

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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.

5. Lease Serial No.
NMNM114991

6. If Indian, Allottee or Tribe Name

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

HOBBS OCD

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

SEP 29 2014

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

DEVON ENERGY PRODUCTION CO LP

Contact: TRINA C COUCH

Email: trina.couch@devon.com

RECEIVED

8. Well Name and No.
GREEN WAVE 17 FED 1H

9. API Well No.
30-025-41232-00-X1

3a. Address

333 WEST SHERIDAN AVE
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)

Ph: 405-228-7203

10. Field and Pool, or Exploratory

BRADLEY *<97892>*
Wildcat 6-06 5263402P; Bone Spring

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 17 T26S R34E SESW 25FSL 1980FWL

11. County or Parish, and State

LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) 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"/> Alter 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 checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

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 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Devon Energy Production Company, L.P. respectfully requests to change from a Brushy Canyon well (Delaware) to a Leonard Shale (Bone Spring).
New landing depth will be 9765' and the well will drill flat from south to north.

Attachments:
Drilling Plan
Directional Survey
Revised C-102

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

**SUBJECT TO LIKE
APPROVAL BY STATE**

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #264563 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION CO LP, sent to the Hobbs Committed to AFMSS for processing by JENNIFER MASON on 09/19/2014 (14JAM0096SE)	
Name (Printed/Typed) TRINA C COUCH	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 09/19/2014
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved By	Title
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	
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.	

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

OCT 01 2014

Additional data for EC transaction #264563 that would not fit on the form

32. Additional remarks, continued

Thank you

Drilling Program / Surface Use Plan – Green Wave 17 Fed 1H
Discipline-Specific Input Form

1. Casing and Cementing Plan Summary

The surface fresh water sands will be protected by setting 13-3/8" casing at 300' and circulating cement back to surface. The fresh water sands will be protected by setting 9-5/8" casing at 3,200' and circulating cement to surface. The Bone Spring intervals will be isolated by setting 5-1/2" casing to total depth and circulating cement above the base of the 9-5/8" casing. All casing is new and API approved.

2. Casing Program:

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight	Collar	Grade
17-1/2"	0 – 800	13-3/8"	0 – 800'	48# 54.5#	STC	H-40
12-1/4"	800' – 5,200'	9-5/8"	0 - 5,200'	40#	LTC	HCK-55
8-3/4"	5,200' – 8,900'	5-1/2"	0 – 8,900'	17#	LTC	HCP-110
8-3/4"	8,900' – 14,179'	5-1/2"	8,900' – 14,179'	17#	BTC	HCP-110
8-3/4"	8,900' – 14,440'	5-1/2"	0' – 14,440'	17#	BTC	HCP-110

3. Design Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13-3/8"	1.53	2.34	4.15
9-5/8"	1.77	2.72	4.64
5-1/2" LTC	1.89	2.34	2.70
5-1/2" BTC	1.64	2.34	2.23

4. Cement Program:

13-3/8" Surface

Tail: 850 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 63.1% Fresh Water, 14.8 ppg

Yield: 1.35 cf/sk

TOC @ surface

9-5/8" Intermediate

Lead: 1170 sacks (65:35) Class C Cement:Poz (Fly Ash): + 5% bwow Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 6% bwoc Bentonite + 70.9% Fresh Water, 12.9 ppg

Yield: 1.85 cf/sk

TOC @ surface

Tail: 425 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Water, 14.8 ppg

Yield: 1.33 cf/sk

5-1/2" Production

1st Stage

Lead: 390 sacks (65:35) Class H Cement:Poz (Fly Ash) + 6% bwoc Bentonite + 0.2% bwoc HR-601 + 74.1% Fresh Water, 12.5 ppg

Yield: 1.95 cf/sk

Tail: 1560 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg

Yield: 1.22 cf/sk

DV TOOL at 6500 ft

2nd Stage

Lead: 155 sacks Class C Cement + 3% bwoc Econolite + 0.125 lbs/sack Poly-E-Flake + 82.4% Fresh Water, 11.4 ppg

Yield: 2.87 cf/sk

Tail: 145 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water, 14.8 ppg

Drilling Program / Surface Use Plan – Green Wave 17 Fed 1H
Discipline-Specific Input Form

Yield: 1.33cf/sk

TOC @ 4700 ft

String	TOC
Surface	Surface
Intermediate	Surface
Production	4,700'

The above cement volumes are based on 25% excess. Actual cement volumes could be adjusted based on fluid caliper and caliper log data.

