

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 18th, 2013

Application Type:

☐ P&A ☒ Drilling/Casing Change ☐ Recomplete/DHC
☒ Location Change ☐ Other: _____

Well information:

Enervest Operating, LLC
Jicarilla A #1M
30-039-31172,
ULK, S18, T26N, R5W

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations

Hold C-104 For NSL

NMOCD Approved by Signature

3-12-14
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

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

5. Lease Serial No.

Jicarilla Contract 110

6. If Indian, Allottee, or Tribe Name

Jicarilla Apache

Bureau of Land Management

SUNDRY NOTICES AND REPORTS ON WELLS DEC 19 2013

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

2. Name of Operator

EnerVest Operating, L.L.C.

3a. Address

1001 Fannin Street, 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)

1807' FSL & 2527' FWL (UL K), Sec. 18 T26N R5W

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

8. Well Name and No.

Jicarilla A #1M

9. API Well No.

30-039-31172

10. Field and Pool, or Exploratory Area

Blanco Mesaverde/Basin Dakota

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☐ Subsequent Report☐ Alter Casing☐ Fracture Treat☐ Reclamation☐ Well Integrity☐ Final Abandonment Notice☐ Casing Repair☐ New Construction☐ Recomplete☐ Other☒ Change Plans☐ Plug and Abandon☐ Temporarily Abandon☐ Convert to Injection☐ Plug Back☐ Water Disposal

Changed SHL &

Drilling Plan

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 zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with the 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 recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notice must be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)

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 surface location has also been changed. New plats are attached.

RCVD MAR 12 '14
OIL CONS. DIV.
DIST. 3

Attachments: Plats, Revised Drilling Plan, & Updated SUPO.

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

Bart Treviño

Title

Regulatory Analyst

Signature

Date

December 18, 2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

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

FEO

3/11/14

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)

NMCCD IV

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 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, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

DEC 19 2013

☐ AMENDED REPORT

Farmington Field Office

WELL LOCATION AND ACREAGE DEDICATION

¹ API Number 30-039-31172	² Pool Code 72319/71599	³ Pool Name BLANCO MESAVIOLAS BASIN DAKOTA
⁴ Property Code 306750	⁵ Property Name JICARILLA A	⁶ Well Number #1M
⁷ GRID No. 143199	⁸ Operator Name ENERVEST OPERATING, LLC	⁹ Elevation 6616'

¹⁰Surface Location

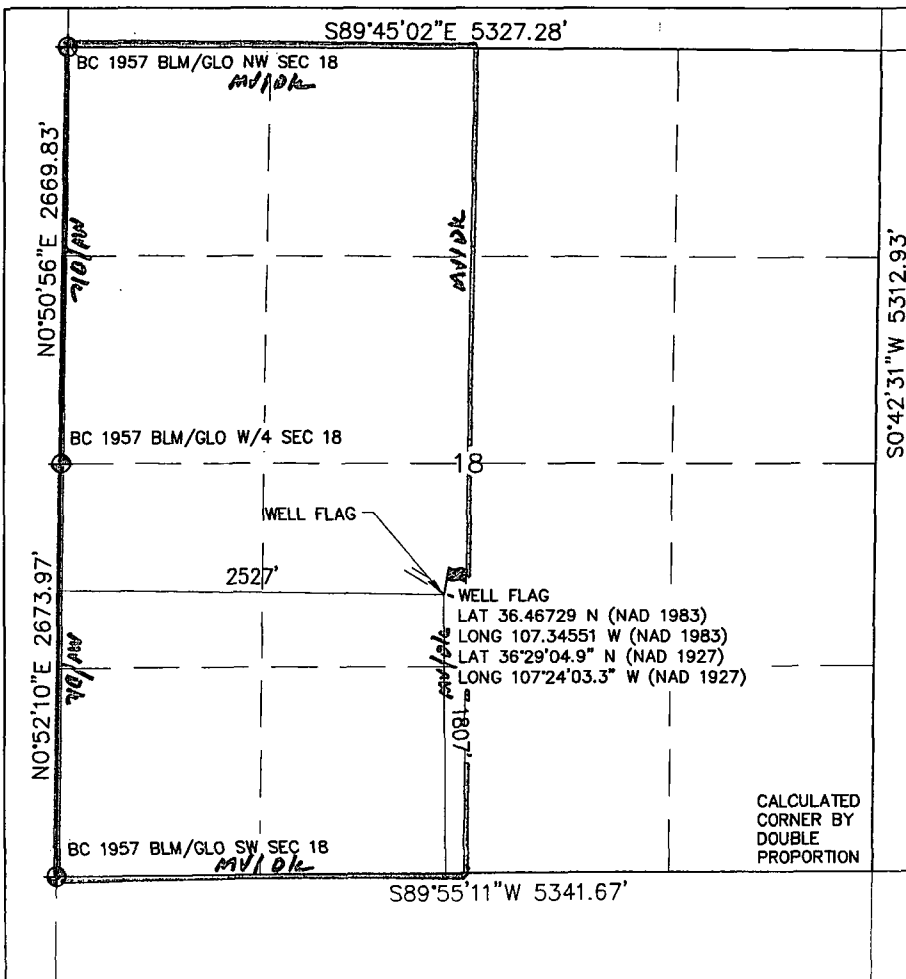
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	18	26N	5W		1807'	SOUTH	2527'	WEST	RIO ARRIBA

