

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0137  
Expires: January 31, 2018**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 <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. JIC110
2. Name of Operator ENERVEST OPERATING LLC Contact: SHELLY DOESCHER E-Mail: sdoescher@enervest.net		6. If Indian, Allottee or Tribe Name JICARILLA APACHE
3a. Address 1001 FANININ STREET SUITE 800 HOUSTON, TX 77002	3b. Phone No. (include area code) Ph: 505-320-5682	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 19 T26N R5W SESE 0675FSL 0670FEL		8. Well Name and No. JICARILLA A 3M
		9. API Well No. 30-039-31301-00-X1
		10. Field and Pool or Exploratory Area BASIN DAKOTA BLANCO MESAVERDE
		11. County or Parish, State RIO ARriba COUNTY, NM

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

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

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 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 recompleat 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.

EnerVest Operating, LLC has chosen to rescind this APD due to a request from Jicarilla Oil and Gas that the drilling location be moved.

See attached letter.

**OIL CONS. DIV DIST. 3****OCT 27 2017**

14. I hereby certify that the foregoing is true and correct. <b>Electronic Submission #392391 verified by the BLM Well Information System</b> <b>For ENERVEST OPERATING LLC, sent to the Rio Puerco</b> <b>Committed to AFMSS for processing by CYNTHIA MARQUEZ on 10/24/2017 (18CXM0008SE)</b>	
Name (Printed/Typed) JOSH CALDWELL	Title MANAGER-ROCKIES/PERM BASIN
Signature (Electronic Submission)	Date 10/18/2017

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

Approved By <b>ACCEPTED</b>	CINDY MARQUEZ Title LAND LAW EXAMINER	Date 10/24/2017
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 Rio Puerco		

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)

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\*****NMOSD**

24



September 17, 2015

Jicarilla Oil & Gas Administration  
Attention: Guillermo DeHerrera  
#6 Dulce Rock Road  
Dulce, NM 87528

RE: Proposed relocation of surface pad for Jicarilla A #3M

Dear Guillermo,

EnerVest Operating, LLC, has proposed drilling the Jicarilla A #3M as a vertical well with a surface location at 675' FSL & 670' FEL of Section 19, T26N, R5W, N.M.P.M (the "**Original Location**"). We have been advised that the Jicarilla Apache Nation requires that the well be drilled from a surface location 820' FSL & 687' FEL of said Section 19 (the "**Proposed Location**"). For the reasons discussed below, EnerVest will be unable to economically drill the Jicarilla A #3M at the Proposed Location.

The ideal bottomhole location for the Jicarilla A #3M, which is located 675' FSL & 670' FEL of Section 19, will maximize drainage of hydrocarbons from the southeast corner of Section 19. If the Jicarilla A #3M is vertically drilled from the Proposed Location, the well would compete for access to hydrocarbons which are already being effectively drained by the existing Jicarilla A #3E and would fail to access hydrocarbons reserves in the southeast corner of Section 19. Vertical drilling from the Original Location would allow effective drainage of the southeast corner of Section 19 and would result in significantly less interference with the existing Jicarilla A #3E. In summary, vertical drilling from the Proposed Location instead of the Original Location would result in lower total hydrocarbon recovery.

Although it is possible to directionally drill a well to a bottomhole location which differs from the surface location, directional drilling requires substantially greater expense than vertical drilling. Utilization of the Original Location would allow EnerVest to vertically drill the Jicarilla A #3M and reach the desired bottomhole location at 675' FSL & 670' FEL of Section 19. If the Proposed Location is used, directional drilling would be required to reach the desired bottomhole location. Because using the Proposed Location would substantially increase the cost to reach the desired bottomhole location, use of the Proposed Location is not economically feasible under the current commodity price environment.

Due to the substantial additional costs which would be incurred by directionally drilling the Jicarilla A #3M from the Proposed Location, instead of vertically drilling said wellbore from the Original Location, and due to the necessity of locating the bottomhole of said wellbore 675' FSL & 670' FEL of Section 19 to maximize hydrocarbon recovery, the drilling of the Jicarilla A #3M is not economically viable at this time. Because the Original Location is not allowable, EnerVest will not be further pursuing the drilling of the Jicarilla A #3M under the current commodity price environment. Of course, we intend to continue development of other wells on the Jicarilla Apache Nation where surface locations are available which allow effective drainage and economic drill costs.

If further clarification is needed, please contact me at 505-320-5682. We look forward to the continued mutually-prosperous development of the oil and gas resources of the Jicarilla Apache Nation.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Shelly Doescher'.

Shelly Doescher  
Regulatory Agent  
EnerVest Operating, L.L.C.

**ENERVEST, LTD.**

1001 FANNIN STREET, SUITE 800 • HOUSTON, TEXAS 77002-6707 • 713.659.3500 • FAX 713.659.3556 •  
WWW.ENERVEST.NET



RECEIVED

JAN 22 2015

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
Farmington Field Office  
Bureau of Land Management

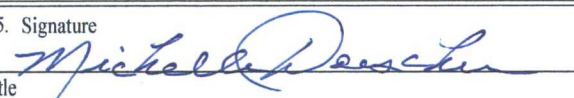
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. Jicarilla Apache Tribal Contract 110
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name Jicarilla Apache
2. Name of Operator EnerVest Operating, LLC		7. If Unit or CA Agreement, Name and No.
3a. Address 1001 Fannin St., Suite 800 Houston, Texas 77002-6707		8. Lease Name and Well No. Jicarilla A #3M
3b. Phone No. (include area code) 713-659-3500		9. API Well No. 30-039-31301
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 675' FSL, 670' FEL (UL P) At proposed prod. zone		10. Field and Pool, or Exploratory Blanco MesaVerde/Basin Dakota
14. Distance in miles and direction from nearest town or post office* 30 miles NW of Lindrith, NM		11. Sec., T. R. M. or Blk. and Survey or Area Sec. 19, T26N, R05W
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease 2,558.36	17. Spacing Unit dedicated to this well MV - E1/2 DK - E1/2
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 7,589'	20. BLM/BIA Bond No. on file RLB0007886
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6687' GL	22. Approximate date work will start* 03/01/2015	23. Estimated duration 5 weeks

24. Attachments

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

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification   |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM.             |

25. Signature 	Name (Printed/Typed) Michelle Doescher	Date 01/20/2015
Title Regulatory Consultant		
Approved by (Signature)	Name (Printed/Typed)	Date
Title	Office	

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)

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

THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

\*(Instructions on page 2)

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

NMOCDA

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

JAN 22 2015

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number	<sup>2</sup> Pool Code 72319/71599	<sup>3</sup> Pool Name BLANCO MESAVERDE/BASIN DAKOTA
<sup>4</sup> Property Code 306750	<sup>5</sup> Property Name JICARILLA A	<sup>6</sup> Well Number #3M
<sup>7</sup> GRID No. 143199	<sup>8</sup> Operator Name ENERVEST OPERATING, LLC	<sup>9</sup> Elevation 6687'

<sup>10</sup>Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	19	26N	5W		675'	SOUTH	670'	EAST	RIO ARriba

