slurry density is to be 12.1 (yield = 2.13 cu ft/sx).

**Stage 2 Tail cement;** mix and pump 50 sacks (70 cu ft) Type III cement (or equivalent) cement. Slurry density is to be 14.6 (yield = 1.39 cu ft/sx). or equivalent cement.

DV tool at +/- 2906 ft.

**Stage 3 Lead cement;** mix and pump 429 sacks (915 cu ft) premium lite slurry with CaCl<sub>2</sub>, cello flake and gilsonite. Estimated slurry density is to be 12.1 (yield = 2.13 cu ft/sx).

**Stage 3 Tail cement;** mix and pump 50 sacks (70 cu ft) Type III cement (or equivalent) cement. Slurry density is to be 14.6 (yield = 1.39 cu ft/sx). or equivalent cement.

Two centralizers will be run on the shoe joint, one centralizer on every third joint into the surface casing.

**The production casing will be pressure tested for 30 minutes at the commencement of completion operations as outlined above**

Where cement has not been circulated to surface (or to planned depth) a CBL or temperature survey will be run to determine the TOC for that casing string. A CBL log will be run in the production casing prior to the commencement of completion operations.

Cement specifications may vary slightly due to cement type and cement contractor availability.

4.6 MUD PROGRAM

Depth	Type	Wt / pp	Visc	Fluid Loss
0-500'	FW gel/Lime Spud Mud	8.4-9.0	30-40	N/C
500'- 7987'	LSND/Gel sweeps, LCM as needed	8.7-9.0	20-32	4-6 cc

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The well will be drilled utilizing a closed loop mud and solids control system. The closed loop system will comply with the NMOCD pit rules pertaining to the use of the system and disposal of the drill cuttings and waste. Drilling mud will be moved for re-use to drill subsequent wells whenever possible.

Viscosity, mud weight and other physical and chemical characteristics of the drilling mud will be varied as required to keep the hole clean, circulate drill cuttings, prevent caving, prevent lost circulation and maximize penetration rate.

Sufficient mud and materials will be kept on site to maintain mud properties and meet lost circulation or mud weight requirements at all times.

Mud design may change depending on well conditions, LCM, fluid loss and viscosity will be determined by the EnerVest representative and the mud engineer on site.

**4.7 CORING, TESTING, & LOGGING**

No cores or drill stem tests are planned. Well logs to be run are:

**Surface to TD;** GR/ Cement Bond Log, at the commencement of completion operations.  
**3000' to TD;** GR/Induction/Density Neutron. (Cased hole GR/Neutron will be run if the hole conditions do not allow the use of the open hole logs)

Deviation surveys will be run at 500 ft intervals and at the base of each hole section prior to setting casing.

**4.8 ANTICIPATED PRESSURES AND TEMPERATURES:**

- |    |   |            |
|----|---|------------|
| a. | Expected bottom hole pressure:                | < 1757 psi |
| b. | Anticipated abnormal pressure:                | None       |
| c. | Anticipated abnormal temperatures:            | None       |
| d. | Anticipated hazardous gas (H <sub>2</sub> S): | None       |

If any of the foregoing conditions are unexpectedly encountered, suitable steps will be taken to mitigate according to accepted industry best practices.

**4.9 OTHER INFORMATION:**

The anticipated spud date is late summer 2013. The spud date will be dependent on the weather conditions, road conditions and the Conditions of Approval.

The dirt work for road and well pad construction will commence upon approval of the APD and will be dependent on weather conditions.

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The well will be spud after well pad construction is complete and a suitable rig becomes available. The duration of drilling operations is expected to be from two to three weeks. The drilling rig and associated equipment will be removed and preparations will be made for the completion of the well.

Completion will start about one to four weeks after the finish of the drilling operations. A completion rig will be moved in for the completion phase. The completion phase of the well is expected to +/- two weeks. The completion phase will include; perforating, acidizing, fracture stimulation and well testing.

Some events/situations may arise that could potentially change the starting date or project duration that are out of EnerVest's control. If such events/situations arise, the proper officials will be promptly notified.

