

ATS-16-351

Form 3160-3  
(June 2015)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

HOBBS OCD

APR 04 2016

FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

## APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-245247
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name -----
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No. -----
2. Name of Operator McELVAIN, INC.		8. Lease Name and Well No. EK-31 BS2 federal com. #4H
3a. Address 1050 17th STREET SUITE 2500 DENVER COLORADO 80265-2080		9. API Well No. 30-025- 43:149
3b. Phone No. (include area code) 303-893-0933		10. Field and Pool, or Exploratory EK-BONE SPRING
4. Location of Well (Report location clearly and in accordance with any State requirements) At surface SL. 149' FNL & 1019' FWL SECTION 31 T18S-R34E NM At proposed prod. zone 230' FSL & 660' FWL SECTION 31 T18S-R34E NM		11. Sec., T. R. M. or Blk. and Survey or Area SECTION 31 T18S-R34E NM
14. Distance in miles and direction from nearest town or post office*		12. County or Parish Lea
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 149'		13. State NM
16. No of acres in lease 1111		17. Spacing Unit dedicated to this well 160
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		20. BLM/BIA Bond No. in file COB#-000010
19. Proposed Depth TVD-10,070 MD-14,783		21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3861 GL
22. Approximate date work will start* WHEN APPROVED		23. Estimated duration 35 Days

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- |                                                                                                                                                |                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 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 requested by the BLM.            |

25. Signature <i>Joe T. Janica</i>	Name (Printed/Typed) Joe T. Janica	Date 10/31/15
Title Permit Engineer		
Approved by (Signature) <i>Stephen J. Caffey</i>	Name (Printed/Typed)	Date 4-1-2014
Title FOR FIELD MANAGER	Office BLM-CARLSBAD FIELD 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.

APPROVAL FOR TWO YEARS

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.

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHEDKZ  
04/06/16 SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

Witness Surface Casing

Capitan Controlled Water Basin

APR 14 2016

McELVAIN ENERGY, INC.  
 EK-"31" BS2 FEDERAL COM. #4H  
 UNIT "D" SECTION 31  
 T18S-R34E LEA CO. NM

In response to questions asked under Section II of Bulletin NTL-6, the following information on the above well will be provided.

1. LOCATION: 149' FNL & 1019' FWL SECTION 31 T18S-R34E LEA CO. NM SURFACE LOCATION  
 230' FSL & 660' FWL SECTION 31 T18S-R34E LEA CO. NM BOTTOM HOLE LOCATION
2. ELEVATION ABOVE SEA LEVEL: 3861' GL
3. GEOLOGICAL NAME OF SURFACE FORMATION: Quaternary Aeolian Deposits;
4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for the removal of solids
5. PROPOSED DRILLING DEPTH: TVD-10,070'  
 MD--14,783'
6. ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:

Rustler Anhydrite	1683'	1st Delaware Sand	5448'	2nd Bone Spring Sd.	9384'
Salt	1743'	2nd Delaware Sand	5733'	Target Window	9908'
Queen	4433'	Bone Spring	7598'		
Delaware	5408'	1st Bone Spring Sand	8933'		
7. POSSIBLE MINERAL BEARING FORMATIONS:

Yates	Oil/Gas/Water	1st Delaware Sd.	Oil/Gas/Water	1st Bone Spring	O/G
Penrose	Oil/Gas/Water	2nd Delaware Sd.	Oil/Gas/Water	2nd Bone Spring	O/G
Delaware	Oil/Gas/Water	Bone Spring Sd.	Oil/Gas/Water		
8. CASING PROGRAM: SEE COA

HOLE SIZE	INTERVAL	CASING OD	WEIGHT	THREAD	COLLAR	GRADE	CONDITION
26"	0-80'	20"	Conductor	NA	NA	Conductor	New
17.5"	0-1710'	13 3/8"	54.5#	8-R	ST&C	J-55	NEW
12 1/4"	0-4800'	9 5/8"	40#	8-R	LT&C	L-80	New
8 1/2"	0-14,783'	5 1/2"	17#	BPN	BPN	HCP-110	New

LT&C  
Per Section 9 of drilling  
Program

CASING SAFETY FACTORS: Collapse 1.125 Burst 1.00 Body Yield 1.5  
 Joint Strength 8-Round 1.8  
 Buttress 1.6

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9. CASING SETTING DEPTHS AND CEMENTING:

SEE COA

20" Conductor

Set 80' of 20" conductor pipe and cement to surface with Redi-mix

13 3/8" Surface

Run and set 1710' of 13 3/8" 54.5# J-55 ST&C casing. Cement with 990 Sx. of Class "C" cement, + 3% BWOC Light weight additive, 8.88 gal mix water + 1% CaCl Yield 1.68 ft<sup>3</sup>/Sx, 100 % excess, tail in with 545 Sx. of Class "C" cement + 1% CaCl, + 6.3gal of mix water 14.8# ppg, Yield 1.34 Ft<sup>3</sup>/Sx. 100% excess TOC Surface

9 5/8" Intermediate

Run and set 4800' of 9 5/8" 40# L-80 LT&C casing. Cement with 975 Sx. of 35/65 Class "C" cement + 6% Gel, + 5% Salt, + + 0.4% Retarder, + LCM, + 10.00 gal/Sx mix water 12.9 ppg Yield 1.69, 50% excess, tail in with 190 Sx of Class "C" cement + LCM material + 6.32 gal/Sx mix water, 14.8 ppg, Yield 1.32 ft<sup>3</sup>/Sx. , 50% excess, circulate cement to surface.