<sup>11</sup>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

<sup>12</sup>Dedicated Acres

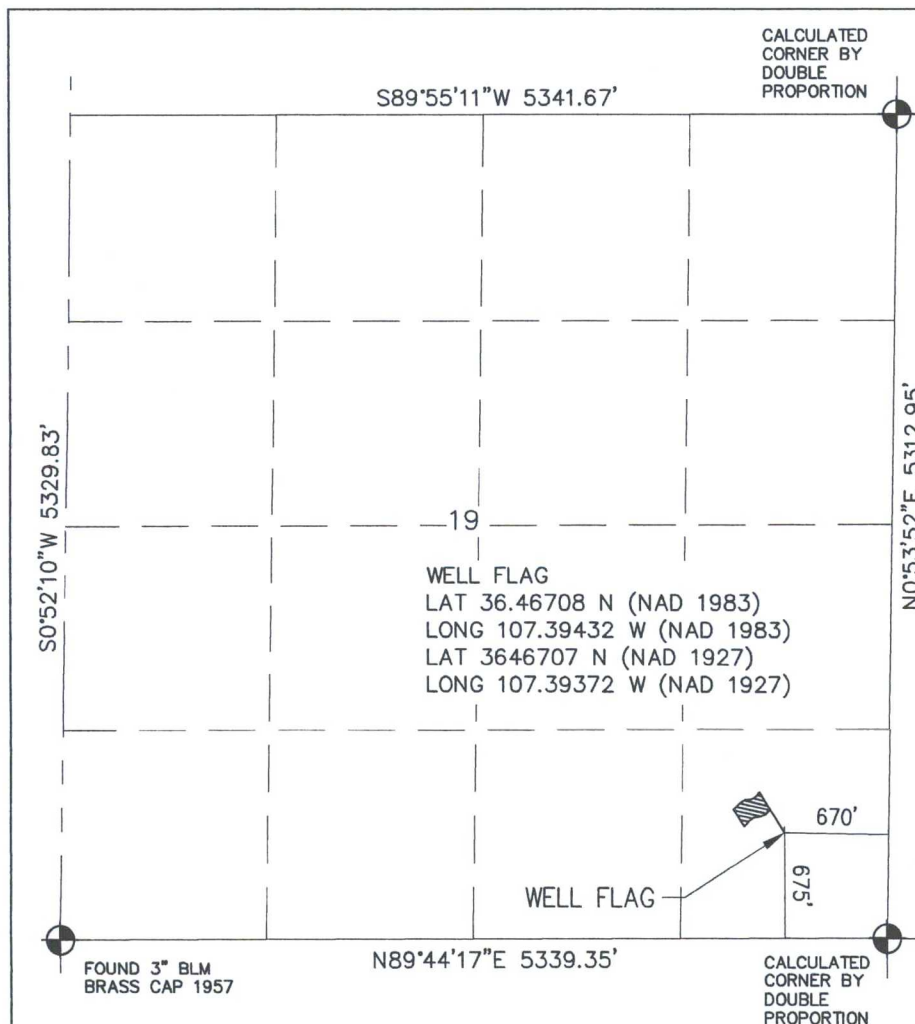
MV-E/2, 320± AC.; DK-E/2, 320± AC.

<sup>13</sup>Joint of Infill

<sup>14</sup>Consolidation Code

<sup>15</sup>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.



CALCULATED  
CORNER BY  
DOUBLE  
PROPORTION

<sup>17</sup>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.

Signature: *Michelle Docseter* Date: 01-20-15

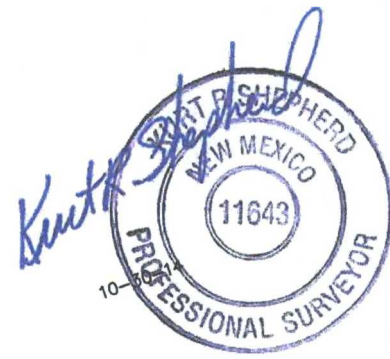
Printed Name: Michelle Docseter

E-mail Address: *Schoescher@enervest.com*

<sup>18</sup>SURVEYOR 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 belief.

Survey Date: OCT. 30, 2014

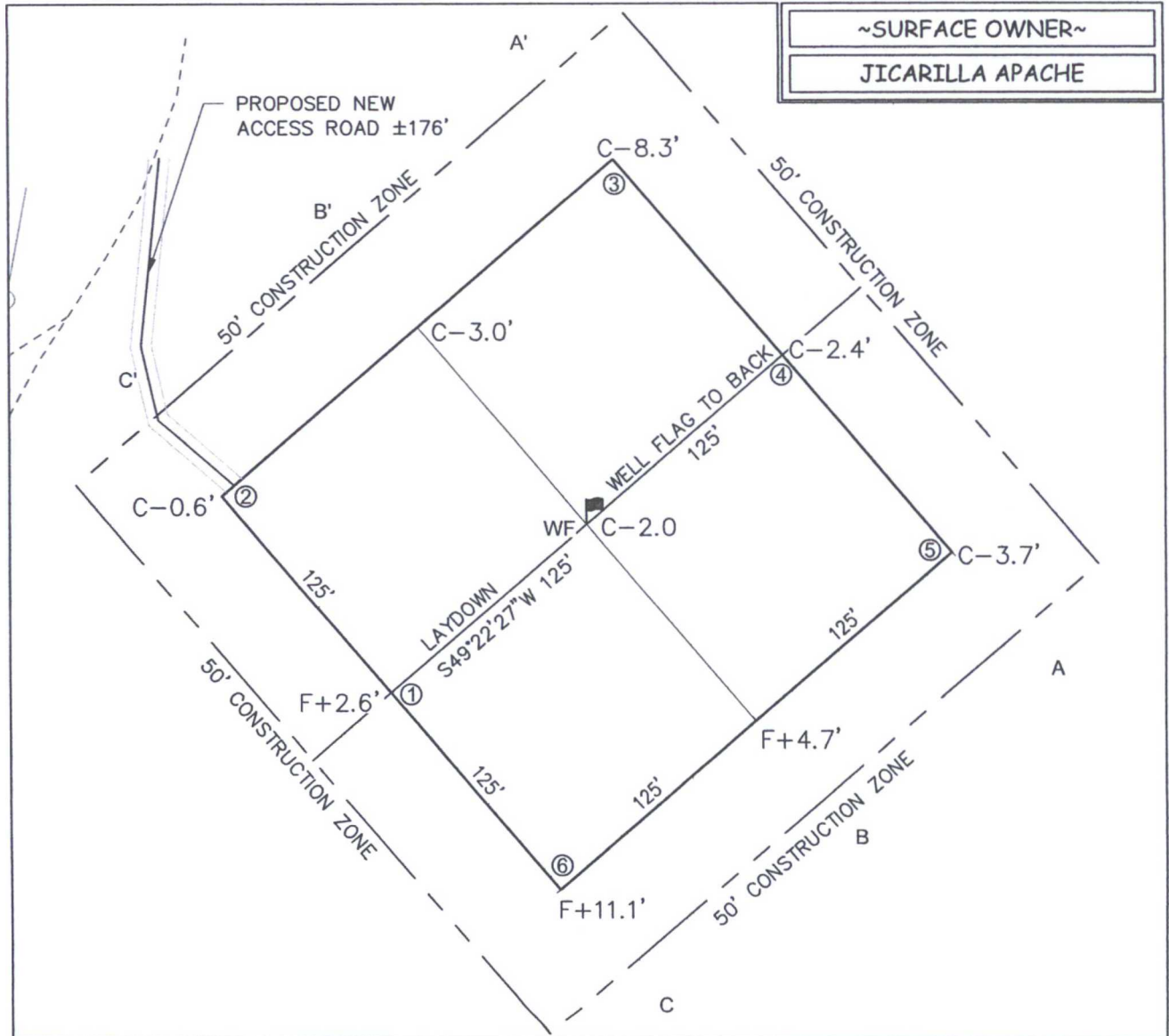
Signature and Seal of Professional Surveyor



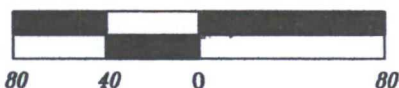
Certificate Number 11643



**ENERVEST OPERATING, LLC. JICARILLA A #3M**  
**675' FSL & 670' FEL, SECTION 19, T26N, R5W, N.M.P.M.**  
**RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6687'**  
**LAT: 36.46708° N LONG: 107.39432° W NAD 1983**  
**LAT: 36.46707 N LONG: 107.39372 W NAD 1927**



AREA OF DISTURBANCE	
WELL PAD	1.43 AC.
CONSTRUCTION ZONE	1.38 AC.
NEW ACCESS ROAD	0.16 AC.
TOTAL	2.97 AC.