¹¹Bottom 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
K	18	26N	5W		1807'	SOUTH	2527'	WEST	RIO ARRIBA

¹² Dedicated Acres 319.20	¹³ Joint of Infill 319.20	¹⁴ Consolidation Code MA - W/3/20	¹⁵ Order No. PK - W/3/20
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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.

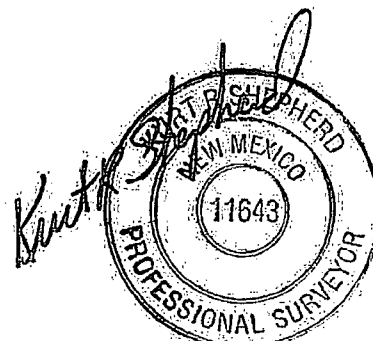


¹⁷OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to 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.

BD **12/18/13**
Signature Date
BART TREVIÑO
Printed Name
B.TREVIÑO@ENERVEST.NET
E-mail Address

¹⁸SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my behalf.

Survey Date: **SEPTEMBER 4, 2013**
Signature and Seal of Professional Surveyor



Certificate Number 11643

EnerVest Operating, LLC
Jicarilla A # 1M
1807' FSL, 2527' FWL Unit K,
Lat: 36.46729, Long: 107.34551
Sec. 18, T26N R05W - Rio Arriba County, NM
GL Elev: 6616'

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.

<u>Formation Name</u>	<u>Depth</u>	<u>Rock Type</u>	<u>Comments</u>
San Jose	Surface	Sandstone	
Ojo Alamo	2398'	Sandstone	Possible Gas, Water
Kirtland	2608'	Shale	
Fruitland	2941'	Coal, Shale, Sandstone	Possible Lost Circ, Gas, Water
Pictured Cliffs	3033'	Sandstone	Possible Lost Circ, Gas, water
Lewis	3120'	Shale	Sloughing Shale
Mesa Verde	3995'	Sandstone / Shale	
Mesa Verde (Cliffhouse)	4752'	Sandstone	Possible Lost Circ, Gas, Water
Mesa Verde (Menefee)	4816'	Coal, Sandstone, Shale	Possible Lost Circ, Gas, Water
Mesa Verde (Point Lookout)	5318'	Sandstone	Possible Lost Circ, Gas, Water
Mancos	5471'	Shale	Sloughing Shale
Gallup	6815'	Siltstone, Shale	Gas, Oil
Greenhorn	7237'	Limestone	Gas, Oil
Graneros	7296'	Shale	Gas, Oil, Water
Dakota	7320'	Sandstone	Gas, Oil, Water
Proposed Total Depth	7615'		

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 ~1675 (.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.

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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 casing	12 1/4"	8 5/8"	24	J-55	New	ST&C	0	500'
Production casing	7 7/8"	4 1/2"	11.6	N-80	New	LT&C	0	7615'

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 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 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 528 sacks (1061 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).

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GL Elev: 6616'

DV tool at +/- 4412 ft.

Stage 2 Lead cement; mix and pump 277 sacks (590 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 +/- 2483 ft.

Stage 3 Lead cement; mix and pump 344 sacks (732 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 (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.

