

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.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other	2. Name of Operator DEVON ENERGY PRODUCTION CO. LP	Contact: TRINA C COUCH E-Mail: trina.couch@dvn.com	5. Lease Serial No. NMNM92781
3a. Address DEVON ENERGY PRODUCTION CO. LP 333 WEST STREET OKLAHOMA CITY, OK 73102-5015	3b. Phone No. (include area code) 405-228-7203	8. Well Name and No. GAUCHO UNIT 10H	9. API Well No. 30-025-41183
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 17 T22S R34E 200FSL 1780FEL	10. Field and Pool, or Exploratory 2ND BONE SPRING	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 APD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 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 target from the 2nd Bone Spring to the 3rd Bone Spring.

Attachments:
Drilling Plan
Directional Plan

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.		Electronic Submission #212759 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION CO. LP, sent to the Hobbs Committed to AFMSS for processing by KURT SIMMONS on 07/18/2013 ()	
Name (Printed/Typed)	TRINA C COUCH	Title	REGULATORY ASSOCIATE
Signature	(Electronic Submission)	Date	07/08/2013
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	

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 **

AUG 07 2013

Gaucha Unit 10H – APD DRILLING PLAN
John Prejean 7-8-2013

Casing Program:

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17-1/2"	0 – 1,700	13-3/8"	0 – 1,700	54.5#	STC	J-55
12-1/4"	1,700 – 5,100	9-5/8"	0 – 5,100	40#	BTC	HCK-55
8-3/4"	5,100 – 9,600	5-1/2"	0 – 9,600	17#	LTC	HCP-110
8-3/4"	9,600 – 16,227	5-1/2"	9,600 – 16,227	17#	BTC	HCP-110

Design Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
13-3/8" 54.5# J-55 STC	1.39	3.36	9.81
9-5/8" 40# HCK-55 LTC	1.56	1.46	4.54
5-1/2" 17# HCP-110 LTC	1.91	2.37	3.48
5-1/2" 17# HCP-110 BTC	1.61	2.00	2.06

While running the intermediate casing, the casing will never be completely evacuated. There is no potential for the intermediate casing to be used as a production string. All casing strings utilized are new.

Mud Program:

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc.</u>	<u>Fluid Loss</u>	<u>Type System</u>
0 – 1,700	8.8-9.0	30 – 34	N/C	FW
1,700 – 5,100	9.8 – 10.0	28 – 32	N/C	Brine
5,100– 16,227	8.6 – 9.0	28 – 32	N/C-12	FW

Pressure Control Equipment:

The BOP system used to drill the intermediate hole will consist of a 13-5/8" 3M Double 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 surface casing shoe.

The BOP system used to drill the production hole will consist of a 13-5/8" 3M Double 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 intermediate 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 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). The line will be kept as straight as possible with minimal turns.

Sul
COA

Cementing Program (cement volumes based on 100% excess Surface, 50% excess on Intermediate and at least 25% excess Production and Liner.)

13-3/8" Surface

Lead: 975 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 4% bwoc Bentonite + 70.1% Fresh Water, 13.5 ppg

Yield: 1.75 cf/sk

TOC @ surface

500 ft.Tail: 515 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

9-5/8" Intermediate

Lead: 1085 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

1000 ft.Tail: 360 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

Lead 1: 555 sacks ECONOCEM (TM) SYSTEM, 0.15 lbm/sk FWCA (Free Water Control), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive), 0.3 % HR-601 (Retarder), 0.25 lbm/sk D-AIR 5000 (Defoamer) , 11.8 ppg

Yield: 2.54 cf/sk

Lead 2: 330 sacks ECONOCEM (TM) SYSTEM, 0.3 % HR-601 (Retarder), 12.5 ppg

Yield: 1.95 cf/sk

Tail: 1430 sacks VERSACEM (TM) SYSTEM, 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.4 % CFR-3 (Dispersant), 1 % Salt (Salt), 0.2 % HR-601 (Retarder) 14.5 ppg

Yield: 1.21 cf/sk

TOC for All Strings:

Surface: 0

Intermediate: 0

Production: 4,100 ft

ACTUAL CEMENT VOLUMES WILL BE ADJUSTED BASED ON FLUID CALIPER AND CALIPER LOG DATA.