**NOTES:**

1. THE BEARINGS ARE BASED ON A LINE BETWEEN THE SOUTHWEST CORNER OF SECTION 31, TOWNSHIP 26 NORTH, RANGE 5 WEST, N.M.P.M., AND THE SOUTHWEST CORNER OF SECTION 7 OF THE SAME TOWNSHIP. BOTH CORNERS ARE MONUMENTED WITH 3 1/4" BRASS CAPS SET BY THE G.L.O. IN 1957. THE SHOTS WERE TAKEN USING RTK GPS OBSERVATIONS.
2. LATITUDE, LONGITUDE AND ELLIPSOIDAL HEIGHT BASED ON AN OPUS SOLUTION REPORT DATED AUGUST 21, 2013. DISTANCES SHOWN ARE GRID DISTANCES USING A TRANSVERSE MERCATOR PROJECTION FROM A WGS-84 ELLIPSOID CONVERTED TO NAD83. NAVD 88 ELEVATIONS AS PREDICTED BY GEOID12A.
3. SOUDER, MILLER AND ASSOCIATES IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES DEPICTED ARE APPROXIMATE. PRIOR TO EXCAVATION UNDERGROUND UTILITIES SHOULD BE FIELD VERIFIED. ALL CONSTRUCTION ACTIVITIES SHOULD BE FIELD VERIFIED WITH NEW MEXICO ONE-CALL AUTHORITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
4. CLOSED LOOP SYSTEM NO PIT.



**SOUDER, MILLER & ASSOCIATES**  
 401 West Broadway Avenue  
 FARMINGTON, NM 87401-2247

Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 325-0045

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ENERVEST OPERATING, LLC

HOUSTON, TEXAS

**ENERVEST OPERATING, LLC**

**JICARILLA A #3M PAD**

**SE/4SE/4 OF SECTION 19, T26N, R5W, NMPM**

RIO ARriba COUNTY, NEW MEXICO

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED.

Designed KRS Drawn DJB Checked KRS

Date: OCTOBER, 2014

Scale: Horiz: 1"=80'

Vert: N/A

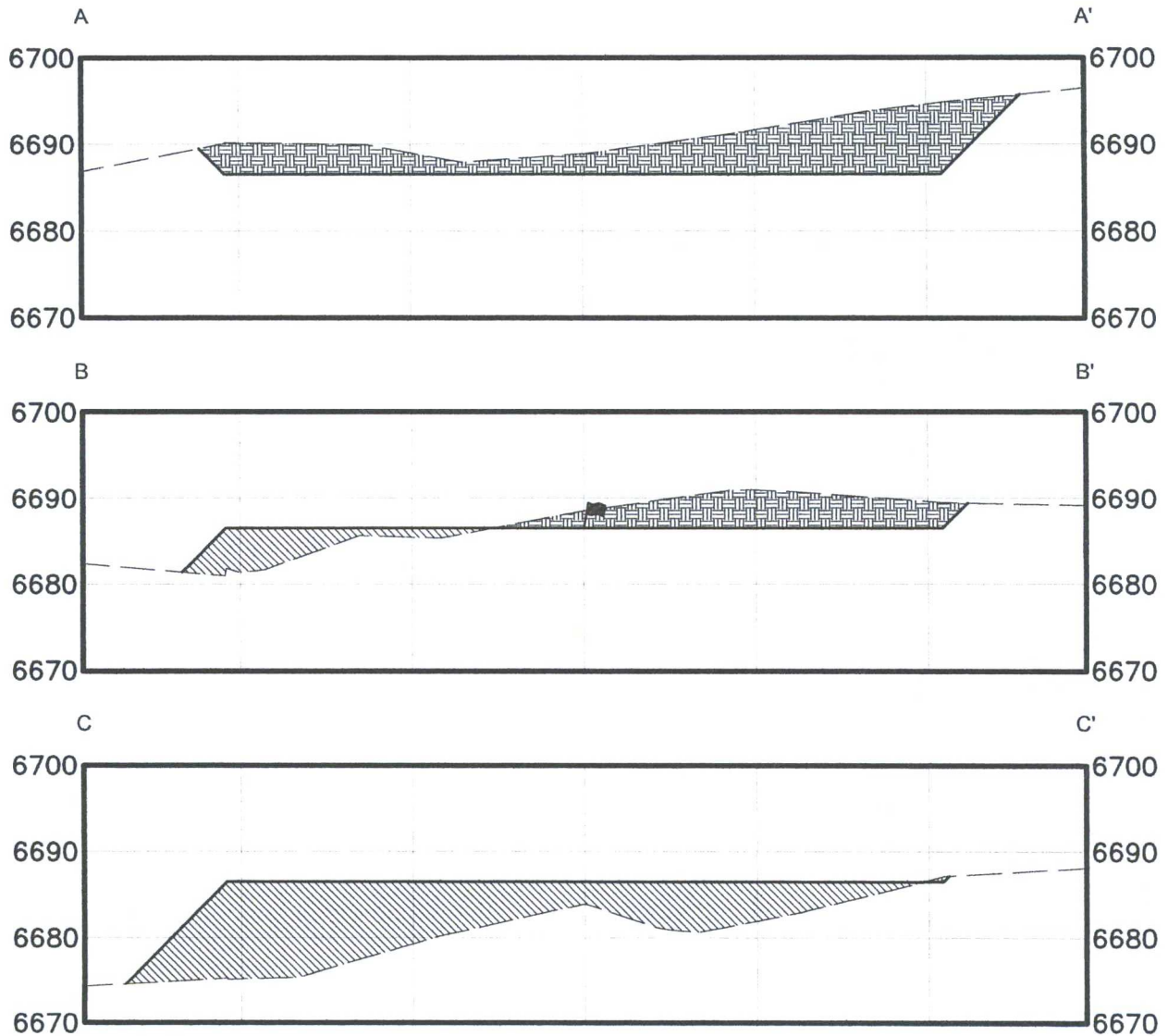
Project No: 5122089

Sheet: 2 of 5

**ENERVEST OPERATING, LLC. JICARILLA A #3M**  
**675' FSL & 670' FEL, SECTION 19, T26N, R5W, N.M.P.M.**  
**RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6687'**  
**LAT: 36.46708° N LONG: 107.39432° W NAD 1983**  
**LAT: 36.46707 N LONG: 107.39372 W NAD 1927**

HORIZONTAL SCALE: 1" = 60'

VERTICAL SCALE: 1" = 20'



**WELL FLAG**  
 LATITUDE: 36.46708°N  
 LONGITUDE: 107.39432°W  
 NAD83

1. SOUDER, MILLER AND ASSOCIATES IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES DEPICTED ARE APPROXIMATE. PRIOR TO EXCAVATION UNDERGROUND UTILITIES SHOULD BE FIELD VERIFIED. ALL CONSTRUCTION ACTIVITIES SHOULD BE FIELD VERIFIED WITH NEW MEXICO ONE-CALL AUTHORITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.



