

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

MAY 02 2013

**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 reverse side.

1. Type of Well  
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator  
**EnerVest Operating, LLC**

3a. Address **1001 Fannin St, Suite 800  
Houston, TX 77002-6707**

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

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**1268' FSL & 1658' FWL (UL N)  
Sec. 17 T26N R05W**

5. Lease Serial No.  
**Jicarilla Contract 110**

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

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

8. Well Name and No.

**Jicarilla A #7M**

9. API Well No.

**30-039-31174**

10. Field and Pool, or Exploratory Area

**Blanco Mesaverde/Basin Dakota**

11. County or Parish, State

**Rio Arriba, NM**

**12. CHECK APPROPRIATE BOX(S) 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"/> Altering 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	<b>Change in casing size</b>
	<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 recompleat horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will performed or provide the Bond No. on file with the BLM/ BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notice shall be filed only after all requirements, including reclamanation, have been completed, and the operator has determined that the site is ready for final inspection.)

RCVD MAY 7 '13  
OIL CONS. DIV.  
DIST. 3

**EnerVest Operating, L.L.C. intends to change the production casing strings from 5 1/2" 17# N-80 casing to 4 1/2" 11.6# N-80 casing. Please see the revised drilling program and proposed WBD attached to this form.**

**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**

\* TD deepens from 7655' to 7718' TVD.

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

**Bart Trevino**

Title

**Regulatory Analyst**

Signature

*Bf*

Date

**May 1, 2013**

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

Approved by **Troy L. Salvers**

Title **Petroleum Engineer**

Date **5/3/13**

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 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)

NMOC D PV

## **EnerVest Operating, LLC**

**Jicarilla A # 7M**

1268' FSL, 1658' FWL Unit N Sec. 17, T26N R05W Rio Arriba County, NM  
GL Elev: 6676'

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### **Revised 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	2496'	Sandstone	Possible Gas, Water
Kirtland	2833'	Shale	
Fruitland	3022'	Coal, Shale, Sandstone	Possible Lost Circ, Gas, Water
Pictured Cliffs	3148'	Sandstone	Possible Lost Circ, Gas, water
Lewis	3281'	Shale	Sloughing Shale
Mesa Verde (Cliffhouse)	4867'	Sandstone	Possible Lost Circ, Gas, Water
Mesa Verde (Menefee)	4947'	Coal, Sandstone, Shale	Possible Lost Circ, Gas, Water
Mesa Verde (Point Lookout)	5385'	Sandstone	Possible Lost Circ, Gas, Water
Mancos	5524'	Shale	Sloughing Shale
Gallup	6541'	Siltstone, Shale	Gas, Oil
Greenhorn	7289'	Limestone	Gas, Oil
Graneros	7347'	Shale	Gas, Oil, Water
Dakota	7374'	Sandstone	Gas, Oil, Water

Proposed Total Depth      7718'

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 ~1698 (.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. Intermediate casing tested to 1500 psi prior to drilling out the shoe. **(If intermediate casing is used.)**
- c. Production casing will be tested to 6000 psi for the 4 ½" 11.6# N-80 casing at the commencement of completion operations.

**EnerVest Operating, LLC****Jicarilla A # 7M**1268' FSL, 1658' FWL Unit N Sec. 17, T26N R05W Rio Arriba County, NM  
GL Elev: 6676'**4.4 PROPOSED CASING PROGRAM (S):**

The casings program is designed to use **Option A** below. If while drilling the hole conditions indicate that an intermediate casing may be needed then **Option B** will be used.

**Casing Option A**

Hole/Casing Description	Hole Size	Casing OD	Weight lb/ft	Grade	Age	Connection	Top MD	Bottom MD
Surface	12 1/4"	9 5/8"	36	J-55	New	ST&C	0	500'
Prod Casing (1)	8 3/4"	4 1/2"	11.6	N-80	New	LT&C	0	3371'
Prod Casing (2)	7 7/8"	4 1/2"	11.6	N-80	New	LT&C	3371'	7718'

**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.**

**Casing Option B**

Hole/Casing Description	Hole Size	Casing OD	Weight lb/ft	Grade	Age	Connection	Top MD	Bottom MD
Surface	12 1/4"	9 5/8"	36	J-55	New	ST&C	0	500'
Intermediate	8 3/4"	7"	23	J-55	New	LT&C	0	3371'
Prod Casing	6 1/4"	4 1/2"	11.6	N-80	New	LT&C	0	7718'

**Surface and Intermediate casings are to be cemented to surface, production casing is intended to be cemented with a 200' overlap into the intermediate casing.**

**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.

## **EnerVest Operating, LLC**

### **Jicarilla A # 7M**

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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 (for Casing Option A only)** 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 65% OH excess cement for stage 1 and 50% for stages 2 and 3.

