

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM112941	
2. Name of Operator DEVON ENERGY PRODUCTION CO. LP		6. If Indian, Allottee or Tribe Name	
Contact: TRINA C COUCH E-Mail: trina.couch@devn.com		7. If Unit or CA/Agreement, Name and/or No.	
3a. Address DEVON ENERGY PRODUCTION CO. LP 333 WEST SHERRILL AVE OKLAHOMA CITY, OK 73102-5015		8. Well Name and No. MEAN GREEN 27 FED 1H	
3b. Phone No. (include area code) 918-283-0200		9. API Well No. 30-025-41433	
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 22 T26S R34E 100FSL 480FEL Unit P		10. Field and Pool, or Exploratory W/C-025 G-08 S263412K	
		11. County or Parish, and State LEA COUNTY COUNTY, NM	

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ 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 recompleate 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 recompleation 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 the producing formation from a Delaware to a 3rd Bone Spring with a pilot hole to 12900'.

Attachments:
Drilling Plan
Directional Survey
Co-flex
20M Choke Manifold

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct. Electronic Submission #225510 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION CO. LP, sent to the Hobbs Committed to AFMSS for processing by JOHNNY DICKERSON on 11/07/2013 ()	
Name (Printed/Typed) TRINA C COUCH	Title REGULATORY ASSOCIATE
Signature (Electronic Submission)	Date 11/05/2013
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	

APPROVED

DEC 5 2013

/s/ Chris Walls
BUREAU OF LAND MANAGEMENT

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.

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

OCT 01 2014

Additional data for EC transaction #225510 that would not fit on the form

32. Additional remarks, continued

Thank you

1. Casing and Cementing Plan Summary

The surface fresh water sands will be protected by setting 20" casing at 930' and circulating cement back to surface. The fresh water sands will be protected by setting 13-3/8" casing at 5,300' and circulating cement to surface. The Delaware intervals will be isolated by setting 9-5/8" casing at 9,450' and circulating cement to surface. The 5-1/2" long string will be set at 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
26"	0' – 930'	20"	0' – 930'	94#	BTC	J/K-55
17-1/2"	930' – 5,300'	13-3/8"	0' – 5300'	68#	BTC	HCL-80
12-1/4"	5,300' – 9,450'	9-5/8"	0' – 9,450'	43.5#	LTC	HCP-110
8-1/2"	9,450' – 11,947'	5-1/2"	0' – 11,947'	17#	LTC	HCP-110
8-1/2"	11,947' – 17,424'	5-1/2"	11,947' – 17,424'	17#	BTC	HCP-110

3. Design Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
20"	1.12	4.54	16.04
13-3/8"	0.98	1.82	4.29
9-5/8"	1.27	1.97	2.69
5-1/2" LTC	1.37	1.70	1.50
5-1/2" BTC	1.31	1.62	6.21

NOTE REGARDING COLLAPSE DESIGN FACTOR FOR INTERMEDIATE CASING – The maximum possible collapse load that the intermediate casing will experience will result from evacuated casing with the pore pressure exerting a collapse load at TD. The pore pressure is estimated to be 10 ppg for this calculation. This results in a collapse design factor of 0.98 for the 13-3/8" 68# HCL-80 BTC casing at a depth of 5,300 ft. While running the intermediate casing, the casing string will never be completely evacuated. There is no potential for the intermediate casing to be used as a production string.