THIS DIAGRAM IS AN ESTIMATE OF DIRT BALANCE AND IS NOT INTENDED TO BE AN EXACT MEASURE OF VOLUME

2. CLOSED LOOP SYSTEM NO PIT.



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ENERVEST OPERATING, LLC

HOUSTON, TEXAS

**ENERVEST OPERATING, LLC**  
**JICARILLA A #3M PAD SECTIONS**

**SE/4SE/4 OF SECTION 19, T26N, R5W, NMPM**

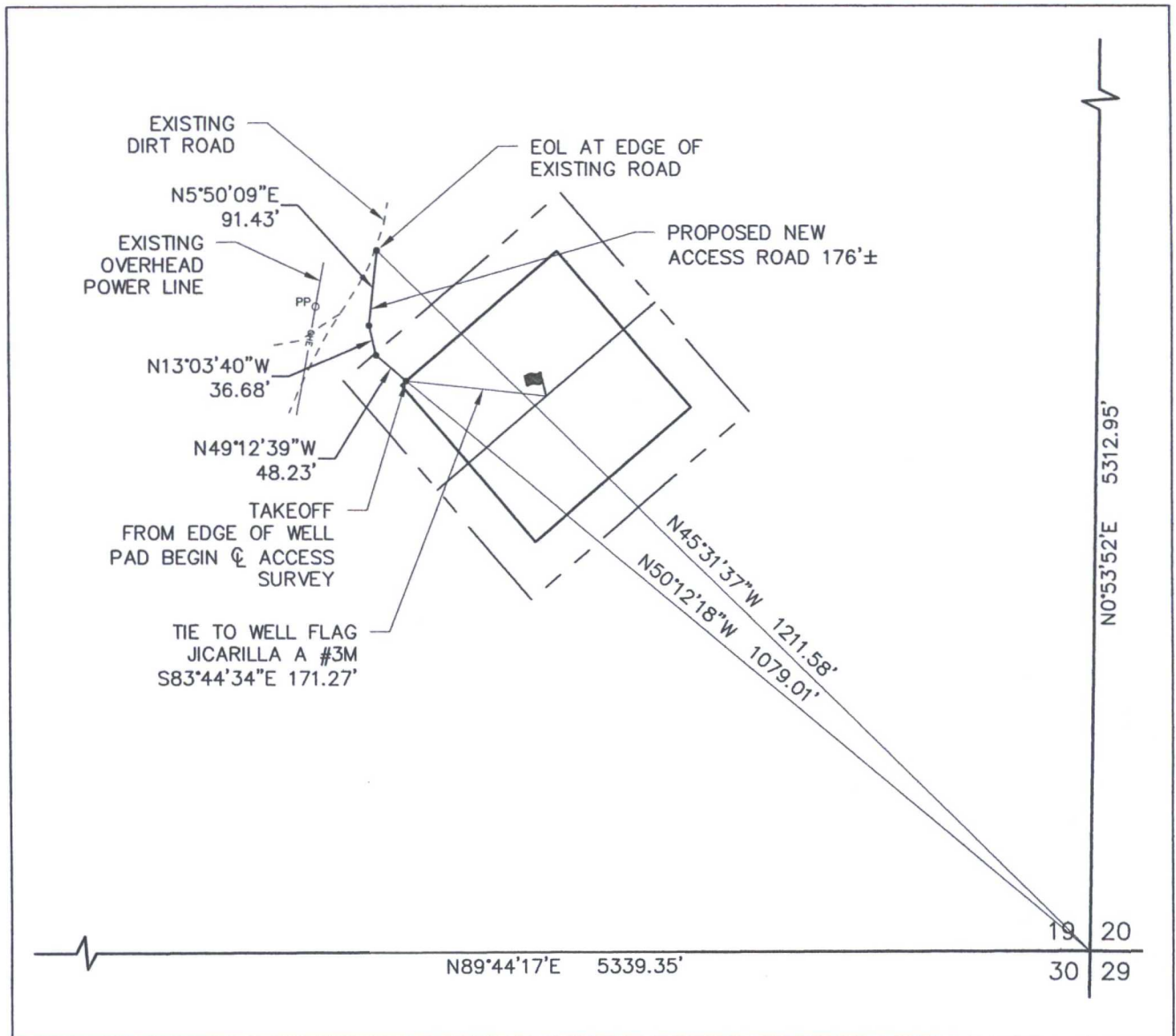
RIO ARriba COUNTY, NEW MEXICO

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Designed	Drawn	Checked
KRS	DJB	KRS
Date: OCTOBER, 2014		
Scale: Horiz: 1"=60'		
Vart: 1"=20'		
Project No: 5122089		
Sheet: 3 of 5		



**PRELIMINARY SURVEY OF A 40' EASEMENT CROSSING  
JICARILLA APACHE LAND FOR  
ENERVEST OPERATING, LLC. JICARILLA A #3M  
PROPOSED NEW ACCESS ROAD ±176'**



OWNER	TAKEOFF TO EOL	FT/RODS
JIC APACHE	0+00 TO 1+76.33	176/10.69
	TOTAL	176/10.69



**NOTES:**

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4. CLOSED LOOP SYSTEM NO PIT.



