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: December 12, 2013

Application Type:

☐ P&A ☒ Drilling/Casing Change ☐ Recomplete/DHC

☐ Location Change ☐ Other: _____

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-039-31171-00-00	JICARILLA A	007F	ENERVEST OPERATING L.L.C.	G	N	Rio Arriba	J	C	17	26	N	5	W

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations

Hold C-104 for NSL

NMOCD Approved by Signature

12-20-2013
Date

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

Form 3160-5
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
DEC 16 2013
Farmington Field Office
Bureau of Land Manag

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.

SUBMIT IN TRIPLICATE *– Other instructions on page 2.*

1. Type of Well ☐ Oil Well ☑ Gas Well ☐ Other	5. Lease Serial No. Jicarilla Contract 110
	6. If Indian, Allottee or Tribe Name Jicarilla Apache
	7. If Unit of CA/Agreement, Name and/or No.
	8. Well Name and No. Jicarilla A #7F
2. Name of Operator EnerVest Operating, L.L.C.	9. API Well No. 30-039-31171
3a. Address 1001 Fannin Street, Suite 800 Houston, TX 77002 3b. Phone No. *(include area code)* 713-659-3500	10. Field and Pool or Exploratory Area Blanco Mesaverde/Basin Dakota
4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* 660' FNL & 2053' FWL (UL C) Sec. 17 T26N R05W	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			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other _____
	☑ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	_____
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ 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 DEC 19 '13
OIL CONS. DIV.
DIST. 3

EnerVest Operating, L.L.C. intends to modify the drilling plan submitted with the original APD dated 12/31/2012. The surface casing will be 8 5/8" 24# J-55 and the production casing will be 4 1/2" 11.6# N-80 with a hole size of 7 7/8".

The modified drilling plan is attached.

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 12/12/2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by William Tambekou	Title Petroleum Engineer	Date 12/17/2013
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)

NMOCD

EnerVest Operating, LLC
Jicarilla A # 7F
660' FNL, 2053' FWL Unit C,
Lat: 36.49262, Long: 107.38499
Sec. 17, T26N R05W Rio Arriba County, NM
GL Elev: 6640'

Revised Drilling Plan (11-26-2013)

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.

Formation Name	Depth	Rock Type	Comments
San Jose	Surface	Sandstone	
Ojo Alamo	2282'	Sandstone	Possible Gas, Water
Kirtland	2655'	Shale	
Fruitland	2875'	Coal, Shale, Sandstone	Possible Lost Circ, Gas, Water
Pictured Cliffs	3104'	Sandstone	Possible Lost Circ, Gas, water
Lewis	3174'	Shale	Sloughing Shale
Mesa Verde	4050'	Sandstone / Shale	
Mesa Verde (Cliffhouse)	4797'	Sandstone	Possible Lost Circ, Gas, Water
Mesa Verde (Menefee)	4878'	Coal, Sandstone, Shale	Possible Lost Circ, Gas, Water
Mesa Verde (Point Lookout)	5357'	Sandstone	Possible Lost Circ, Gas, Water
Mancos	5526'	Shale	Sloughing Shale
Gallup	6511'	Siltstone, Shale	Gas, Oil
Greenhorn	7246'	Limestone	Gas, Oil
Graneros	7304'	Shale	Gas, Oil, Water
Dakota	7329'	Sandstone	Gas, Oil, Water
Proposed Total Depth	7619'		

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.

4.3 PRESSURE CONTROL:

Maximum expected pressure is ~1676 (.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 3rd 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.

EnerVest Operating, LLC
Jicarilla A # 7F
660' FNL, 2053' FWL Unit C,
Lat: 36.49262, Long: 107.38499
Sec. 17, T26N R05W Rio Arriba County, NM
GL Elev: 6640'

4.4 PROPOSED CASING PROGRAM :

Casing Design

Hole/Casing Description	Hole Size	Casing OD	Weight lb/ft	Grade	Age	Connection	Top MD	Bottom MD
Surface	12 ¼"	8 ⅝"	24	J-55	New	ST&C	0	500'
Prod Casing	7 ⅞"	4 ½"	11.6	N-80	New	LT&C	0	7619'

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 3rd 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 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 297 sacks (413 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 3rd stage is intended to circulate cement to surface. Volumes based on 45% - 50% excess over OH gauge volume.

Stage 1 cement; mix and pump 522 sacks (1048 cu ft) premium lite slurry with CaCl2, cello flake and gilsonite. Estimated slurry density is to be 12.1 (yield = 2.13 cu ft/sx).

DV tool at +/- 4457 ft.

Stage 2 Lead cement; mix and pump 273 sacks (581 cu ft) premium lite slurry with CaCl2, 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 (69 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 +/- 2554 ft.

Stage 3 Lead cement; mix and pump 355 sacks (756 cu ft) premium lite slurry with CaCl2, 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'- 7619'	LSND/Gel sweeps, LCM as needed	8.7-9.0	20-32	4-6 cc

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.
2500' to TD; GR/Cased hole Neutron.

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:	< 1676 psi
b.	Anticipated abnormal pressure:	None
c.	Anticipated abnormal temperatures:	None
d.	Anticipated hazardous gas (H2S):	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 spring 2014. 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.

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.