5. **Pressure Control Equipment**

BOP DESIGN: The BOP system used to drill the intermediate and production holes will consist of a 13-5/8" 3M Triple Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a 3M system prior to drilling out the prior casing shoe.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.

6. **Proposed Mud Circulation System:**

Depth Range	Mud Weight	Viscosity	Fluid Loss	Type System
0 – 800'	8.4-8.6	28-32	NC	Fresh Water
800' – 5,200'	9.9-10.1	28-29	NC	Brine
5,200' – 17,179'	8.7-9.2	28-29	NC	Fresh Water

The necessary mud products for weight addition and fluid loss control will be on location at all times.

7. **Auxiliary Well Control and Monitoring Equipment:**

- A Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- Hydrogen Sulfide detection equipment will be in operation after drilling out the 13-3/8" casing shoe until the 5-1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13-3/8" shoe until total depth is reached.

8. **Potential Hazards:**

No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP of 3,600 psi and estimated BHT 145°. No H2S is anticipated to be encountered.

9. **Anticipated Starting Date and Duration of Operations:**

- Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as a rig becomes available following BLM approval. Move in operations and drilling is expected to take 32 days. If production casing is run, then an additional 30 days will be needed to complete the well and construct surface facilities and/or lay flow lines in order to place well on production.

10. Location and Types of Water Supply:

This location will be drilled using a combination of water mud systems (outlined in the Drilling Program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using the existing and proposed roads shown in the C-102. On occasion, water will be obtained from a pre-existing water well, running a pump directly to the drill rig. In these cases where a poly pipeline is used to transport water for drilling purposes, proper authorizations will be secured. If a poly pipeline is used, the size, distance, and map showing route will be provided to the BLM via sundry notice.

11. Methods of Handling Waste Material:

- a. Drill cuttings will be disposed of in a closed loop system.
- b. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
- c. The supplier will pick up salts remaining, including broken sacks, after completion of well.
- d. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- e. Remaining drilling fluids will be sent to a closed loop system.
- f. Disposal of fluids to be transported by the following companies:
 - i. American Production Service Inc, Odessa TX
 - ii. Gandy Corporation, Lovington NM
 - iii. I & W Inc, Loco Hill NM
 - iv. Jims Water Service of Co Inc, Denver CO

Devon

Project: Lea County, NM (NAD 83)

Site: Green Wave 17 Fed

Well: Green Wave 17 Fed 1H

Wellbore: Wellbore #1

Plan: Plan#2 091814 RevA1 (Green Wave 17 Fed 1H/Wellbore #1)

