

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: April 11, 2014

Application Type:

- P&A
 Drilling/Casing Change
 Recomplete/DHC
 Location Change
 Other: Extend TD to 8177 ft.

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-039-31179-00-00	JICARILLA APACHE 102	012N	ENERVEST OPERATING L.L.C.	G	N	Rio Arriba	J	H	9	26	N	4	W

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations

Hold C-104 for directional survey and "as drilled plat"

NMOCD Approved by Signature

5-1-14
Date

GEOLOGIST DISTRICT #3

RECEIVED

APR 15 2014

Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

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 <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. Jicarilla Contract 102
2. Name of Operator EnerVest Operating, LLC		6. If Indian, Allottee, or Tribe Name Jicarilla Apache
3a. Address 1001 Fannin St, Suite 800 Houston, TX 77002-6707	3b. Phone No. (include area code) 713.970.1847	7. If Unit or CA. Agreement Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL: 1387' FNL, 304' FEL (Unit H) Sec 9 T26N R04W BHL: 1070' FNL, 670' FEL (Unit A) Sec 9 T26N R04W		8. Well Name and No. Jicarilla Apache 102 #12N
		9. API Well No. 30-039-31179
		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	
	<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 recomplate horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will be 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 recomplate 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 reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)

EnerVest Operating, LLC would like to submit a new modified drilling plan.

The original APD dated 2/01/2013 was approved on 6/5/13 and was modified the 1st time on 12/13/13 which was approved on 12/17/13.

Attached is a new modified plan.

OIL CONS. DIV DIST.

APR 30 2014

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

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

14. I hereby certify that the foregoing is true and correct.

Approved by Jeanie McMillan	Title Sr. Regulatory Analyst
Signature <i>Jeanie McMillan</i>	Date April 11, 2014
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved by <i>William Tambekou</i>	Title Petroleum Engineer
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.	Date 4/16/2014
	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)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this

form and the number of copies to be submitted, particularly with regard to local area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office

present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and

NMOCDA

EnerVest Operating, LLC
Jicarilla Apache 102 # 12N
 SHL: 1387' FNL, 304' FEL Unit H
 BHL: 1070' FNL, 670' FEL Unit A
 SHL: -107.247954 W, 36.50426 N (NAD 27)
 BHL: -107.249161 W, 36.505143 N (NAD 27)
 Sec. 9, T26N R04W Rio Arriba County, NM
 GL : 6946' , KB: 6959'

Drilling Plan (Revised 4-9-2014)

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.

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

The following formation depths and proposed casing depths are used as an example only and will be furnished on a site-specific basis for each proposed well.

<u>Formation Name</u>	<u>Depth (TVD)</u>	<u>(MD)</u>	<u>Rock Type</u>	<u>Comments</u>
San Jose	Surface	Surface	Sandstone	
Ojo Alamo	2948'	2992'	Sandstone	Possible Gas, Water
Kirtland	3452'	3498'	Shale	
Fruitland	3498'	3544'	Coal, Shale, Sandstone	Possible Lost Circ, Gas, Water
Pictured Cliffs	3688'	3734'	Sandstone	Possible Lost Circ, Gas, water
Lewis	3935'	3981'	Shale	Sloughing Shale
Chacra	4642'	4688'	Siltstone	Gas, Water
MV (Cliffhouse)	5363'	5409'	Sandstone	Possible Lost Circ, Gas, Water
MV (Menefee)	5454'	5500'	Coal, Sandstone, Shale	Possible Lost Circ, Gas, Water
MV (Point Lookout)	5874'	5920'	Sandstone	Possible Lost Circ, Gas, Water
Mancos	5940'	5986'	Shale	Sloughing Shale
Gallup	6986'	7032'	Siltstone, Shale	Gas, Oil
Greenhorn	7788'	7834'	Limestone	Gas, Oil
Graneros	7823'	7869'	Shale	Gas, Oil, Water
Dakota	7841'	7888'	Sandstone	Gas, Oil, Water

Proposed Total Depth 8131' 8177'

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.

This well will be drilled directionally as an "S-shaped" well. The intent is to KO at +/- 600 ft and drill at a 12 degree inclination and azimuth of 310.9 degree to an estimated depth of 3000', achieving a 484 ft vertical section and then begin a drop to vertical to TD.