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ENERVEST OPERATING, LLC

HOUSTON, TEXAS

**ENERVEST OPERATING, LLC  
JICARILLA A #3M ACCESS ROAD  
SE/4SE/4 OF SECTION 19, T26N, R5W, NMPM**

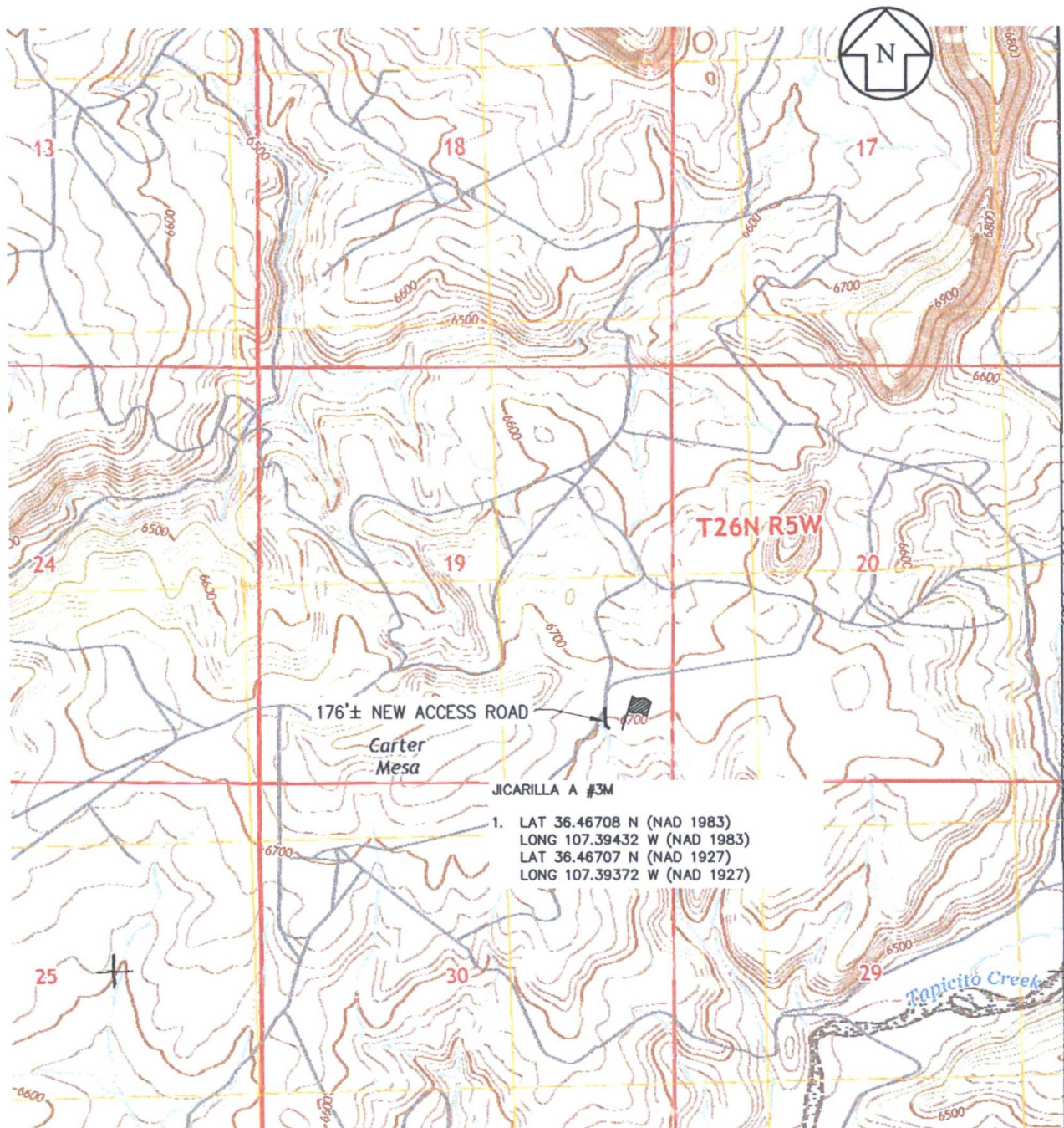
RIO ARriba COUNTY, NEW MEXICO

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Designed KRS	Drawn DJB	Checked KRS
Date:	OCTOBER, 2014	
Scale:	Horizontal: 1"=200'	Vertical: N/A
Project No:	5122089	
Sheet:	4 of 5	



ENERVEST OPERATING, LLC. JICARILLA A #3M  
 675' FSL & 670' FEL, SECTION 19, T26N, R5W, N.M.P.M.  
 RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6687'  
 LAT: 36.46708° N LONG: 107.39432° W NAD 1983  
 NEW 176'± ACCESS ROAD



NOTE: THIS MAP IS FOR ESTIMATING PURPOSES, CONSTRUCTION FOOTAGES ARE APPROXIMATE  
 CONTRACTOR SHOULD CONTACT ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED UNDERGROUND UTILITIES  
 OR PIPELINES ON WELL PAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION



SOUDER, MILLER & ASSOCIATES  
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ENERVEST OPERATING, LLC

HOUSTON, TEXAS

ENERVEST OPERATING, LLC  
 JICARILLA A #3M QUAD MAP  
 SE/4SE/4 OF SECTION 19, T26N, R5W, NMPM

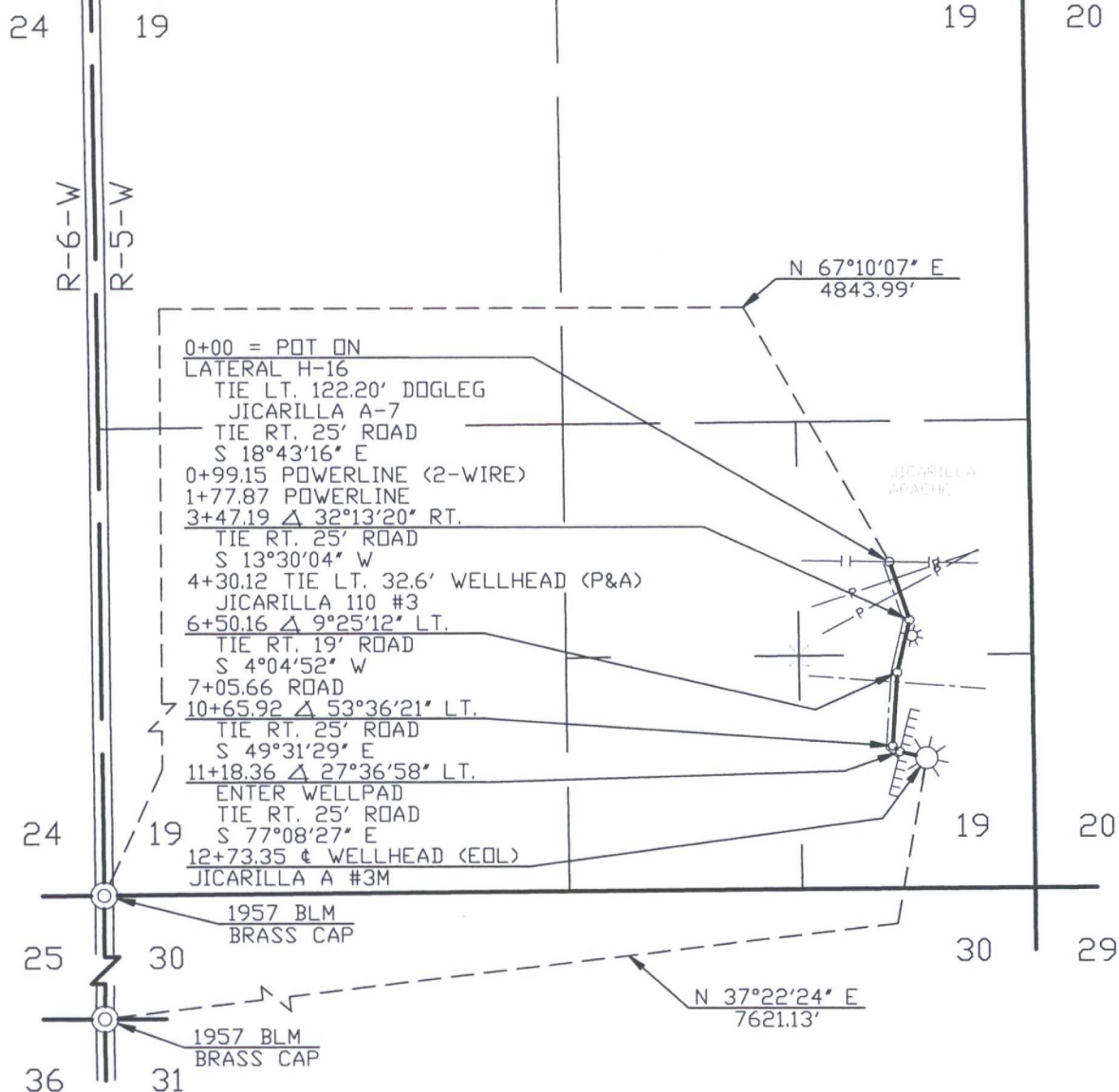
RIO ARriba COUNTY, NEW MEXICO

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR  
 CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed KRS	Drawn DJB	Checked KRS
Date: OCTOBER, 2014		
Scale: Horiz: 1"=2000'		
Vert: NA		
Project No: 5122089		
Sheet: 5 of 5		