HALLIBURTON

Sperry Drilling

Green Wave 17 Fed 1H/Plan#2 091814 Rev A1

WELL DETAILS: Green Wave 17 Fed 1H

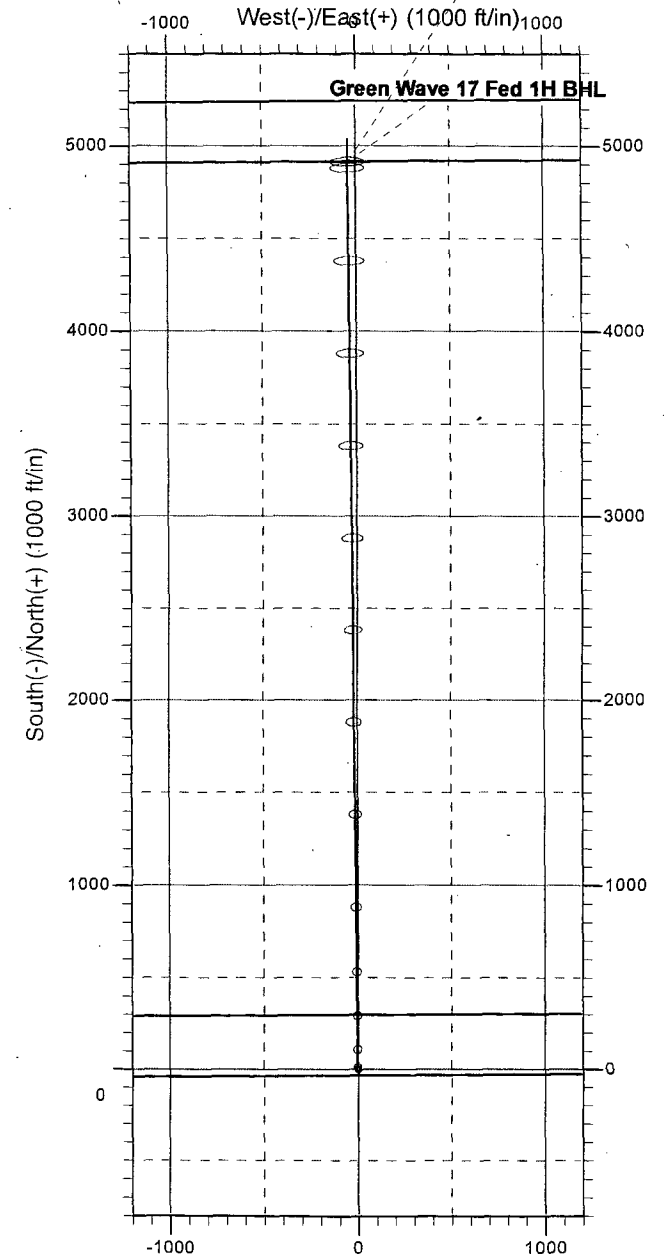
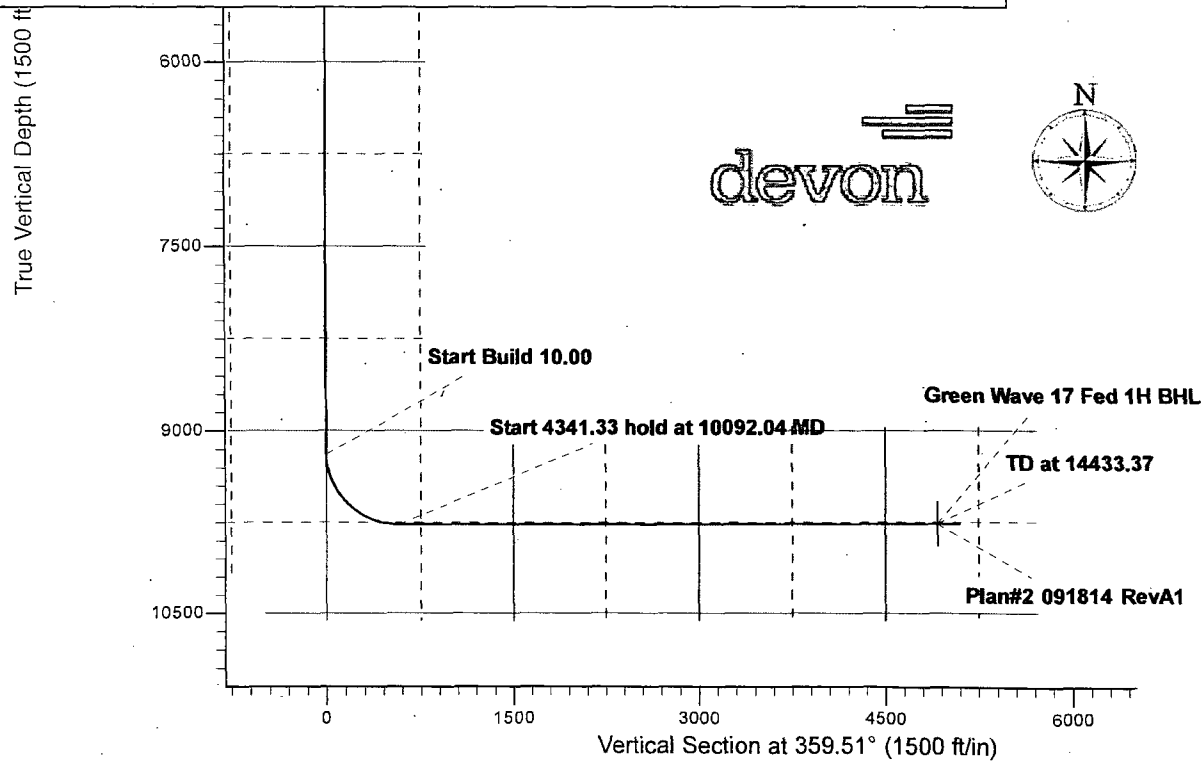
Ground Level:	3353.80		
Northing	Easting	Latitude	Longitude
377948.80	801410.40	32° 2' 10.620 N	103° 29' 38.539 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9192.04	0.00	0.00	9192.04	0.00	0.00	0.00	0.00	0.00	
10092.04	90.00	359.51	9765.00	572.94	-4.92	10.00	359.51	572.96	Green Wave 17 Fed 1H BHL
14433.37	90.00	359.51	9765.00	4914.11	-42.20	0.00	0.00	4914.29	Green Wave 17 Fed 1H BHL

