

ATS-14-751

Form 3160-3
(March 2012)

HOBBSOCD

FEB 02 2015

RECEIVED
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

5. Lease Serial No.
SHL:NMNM112941;BHL:NMNM100569

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.
MEAN GREEN 27 FEB 2H

9. API Well No.

10. Field and Pool, or Exploratory

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 22, T26S, R34E

12. County or Parish
LEA

13. State
NM

1a. Type of work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator Devon Energy Production Company, L.P.

3a. Address 333 W. Sheridan
Oklahoma City, OK 73102

3b. Phone No. (include area code)
405.552.7848

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface 100 FSL & 780 FEL, Unit P

PP: 100 FSL & 780 FEL

At proposed prod. zone 330 FSL & 660 FEL, Unit P; 27-26S-34E

14. Distance in miles and direction from nearest town or post office*
Approximately 17 miles SW of Jal, NM

NORTH DODGE LOCATION

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) See attached map

16. No. of acres in lease
640 acres

17. Spacing Unit dedicated to this well
160 acres

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. See attached map

19. Proposed Depth
TVD: 12,530'; MD: 17,407'
PH: 12,900'

20. BLM/BIA Bond No. on file
CO-1104; NBM-000801

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3,219.2' GL

22. Approximate date work will start*
06/05/2014

23. Estimated duration
45 Days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature

Name (Printed/Typed)
David H. Cook

Date
04/28/2014

Title

Regulatory Compliance Professional

Approved by (Signature)

Steve Caffey

Name (Printed/Typed)

Date JAN 27 2015

Title

FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

FEB 03 2015

DRILLING PROGRAM

Devon Energy Production Company, L.P.
Mean Green 27 Fed 2H

1. Geologic Name of Surface Formation: Quaternary

2. Estimated Tops of Geological Markers & Depths of Anticipated FW, Oil, or Gas:

a. Fresh Water	180'		
b. Rustler	855'	Barren	
c. Salado	1205'	Barren	
d. Castille	3570'	Barren	
e. Delaware	5335'	Oil / Gas	
f. Bell Canyon	5371'	Oil / Gas	
g. Cherry Canyon	6369'	Oil / Gas	
h. Brushy Canyon	7974'	Oil / Gas	
i. Bone Spring	9434'	Oil / Gas	
j. 2nd Bone Spring	11204'	Oil / Gas	
k. 3rd Bone Spring	12273'	Oil / Gas	
l. Wolfcamp	12594'	Oil/ Gas	
Total Depth	12530' TVD	17407' MD	12900' PH

3. Pressure Control Equipment:

A 5M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the surface casing shoe. The BOP system used to drill the intermediate hole will be tested per BLM Onshore Oil and Gas Order 2.

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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.

*See
COA*

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.

Auxiliary Well Control and Monitoring Equipment:

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

4. Casing Program:

See COA

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight (lb/ft)	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17-1/2"	0 - 900'	13-3/8"	0 - 900'	48	STC	H-40	1.91	4.30	12.52
12-1/4"	900-5300'	9-5/8"	0-5300'	40	BTC	HCK-55	1.53	1.43	4.37
8-3/4"	5300-17407'	5-1/2"	0-17407'	17	BTC	P-110	1.37	1.70	2.66

Casing Notes:

- All casing is new and API approved
- A pilot hole will be drilled to 12,900' and will be plugged back to KOP with the cement volumes below.

Maximum Lateral TVD: 12,550'

5. Proposed mud Circulations System:

See COA

Depth	Mud Weight	Viscosity	Fluid Loss	Type System
0-900'	8.4-8.6	30-34	N/C	FW
900-5,300'	10.0	28	N/C	Brine
5,300-17,407'	8.6-9.6	28-32	N/C	FW

The necessary mud products for weight addition and fluid loss control will be on location at all times. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume. If abnormal pressures are encountered, electronic/mechanical mud monitoring equipment will be installed.