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'- 7615'	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.
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: | < 1675 psi |
| b. | Anticipated abnormal pressure: | None |
| c. | Anticipated abnormal temperatures: | None |
| d. | Anticipated hazardous gas (H ₂ S): | None |

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

EnerVest Operating, LLC
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Sec. 18, T26N R05W Rio Arriba County, NM
GL Elev: 6616'

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.

**EnerVest
Jicarilla 2014
Drilling Program
Blowout Preventer
2000 psi**

Exhibit A

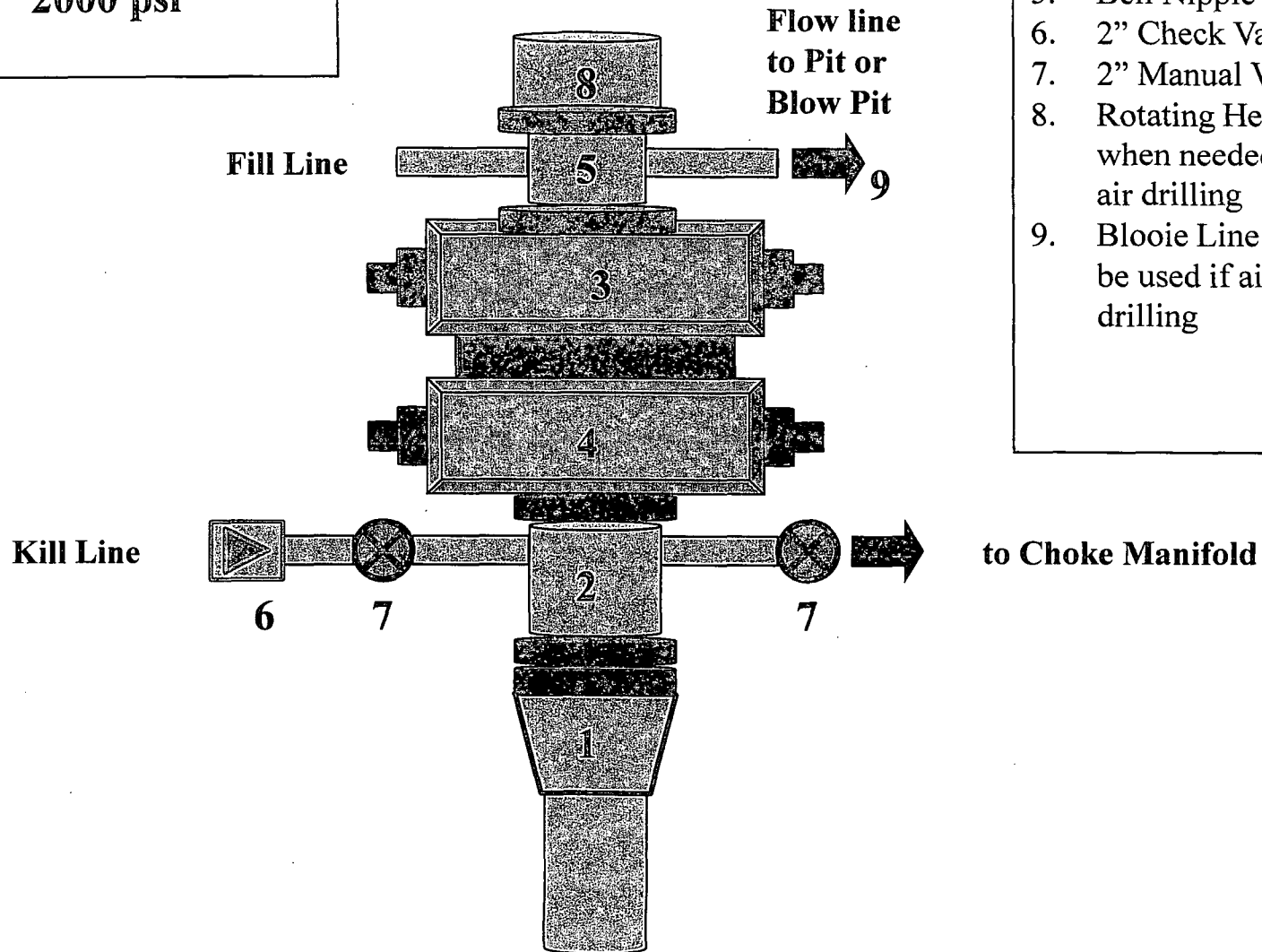
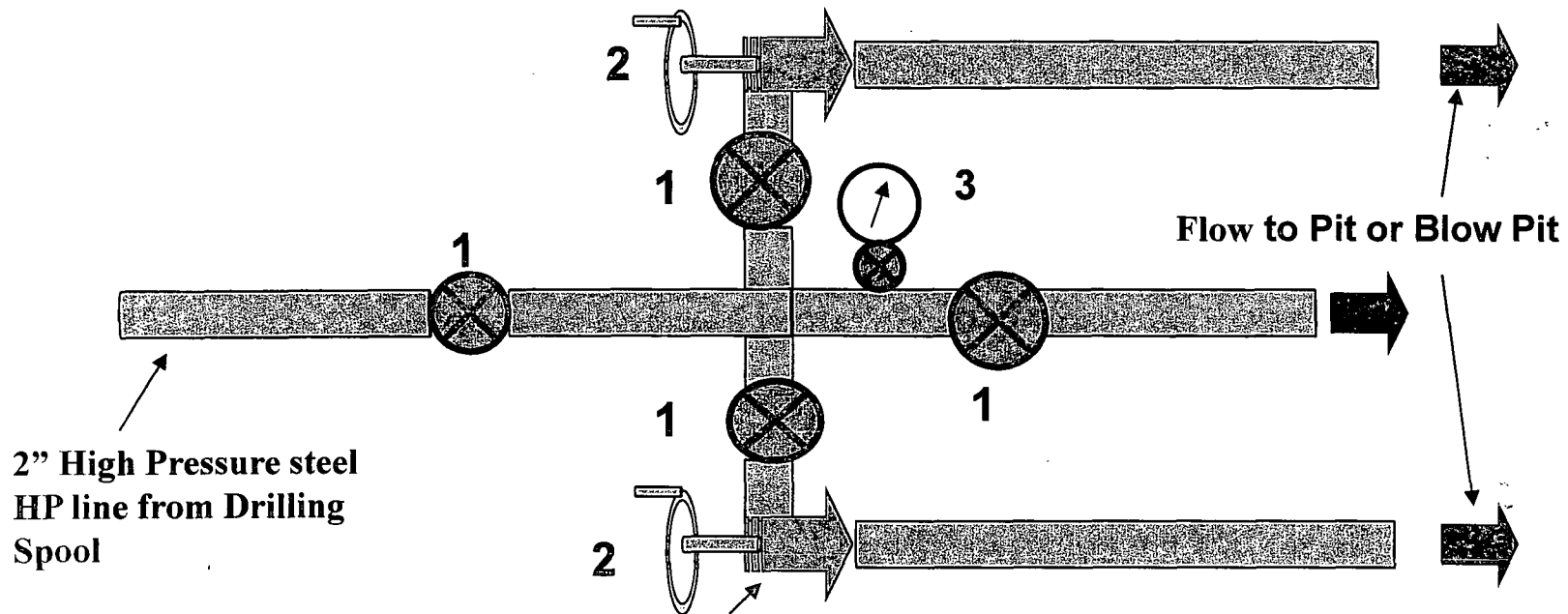