WELLBORE TARGET DETAILS

Name	TVD	+N-S	+E-W	Shape
Green Wave 17 Fed 1H BHL	9765.00	4914.11	-42.20	Point



Job#

Devon

Lea County, NM (NAD 83) Green Wave 17 Fed

API#

Green Wave 17 Fed 1H

Wellbore #1

Plan: Plan#2 091814 RevA1

Sperry Drilling Services Combo Report

18 September, 2014

Well Coordinates: 32° 02' 10.62" N
103° 29' 38.54" W

North American Datum 1983
New Mexico Eastern Zone
377,948.80 N
801,410.40 E

Ground Level: 3,353.80 ft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Centered on Well Green Wave 17 Fed 1H

WELL @ 3378.80ft

N

Grid

API US Survey Feet

Version: 5000.1 Build: 73

Report Version: Midcon Combo v1.50

HALLIBURTON

Plan Report for Green Wave 17 Fed 1H - Plan#2 091814 RevA1

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (usft)	Easting (usft)			
0.00	0.00	0.00	-3,378.80	0.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
100.00	0.00	0.00	-3,278.80	100.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
200.00	0.00	0.00	-3,178.80	200.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
300.00	0.00	0.00	-3,078.80	300.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
400.00	0.00	0.00	-2,978.80	400.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
500.00	0.00	0.00	-2,878.80	500.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
600.00	0.00	0.00	-2,778.80	600.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
700.00	0.00	0.00	-2,678.80	700.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
800.00	0.00	0.00	-2,578.80	800.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
900.00	0.00	0.00	-2,478.80	900.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
1,000.00	0.00	0.00	-2,378.80	1,000.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
1,100.00	0.00	0.00	-2,278.80	1,100.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
1,200.00	0.00	0.00	-2,178.80	1,200.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
1,300.00	0.00	0.00	-2,078.80	1,300.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
1,400.00	0.00	0.00	-1,978.80	1,400.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
1,500.00	0.00	0.00	-1,878.80	1,500.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
1,600.00	0.00	0.00	-1,778.80	1,600.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
1,700.00	0.00	0.00	-1,678.80	1,700.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
1,800.00	0.00	0.00	-1,578.80	1,800.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
1,900.00	0.00	0.00	-1,478.80	1,900.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
2,000.00	0.00	0.00	-1,378.80	2,000.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
2,100.00	0.00	0.00	-1,278.80	2,100.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
2,200.00	0.00	0.00	-1,178.80	2,200.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
2,300.00	0.00	0.00	-1,078.80	2,300.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
2,400.00	0.00	0.00	-978.80	2,400.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
2,500.00	0.00	0.00	-878.80	2,500.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
2,600.00	0.00	0.00	-778.80	2,600.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
2,700.00	0.00	0.00	-678.80	2,700.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
2,800.00	0.00	0.00	-578.80	2,800.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
2,900.00	0.00	0.00	-478.80	2,900.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
3,000.00	0.00	0.00	-378.80	3,000.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
3,100.00	0.00	0.00	-278.80	3,100.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
3,200.00	0.00	0.00	-178.80	3,200.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
3,300.00	0.00	0.00	-78.80	3,300.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
3,400.00	0.00	0.00	21.20	3,400.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
3,500.00	0.00	0.00	121.20	3,500.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
3,600.00	0.00	0.00	221.20	3,600.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
3,700.00	0.00	0.00	321.20	3,700.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
3,800.00	0.00	0.00	421.20	3,800.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
3,900.00	0.00	0.00	521.20	3,900.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
4,000.00	0.00	0.00	621.20	4,000.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	