6. Cementing Table:

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
13-3/8" Surface	410	13.5	9.08	1.72	Lead	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 4% bwoc Bentonite + 70.1% Fresh Water
	450	14.8	6.34	1.33	Tail	Class C Cement + 63.5% Fresh Water
9-5/8" Intermediate	1190	12.9	9.82	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water
	430	14.8	6.32	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
Pilot Hole Plug Back	410	15.6	5.39	1.19	Plug Cement	Class H Cement + 0.2% Halad-9 + 0.2% HR-601 + 60.5 % Fresh Water
5-1/2" Production	860	11	14.94	2.66	Lead	Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake + 76.5% Fresh Water.4% Fresh Water
	1410	14.5	5.31	1.20	Lead	(50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.25% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water

TOC for all Strings:

13-3/8" Surface	0ft
9-5/8" Intermediate	0ft
Pilot Hole Plug Back	11,854ft
5-1/2" Production	4800ft

Notes:

- Cement volumes Surface 100%, Intermediate 75%, Pilot 10% and Production based on at least 25% excess
- Actual cement volumes will be adjusted based on fluid caliper and caliper log data

7. Logging, Coring, and Testing Program:

- a. Drill stem tests will be based on geological sample shows.
- b. If a drill stem test is anticipated, a procedure, equipment to be used, and safety measures will be provided via sundry notice to the BLM.
- c. Resistivity and porosity logs are planned below the intermediate casing point. Stated logs run will be named in the Completion Report and submitted to the BLM.
- d. No coring program is planned
- e. Additional Testing will be initiated subsequent to setting the production casing. Specific intervals will be targeted based on log evaluation, geological sample shows, and drill stem tests.

8. Potential Hazards:

See
COA

- a. No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area, and none is anticipated to be encountered. If H₂S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation being used to drill this well. Estimated BHP: 6275 psi, and estimated BHT: 188 degrees.
- b. Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production string is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached.

9. Anticipated Starting Date and Duration of Operations:

- a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 20 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

Rev-A.0



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Devon Energy	Slot	No.2H SHL
Area	Lea County, NM	Well	No.2H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.2H PWB
Facility	Mean Green 27 Fed No.2H		

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	Scotphic
Scale	0.999995	Report Generated	4/14/2014 at 2:38:03 PM
Convergence at slot	0.47° East	Database/Source file	WA_Midland/No.2H_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	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W
Facility Reference Pt			814552.47	372835.70	32°01'18.989"N	103°27'06.358"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.2H SHL (KB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Rig on No.2H SHL (KB) to Mean Sea Level	3244.20ft
Vertical Reference Pt	Rig on No.2H SHL (KB)	Rig on No.2H SHL (KB) to Mud Line at Slot (No.2H SHL)	25.00ft
MD Reference Pt	Rig on No.2H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	178.17°



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WELLPATH DATA (179 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00†	0.000	155.080	0.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
25.00	0.000	155.080	25.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	Tie On
125.00†	0.000	155.080	125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
225.00†	0.000	155.080	225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
325.00†	0.000	155.080	325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
425.00†	0.000	155.080	425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
525.00†	0.000	155.080	525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
625.00†	0.000	155.080	625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
725.00†	0.000	155.080	725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
825.00†	0.000	155.080	825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
925.00†	0.000	155.080	925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
1025.00†	0.000	155.080	1025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
1125.00†	0.000	155.080	1125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
1225.00†	0.000	155.080	1225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
1325.00†	0.000	155.080	1325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
1425.00†	0.000	155.080	1425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
1525.00†	0.000	155.080	1525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
1625.00†	0.000	155.080	1625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
1725.00†	0.000	155.080	1725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
1825.00†	0.000	155.080	1825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
1925.00†	0.000	155.080	1925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
2025.00†	0.000	155.080	2025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
2125.00†	0.000	155.080	2125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
2225.00†	0.000	155.080	2225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
2325.00†	0.000	155.080	2325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
2425.00†	0.000	155.080	2425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
2525.00†	0.000	155.080	2525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
2625.00†	0.000	155.080	2625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
2725.00†	0.000	155.080	2725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
2825.00†	0.000	155.080	2825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	