Drilling Program / Surface Use Plan
Mean Green 27 Fed 1H

4. Cement Program:

String	Slurry	Amount and Type of Cement
20" Surface	Lead	930 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 4% bwoc Bentonite + 70.8% Fresh Water, 13.5 ppg, Yield of 1.75 cf/sk, Water Requirement of 9.07gal/sk
	Tail	970 sacks 100% Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.9% Fresh Water, 14.8ppg, Yield of 1.33 cf/sk, Water Requirement of 6.32 gal/sk
13-3/8" Intermediate	Lead	2730 sacks (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.8 % Fresh Water, 12.9 ppg, Yield of 1.85 cf/sk, Water Requirement of 9.81 gal/sk
	Tail	945 sacks 100% Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.9% Fresh Water, 14.8ppg, Yield of 1.33 cf/sk, Water Requirement of 6.32 gal/sk
9-5/8" Intermediate	1 st Lead	410 sacks (50:50) Class H Cement: Poz (Fly Ash) + 10% BWOC Bentonite + 1 lb/sk of Kol-Seal + 0.3% BWOC HR-601 + 0.5lb/sk D-Air 5000 + 76.4% Fresh Water, 11.9 ppg, Yield of 2.26 ft3/sk, Water Requirement of 12.89 gal/sk
	1 st Tail	210 sacks (50:50) Class H Cement: Poz (Fly Ash) + 2% BWOC Bentonite + 0.2% BWOC Halad-9 + 0.2% BWOC HR-800 + 62.4% Fresh Water, 14.4 ppg, Yield of 1.24 cf/sk, Water Requirement of 5.75 gal/sk
	2 nd STAGE (DV tool at 7000 ft)	
	2 nd Lead	370 sacks (50:50) Class C Cement: Poz (Fly Ash) + 10% BWOC Bentonite + 0.3% BWOC HR-601 + 1 lb/sk of Calseal + 0.5lb/sk D-Air 5000 + 77.4% Fresh Water, 11.9 ppg, Yield of 2.29 cf/sk, Water Requirement of 13.26 gal/sk
	2 nd Tail	190 sacks (50:50) Class H Cement: Poz (Fly Ash) + 2% BWOC Bentonite + 0.2% BWOC Halad-9 + 0.2% BWOC HR-800 + 62.4% Fresh Water, 14.4 ppg, Yield of 1.33 cf/sk, Water Requirement of 5.75 gal/sk
	3 rd STAGE (DV tool at 4475 ft) <i>5350 see COA</i>	
	3 rd Lead	730 sacks (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.8 % Fresh Water, 12.9 ppg, Yield of 2.25 cf/sk, Water Requirement of 9.81gal/sk
	3 rd Tail	130 sacks 100% Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.9% Fresh Water, 14.8ppg, Yield of 1.33 cf/sk, Water Requirement of 6.32 gal/sk
5-1/2" Production	Lead	470 sacks (65:35) Class H Cement: Poz (Fly Ash): 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 73.6 % Fresh Water, 12.5 ppg, Yield of 1.96 cf/sk, Water Requirement of 10.86 gal/sk
	Tail	1280 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 of 1.22 cf/sk, Water Requirement of 5.38gal/sk
Pilot Hole	Lead	410 sacks Class H Cement + 0.2% Halad-9 + 0.4% HR-601 + 60.5 % Fresh Water, 15.6 ppg, Yield of 1.19 cf/sk, Water Requirement of 5.39gal/sk

- A Pilot hole will be drilled to 12,900' TVD and plugged back with the above cement volume.
- The above cement volumes based on at least Surface 100% excess, Intermediate I 75% excess, Intermediate II 50% excess, Production is 25% excess, and Pilot Hole plug back 10% excess. Actual cement volumes to be adjusted based on fluid caliper and/or caliper log data.
- If the DV tool has to be moved, the cement volumes will be adjusted proportionately.

String	TOC
20" Surface	Surface
13-3/8" Intermediate	Surface
9-5/8" Intermediate	Surface
5-1/2" Production	8950' (~500 ft inside of 9-5/8" Casing Shoe)

5. Pressure Control Equipment

The BOP system used to drill the **17-1/2"** hole will consist of a **20" 2M Annular preventer**. The BOP system will be tested as per BLM Onshore Oil and Gas Order 2 as a **2M system** prior to drilling out the casing shoe.

The BOP system used to drill the **12-1/4" and 8-3/4"** holes will consist of a **13-5/8" 5M Double Ram and Annular preventer**. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 as a **5M system** prior to drilling out the casing shoe. The same choke manifold will be used for all BOP systems.

The pipe rams will be operated and checked as per Onshore Order 2. 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 **5,000 psi WP**.

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line); **if an H&P rig drills this well. Otherwise no flex line is needed.** 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' – 930	8.5 – 9.2	35 – 45	NC	Fresh Water
930' – 5,300'	9.8 – 10.2	29 – 36	NC	Brine
5,300' – 9,450'	8.4 – 9.0	29 – 36	<100	Cut Brine
9,450' – 11,947'	8.6 – 9.0	29 – 36	<100	Cut Brine
11,947' – 17,424'	8.6 – 10	29 – 36	<100	Cut Brine

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 20" casing shoe until the 5-1/2" casing is cemented. Breathing equipment will be on location upon drilling the 20" 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 6. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. 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 Energy

Location: Lea County, NM
Field: (Mean Green) Sec 22, T26S, R34E
Facility: Mean Green 27 Fed No.1H

Slot: No.1H SHL
Well: No.1H
Wellbore: No.1H PWB



Scale 1 inch = 800 ft
Easting (ft)
-1200 -800 -400 0 400

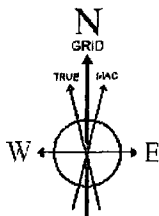
No.1H SHL
Est KOP : 12047.00ft TVD, 0.00ft N, 0.00ft E
EOC : 12620.00ft TVD, 572.59ft S, 21.69ft E