Plan Report for Green Wave 17 Fed 1H - Plan#2 091814 RevA1

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (usft)	Easting (usft)			
4,100.00	0.00	0.00	721.20	4,100.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
4,200.00	0.00	0.00	821.20	4,200.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
4,300.00	0.00	0.00	921.20	4,300.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
4,400.00	0.00	0.00	1,021.20	4,400.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
4,500.00	0.00	0.00	1,121.20	4,500.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
4,600.00	0.00	0.00	1,221.20	4,600.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
4,700.00	0.00	0.00	1,321.20	4,700.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
4,800.00	0.00	0.00	1,421.20	4,800.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
4,900.00	0.00	0.00	1,521.20	4,900.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
5,000.00	0.00	0.00	1,621.20	5,000.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
5,100.00	0.00	0.00	1,721.20	5,100.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
5,200.00	0.00	0.00	1,821.20	5,200.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
5,300.00	0.00	0.00	1,921.20	5,300.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
5,400.00	0.00	0.00	2,021.20	5,400.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
5,500.00	0.00	0.00	2,121.20	5,500.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
5,600.00	0.00	0.00	2,221.20	5,600.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
5,700.00	0.00	0.00	2,321.20	5,700.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
5,800.00	0.00	0.00	2,421.20	5,800.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
5,900.00	0.00	0.00	2,521.20	5,900.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
6,000.00	0.00	0.00	2,621.20	6,000.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
6,100.00	0.00	0.00	2,721.20	6,100.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
6,200.00	0.00	0.00	2,821.20	6,200.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
6,300.00	0.00	0.00	2,921.20	6,300.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
6,400.00	0.00	0.00	3,021.20	6,400.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
6,500.00	0.00	0.00	3,121.20	6,500.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
6,600.00	0.00	0.00	3,221.20	6,600.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
6,700.00	0.00	0.00	3,321.20	6,700.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
6,800.00	0.00	0.00	3,421.20	6,800.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
6,900.00	0.00	0.00	3,521.20	6,900.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
7,000.00	0.00	0.00	3,621.20	7,000.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
7,100.00	0.00	0.00	3,721.20	7,100.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
7,200.00	0.00	0.00	3,821.20	7,200.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
7,300.00	0.00	0.00	3,921.20	7,300.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
7,400.00	0.00	0.00	4,021.20	7,400.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
7,500.00	0.00	0.00	4,121.20	7,500.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
7,600.00	0.00	0.00	4,221.20	7,600.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
7,700.00	0.00	0.00	4,321.20	7,700.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
7,800.00	0.00	0.00	4,421.20	7,800.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
7,900.00	0.00	0.00	4,521.20	7,900.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
8,000.00	0.00	0.00	4,621.20	8,000.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
8,100.00	0.00	0.00	4,721.20	8,100.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	