Planned Wellpath Report

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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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
2925.00†	0.000	155.080	2925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
3025.00†	0.000	155.080	3025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
3125.00†	0.000	155.080	3125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
3225.00†	0.000	155.080	3225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
3325.00†	0.000	155.080	3325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
3425.00†	0.000	155.080	3425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
3525.00†	0.000	155.080	3525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
3625.00†	0.000	155.080	3625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
3725.00†	0.000	155.080	3725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
3825.00†	0.000	155.080	3825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
3925.00†	0.000	155.080	3925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
4025.00†	0.000	155.080	4025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
4125.00†	0.000	155.080	4125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
4225.00†	0.000	155.080	4225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
4325.00†	0.000	155.080	4325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
4425.00†	0.000	155.080	4425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
4525.00†	0.000	155.080	4525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
4625.00†	0.000	155.080	4625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
4725.00†	0.000	155.080	4725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
4825.00†	0.000	155.080	4825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
4925.00†	0.000	155.080	4925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
5025.00†	0.000	155.080	5025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
5125.00†	0.000	155.080	5125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
5225.00†	0.000	155.080	5225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
5325.00†	0.000	155.080	5325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
5425.00†	0.000	155.080	5425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
5525.00†	0.000	155.080	5525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
5625.00†	0.000	155.080	5625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
5725.00†	0.000	155.080	5725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
5825.00†	0.000	155.080	5825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.2H SHL
Area	Lea County, NM	Well	No.2H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.2H PWB
Facility	Mean Green 27 Fed No.2H		

WELLPATH DATA (179 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
5925.00†	0.000	155.080	5925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
6025.00†	0.000	155.080	6025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
6125.00†	0.000	155.080	6125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
6225.00†	0.000	155.080	6225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
6325.00†	0.000	155.080	6325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
6425.00†	0.000	155.080	6425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
6525.00†	0.000	155.080	6525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
6625.00†	0.000	155.080	6625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
6725.00†	0.000	155.080	6725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
6825.00†	0.000	155.080	6825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
6925.00†	0.000	155.080	6925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
7025.00†	0.000	155.080	7025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
7125.00†	0.000	155.080	7125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
7225.00†	0.000	155.080	7225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
7325.00†	0.000	155.080	7325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
7425.00†	0.000	155.080	7425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
7525.00†	0.000	155.080	7525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
7625.00†	0.000	155.080	7625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
7725.00†	0.000	155.080	7725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
7825.00†	0.000	155.080	7825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
7925.00†	0.000	155.080	7925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
8025.00†	0.000	155.080	8025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
8125.00†	0.000	155.080	8125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
8225.00†	0.000	155.080	8225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
8325.00†	0.000	155.080	8325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
8425.00†	0.000	155.080	8425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
8525.00†	0.000	155.080	8525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
8625.00†	0.000	155.080	8625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
8725.00†	0.000	155.080	8725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
8825.00†	0.000	155.080	8825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	Devon Energy	Slot	No.2H SHL
Area	Lea County, NM	Well	No.2H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.2H PWB
Facility	Mean Green 27 Fed No.2H		

WELLPATH DATA (179 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
8925.00†	0.000	155.080	8925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
9025.00†	0.000	155.080	9025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
9125.00†	0.000	155.080	9125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
9225.00†	0.000	155.080	9225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
9325.00†	0.000	155.080	9325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
9425.00†	0.000	155.080	9425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
9525.00†	0.000	155.080	9525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
9625.00†	0.000	155.080	9625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
9725.00†	0.000	155.080	9725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
9825.00†	0.000	155.080	9825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
9925.00†	0.000	155.080	9925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
10025.00†	0.000	155.080	10025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
10125.00†	0.000	155.080	10125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
10225.00†	0.000	155.080	10225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
10325.00†	0.000	155.080	10325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
10425.00†	0.000	155.080	10425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
10525.00†	0.000	155.080	10525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
10625.00†	0.000	155.080	10625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
10725.00†	0.000	155.080	10725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
10825.00†	0.000	155.080	10825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
10925.00†	0.000	155.080	10925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
11025.00†	0.000	155.080	11025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
11125.00†	0.000	155.080	11125.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
11225.00†	0.000	155.080	11225.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
11325.00†	0.000	155.080	11325.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
11425.00†	0.000	155.080	11425.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
11525.00†	0.000	155.080	11525.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
11625.00†	0.000	155.080	11625.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
11725.00†	0.000	155.080	11725.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
11825.00†	0.000	155.080	11825.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.2H SHL
Area	Lea County, NM	Well	No.2H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.2H PWB
Facility	Mean Green 27 Fed No.2H		