Stage 1 Cement; mix and pump 613 sacks (1232 cu ft) premium lite high strength cement with CaCl<sub>2</sub>, cellophane, gilsonite and fluid loss agent. Slurry density is to be 12.5 (yield = 2.01 cu ft/sx).

DV tool at +/- 4450 ft.

Stage 2 Lead cement; mix and pump 309 sacks (658 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 +/- 2590 ft.

Stage 3 Lead cement; mix and pump 496 sacks (1055 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.

**Intermediate casing (for Casing Option B only)** will be cemented to surface in 2 stages, stage tool to be set at +/- 2590'. Cement will be designed to circulate to surface. Volumes will be based on 50% excess in OH.

Stage 1 Lead cement; mix and pump 50 sacks (106 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 1 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 @ +/- 2590 ft.

## **EnerVest Operating, LLC**

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GL Elev: 6676'

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Stage 2 Lead cement; mix and pump 210 sacks (448 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.

Two centralizers will be run on the shoe joint, one centralizer on every other joint for 14 joints and then one centralizer on every third joint thereafter.

The Intermediate casing will be pressure tested to 1500 psi prior to drilling out the shoe.

**Production casing (for Casing Option B only)** will be cemented into the intermediate casing with a minimum of 200 ft overlap. Volumes based on 65% excess in OH.

Lead cement; mix and pump 87 sacks (186 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).

Tail cement; mix and pump 277 sacks (557 cu ft) premium lite high strength cement with CaCl<sub>2</sub>, cellophane, gilsonite and fluid loss agent. Slurry density is to be 12.5 (yield = 2.01 cu ft/sx).

Two centralizers will be run on the shoe joint, one centralizer on every other joint into the intermediate casing, then every 3<sup>rd</sup> joint to surface.

**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.

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#### 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'-3371'	LSND/Gel sweeps, LCM as needed	8.8-9.2	20-40	6-10 cc
3371'- 7718'	LSND/Gel sweeps, LCM as needed	8.8-9.2	20-40	6-10 cc

The well will be drilled utilizing a closed loop mud handling 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:

##### Casing Option A

**Surf to TD;** GR/ Cement Bond Log, at the commencement of completion operations.

**500' to TD;** GR/Pulsed Neutron

##### Casing Option B

**Surf to TD;** GR/ Cement Bond Log, if cement is not circulated to surface in intermediate casing. Or at commencement of completion operations.

**500' to TD;** GR/Pulsed 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:

## **EnerVest Operating, LLC**

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- |    |   |            |
|----|---|------------|
| a. | Expected bottom hole pressure:                | < 1698 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 spring 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.

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.



# ENERVEST

Jicarilla A # 7M

TYPE	Dakota/MV	RIG	D&J # 2	DATE	10-Feb-2013
FIELD		COUNTY	Rio Arriba	ELEVATION	6676' GL
GAS/OIL	Gas/Oil	MUD	LSND		
LOCATION	1268' FSL & 1658' FWL Unit N, Sec 17, T26N, R5W			BHT/BHP	
COMMENTS	OBJECTIVE FORMATION: Dakota and Mesa Verde				
NOTES					

				DEPTH TVD					
<b>Surface Section</b>		<b>Cemented to Surface</b>							
Inclination @ every 500'		12 1/4" Hole >		500'		Cement to surface Water based bentonite mud Drilled w/ PDC Bit			
		9-5/8", 36#,J-55,LT&C							
<b>Production Section</b>		<b>Cemented to Surface with 3 Stages</b>							
		8-3/4" Hole from 500 to 3371' >							
Inclination @ every 500'						Drilled w/PDC, motor, 4-1/2" DP 8.8-9.1 PPG LSND Bentonite Mud			
		Ojo Alamo >		2496'					
				2590'		< < Stage Collar Cementing Tool			
		Fruitland Coal >		3022'					
		Picture Cliffs >		3148'		POSSIBLE LOST RETURNS (Mix 20-25% LCM sweeps as needed)			
		Lewis Shale >		3281'					
		7 7/8" hole from 3371' to TD >							
				4450'		< < Stage Collar Cementing Tool			
		Mesa Verde >		4867'		Drilled w/PDC or Tri-Cone, motor, 4-1/2" DP 8.8-9.1 PPG LSND Bentonite Mud			
		Menefee >		4947'					
						POSSIBLE LOST RETURNS (Mix 20-25% LCM sweeps as needed)			
		Point Lookout >		5385'					
		Mancos >		5524'					
						Logs: Cased hole GR/Pulsed Neutron GR/CBL			
		Graneros Shale >		6541'					
		Dakota >		7374'					
		4-1/2", 11.6#, N-80 LT&C - To Surface		7718'					

AFE #	CO-1302-234	REGULATORY	B Trevino	713-495-5355
EV #	54013.028	ENGINEER	R Trueheart / L Diede	713-495-1561 / 505-334-8867
API #	30-039-31174	GEOLOGIST	G Kowalczyk	713-495-6590