Plan Report for Green Wave 17 Fed 1H - Plan#2 091814 RevA1

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (usft)	Easting (usft)			
8,200.00	0.00	0.00	4,821.20	8,200.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
8,300.00	0.00	0.00	4,921.20	8,300.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
8,400.00	0.00	0.00	5,021.20	8,400.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
8,500.00	0.00	0.00	5,121.20	8,500.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
8,600.00	0.00	0.00	5,221.20	8,600.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
8,700.00	0.00	0.00	5,321.20	8,700.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
8,800.00	0.00	0.00	5,421.20	8,800.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
8,900.00	0.00	0.00	5,521.20	8,900.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
9,000.00	0.00	0.00	5,621.20	9,000.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
9,100.00	0.00	0.00	5,721.20	9,100.00	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	
9,192.04	0.00	0.00	5,813.24	9,192.04	0.00 N	0.00 E	377,948.80	801,410.40	0.00	0.00	Start Build 10.00
9,200.00	0.80	359.51	5,821.20	9,200.00	0.06 N	0.00 W	377,948.86	801,410.40	10.00	0.06	
9,300.00	10.80	359.51	5,920.56	9,299.36	10.14 N	0.09 W	377,958.94	801,410.31	10.00	10.14	
9,400.00	20.80	359.51	6,016.66	9,395.46	37.33 N	0.32 W	377,986.13	801,410.08	10.00	37.33	
9,500.00	30.80	359.51	6,106.58	9,485.38	80.79 N	0.69 W	378,029.59	801,409.71	10.00	80.79	
9,600.00	40.80	359.51	6,187.59	9,566.39	139.20 N	1.20 W	378,088.00	801,409.20	10.00	139.21	
9,700.00	50.80	359.51	6,257.23	9,636.03	210.79 N	1.81 W	378,159.59	801,408.59	10.00	210.80	
9,800.00	60.80	359.51	6,313.37	9,692.17	293.39 N	2.52 W	378,242.19	801,407.88	10.00	293.40	
9,900.00	70.80	359.51	6,354.32	9,733.12	384.48 N	3.30 W	378,333.28	801,407.10	10.00	384.49	
10,000.00	80.80	359.51	6,378.82	9,757.62	481.29 N	4.13 W	378,430.09	801,406.27	10.00	481.31	
10,092.04	90.00	359.51	6,386.20	9,765.00	572.94 N	4.92 W	378,521.74	801,405.48	10.00	572.96	Start 4341.33 hold at 10092.04 MD
10,100.00	90.00	359.51	6,386.20	9,765.00	580.90 N	4.99 W	378,529.69	801,405.41	0.00	580.92	
10,200.00	90.00	359.51	6,386.20	9,765.00	680.89 N	5.85 W	378,629.69	801,404.55	0.00	680.92	
10,300.00	90.00	359.51	6,386.20	9,765.00	780.89 N	6.71 W	378,729.69	801,403.69	0.00	780.92	
10,400.00	90.00	359.51	6,386.20	9,765.00	880.88 N	7.56 W	378,829.68	801,402.84	0.00	880.92	
10,500.00	90.00	359.51	6,386.20	9,765.00	980.88 N	8.42 W	378,929.68	801,401.98	0.00	980.92	
10,600.00	90.00	359.51	6,386.20	9,765.00	1,080.88 N	9.28 W	379,029.68	801,401.12	0.00	1,080.92	
10,700.00	90.00	359.51	6,386.20	9,765.00	1,180.87 N	10.14 W	379,129.67	801,400.26	0.00	1,180.92	
10,800.00	90.00	359.51	6,386.20	9,765.00	1,280.87 N	11.00 W	379,229.67	801,399.40	0.00	1,280.92	
10,900.00	90.00	359.51	6,386.20	9,765.00	1,380.87 N	11.86 W	379,329.66	801,398.54	0.00	1,380.92	
11,000.00	90.00	359.51	6,386.20	9,765.00	1,480.86 N	12.72 W	379,429.66	801,397.68	0.00	1,480.92	
11,100.00	90.00	359.51	6,386.20	9,765.00	1,580.86 N	13.58 W	379,529.66	801,396.82	0.00	1,580.92	
11,200.00	90.00	359.51	6,386.20	9,765.00	1,680.86 N	14.43 W	379,629.65	801,395.97	0.00	1,680.92	
11,300.00	90.00	359.51	6,386.20	9,765.00	1,780.85 N	15.29 W	379,729.65	801,395.11	0.00	1,780.92	
11,400.00	90.00	359.51	6,386.20	9,765.00	1,880.85 N	16.15 W	379,829.64	801,394.25	0.00	1,880.92	
11,500.00	90.00	359.51	6,386.20	9,765.00	1,980.84 N	17.01 W	379,929.64	801,393.39	0.00	1,980.92	
11,600.00	90.00	359.51	6,386.20	9,765.00	2,080.84 N	17.87 W	380,029.64	801,392.53	0.00	2,080.92	
11,700.00	90.00	359.51	6,386.20	9,765.00	2,180.84 N	18.73 W	380,129.63	801,391.67	0.00	2,180.92	
11,800.00	90.00	359.51	6,386.20	9,765.00	2,280.83 N	19.59 W	380,229.63	801,390.81	0.00	2,280.92	
11,900.00	90.00	359.51	6,386.20	9,765.00	2,380.83 N	20.45 W	380,329.62	801,389.95	0.00	2,380.92	
12,000.00	90.00	359.51	6,386.20	9,765.00	2,480.83 N	21.30 W	380,429.62	801,389.10	0.00	2,480.92	