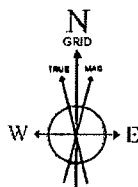
Location: Lea County, NM
Field: (Gaucho) Sec 17, T22S, R34E
Facility: Guacho Unit No.10H

Slot: No.10H SHL
Well: No.10H
Wellbore: No.10H PWB

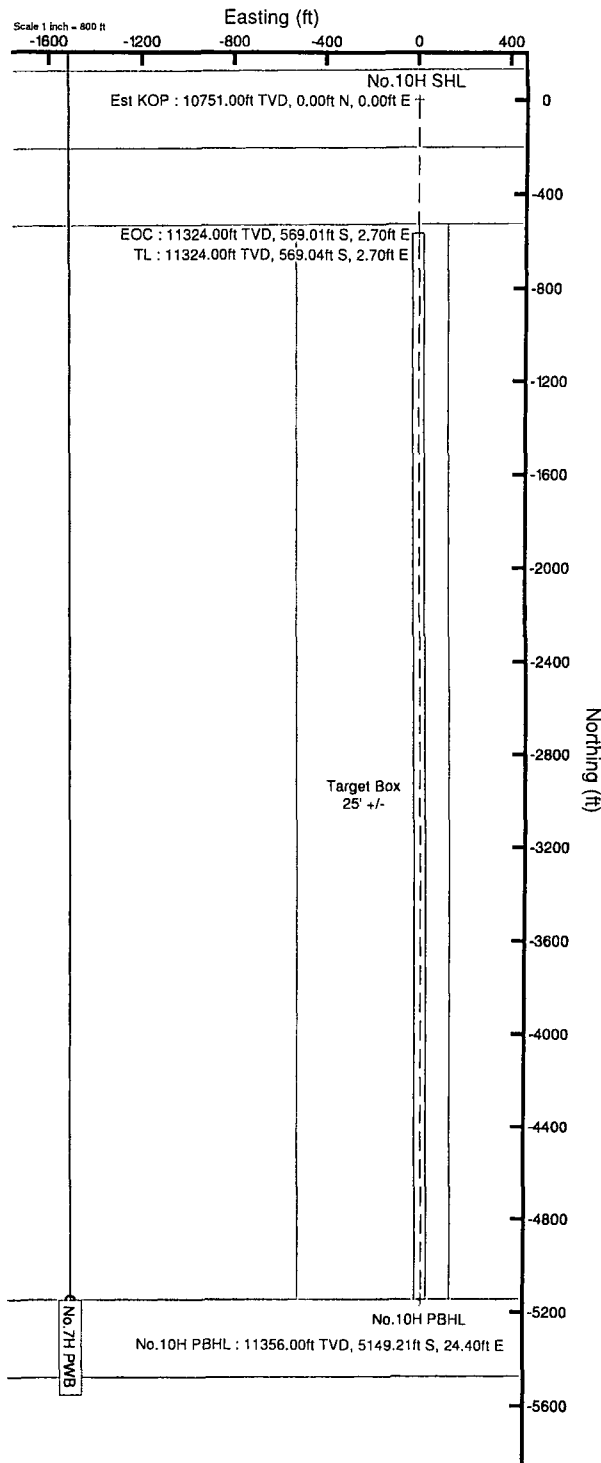
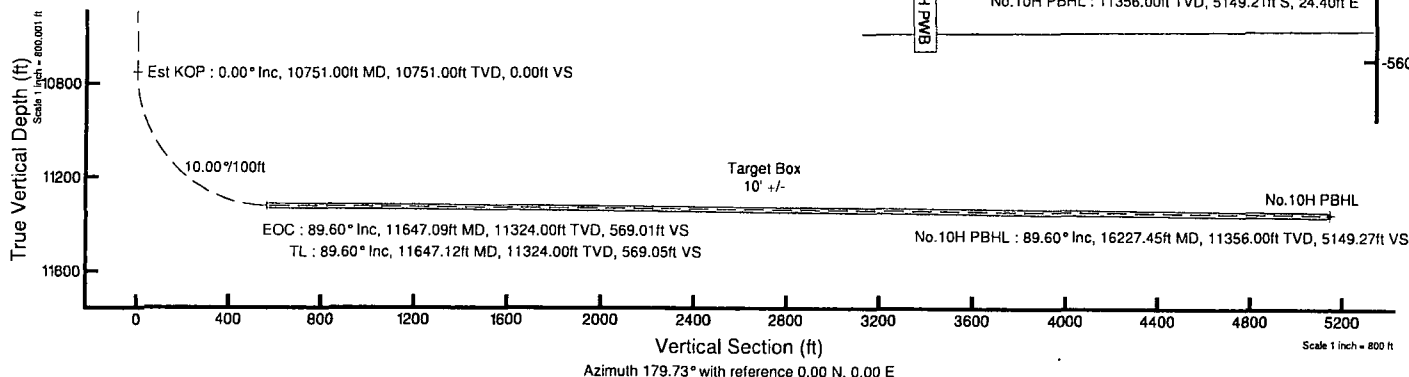


Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	25.00	0.000	179.728	25.00	0.00	0.00	0.00	0.00
Est KOP	10751.00	0.000	179.728	10751.00	0.00	0.00	0.00	0.00
EOC	11647.09	89.600	179.728	11324.00	-569.01	2.70	10.00	569.01
TL	11647.12	89.600	179.729	11324.00	-569.04	2.70	2.00	569.05
No.10H PBHL	16227.45	89.600	179.729	11356.00	-5149.21	24.40	0.00	5149.27

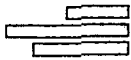
Plot reference wellpath is Rev-A.0	
True vertical depths are referenced to Rig on No.10H SHL (KB)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No.10H SHL (KB)	North Reference: Grid north
Rig on No.10H SHL (KB) to Mean Sea Level: 3492.6 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: No.10H SHL): -3467.6 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: gentbry on 07/03/2013



BGGM (1945.0 to 2015.0) Dip: 60.29° Field: 48510.4 nT
Magnetic North is 7.41 degrees East of True North (at 07/03/2013)
Grid North is 0.45 degrees East of True North
To correct azimuth from True to Grid subtract 0.45 degrees
To correct azimuth from Magnetic to Grid add 6.96 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 6.96 = 96.96



Rev-A.0



Planned Wellpath Report

Rev-A.0
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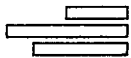
devon

REFERENCE WELLPATH IDENTIFICATION			
Operator	Devon Energy	Slot	No.10H SHL
Area	Lea County, NM	Well	No.10H
Field	(Gaucho) Sec 17, T22S, R34E	Wellbore	No.10H PWB
Facility	Guacho Unit No.10H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Gentbry
Scale	0.999987	Report Generated	07/03/2013 at 1:26:44 PM
Convergence at slot	0.45° East	Database/Source file	WA Midland/No.10H_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	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W
Facility Reference Pt			801880.14	504820.70	32°23'05.983"N	103°29'21.509"W
Field Reference Pt			800357.93	506259.73	32°23'20.341"N	103°29'39.128"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No.10H SHL (KB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Rig on No.10H SHL (KB) to Mean Sea Level	3492.60ft
Vertical Reference Pt	Rig on No.10H SHL (KB)	Rig on No.10H SHL (KB) to Mud Line at Slot (No.10H SHL)	25.00ft
MD Reference Pt	Rig on No.10H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.73°



Planned Wellpath Report

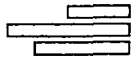
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devon

REFERENCE WELLPATH IDENTIFICATION			
Operator	Devon Energy	Slot	No.10H SHL
Area	Lea County, NM	Well	No.10H
Field	(Gaucha) Sec 17, T22S, R34E	Wellbore	No.10H PWB
Facility	Guacho Unit No.10H		