Well Profile Data

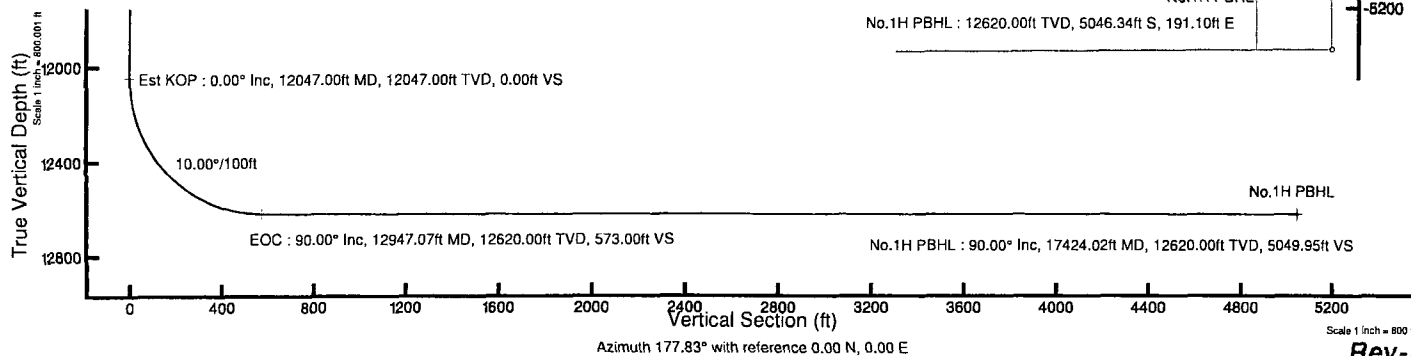
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	25.00	0.000	177.831	25.00	0.00	0.00	0.00	0.00
Est KOP	12047.00	0.000	177.831	12047.00	0.00	0.00	0.00	0.00
EOC	12947.07	90.000	177.831	12620.00	-572.59	21.69	10.00	573.00
No.1H PBHL	17424.02	90.000	177.831	12620.00	-5046.34	191.10	0.00	5049.95

Plot reference wellpath is Rev-A.0

True vertical depths are referenced to Rig on No.1H SHL (KB)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No.1H SHL (KB)	North Reference: Grid north
Rig on No.1H SHL (KB) to Mean Sea Level: 3240.5 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: No.1H SHL): -3215.5 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: gentbry on 11/1/2013



BGGM (1945.0 to 2015.0) Dip: 59.95° Field: 48257.8 nT
Magnetic North is 7.32 degrees East of True North (at 11/1/2013)
Grid North is 0.47 degrees East of True North
To correct azimuth from True to Grid subtract 0.47 degrees
To correct azimuth from Magnetic to Grid add 6.85 degrees



Rev-A.0



Planned Wellpath Report

Rev-A.0
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Devon Energy	Slot	No.1H SHL
Area	Lea County, NM	Well	No.1H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.1H PWB
Facility	Mean Green 27 Fed No.1H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Gentbry
Scale	0.999995	Report Generated	11/1/2013 at 12:24:11 PM
Convergence at slot	0.47° East	Database/Source file	MidlandDB/No.1H_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W
Facility Reference Pt			814852.80	372837.80	32°01'18.986"N	103°27'02.870"W
Field Reference Pt			814852.80	372837.80	32°01'18.986"N	103°27'02.870"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No.1H SHL (KB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Rig on No.1H SHL (KB) to Mean Sea Level	3240.50ft
Vertical Reference Pt	Rig on No.1H SHL (KB)	Rig on No.1H SHL (KB) to Mud Line at Slot (No.1H SHL)	25.00ft
MD Reference Pt	Rig on No.1H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	177.83°



Planned Wellpath Report

Rev-A.0
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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.1H SHL
Area	Lea County, NM	Well	No.1H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.1H PWB
Facility	Mean Green 27 Fed No.1H		

WELLPATH DATA (192 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	177.831	0.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
25.00	0.000	177.831	25.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
125.00†	0.000	177.831	125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
225.00†	0.000	177.831	225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
325.00†	0.000	177.831	325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
425.00†	0.000	177.831	425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
525.00†	0.000	177.831	525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
625.00†	0.000	177.831	625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
725.00†	0.000	177.831	725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
825.00†	0.000	177.831	825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
925.00†	0.000	177.831	925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
960.00†	0.000	177.831	960.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	Rustler
1025.00†	0.000	177.831	1025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
1100.00†	0.000	177.831	1100.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	Top Salt
1125.00†	0.000	177.831	1125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
1225.00†	0.000	177.831	1225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
1325.00†	0.000	177.831	1325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
1425.00†	0.000	177.831	1425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
1525.00†	0.000	177.831	1525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
1625.00†	0.000	177.831	1625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
1725.00†	0.000	177.831	1725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
1825.00†	0.000	177.831	1825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
1925.00†	0.000	177.831	1925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
2025.00†	0.000	177.831	2025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
2125.00†	0.000	177.831	2125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
2225.00†	0.000	177.831	2225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
2325.00†	0.000	177.831	2325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
2425.00†	0.000	177.831	2425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
2525.00†	0.000	177.831	2525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
2625.00†	0.000	177.831	2625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
2725.00†	0.000	177.831	2725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
2825.00†	0.000	177.831	2825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
2925.00†	0.000	177.831	2925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
3025.00†	0.000	177.831	3025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
3125.00†	0.000	177.831	3125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
3225.00†	0.000	177.831	3225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
3325.00†	0.000	177.831	3325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
3425.00†	0.000	177.831	3425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
3460.00†	0.000	177.831	3460.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	Castile
3525.00†	0.000	177.831	3525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
3625.00†	0.000	177.831	3625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
3725.00†	0.000	177.831	3725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
3825.00†	0.000	177.831	3825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
3925.00†	0.000	177.831	3925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
4025.00†	0.000	177.831	4025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.1H SHL
Area	Lea County, NM	Well	No.1H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.1H PWB
Facility	Mean Green 27 Fed No.1H		