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Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (usft)	Easting (usft)			
12,100.00	90.00	359.51	6,386.20	9,765.00	2,580.82 N	22.16 W	380,529.62	801,388.24	0.00	2,580.92	
12,200.00	90.00	359.51	6,386.20	9,765.00	2,680.82 N	23.02 W	380,629.61	801,387.38	0.00	2,680.92	
12,300.00	90.00	359.51	6,386.20	9,765.00	2,780.81 N	23.88 W	380,729.61	801,386.52	0.00	2,780.92	
12,400.00	90.00	359.51	6,386.20	9,765.00	2,880.81 N	24.74 W	380,829.61	801,385.66	0.00	2,880.92	
12,500.00	90.00	359.51	6,386.20	9,765.00	2,980.81 N	25.60 W	380,929.60	801,384.80	0.00	2,980.92	
12,600.00	90.00	359.51	6,386.20	9,765.00	3,080.80 N	26.46 W	381,029.60	801,383.94	0.00	3,080.92	
12,700.00	90.00	359.51	6,386.20	9,765.00	3,180.80 N	27.32 W	381,129.59	801,383.08	0.00	3,180.92	
12,800.00	90.00	359.51	6,386.20	9,765.00	3,280.80 N	28.17 W	381,229.59	801,382.23	0.00	3,280.92	
12,900.00	90.00	359.51	6,386.20	9,765.00	3,380.79 N	29.03 W	381,329.59	801,381.37	0.00	3,380.92	
13,000.00	90.00	359.51	6,386.20	9,765.00	3,480.79 N	29.89 W	381,429.58	801,380.51	0.00	3,480.92	
13,100.00	90.00	359.51	6,386.20	9,765.00	3,580.79 N	30.75 W	381,529.58	801,379.65	0.00	3,580.92	
13,200.00	90.00	359.51	6,386.20	9,765.00	3,680.78 N	31.61 W	381,629.57	801,378.79	0.00	3,680.92	
13,300.00	90.00	359.51	6,386.20	9,765.00	3,780.78 N	32.47 W	381,729.57	801,377.93	0.00	3,780.92	
13,400.00	90.00	359.51	6,386.20	9,765.00	3,880.77 N	33.33 W	381,829.57	801,377.07	0.00	3,880.92	
13,500.00	90.00	359.51	6,386.20	9,765.00	3,980.77 N	34.19 W	381,929.56	801,376.22	0.00	3,980.92	
13,600.00	90.00	359.51	6,386.20	9,765.00	4,080.77 N	35.04 W	382,029.56	801,375.36	0.00	4,080.92	
13,700.00	90.00	359.51	6,386.20	9,765.00	4,180.76 N	35.90 W	382,129.55	801,374.50	0.00	4,180.92	
13,800.00	90.00	359.51	6,386.20	9,765.00	4,280.76 N	36.76 W	382,229.55	801,373.64	0.00	4,280.92	
13,900.00	90.00	359.51	6,386.20	9,765.00	4,380.76 N	37.62 W	382,329.55	801,372.78	0.00	4,380.92	
14,000.00	90.00	359.51	6,386.20	9,765.00	4,480.75 N	38.48 W	382,429.54	801,371.92	0.00	4,480.92	
14,100.00	90.00	359.51	6,386.20	9,765.00	4,580.75 N	39.34 W	382,529.54	801,371.06	0.00	4,580.92	
14,200.00	90.00	359.51	6,386.20	9,765.00	4,680.74 N	40.20 W	382,629.54	801,370.20	0.00	4,680.92	
14,300.00	90.00	359.51	6,386.20	9,765.00	4,780.74 N	41.05 W	382,729.53	801,369.35	0.00	4,780.92	
14,400.00	90.00	359.51	6,386.20	9,765.00	4,880.74 N	41.91 W	382,829.53	801,368.49	0.00	4,880.92	
14,433.37	90.00	359.51	6,386.20	9,765.00	4,914.11 N	42.20 W	382,862.90	801,368.20	0.00	4,914.29	TD at 14433.37

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
9,192.04	9,192.04	0.00	0.00	Start Build 10.00
10,092.04	9,765.00	572.94	-4.92	Start 4341.33 hold at 10092.04 MD
14,433.37	9,765.00	4,914.11	-42.20	TD at 14433.37

Plan Report for Green Wave 17 Fed 1H - Plan#2 091814 RevA1

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	Origin +E/-W (ft)	Start TVD (ft)
TD	No Target (Freehand)	359.51	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	14,433.37	Plan#2 091814 RevA1	MWD