WELLPATH DATA (168 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	179.728	0.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
25.00	0.000	179.728	25.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	Tie On
125.00†	0.000	179.728	125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
225.00†	0.000	179.728	225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
325.00†	0.000	179.728	325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
425.00†	0.000	179.728	425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
525.00†	0.000	179.728	525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
625.00†	0.000	179.728	625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
725.00†	0.000	179.728	725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
825.00†	0.000	179.728	825.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
925.00†	0.000	179.728	925.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
1025.00†	0.000	179.728	1025.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
1125.00†	0.000	179.728	1125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
1225.00†	0.000	179.728	1225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
1325.00†	0.000	179.728	1325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
1425.00†	0.000	179.728	1425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
1525.00†	0.000	179.728	1525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
1625.00†	0.000	179.728	1625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
1725.00†	0.000	179.728	1725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
1825.00†	0.000	179.728	1825.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
1925.00†	0.000	179.728	1925.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
2025.00†	0.000	179.728	2025.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
2125.00†	0.000	179.728	2125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
2225.00†	0.000	179.728	2225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
2325.00†	0.000	179.728	2325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
2425.00†	0.000	179.728	2425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
2525.00†	0.000	179.728	2525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
2625.00†	0.000	179.728	2625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
2725.00†	0.000	179.728	2725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
2825.00†	0.000	179.728	2825.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
2925.00†	0.000	179.728	2925.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
3025.00†	0.000	179.728	3025.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
3125.00†	0.000	179.728	3125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
3225.00†	0.000	179.728	3225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
3325.00†	0.000	179.728	3325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
3425.00†	0.000	179.728	3425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
3525.00†	0.000	179.728	3525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
3625.00†	0.000	179.728	3625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
3725.00†	0.000	179.728	3725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
3825.00†	0.000	179.728	3825.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
3925.00†	0.000	179.728	3925.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
4025.00†	0.000	179.728	4025.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
4125.00†	0.000	179.728	4125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
4225.00†	0.000	179.728	4225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
4325.00†	0.000	179.728	4325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	



Planned Wellpath Report

Rev-A.0

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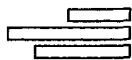


**BAKER
HUGHES**

devon

REFERENCE WELLPATH IDENTIFICATION			
Operator	Devon Energy	Slot	No.10H SHL
Area	Lea County, NM	Well	No.10H
Field	(Gaucha) Sec 17, T22S, R34E	Wellbore	No.10H PWB
Facility	Guacho Unit No.10H		

WELLPATH DATA (168 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
4425.00†	0.000	179.728	4425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
4525.00†	0.000	179.728	4525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
4625.00†	0.000	179.728	4625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
4725.00†	0.000	179.728	4725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
4825.00†	0.000	179.728	4825.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
4925.00†	0.000	179.728	4925.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
5025.00†	0.000	179.728	5025.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
5125.00†	0.000	179.728	5125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
5225.00†	0.000	179.728	5225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
5325.00†	0.000	179.728	5325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
5425.00†	0.000	179.728	5425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
5525.00†	0.000	179.728	5525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
5625.00†	0.000	179.728	5625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
5725.00†	0.000	179.728	5725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
5825.00†	0.000	179.728	5825.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
5925.00†	0.000	179.728	5925.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
6025.00†	0.000	179.728	6025.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
6125.00†	0.000	179.728	6125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
6225.00†	0.000	179.728	6225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
6325.00†	0.000	179.728	6325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
6425.00†	0.000	179.728	6425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
6525.00†	0.000	179.728	6525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
6625.00†	0.000	179.728	6625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
6725.00†	0.000	179.728	6725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
6825.00†	0.000	179.728	6825.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
6925.00†	0.000	179.728	6925.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
7025.00†	0.000	179.728	7025.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
7125.00†	0.000	179.728	7125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
7225.00†	0.000	179.728	7225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
7325.00†	0.000	179.728	7325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
7425.00†	0.000	179.728	7425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
7525.00†	0.000	179.728	7525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
7625.00†	0.000	179.728	7625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
7725.00†	0.000	179.728	7725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
7825.00†	0.000	179.728	7825.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
7925.00†	0.000	179.728	7925.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
8025.00†	0.000	179.728	8025.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
8125.00†	0.000	179.728	8125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
8225.00†	0.000	179.728	8225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
8325.00†	0.000	179.728	8325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
8425.00†	0.000	179.728	8425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
8525.00†	0.000	179.728	8525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
8625.00†	0.000	179.728	8625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
8725.00†	0.000	179.728	8725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
8825.00†	0.000	179.728	8825.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	



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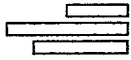


**BAKER
HUGHES**

devon

REFERENCE WELLPATH IDENTIFICATION			
Operator	Devon Energy	Slot	No.10H SHL
Area	Lea County, NM	Well	No.10H
Field	(Gaucha) Sec 17, T22S, R34E	Wellbore	No.10H PWB
Facility	Guacho Unit No.10H		