NOTE: BEARINGS ARE BASED ON THE NM COORDINATE SYSTEM,  
WEST ZONE, NAD 83, AS MEASURED BETWEEN THE SW COR.  
& THE NW COR. OF SEC. 30, T-26-N, R-5-W, NMPM  
BEARS: N 00°26'21" W = 5283.73'




## PRELIMINARY DRAWING

PIPE DATA

OWNERSHIP

REVISION

INFO		DRAFTING	BY	DATE	STATE: NEW MEXICO	WILLIAMS FOUR CORNERS, LLC			
					COUNTY: RIO ARriba	ONE OF THE WILLIAMS COMPANIES			
R/W #:	148119	DRAWN BY	HJ	01/20/15	SAN JUAN GATHERING SYSTEM ENERVEST - JICARILLA A #3M (REF DWG. 16H765.0-1) SECTION 19, T-26-N, R-5-W, NMPM 0+00 = POT ON LATERAL H-16				
NWC #:		CHECKED BY	MW	01/20/15					
METER #:		APPROVED BY							
SURVEYED:	12/12/14	ENGINEER	BY	DATE					
		DESIGNED BY			SCALE: 1" = 1000'	DWG NO. 16H765.0-33-1		SHEET 1 OF 1	REV 1
		PROJ. APPROVED			W.D. NO. WDC1170689				

## **EnerVest Operating, LLC**

**Jicarrilla A #3M**

**675' FSL, 670' FEL**

**Lat: 36.46707 N Long: 107.39372 W (NAD 1927) Unit P**

**Sec. 19, T26N R05W Rio Arriba County, NM**

**GL Elev: 6687'**

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### **Drilling Plan (11-21-2014)**

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.

#### **I. & II. 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	2318'	Sandstone	Possible Gas, Water
Kirtland	2686'	Shale	
Fruitland	3038'	Coal, Shale, Sandstone	Possible Lost Circ, Gas, Water
Pictured Cliffs	3101'	Sandstone	Possible Lost Circ, Gas, water
Lewis	3172'	Shale	Sloughing Shale
Mesa Verde (Cliffhouse)	4764'	Sandstone	Possible Lost Circ, Gas, Water
Mesa Verde (Menefee)	4810'	Coal, Sandstone, Shale	Possible Lost Circ, Gas, Water
Mesa Verde (Point Lookout)	5321'	Sandstone	Possible Lost Circ, Gas, Water
Mancos	5459'	Shale	Sloughing Shale
Gallup	6464'	Siltstone, Shale	Gas, Oil
Greenhorn	7209'	Limestone	Gas, Oil
Graneros	7262'	Shale	Gas, Oil, Water
Dakota	7289'	Sandstone	Gas, Oil, Water
Proposed Total Depth	7589'		

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.



**EnerVest Operating, LLC**

**Jicarrilla A #3M**

**675' FSL, 670' FEL**

**Lat: 36.46707 N Long: 107.39372 W (NAD 1927) Unit P**

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**III. PRESSURE CONTROL:**

Maximum expected pressure is ~1670 (0.22 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.

## **EnerVest Operating, LLC**

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### **IV. 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</b>	12 1/4"	8 5/8"	24	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	7589'

**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.**

### **V. 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 310 sacks 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 495 sacks 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 +/- 4344 ft.



**EnerVest Operating, LLC**

**Jicarrilla A #3M**

**675' FSL, 670' FEL**

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**Stage 2 Lead cement;** mix and pump 260 sacks 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 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 +/- 2551 ft.

**Stage 3 Lead cement;** mix and pump 365 sacks 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 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.

**VI. MUD PROGRAM**

<b>Depth</b>	<b>Type</b>	<b>Wt / pp</b>	<b>Visc</b>	<b>Fluid Loss</b>
<b>0-500'</b>	FW gel/Lime Spud Mud	8.4-9.0	30-40	N/C
<b>500'- 7589'</b>	LSND/Gel sweeps, LCM as needed	8.7-9.0	20-32	4-6 cc

## **EnerVest Operating, LLC**

**Jicarrilla A #3M**

**675' FSL, 670' FEL**

**Lat: 36.46707 N Long: 107.39372 W (NAD 1927) Unit P**

**Sec. 19, T26N R05W Rio Arriba County, NM**

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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.

### **VII. 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.

### **VIII. ANTICIPATED PRESSURES AND TEMPERATURES:**

- |    |   |            |
|----|---|------------|
| a. | Expected bottom hole pressure:                | < 1670 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.



**EnerVest Operating, LLC**

**Jicarrilla A #3M**

**675' FSL, 670' FEL**

**Lat: 36.46707 N Long: 107.39372 W (NAD 1927) Unit P**

**Sec. 19, T26N R05W Rio Arriba County, NM**

**GL Elev: 6687'**

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**IX. OTHER INFORMATION:**

The anticipated spud date is spring 2015. 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 one to two 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 OPERATING, LLC

## Jicarilla A #3M (Proposed)

TYPE	Dakota/MV	RIG	TBD	DATE	19-Nov-2014
FIELD	Tapicito	COUNTY	Rio Arriba	ELEVATION	6578' GL; 6591' KB
GAS/OIL	Gas/Oil	MUD	LSND	BHT/BHP	160 deg- <1670 psi
LOCATION	SHL: 675' FSL, 670' FEL Sec. 19, T26N R05W Unit P			SHL: Lat: 36.46707 N Long: 107.39372 W (NAD 1927)	
	BHL: Same as SHL			BHL: same as SHL	

COMMENTS: OBJECTIVE FORMATION: Dakota and Mesa Verde

NOTES:

				DEPTH					
				TVD					

### Surface Section

12 1/4" Hole >  
8-5/8", 24#, J-55, ST&C

500'

Cement to surface  
Water based bentonite mud  
Drill w/PDC and 4 1/2" DP

### Production Section

7 7/8" Hole to TD >

Drill w/PDC or Tri-Cone, motor, 4-1/2" DP

8.7- 9.0 PPG Bentonite Mud

Ojo Alamo >

2,318'

2,551'

Stage Collar Cementing Tool

Kirtland >

2,686'

Fruitland Coal >

3,038'

Pictured Cliffs >

3,101'

Lewis Shale >

3,172'

4,424'

Stage Collar Cementing Tool

Cliffhouse >

4,764'

Drill w/PDC bit, motor, 4-1/2" DP  
8.7-9.0 PPG Bentonite Mud

Menefee >

4,810'

Point Lookout >

5,321'

Mancos >  
(Regulatory MancoS) >

5,459'

Gallup >

6,464'

Greenhorn >

7,209'

Logs: As Directed By Geologist  
Cased-hole GR / Neutron after casing

Graneros Shale >

7,262'

Dakota >

7,289'

FC >>>>  
4-1/2", 11.6#, N-80 LT&C - To Surface >>>>  
TD >>>>

7,549'

7,589'