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Green Wave 17 Fed 1H BHL ()	0.00	0.00	9,765.00	4,914.11	-42.20	382,862.90	801,368.20	32° 2' 59.250 N	103° 29' 38.586 W
- plan hits target center									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	0.62 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 10,092.04 ft
Net Tortousity applicable to Plans:	0.62 °/100usft	Directional Difficulty Index:	6.059

Audit Info

SAP=346244

North Reference Sheet for Green Wave 17 Fed - Green Wave 17 Fed 1H - Wellbore #1

All data is in Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to WELL @ 3378.80ft. Northing and Easting are relative to Green Wave 17 Fed 1H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 104° 20' 0.000 W°, Longitude Origin: 0° 0' 0.000 E°, Latitude Origin: 0° 0' 0.000 N°

False Easting: 541,337.50usft, False Northing: 0.00usft, Scale Reduction: 0.99998656

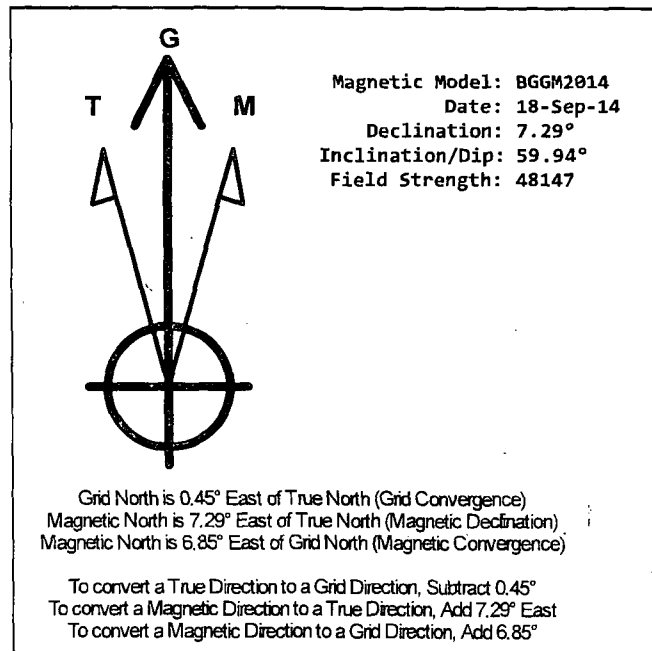
Grid Coordinates of Well: 377,948.80 usft N, 801,410.40 usft E

Geographical Coordinates of Well: 32° 02' 10.62" N, 103° 29' 38.54" W

Grid Convergence at Surface is: 0.45°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,433.37ft
the Bottom Hole Displacement is 4,914.29ft in the Direction of 359.51° (Grid).

Magnetic Convergence at surface is: -6.85° (18 September 2014, , BGGM2014)



**PECOS DISTRICT
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	DEVON ENERGY
LEASE NO.:	NM114991
WELL NAME & NO.:	1H-GREEN WAVE 17 FED
SURFACE HOLE FOOTAGE:	25'/S. & 1980'/W.
BOTTOM HOLE FOOTAGE	330'/N. & 1980'/W.
LOCATION:	Section 17, T. 26 S., R. 34 E., NMPM
COUNTY:	Lea County, New Mexico
API:	30-025-41232

The original COAs still stand with the following drilling modifications:

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. **Hydrogen Sulfide has been reported as a hazard in formations deeper than the proposed depth. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe. If Hydrogen Sulfide is encountered, please report measurements and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. **DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE.** Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. **IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS.** See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible lost circulation in the Delaware and Bone Spring.

Possible water and brine flows in the Salado, Castile, Delaware and Bone Spring.

1. The **13-3/8** inch surface casing shall be set at approximately **800** feet (**below the Magenta Dolomite of the Rustler Anhydrite and above the salt**). If salt is encountered, set casing at least 25 feet above the salt and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

Operator has proposed DV tool at depth of 6500'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

- a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve approved top of cement on the next stage.

- b. Second stage above DV tool:

☒ Cement should tie-back at least **500** feet into previous casing string. Operator shall provide method of verification.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- d. The results of the test shall be reported to the appropriate BLM office.
- e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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