WELLPATH DATA (168 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
8925.00†	0.000	179.728	8925.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
9025.00†	0.000	179.728	9025.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
9125.00†	0.000	179.728	9125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
9225.00†	0.000	179.728	9225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
9325.00†	0.000	179.728	9325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
9425.00†	0.000	179.728	9425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
9525.00†	0.000	179.728	9525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
9625.00†	0.000	179.728	9625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
9725.00†	0.000	179.728	9725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
9825.00†	0.000	179.728	9825.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
9925.00†	0.000	179.728	9925.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
10025.00†	0.000	179.728	10025.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
10125.00†	0.000	179.728	10125.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
10225.00†	0.000	179.728	10225.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
10325.00†	0.000	179.728	10325.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
10425.00†	0.000	179.728	10425.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
10525.00†	0.000	179.728	10525.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
10625.00†	0.000	179.728	10625.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
10725.00†	0.000	179.728	10725.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	
10751.00	0.000	179.728	10751.00	0.00	0.00	0.00	801880.14	504820.70	32°23'05.983"N	103°29'21.509"W	0.00	Est KOP
10825.00†	7.399	179.728	10824.79	4.77	-4.77	0.02	801880.16	504815.93	32°23'05.936"N	103°29'21.509"W	10.00	
10925.00†	17.398	179.728	10922.34	26.22	-26.22	0.12	801880.26	504794.48	32°23'05.724"N	103°29'21.510"W	10.00	
11025.00†	27.397	179.728	11014.68	64.27	-64.27	0.31	801880.45	504756.43	32°23'05.347"N	103°29'21.511"W	10.00	
11125.00†	37.396	179.728	11099.01	117.78	-117.78	0.56	801880.70	504702.92	32°23'04.818"N	103°29'21.513"W	10.00	
11225.00†	47.395	179.728	11172.76	185.12	-185.12	0.88	801881.02	504635.58	32°23'04.152"N	103°29'21.516"W	10.00	
11325.00†	57.394	179.728	11233.71	264.24	-264.24	1.25	801881.39	504556.46	32°23'03.369"N	103°29'21.519"W	10.00	
11425.00†	67.393	179.728	11279.99	352.75	-352.74	1.67	801881.81	504467.96	32°23'02.493"N	103°29'21.522"W	10.00	
11525.00†	77.392	179.728	11310.20	447.94	-447.94	2.13	801882.27	504372.77	32°23'01.551"N	103°29'21.526"W	10.00	
11625.00†	87.391	179.728	11323.42	546.93	-546.93	2.60	801882.74	504273.78	32°23'00.571"N	103°29'21.529"W	10.00	
11647.09	89.600	179.728	11324.00	569.01	-569.01	2.70	801882.84	504251.70	32°23'00.353"N	103°29'21.530"W	10.00	EOC
11647.12	89.600	179.729	11324.00	569.05	-569.04	2.70	801882.84	504251.67	32°23'00.353"N	103°29'21.530"W	2.00	TL
11725.00†	89.600	179.729	11324.54	646.92	-646.92	3.07	801883.21	504173.79	32°22'59.582"N	103°29'21.533"W	0.00	
11825.00†	89.600	179.729	11325.24	746.92	-746.91	3.54	801883.68	504073.80	32°22'58.593"N	103°29'21.537"W	0.00	
11925.00†	89.600	179.729	11325.94	846.92	-846.91	4.02	801884.16	503973.80	32°22'57.603"N	103°29'21.540"W	0.00	
12025.00†	89.600	179.729	11326.64	946.92	-946.91	4.49	801884.63	503873.81	32°22'56.614"N	103°29'21.544"W	0.00	
12125.00†	89.600	179.729	11327.34	1046.91	-1046.90	4.97	801885.11	503773.81	32°22'55.624"N	103°29'21.548"W	0.00	
12225.00†	89.600	179.729	11328.04	1146.91	-1146.90	5.44	801885.58	503673.82	32°22'54.635"N	103°29'21.551"W	0.00	
12325.00†	89.600	179.729	11328.74	1246.91	-1246.90	5.91	801886.05	503573.82	32°22'53.645"N	103°29'21.555"W	0.00	
12425.00†	89.600	179.729	11329.43	1346.91	-1346.89	6.39	801886.53	503473.83	32°22'52.656"N	103°29'21.559"W	0.00	
12525.00†	89.600	179.729	11330.13	1446.90	-1446.89	6.86	801887.00	503373.83	32°22'51.666"N	103°29'21.562"W	0.00	
12625.00†	89.600	179.729	11330.83	1546.90	-1546.88	7.33	801887.47	503273.84	32°22'50.677"N	103°29'21.566"W	0.00	
12725.00†	89.600	179.729	11331.53	1646.90	-1646.88	7.81	801887.95	503173.84	32°22'49.687"N	103°29'21.570"W	0.00	
12825.00†	89.600	179.729	11332.23	1746.90	-1746.88	8.28	801888.42	503073.85	32°22'48.698"N	103°29'21.573"W	0.00	
12925.00†	89.600	179.729	11332.93	1846.89	-1846.87	8.76	801888.90	502973.85	32°22'47.709"N	103°29'21.577"W	0.00	
13025.00†	89.600	179.729	11333.63	1946.89	-1946.87	9.23	801889.37	502873.86	32°22'46.719"N	103°29'21.581"W	0.00	