WELLPATH DATA (192 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4125.00†	0.000	177.831	4125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
4225.00†	0.000	177.831	4225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
4325.00†	0.000	177.831	4325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
4425.00†	0.000	177.831	4425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
4525.00†	0.000	177.831	4525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
4625.00†	0.000	177.831	4625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
4725.00†	0.000	177.831	4725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
4825.00†	0.000	177.831	4825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
4925.00†	0.000	177.831	4925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
5025.00†	0.000	177.831	5025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
5100.00†	0.000	177.831	5100.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	Base of Salt
5125.00†	0.000	177.831	5125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
5225.00†	0.000	177.831	5225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
5321.00†	0.000	177.831	5321.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	Delaware
5325.00†	0.000	177.831	5325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
5357.00†	0.000	177.831	5357.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	Bell Canyon
5425.00†	0.000	177.831	5425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
5525.00†	0.000	177.831	5525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
5625.00†	0.000	177.831	5625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
5725.00†	0.000	177.831	5725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
5825.00†	0.000	177.831	5825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
5925.00†	0.000	177.831	5925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
6025.00†	0.000	177.831	6025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
6125.00†	0.000	177.831	6125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
6225.00†	0.000	177.831	6225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
6325.00†	0.000	177.831	6325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
6365.00†	0.000	177.831	6365.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	Cherry Canyon
6425.00†	0.000	177.831	6425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
6525.00†	0.000	177.831	6525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
6625.00†	0.000	177.831	6625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
6725.00†	0.000	177.831	6725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
6825.00†	0.000	177.831	6825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
6925.00†	0.000	177.831	6925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7025.00†	0.000	177.831	7025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7125.00†	0.000	177.831	7125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7225.00†	0.000	177.831	7225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7325.00†	0.000	177.831	7325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7425.00†	0.000	177.831	7425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7525.00†	0.000	177.831	7525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7625.00†	0.000	177.831	7625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7725.00†	0.000	177.831	7725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7825.00†	0.000	177.831	7825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7925.00†	0.000	177.831	7925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
7970.00†	0.000	177.831	7970.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	Brushy Canyon
8025.00†	0.000	177.831	8025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.1H SHL
Area	Lea County, NM	Well	No.1H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.1H PWB
Facility	Mean Green 27 Fed No.1H		

WELLPATH DATA (192 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8125.00†	0.000	177.831	8125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
8225.00†	0.000	177.831	8225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
8325.00†	0.000	177.831	8325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
8425.00†	0.000	177.831	8425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
8525.00†	0.000	177.831	8525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
8625.00†	0.000	177.831	8625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
8725.00†	0.000	177.831	8725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
8825.00†	0.000	177.831	8825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
8925.00†	0.000	177.831	8925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
9025.00†	0.000	177.831	9025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
9125.00†	0.000	177.831	9125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
9225.00†	0.000	177.831	9225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
9325.00†	0.000	177.831	9325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
9403.00†	0.000	177.831	9403.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	Bone Spring
9425.00†	0.000	177.831	9425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
9525.00†	0.000	177.831	9525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
9625.00†	0.000	177.831	9625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
9725.00†	0.000	177.831	9725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
9825.00†	0.000	177.831	9825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
9925.00†	0.000	177.831	9925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
10025.00†	0.000	177.831	10025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
10125.00†	0.000	177.831	10125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
10225.00†	0.000	177.831	10225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
10325.00†	0.000	177.831	10325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
10425.00†	0.000	177.831	10425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
10525.00†	0.000	177.831	10525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
10615.00†	0.000	177.831	10615.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	1st Bone Spring Sand
10625.00†	0.000	177.831	10625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
10725.00†	0.000	177.831	10725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
10825.00†	0.000	177.831	10825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
10925.00†	0.000	177.831	10925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
11016.00†	0.000	177.831	11016.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	2nd Bone Spring Lime
11025.00†	0.000	177.831	11025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
11125.00†	0.000	177.831	11125.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
11192.00†	0.000	177.831	11192.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	2nd Bone Spring Sand
11225.00†	0.000	177.831	11225.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
11325.00†	0.000	177.831	11325.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
11425.00†	0.000	177.831	11425.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
11525.00†	0.000	177.831	11525.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
11625.00†	0.000	177.831	11625.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
11657.00†	0.000	177.831	11657.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	3rd Bone Spring Lime
11725.00†	0.000	177.831	11725.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
11825.00†	0.000	177.831	11825.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
11925.00†	0.000	177.831	11925.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
12025.00†	0.000	177.831	12025.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.1H SHL
Area	Lea County, NM	Well	No.1H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.1H PWB
Facility	Mean Green 27 Fed No.1H		