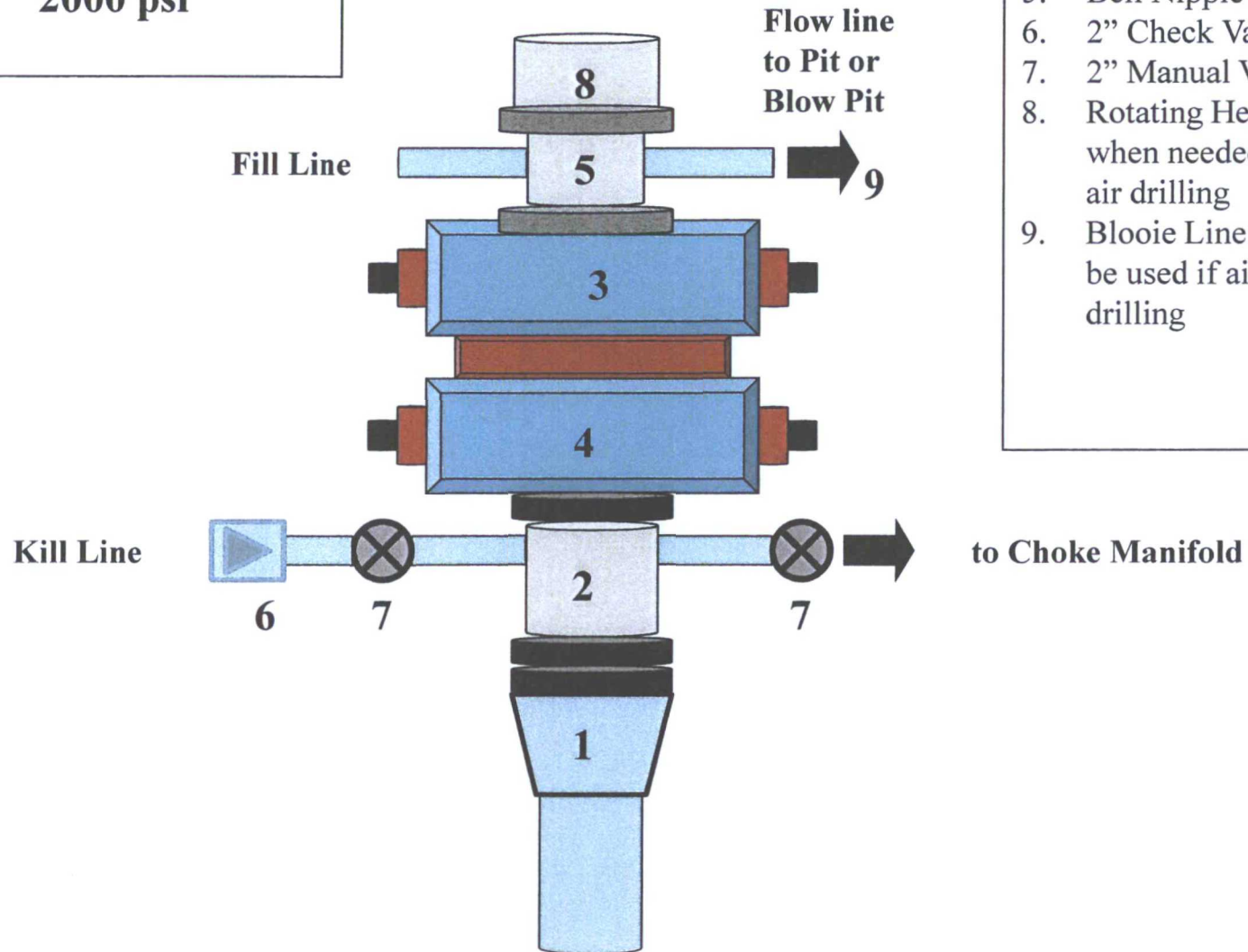
7,589'

Cement to surface in 3 stages.

AFE #	REGULATORY		
EV #	ENGINEER	Brett Munkres	(713) 495 6566
API #	GEOLOGIST	G Kowalczyk	(713) 495 6590

**EnerVest  
Jicarilla 2015  
Drilling Program  
Blowout Preventer  
2000 psi**

**Exhibit A**



**Components**

1. Wellhead 8 5/8"
2. Drilling Spool
3. Pipe Rams
4. Blind Rams
5. Bell Nipple
6. 2" Check Valve
7. 2" Manual Valves
8. Rotating Head, when needed if air drilling
9. Blooie Line will be used if air drilling

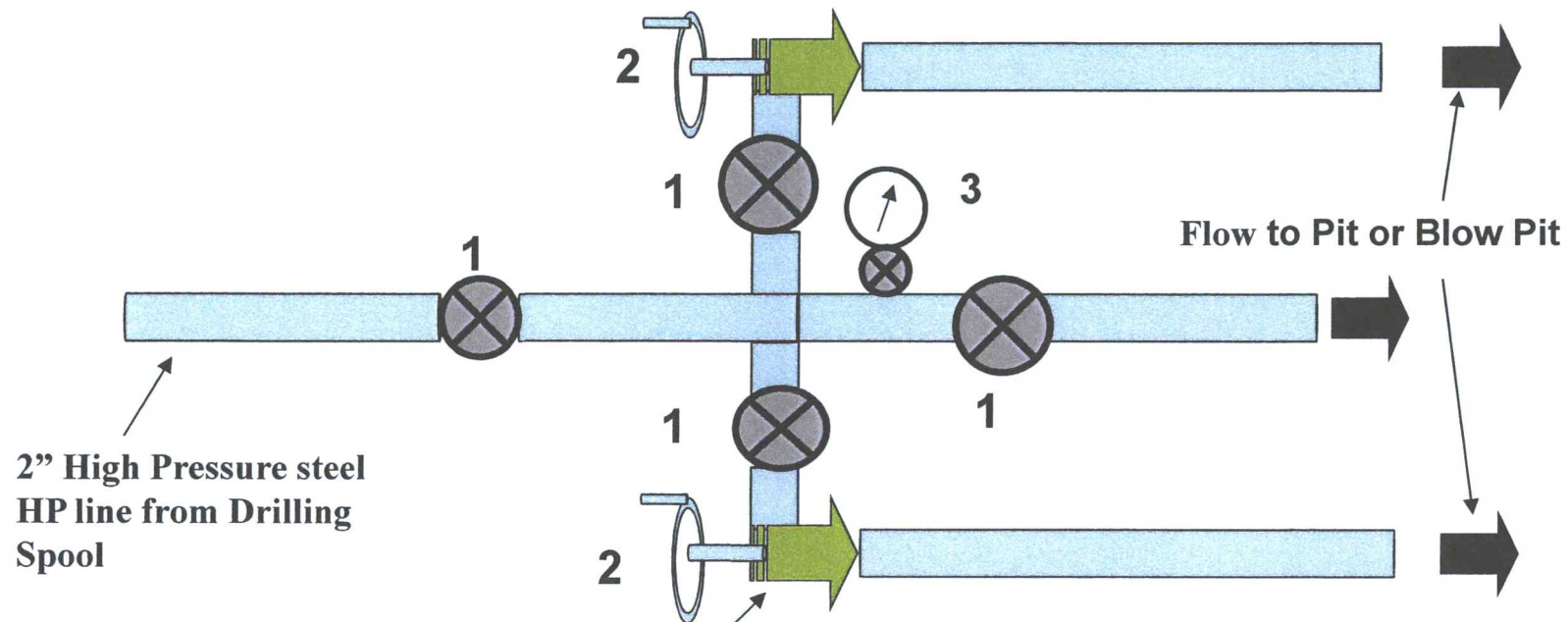


## Exhibit B

**EnerVest  
Jicarilla 2015 Drilling  
Program  
2000 psi Choke Manifold**

### Components

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



**EnerVest Operating, LLC**  
**Jicarilla A #3M**  
SHL: 675' FSL, 670' FEL, Unit P, Sec 19, T26N, R05W  
Rio Arriba, NM

**Surface Use Plan**

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

The location is approximately 36 miles NW of the intersection of US Hwy 550 and NM Hwy 537

Latitude: 36.46707 N (NAD 1927)

Longitude: 107.39372 W (NAD 1927)

From Intersection of US Hwy 550 and NM State Hwy 537: Turn north on Hwy 537 for 28 miles. Turn left on J-6, go 8.0 mi to J-63, turn left, go 4.2 mi. Turn left 0.25 mi. to location.