devon

Planned Wellpath Report

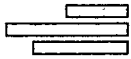
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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION			
Operator	Devon Energy	Slot	No.10H SHL
Area	Lea County, NM	Well	No.10H
Field	(Gaucha) Sec 17, T22S, R34E	Wellbore	No.10H PWB
Facility	Guacho Unit No.10H		

WELLPATH DATA (168 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
13125.00†	89.600	179.729	11334.33	2046.89	-2046.87	9.70	801889.84	502773.86	32°22'45.730"N	103°29'21.584"W	0.00	
13225.00†	89.600	179.729	11335.02	2146.89	-2146.86	10.18	801890.32	502673.87	32°22'44.740"N	103°29'21.588"W	0.00	
13325.00†	89.600	179.729	11335.72	2246.88	-2246.86	10.65	801890.79	502573.87	32°22'43.751"N	103°29'21.592"W	0.00	
13425.00†	89.600	179.729	11336.42	2346.88	-2346.86	11.12	801891.26	502473.88	32°22'42.761"N	103°29'21.595"W	0.00	
13525.00†	89.600	179.729	11337.12	2446.88	-2446.85	11.60	801891.74	502373.88	32°22'41.772"N	103°29'21.599"W	0.00	
13625.00†	89.600	179.729	11337.82	2546.88	-2546.85	12.07	801892.21	502273.89	32°22'40.782"N	103°29'21.603"W	0.00	
13725.00†	89.600	179.729	11338.52	2646.88	-2646.85	12.55	801892.69	502173.89	32°22'39.793"N	103°29'21.606"W	0.00	
13825.00†	89.600	179.729	11339.22	2746.87	-2746.84	13.02	801893.16	502073.90	32°22'38.803"N	103°29'21.610"W	0.00	
13925.00†	89.600	179.729	11339.91	2846.87	-2846.84	13.49	801893.63	501973.90	32°22'37.814"N	103°29'21.614"W	0.00	
14025.00†	89.600	179.729	11340.61	2946.87	-2946.83	13.97	801894.11	501873.91	32°22'36.824"N	103°29'21.617"W	0.00	
14125.00†	89.600	179.729	11341.31	3046.87	-3046.83	14.44	801894.58	501773.92	32°22'35.835"N	103°29'21.621"W	0.00	
14225.00†	89.600	179.729	11342.01	3146.86	-3146.83	14.91	801895.05	501673.92	32°22'34.846"N	103°29'21.625"W	0.00	
14325.00†	89.600	179.729	11342.71	3246.86	-3246.82	15.39	801895.53	501573.93	32°22'33.856"N	103°29'21.628"W	0.00	
14425.00†	89.600	179.729	11343.41	3346.86	-3346.82	15.86	801896.00	501473.93	32°22'32.867"N	103°29'21.632"W	0.00	
14525.00†	89.600	179.729	11344.11	3446.86	-3446.82	16.34	801896.47	501373.94	32°22'31.877"N	103°29'21.636"W	0.00	
14625.00†	89.600	179.729	11344.80	3546.85	-3546.81	16.81	801896.95	501273.94	32°22'30.888"N	103°29'21.639"W	0.00	
14725.00†	89.600	179.729	11345.50	3646.85	-3646.81	17.28	801897.42	501173.95	32°22'29.898"N	103°29'21.643"W	0.00	
14825.00†	89.600	179.729	11346.20	3746.85	-3746.81	17.76	801897.90	501073.95	32°22'28.909"N	103°29'21.647"W	0.00	
14925.00†	89.600	179.729	11346.90	3846.85	-3846.80	18.23	801898.37	500973.96	32°22'27.919"N	103°29'21.650"W	0.00	
15025.00†	89.600	179.729	11347.60	3946.84	-3946.80	18.70	801898.84	500873.96	32°22'26.930"N	103°29'21.654"W	0.00	
15125.00†	89.600	179.729	11348.30	4046.84	-4046.80	19.18	801899.32	500773.97	32°22'25.940"N	103°29'21.658"W	0.00	
15225.00†	89.600	179.729	11349.00	4146.84	-4146.79	19.65	801899.79	500673.97	32°22'24.951"N	103°29'21.661"W	0.00	
15325.00†	89.600	179.729	11349.70	4246.84	-4246.79	20.13	801900.26	500573.98	32°22'23.961"N	103°29'21.665"W	0.00	
15425.00†	89.600	179.729	11350.39	4346.83	-4346.78	20.60	801900.74	500473.98	32°22'22.972"N	103°29'21.669"W	0.00	
15525.00†	89.600	179.729	11351.09	4446.83	-4446.78	21.07	801901.21	500373.99	32°22'21.983"N	103°29'21.672"W	0.00	
15625.00†	89.600	179.729	11351.79	4546.83	-4546.78	21.55	801901.69	500273.99	32°22'20.993"N	103°29'21.676"W	0.00	
15725.00†	89.600	179.729	11352.49	4646.83	-4646.77	22.02	801902.16	500174.00	32°22'20.004"N	103°29'21.680"W	0.00	
15825.00†	89.600	179.729	11353.19	4746.82	-4746.77	22.49	801902.63	500074.00	32°22'19.014"N	103°29'21.683"W	0.00	
15925.00†	89.600	179.729	11353.89	4846.82	-4846.77	22.97	801903.11	499974.01	32°22'18.025"N	103°29'21.687"W	0.00	
16025.00†	89.600	179.729	11354.59	4946.82	-4946.76	23.44	801903.58	499874.01	32°22'17.035"N	103°29'21.691"W	0.00	
16125.00†	89.600	179.729	11355.28	5046.82	-5046.76	23.92	801904.05	499774.02	32°22'16.046"N	103°29'21.695"W	0.00	
16225.00†	89.600	179.729	11355.98	5146.81	-5146.76	24.39	801904.53	499674.02	32°22'15.056"N	103°29'21.698"W	0.00	
16227.45	89.600	179.729	11356.00†	5149.27	-5149.21	24.40	801904.54	499671.57	32°22'15.032"N	103°29'21.698"W	0.00	No.10H PBHL