5 1/2" Production

Run and set 14,783' of 5 1/2" 17# HCP-110 LT&C casing. Cement with 590 Sx. of Class "H" 50/50 POZ cement + 2% Gel, + fluid loss additive, + retarder, + 25% Excess Yield 2.67, tail in with 1225 Sx. of Class "H" 50/50 POZ + 2% Gel, + fluid loss additive, + thinner, + retarder, 25% Excess, Yield 1.23 estimate top of cement 4300'.

*Additional  
cement may be  
required  
See COA*

10. PRESSURE CONTROL EQUIPMENT:

Exhibit "E" shows a 3000 PSI working pressure B.O.P. consisting of a packoff an annular bag type preventor, blind rams, and pipe rams. A 13 5/8" B.O.P. will be nipped up on the 13 3/8" surface casing and will remain on the hole till the 9 5/8" intermediate casing is run. It will be tested by a third party testing company to 2000 PSI. A 11" 5000PSI B.O.P. will be nipped up the hole for the drilling of the production hole. It will be tested by a third party testing company to 5000 PSI. The B.O.P.s will be operated at least once in each 24 hour period and the blind rams will be operated when the drill pipe is out of the hole. A full opening stabbing valve and an upper kelly cock will be available on the derrick floor at all times and will be compatible with the drill pipe that is in use while drilling this well. Exhibit "E-1" shows a 3" 5000 PSI choke manifold with a manual choke and a hydraulically operated remote choke. The choke manifold will be a rigid connection to the B.O.P.. No abnormal pressures or temperatures are expected while drilling of this well. Other wells drilled in this near vicinity have not encountered any abnormal pressures or temperatures. No H<sub>2</sub>S is expected to be encountered.

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11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
0-1710' 1750	9.4-9.4	30-36	NC	Fresh water spud mud. add paper to combat seepage, and use high viscosity sweeps to clean hole
<del>1710-4800'</del>	9.8-10.2	28-32	NC	Brine water use paper to to control seepage and us paper to control seepage use high viscosity sweep to clean hole
4800-14,798'	8.7-9.2	28-32	12-15 cc	Cut Brine add Dynazan starch, HB-411 to control water loss and maintain hole stability.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, cut cores, and run casing, the viscosity, water loss, and other properties may have to be altered to meet these requirements. Pit levels will be monitored visually, and an electronic pit level indicator will be employed.

THIS WELL BE DRILLED USING A CLOSED MUD SYSTRM

12. LOGGING, CORING, AND TESTING PROGRAM:

- See COA*
- A. Open hole logs: Dual Laterolog, SP, Gamma Ray, Caliper, Neutron Density, from 9455' back to 4800'. Gamma Ray Neutron back to surface.
  - B. Rig up mud logger on hole at 3500' and keep on hole to TD.
  - C. No DST's and no cores are planned at this time.

13. POTENTIAL HAZARDS:

*See COA*

No abnormal pressures or temperatures are expected. There is no known presence of H<sub>2</sub>S in this area. If H<sub>2</sub>S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No.6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated Bottom Hole Pressure 4250 PSI, and Estimated BHT 150°F.

14. ANTICIPATED STARTING AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date would be as soon as the location construction and a rig becomes available. Move in operation and drilling is expected to take 40 days. If production casing is run then an additional 40 days will be needed to complete the well and construction of production facilities, and lay flowlines to place well on production.

15. OTHER FACETS OF PRODUCTION:

*See COA*

McElvain Energy, Inc. plan on drilling eight wells off of a single drilling pad. There will be 4 horizontal wells in the Bone Spring formation and 4 wells in the Wolfcamp formation, these wells will conform with the New Mexico Oil Conservation Division rules. A combined tank battery will be constructed on the West side of the drilling pad that will satisfy both formation's production, when the drilling of wells has been completed reclamation on the North and the South side of the drilling pad of 100'X520' on the North and 100'X565' on the South will be constructed.

McElvain Energy, Inc. will apply for a Non-Standard Location with the NMOCD to comply with the subject well.

*See COA 1750*

The plan for this well is to move in a spudder rig and drill conductor hole and cement conductor pipe in place. Then the rig would drill the surface hole to 1710'. then run 1710' of 13 3/8" 54.5# J-55 ST&C casing. A cement company would be hired to cement the surface casing in place, the spudder rig would be kept over hole till it was sure the cement job meets all COA's per the APD. At this point MEI would weld a steel plate with a pressure gage to ensure that no debris can enter the hole and would allow the BLM personnel to inspect it to see that no pressure build up occurs. Then within 30-60 days a drilling rig would be moved and rigged up on the location and drill to TD, run casing and complete well for production.