Exhibit B

**EnerVest
Jicarilla 2014 Drilling
Program
2000 psi Choke Manifold**

Components

1. 2" Valves (2M)
2. Adjustable Chokes
3. Gauge



EnerVest Operating, LLC
Jicarilla A # 1M
1807' FSL, 2527' FWL Unit K Sec 18, T26N, R05W Rio Arriba, NM

Surface Use Plan

1. **DIRECTIONS & EXISTING ROADS** (See attached Vicinity map)

The location is approximately 33 miles NW of the intersection of US Hwy 550 and NM Hwy 537

Latitude: N 36.46729

Latitude: W 107.34551

From Intersection of US Hwy 550 and NM State Hwy 537: Turn north on Hwy 537 for 28 miles, turn left on J-6 for 8.0 mi, turn right on J-63, go 5.7 mi, turn left, go 0.2 mi, turn left on new access road to location.

2. **ROAD TO BE BUILT OR UPGRADED**

- A. Drilling of this well will require the construction of 158' of new access road from an existing access road that connects with J-63 road. After the well is completed as a commercial producer, the need for a pipeline is ascertained, it is proposed to construct 871' of pipeline to tie-in to an existing Williams pipeline which runs with the access road that connects with J-63.
- B. Width: 20 ft running surface; 40 ft total ROW with is applied for to accommodate access and drainage installation along the road.
- C. Maximum grade: 0-1%.
- D. Turnouts: No turnouts are planned for this access road.
- E. Drainage design: The drainage design for the proposed new access road will be in conformance with Jicarilla Apache Tribal and BIA standards – with the agreement of the of the Jicarilla Apache Tribe. It is proposed to build a drainage holding and diversion pond near location if needed to prevent location erosion and divert drainage around the location. Any area used in this fashion will have been reviewed and given clearance for the possible archaeological and environmental impact.
- F. Location and size of culverts: None are required.
- G. Surface Materials: No gates, cattle guards or fences to be installed along the access road or the location. Road base material may be used as necessary during the drilling and completion phases of this project.

3. **SURFACE OWNERSHIP**

The surface ownership of the well site location and access roads are all on Jicarilla Apache Nation land.

4. **EXISTING WELLS** (See the Vicinity map)

This is a development location. There are thirty-three existing wells within a one-mile radius of the proposed location as shown on the Vicinity map.

EnerVest Operating, LLC

Jicarilla A # 1M

1807' FSL, 2527' FWL Unit K Sec 18, T26N, R05W Rio Arriba, NM

5. WELL SITE LAYOUT

The attached figure (Fig A) shows the proposed well location layout while drilling this well. The drilling contractor has not been chosen and the layout of the may vary with the particular drilling contractor's rig requirements. A construction zone will be built on the sides of the well location as per attached survey plats and will be reclaimed as per item # 11 below after the completion of this well.

6. PROPOSED PRODUCTION FACILITIES

The actual equipment used and the configuration will be determined after the well is completed. At a minimum, the facilities will include a meter run, a separator, a produced water storage tank and a condensate/oil storage tank. All surface equipment will be painted with a non-reflective paint color as per specifications as specified by the Conditions of Approval.

7. WATER SUPPLY

Drilling and completion water will come from sources as agreed with the Jicarilla Apache Tribe. Fresh water will be trucked from several sources; local ponds, or wells from the area. No water wells are to be drilled for this location.

8. CONSTRUCTION MATERIALS & METHODS

NM One Call (811), US Forest Service and BLM will be notified before construction starts. The top 6" of soil from the location will be saved and will be piled at near the location to be used for reclamation at a later date. Any road base, gravel or other fill material will be hauled from a source as agreed upon by the Jicarilla Apache Tribe or as specified in the Conditions of Approval.

9. WASTE DISPOSAL

- A. The drill cuttings will be handled with a closed loop system and stored in steel rig tanks. These will then be hauled to a properly-permitted site for disposal. The drilling fluid will be processed for re-use, any drilling fluid that cannot be re-used will be hauled to a properly-permitted facility for disposal. The closed loop system will be closed and removed as per NMOCD.
- B. Drilling mud that cannot be re-used will be disposed of at a properly permitted facility.
- C. Produced water will be collected and disposed of a properly permitted facility.
- D. Any sewage will be collected by the portable toilet provider for disposal.
- E. All garbage and general trash will be collected in a portable trash cage and will be removed from the site and disposed of in a properly permitted disposal facility. There will be no burning of trash.
- F. Drilling crews under the supervision of the contractor or operator will control and dispose of garbage and waste materials during the drilling operations.
- G. Roustabout or completion crews will dispose of all garbage or trash generated during the completion (or abandonment) of the well site.

EnerVest Operating, LLC

Jicarilla A # 1M

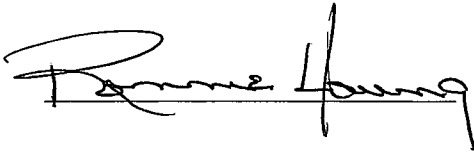
1807' FSL, 2527' FWL Unit K Sec 18, T26N, R05W Rio Arriba, NM