EnerVest Operating, LLC
Jicarilla Apache 102 # 12N
SHL: 1387' FNL, 304' FEL Unit H
BHL: 1070' FNL, 670' FEL Unit A
SHL: -107.247954 W, 36.50426 N (NAD 27)
BHL: -107.249161 W, 36.505143 N (NAD 27)
Sec. 9, T26N R04W Rio Arriba County, NM
GL : 6946' , KB: 6959'

4.3 PRESSURE CONTROL:

Maximum expected pressure is ~1789 (.22 pressure gradient) psi. A typical 11" 2,000 psi BOP and choke manifold models are 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. Annular Preventer.
2. BOP will be a double gate ram preventer with a set of blind rams and a set of properly-sized pipe rams.
3. Accumulator will have sufficient capacity to close the BOP rams and annular preventer and retain 200 psi above pre charge.
4. Accumulator system will have 2 independent power sources to close the preventers.
5. Accumulator to have capacity of double the usable fluid volume and the fluid volume is to be maintained at manufacturer's recommendations.
6. BOP will also have manual closing handles available.
7. 2" minimum kill line and kill line valves (2).
8. Choke manifold (2" lines) with 2 adjustable chokes with valves and gauge.
9. Manually operated Kelly cocks available.
10. Safety valve and sub(s) with adequate opening for all drill strings used.
11. Fill line and flow line above the upper-most BOP rams.
12. Rotating Head installed when needed for air-drilled portion of the hole.
13. Blooie line installed when air drilling.

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).

EnerVest Operating, LLC
Jicarilla Apache 102 # 12N
 SHL: 1387' FNL, 304' FEL Unit H
 BHL: 1070' FNL, 670' FEL Unit A
 SHL: -107.247954 W, 36.50426 N (NAD 27)
 BHL: -107.249161 W, 36.505143 N (NAD 27)
 Sec. 9, T26N R04W Rio Arriba County, NM
 GL : 6946' , KB: 6959'

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.
- c. Production casing tested to 6000 psi prior to commencement of completion operations.

4.4 PROPOSED CASING PROGRAM:

The casings proposed in the following table are typical for this development area, if a different casing be required, it will be listed in the site specific APD.

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	3600'
Prod Casing	6 1/4"	4 1/2"	11.6	N-80	New	LT&C	0	8177'

Surface and Intermediate casings are to be cemented to surface, production casing is 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 120 sacks (255 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.

EnerVest Operating, LLC

Jicarilla Apache 102 # 12N

SHL: 1387' FNL, 304' FEL Unit H

BHL: 1070' FNL, 670' FEL Unit A

SHL: -107.247954 W, 36.50426 N (NAD 27)

BHL: -107.249161 W, 36.505143 N (NAD 27)

Sec. 9, T26N R04W Rio Arriba County, NM

GL : 6946' , KB: 6959'

Intermediate casing will be cemented to surface in 2 stages, stage tool to be set at +/- **3184'**. Cement will be designed to circulate to surface. Volumes will be based on 45% excess in OH.

Stage 1:

Lead cement; mix and pump 58 sacks (123 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).

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.

Stage 2:

Lead cement; mix and pump 266 sacks (566 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).

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 will be cemented into the intermediate casing with a minimum of 200 ft overlap. Volumes based on 45% excess in OH.

A 20 bbl sweep of 10.5 ppg scavenger slurry will be pumped ahead of the cement to wet and condition the air-drilled hole.

Lead cement; mix and pump 117 sacks (250 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).

Tail cement; mix and pump 239 sacks (481 cu ft) premium lite high strength cement with CaCl₂, 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 3rd joint to surface.

EnerVest Operating, LLC

Jicarilla Apache 102 # 12N

SHL: 1387' FNL, 304' FEL Unit H

BHL: 1070' FNL, 670' FEL Unit A

SHL: -107.247954 W, 36.50426 N (NAD 27)

BHL: -107.249161 W, 36.505143 N (NAD 27)

Sec. 9, T26N R04W Rio Arriba County, NM

GL : 6946' , KB: 6959'

The production casing will be pressure tested to 6000 psi for 30 minutes prior to commencement of completion operations.

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 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'-3600'	LSND/Gel sweeps, LCM as needed	8.7-9.0	20-32	4-6 cc
3600'- 8177'	Nitrogen	NA	NA	

The well will be drilled utilizing a closed loop system as per NMOCD pit rules.

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.

Nitrogen will be used to drill the 6 1/4" section of the hole to reduce the hydrostatic pressure while drilling the pay zones. It is planned to drill the hole from the base of the intermediate casing to TD with an air hammer and 6 1/4" bit. An alternate plan will be in place to drill this section of the hole with mud should the hole conditions necessitate drilling this section with mud.

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.

EnerVest Operating, LLC
Jicarilla Apache 102 # 12N
SHL: 1387' FNL, 304' FEL Unit H
BHL: 1070' FNL, 670' FEL Unit A
SHL: -107.247954 W, 36.50426 N (NAD 27)
BHL: -107.249161 W, 36.505143 N (NAD 27)
Sec. 9, T26N R04W Rio Arriba County, NM
GL : 6946' , KB: 6959'

4.8 CORING, TESTING, & LOGGING

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

Surface to TD; GR/ Cement Bond Log, prior to completion of the well.
2500' to TD; GR/ RMT cased-hole neutron

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

4.9 ANTICIPATED PRESSURES AND TEMPERATURES:

- a. Expected bottom hole pressure: < 1789 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.

5.0 OTHER INFORMATION:

The anticipated spud date is spring of 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 two 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.