WELLPATH DATA (192 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12047.00	0.000	177.831	12047.00	0.00	0.00	0.00	814852.80	372837.80	32°01'18.986"N	103°27'02.870"W	0.00	
12125.00†	7.799	177.831	12124.76	5.30	-5.30	0.20	814853.00	372832.50	32°01'18.933"N	103°27'02.868"W	10.00	
12225.00†	17.799	177.831	12222.15	27.43	-27.41	1.04	814853.84	372810.39	32°01'18.714"N	103°27'02.860"W	10.00	
12281.49†	23.447	177.831	12275.00	47.31	-47.28	1.79	814854.59	372790.52	32°01'18.518"N	103°27'02.853"W	10.00	3rd Bone Spring Sand
12325.00†	27.798	177.831	12314.22	66.13	-66.08	2.50	814855.30	372771.72	32°01'18.332"N	103°27'02.847"W	10.00	
12425.00†	37.797	177.831	12398.17	120.22	-120.14	4.55	814857.35	372717.66	32°01'17.797"N	103°27'02.828"W	10.00	
12525.00†	47.796	177.831	12471.46	188.08	-187.94	7.12	814859.92	372649.86	32°01'17.125"N	103°27'02.805"W	10.00	
12625.00†	57.796	177.831	12531.85	267.63	-267.43	10.13	814862.93	372570.37	32°01'16.339"N	103°27'02.777"W	10.00	
12725.00†	67.795	177.831	12577.50	356.45	-356.20	13.49	814866.29	372481.61	32°01'15.460"N	103°27'02.747"W	10.00	
12825.00†	77.794	177.831	12607.05	451.85	-451.53	17.10	814869.90	372386.27	32°01'14.516"N	103°27'02.714"W	10.00	
12925.00†	87.794	177.831	12619.58	550.94	-550.54	20.85	814873.65	372287.26	32°01'13.536"N	103°27'02.680"W	10.00	
12947.07	90.000	177.831	12620.00	573.00	-572.59	21.69	814874.49	372265.21	32°01'13.318"N	103°27'02.672"W	10.00	
13025.00†	90.000	177.831	12620.00	650.93	-650.47	24.64	814877.44	372187.34	32°01'12.547"N	103°27'02.645"W	0.00	
13125.00†	90.000	177.831	12620.00	750.93	-750.40	28.42	814881.22	372087.41	32°01'11.558"N	103°27'02.611"W	0.00	
13225.00†	90.000	177.831	12620.00	850.93	-850.32	32.21	814885.00	371987.48	32°01'10.569"N	103°27'02.576"W	0.00	
13325.00†	90.000	177.831	12620.00	950.93	-950.25	35.99	814888.79	371887.55	32°01'09.580"N	103°27'02.542"W	0.00	
13425.00†	90.000	177.831	12620.00	1050.93	-1050.18	39.77	814892.57	371787.63	32°01'08.591"N	103°27'02.507"W	0.00	
13525.00†	90.000	177.831	12620.00	1150.93	-1150.11	43.56	814896.36	371687.70	32°01'07.602"N	103°27'02.473"W	0.00	
13625.00†	90.000	177.831	12620.00	1250.93	-1250.04	47.34	814900.14	371587.77	32°01'06.613"N	103°27'02.438"W	0.00	
13725.00†	90.000	177.831	12620.00	1350.93	-1349.97	51.13	814903.93	371487.84	32°01'05.623"N	103°27'02.404"W	0.00	
13825.00†	90.000	177.831	12620.00	1450.93	-1449.89	54.91	814907.71	371387.92	32°01'04.634"N	103°27'02.369"W	0.00	
13925.00†	90.000	177.831	12620.00	1550.93	-1549.82	58.70	814911.50	371287.99	32°01'03.645"N	103°27'02.335"W	0.00	