devon

Planned Wellpath Report

Rev-A.0
Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Devon Energy	Slot	No.10H SHL
Area	Lea County, NM	Well	No.10H
Field	(Gaucha) Sec 17, T22S, R34E	Wellbore	No.10H PWB
Facility	Guacho Unit No.10H		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No.10H PBHL	16227.45	11356.00	-5149.21	24.40	801904.54	499671.57	32°22'15.032"N	103°29'21.698"W	rectangle

SURVEY PROGRAM - Ref Wellbore: No.10H PWB Ref Wellpath: Rev-A.0				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	16227.45	NaviTrak (Standard)		No.10H PWB

Gaucha Unit 10H
30-025-41183
Devon Energy Production Co.
July 31, 2013
Conditions of Approval

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. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts 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 lost circulation in the Capitan Reef and Delaware formations.

Possible water flows in the Salado, Castile and Delaware formations.

1. The **13-3/8** inch surface casing shall be set at approximately **1700** feet (in a competent bed below the Magenta Dolomite, 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.

Special Capitan Reef requirements:

If any lost circulation occurs below the Base of the Salt, the operator shall do the following:

- **Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.**
 - **Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.**
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. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**
 3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - ☒ **Cement should tie-back at least 50 feet above the Capitan Reef (Top of Capitan Reef estimated at 4150'). Operator shall provide method of verification. Excess calculates to 23% - Additional cement may be required.**
 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.
- 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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