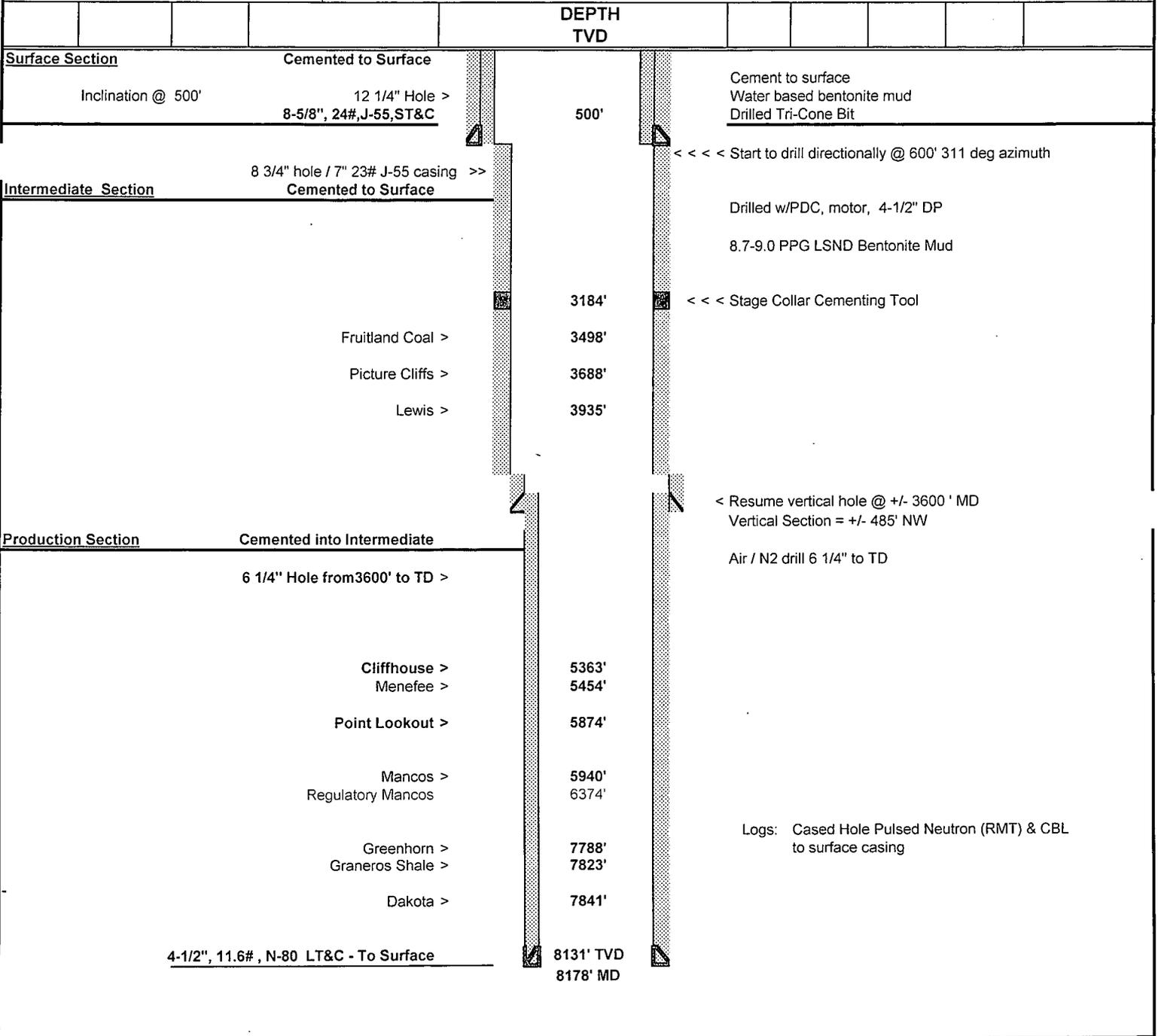
ENERVEST OPERATING, LLC

Jicarilla Apache 102 # 12N (Proposed) Revised

TYPE	Dakota/MV	RIG	TBD	DATE	9-Apr-2014
FIELD	Tapicito	COUNTY	Rio Arriba	ELEVATION	GL=6946', KB=6959'
GAS/OIL	Gas/Oil	MUD	LSND	BHT/BHP	175 deg / 1822 psi
LOCATION	SHL; 1387' FNL & 304' FEL Unit H, Sec 9, T26N, R4W		SHL; , -107.247954 W, 36.50426 N (NAD 27)		
	BHL; 1070' FNL & 670' FEL Unit A, Sec 9, T26N, R4W		BHL; -107.249161 W, 36.505143 N, (NAD 27)		

COMMENTS: OBJECTIVE FORMATION: Dakota and Mesa Verde

NOTES: This well will be drilled as an "S" shaped well



AFE #	CO 1312 895	REGULATORY	B Trevino	713-495-5355
EV #	54012.020	ENGINEER	R Trueheart / L Diede	713-495-1561 / 505-334-8867
API #	30-039-31179	GEOLOGIST	G Kowalczyk	713-495-6590