14025.00†	90.000	177.831	12620.00	1650.93	-1649.75	62.48	814915.28	371188.06	32°01'02.656"N	103°27'02.300"W	0.00	
14125.00†	90.000	177.831	12620.00	1750.93	-1749.68	66.26	814919.06	371088.13	32°01'01.667"N	103°27'02.266"W	0.00	
14225.00†	90.000	177.831	12620.00	1850.93	-1849.61	70.05	814922.85	370988.21	32°01'00.678"N	103°27'02.232"W	0.00	
14325.00†	90.000	177.831	12620.00	1950.93	-1949.54	73.83	814926.63	370888.28	32°00'59.689"N	103°27'02.197"W	0.00	
14425.00†	90.000	177.831	12620.00	2050.93	-2049.46	77.62	814930.42	370788.35	32°00'58.700"N	103°27'02.163"W	0.00	
14525.00†	90.000	177.831	12620.00	2150.93	-2149.39	81.40	814934.20	370688.42	32°00'57.711"N	103°27'02.128"W	0.00	
14625.00†	90.000	177.831	12620.00	2250.93	-2249.32	85.19	814937.99	370588.50	32°00'56.721"N	103°27'02.094"W	0.00	
14725.00†	90.000	177.831	12620.00	2350.93	-2349.25	88.97	814941.77	370488.57	32°00'55.732"N	103°27'02.059"W	0.00	
14825.00†	90.000	177.831	12620.00	2450.93	-2449.18	92.75	814945.55	370388.64	32°00'54.743"N	103°27'02.025"W	0.00	
14925.00†	90.000	177.831	12620.00	2550.93	-2549.11	96.54	814949.34	370288.71	32°00'53.754"N	103°27'01.990"W	0.00	
15025.00†	90.000	177.831	12620.00	2650.93	-2649.03	100.32	814953.12	370188.78	32°00'52.765"N	103°27'01.956"W	0.00	
15125.00†	90.000	177.831	12620.00	2750.93	-2748.96	104.11	814956.91	370088.86	32°00'51.776"N	103°27'01.921"W	0.00	
15225.00†	90.000	177.831	12620.00	2850.93	-2848.89	107.89	814960.69	369988.93	32°00'50.787"N	103°27'01.887"W	0.00	
15325.00†	90.000	177.831	12620.00	2950.93	-2948.82	111.67	814964.47	369889.00	32°00'49.798"N	103°27'01.852"W	0.00	
15425.00†	90.000	177.831	12620.00	3050.93	-3048.75	115.46	814968.26	369789.07	32°00'48.809"N	103°27'01.818"W	0.00	
15525.00†	90.000	177.831	12620.00	3150.93	-3148.68	119.24	814972.04	369689.15	32°00'47.819"N	103°27'01.783"W	0.00	
15625.00†	90.000	177.831	12620.00	3250.93	-3248.61	123.03	814975.83	369589.22	32°00'46.830"N	103°27'01.749"W	0.00	
15725.00†	90.000	177.831	12620.00	3350.93	-3348.53	126.81	814979.61	369489.29	32°00'45.841"N	103°27'01.715"W	0.00	
15825.00†	90.000	177.831	12620.00	3450.93	-3448.46	130.59	814983.39	369389.36	32°00'44.852"N	103°27'01.680"W	0.00	
15925.00†	90.000	177.831	12620.00	3550.93	-3548.39	134.38	814987.18	369289.44	32°00'43.863"N	103°27'01.646"W	0.00	
16025.00†	90.000	177.831	12620.00	3650.93	-3648.32	138.16	814990.96	369189.51	32°00'42.874"N	103°27'01.611"W	0.00	
16125.00†	90.000	177.831	12620.00	3750.93	-3748.25	141.95	814994.74	369089.58	32°00'41.885"N	103°27'01.577"W	0.00	
16225.00†	90.000	177.831	12620.00	3850.93	-3848.18	145.73	814998.53	368989.65	32°00'40.896"N	103°27'01.542"W	0.00	