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

- A. Drilling of this well will require the construction of 176' of new access road from an existing access road. The access road is shown on the access plat and vicinity map. After the well is completed as a commercial producer, the need for a pipeline is ascertained, a pipeline will be constructed from the south side of location to an existing Williams pipeline as shown on the access plat and vicinity map. (don't have)
- 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 Jicarilla Apache Tribe. If needed, diversion may be constructed 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-nine existing wells within a one-mile radius of the proposed location as shown on the Vicinity map.

**EnerVest Operating, LLC**  
**Jicarilla A #3M**  
SHL: 675' FSL, 670' FEL, Unit P, Sec 19, 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 as needed around the perimeter of the location as shown on the attached survey plats. The area will be reclaimed as per item # 11 below upon the completion of the 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 #3M**  
SHL: 675' FSL, 670' FEL, Unit P, Sec 19, T26N, R05W  
Rio Arriba, NM

10. ANCILLARY FACILITIES

There will be no air strips or camps. Camper trailers will be on location during drilling operations for the company man, tool pusher, or mud logger and others as needed.

11. RECLAMATION

The following outlines the surface reclamation plans if the well is completed as a producer;

- A. The configuration of the reshaped topography will be compatible with the original topography.
- B. The drainage for the disturbed area will be designed to minimize erosion.
- C. Segregation of spoils materials shall be made such that the reclaimed surface will be void of evidence of drilling and operating activity.
- D. The topsoil that was removed from the well site location will be replaced over the disturbed surface.
- E. The disposal of wastes will be done as outlined in Item 9 above.
- F. Revegetation will be completed as recommended by the Conditions of Approval.
- G. Soil treatments will be made as and if required by the Conditions of Approval.
- H. Any other reclamation practices necessary to reclaim the disturbed areas will be in accordance with requirements of the Conditions of Approval.
- I. Upon completion of the surface production equipment installation all of the area except that required for the operation of the well will be reclaimed within 90 days.

In the event that the proposed well is to be plugged and abandoned the reclamation of the disturbed area will commence within 90 days of the removal of the drilling rig and associated equipment. These time estimates are subject to approval and possible change as may be required by the regulatory agencies and the Conditions of Approval.

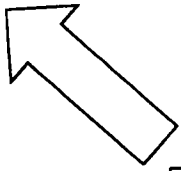
12. OTHER INFORMATION

- A. This location is 0.4 miles from the nearest surface water, an unnamed intermittent wash to the east of the location, and the Tapicito Creek is approximately 1.2 mi to the SE.
- B. The nearest dwelling or business is approximately 8.5 miles east of the Williams Field Services compressor station.
- C. The nearest hospital is a 60 minute drive away in Cuba, NM.
- D. The flora, fauna and soil characteristics are described in the Environmental Assessment.
- E. Surface use is primarily grazing.

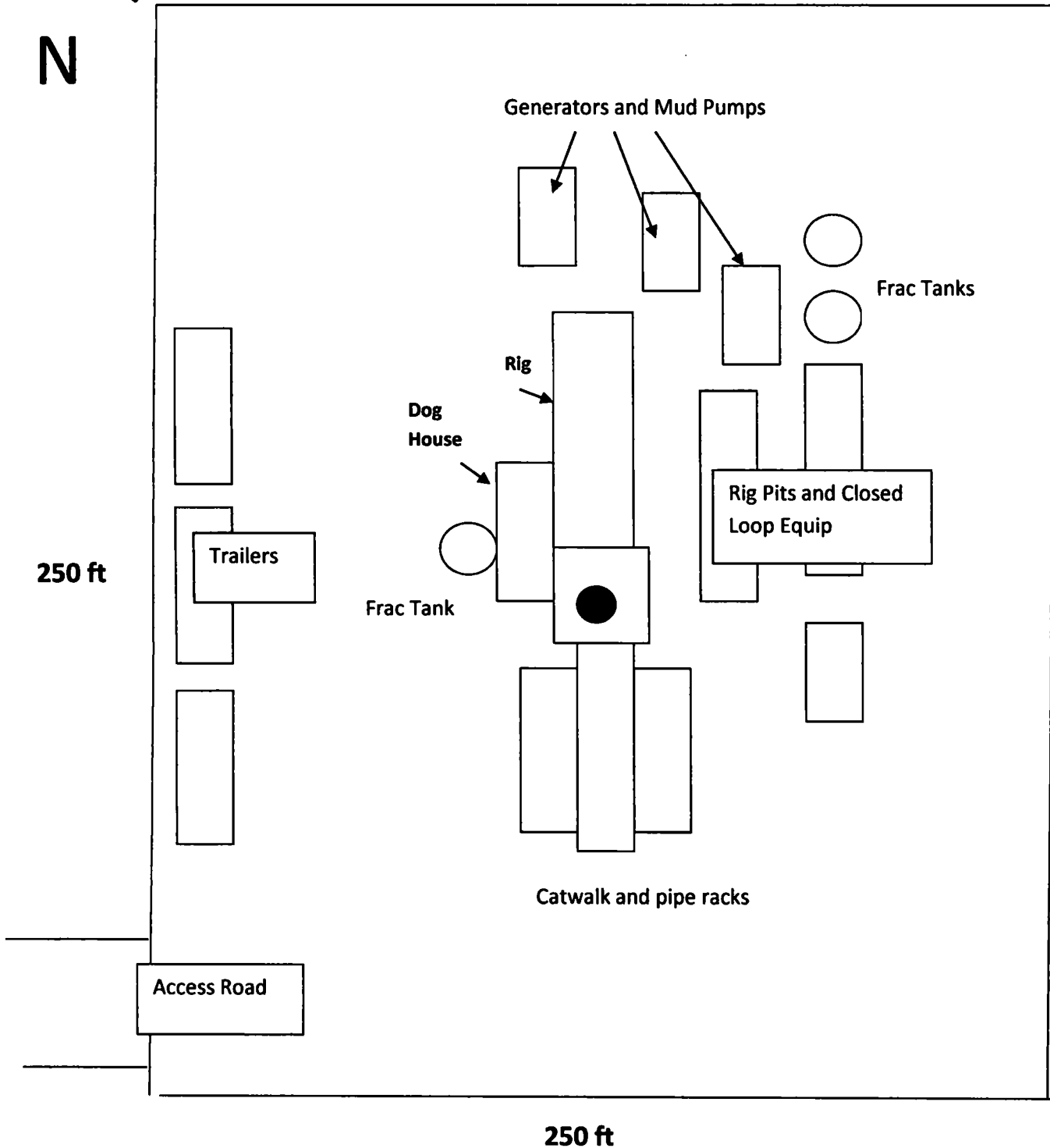
EnerVest Operating, LLC

Jicarilla A # 3M

Proposed Drilling Site Layout



N



**EnerVest Operating, LLC**

**Jicarilla A #3M**

SHL: 675' FSL, 670' FEL, Unit P, Sec 19, T26N, R05W  
Rio Arriba, NM

13. LESSEE REPRESENTATION

Anyone having questions concerning the APD should contact:

Shelly Doescher  
sdoescher@enervest.net  
505-320-5682

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 6<sup>th</sup> day of January, 2014.2015<sup>18</sup>

Keith Barton

Keith Barton  
Regulatory Manager  
1001 Fannin Street, Suite 800  
Houston, TX 77002  
713-495-5328