14. OPERATOR CERTIFICATION

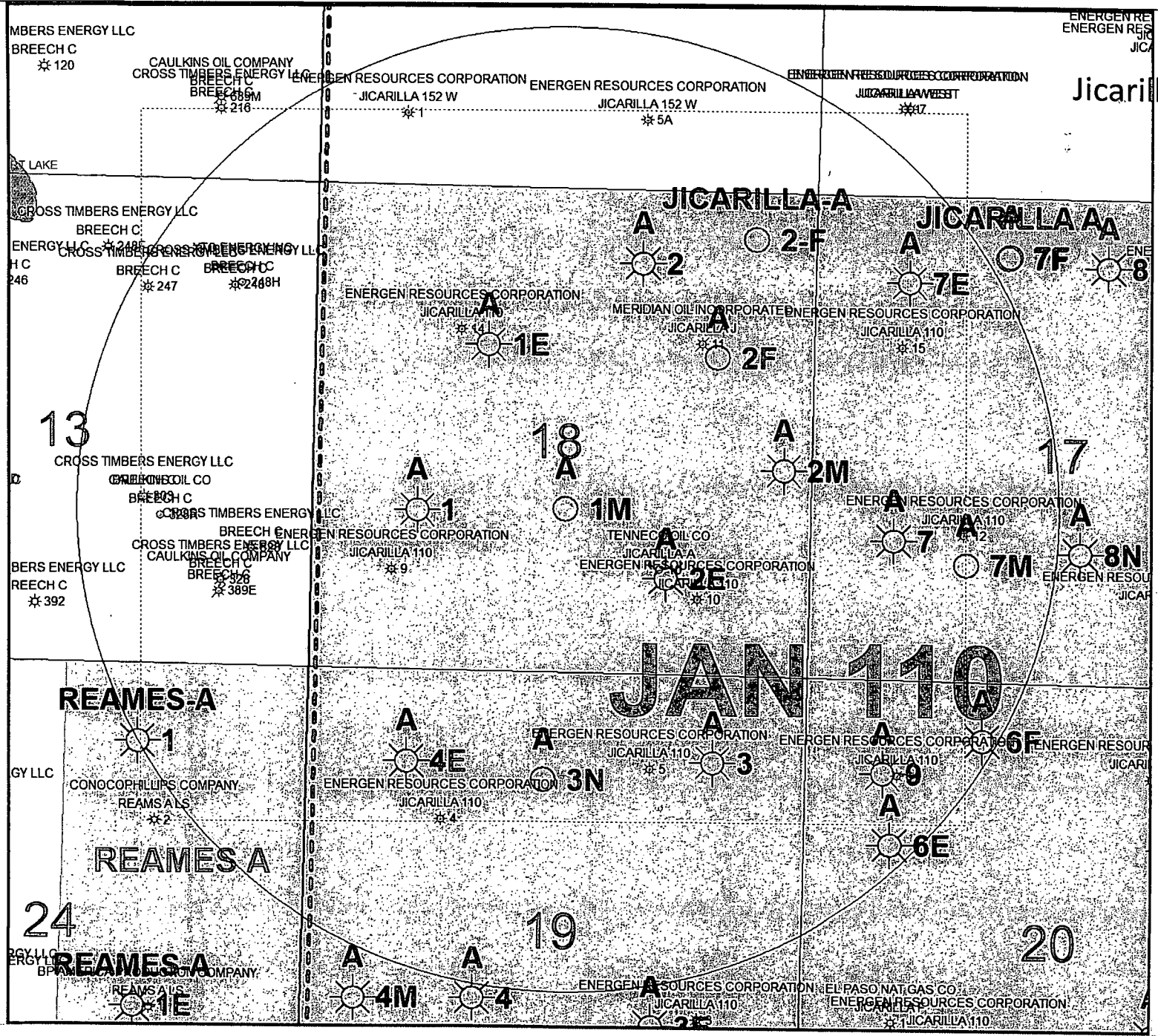
EnerVest, Operating, LLC has the necessary consents from the proper lease owners to conduct lease operations in conjunction with this well. Bond coverage pursuant to 43 CFR 3104 for lease activities and operations is being provided RLB0007886.

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by EnerVest Operating, LLC and its contractors and subcontractors in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I or EnerVest Operating, LLC am/is responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of a false statement.

Executed this 18 day of Dec, 2013.



Ronnie L. Young
Director - Regulatory
1001 Fannin Street, Suite 800
Houston, TX 77002
713-495-6530



Jicarilla A #1M