Planned Wellpath Report

Rev-A.0
Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.1H SHL
Area	Lea County, NM	Well	No.1H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.1H PWB
Facility	Mean Green 27 Fed No.1H		

WELLPATH DATA (192 stations) † = interpolated/extrapolated station

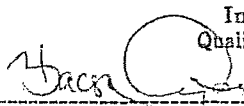
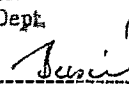
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16325.00†	90.000	177.831	12620.00	3950.93	-3948.10	149.51	815002.31	368889.72	32°00'39.907"N	103°27'01.508"W	0.00	
16425.00†	90.000	177.831	12620.00	4050.93	-4048.03	153.30	815006.10	368789.80	32°00'38.917"N	103°27'01.473"W	0.00	
16525.00†	90.000	177.831	12620.00	4150.93	-4147.96	157.08	815009.88	368689.87	32°00'37.928"N	103°27'01.439"W	0.00	
16625.00†	90.000	177.831	12620.00	4250.93	-4247.89	160.87	815013.66	368589.94	32°00'36.939"N	103°27'01.404"W	0.00	
16725.00†	90.000	177.831	12620.00	4350.93	-4347.82	164.65	815017.45	368490.01	32°00'35.950"N	103°27'01.370"W	0.00	
16825.00†	90.000	177.831	12620.00	4450.93	-4447.75	168.43	815021.23	368390.09	32°00'34.961"N	103°27'01.335"W	0.00	
16925.00†	90.000	177.831	12620.00	4550.93	-4547.67	172.22	815025.02	368290.16	32°00'33.972"N	103°27'01.301"W	0.00	
17025.00†	90.000	177.831	12620.00	4650.93	-4647.60	176.00	815028.80	368190.23	32°00'32.983"N	103°27'01.266"W	0.00	
17125.00†	90.000	177.831	12620.00	4750.93	-4747.53	179.79	815032.58	368090.30	32°00'31.994"N	103°27'01.232"W	0.00	
17225.00†	90.000	177.831	12620.00	4850.93	-4847.46	183.57	815036.37	367990.38	32°00'31.005"N	103°27'01.198"W	0.00	
17325.00†	90.000	177.831	12620.00	4950.93	-4947.39	187.35	815040.15	367890.45	32°00'30.015"N	103°27'01.163"W	0.00	
17424.02	90.000	177.831	12620.00	5049.95	-5046.34	191.10	815043.90	367791.50	32°00'29.036"N	103°27'01.129"W	0.00	

TARGETS

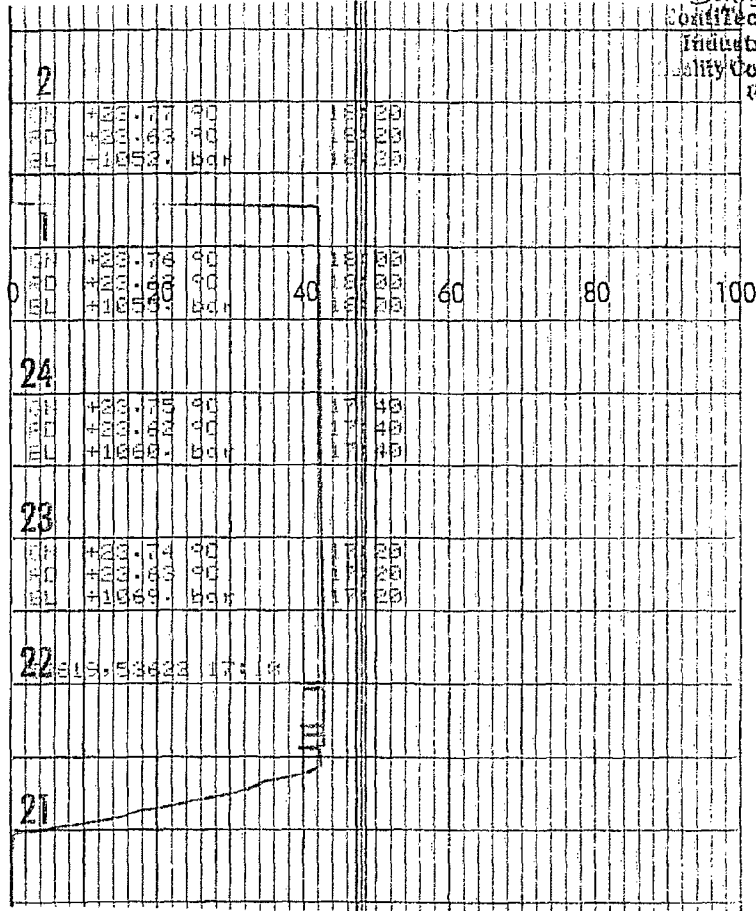
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No.1H PBHL	17424.02	12620.00	-5046.34	191.10	815043.90	367791.50	32°00'29.036"N	103°27'01.129"W	point

SURVEY PROGRAM - Ref Wellbore: No.1H PWB Ref Wellpath: Rev-A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	17424.02	NaviTrak (Standard)		No.1H PWB

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 1713	
PURCHASER: ContiTech Beattie Co.				P.O. N°: 002808	
CONTITECH ORDER N°: 426127		HOSE TYPE: 3" ID Choke and Kill Hose			
HOSE SERIAL N°: 53622		NOMINAL / ACTUAL LENGTH: 10,67 m			
W.P. 68,96 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature See attachment. (1 page) ↑ 10 mm = 10 Min. → 10 mm = 25 MPa					
COUPLINGS Type		Serial N°		Quality	
3" coupling with 4 1/16" Flange end		5503 2029		AISI 4130 AISI 4130	
				Heat N° N1590P 27566	
INFOCHIP INSTALLED				API Spec 16 C Temperature rate:"B"	
All metal parts are flawless				Hose conform to NACE MR 01-75	
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date: 25. August. 2008		Inspector		Quality Control ContiTech Rubber Industrial Kft. Quality Control Dept.  	

HARTMANN &



Conditech Rubber
Industrial Kft.
Quality Control Dept.
(2)



Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly. It is good practice to use lifting & safety equipment but not mandatory.

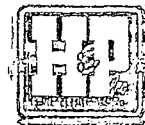
Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

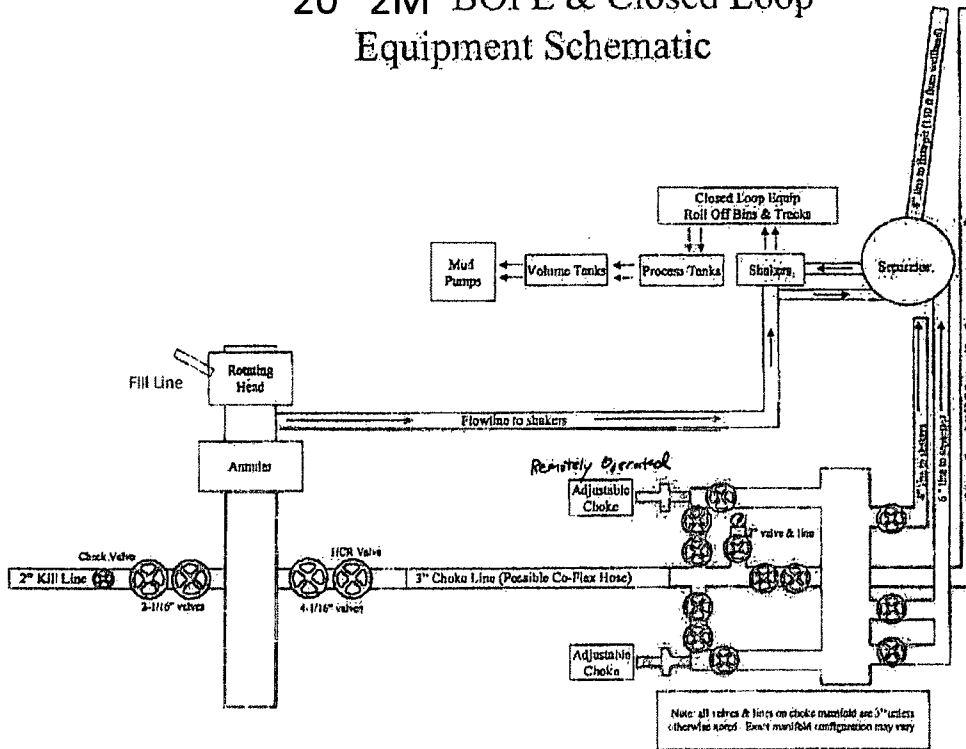
Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

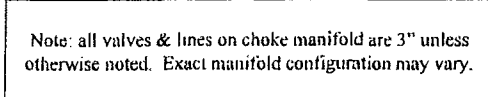
ContiTech Beattie Corp,
11535 Brittmoore Park Drive,
Houston, TX 77041
Phone: +1 (832) 327-0141
Fax: +1 (832) 327-0148
www.contitechbeattie.com



20" 2M BOPE & Closed Loop Equipment Schematic



5



CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production, L.P.
LEASE NO.:	NMNM-100569
WELL NAME & NO.:	Mean Green 27 Fed 1H
SURFACE HOLE FOOTAGE:	0100' FSL & 0480' FEL
BOTTOM HOLE FOOTAGE:	0330' FSL & 0330' FEL Sec 27, T. 26 S., R 34 E.
LOCATION:	Section 22, T. 26 S., R 34 E., NMPM
COUNTY:	Lea County, New Mexico

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, but no measurements have been recorded. 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. 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.).

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 sulfur flows in the Castile Group and above.

Possibility of water and brine flows in the Salado, Castile, Delaware, and Bone Springs.

Possibility of lost circulation in the Delaware and Bone Springs.

1. The **20 inch** surface casing shall be set at approximately **930 feet (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and 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 **13-3/8** 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 **9-5/8** inch 2nd intermediate casing is:
 - 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 circulation on the next stage.
 - b. Second stage above DV tool:
 - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with third stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.
 - c. Third stage above DV tool:
 - ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Additional cement may be required – excess calculates to 1%.**

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

- 5. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.
- 6. 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**.
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8 2nd** intermediate casing shoe shall be **5000 (5M) psi. 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
5. 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.
- 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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