WELLPATH DATA (179 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
11925.00†	0.000	155.080	11925.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
12025.00†	0.000	155.080	12025.00	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	
12053.99	0.000	155.080	12053.99	0.00	0.00	0.00	814552.47	372835.70	32°01'18.989"N	103°27'06.358"W	0.00	0.00	0.00	KOP
12125.00†	8.521	155.080	12124.74	4.85	-4.78	2.22	814554.69	372830.92	32°01'18.942"N	103°27'06.333"W	12.00	12.00	0.00	
12225.00†	20.521	155.080	12221.37	27.87	-27.48	12.77	814565.24	372808.22	32°01'18.716"N	103°27'06.212"W	12.00	12.00	0.00	
12325.00†	32.521	155.080	12310.68	68.87	-67.90	31.55	814584.02	372767.80	32°01'18.315"N	103°27'05.998"W	12.00	12.00	0.00	
12425.00†	44.521	155.080	12388.78	126.06	-124.28	57.74	814610.21	372711.42	32°01'17.755"N	103°27'05.699"W	12.00	12.00	0.00	
12525.00†	56.521	155.080	12452.24	196.93	-194.15	90.20	814642.67	372641.55	32°01'17.061"N	103°27'05.329"W	12.00	12.00	0.00	
12553.99	60.000	155.080	12467.49	219.61	-216.51	100.59	814653.06	372619.20	32°01'16.839"N	103°27'05.210"W	12.00	12.00	0.00	Build & Turn
12625.00†	66.415	161.370	12499.50	279.16	-275.33	123.98	814676.45	372560.37	32°01'16.255"N	103°27'04.944"W	12.00	9.03	8.86	
12725.00†	75.817	169.263	12531.88	371.25	-366.72	147.74	814700.21	372468.99	32°01'15.349"N	103°27'04.677"W	12.00	9.40	7.89	
12825.00†	85.457	176.515	12548.15	469.32	-464.45	159.85	814712.32	372371.25	32°01'14.380"N	103°27'04.546"W	12.00	9.64	7.25	
12874.38	90.253	180.000	12550.00	518.65	-513.76	161.34	814713.81	372321.95	32°01'13.892"N	103°27'04.533"W	12.00	9.71	7.06	EOC
12925.00†	90.253	180.000	12549.77	569.24	-564.37	161.34	814713.81	372271.33	32°01'13.392"N	103°27'04.538"W	0.00	0.00	0.00	
13025.00†	90.253	180.000	12549.33	669.19	-664.37	161.34	814713.81	372171.33	32°01'12.402"N	103°27'04.547"W	0.00	0.00	0.00	
13125.00†	90.253	180.000	12548.89	769.14	-764.37	161.34	814713.81	372071.33	32°01'11.413"N	103°27'04.557"W	0.00	0.00	0.00	
13225.00†	90.253	180.000	12548.45	869.09	-864.37	161.35	814713.81	371971.34	32°01'10.423"N	103°27'04.566"W	0.00	0.00	0.00	
13325.00†	90.253	180.000	12548.01	969.03	-964.37	161.35	814713.81	371871.34	32°01'09.434"N	103°27'04.576"W	0.00	0.00	0.00	
13425.00†	90.253	180.000	12547.57	1068.98	-1064.37	161.35	814713.81	371771.34	32°01'08.444"N	103°27'04.585"W	0.00	0.00	0.00	
13525.00†	90.253	180.000	12547.13	1168.93	-1164.37	161.35	814713.82	371671.34	32°01'07.455"N	103°27'04.594"W	0.00	0.00	0.00	
13625.00†	90.253	180.000	12546.69	1268.88	-1264.37	161.35	814713.82	371571.34	32°01'06.465"N	103°27'04.604"W	0.00	0.00	0.00	
13725.00†	90.253	180.000	12546.24	1368.82	-1364.37	161.35	814713.82	371471.34	32°01'05.476"N	103°27'04.613"W	0.00	0.00	0.00	
13825.00†	90.253	180.000	12545.80	1468.77	-1464.36	161.35	814713.82	371371.35	32°01'04.486"N	103°27'04.623"W	0.00	0.00	0.00	
13925.00†	90.253	180.000	12545.36	1568.72	-1564.36	161.35	814713.82	371271.35	32°01'03.497"N	103°27'04.632"W	0.00	0.00	0.00	
14025.00†	90.253	180.000	12544.92	1668.67	-1664.36	161.35	814713.82	371171.35	32°01'02.507"N	103°27'04.642"W	0.00	0.00	0.00	
14125.00†	90.253	180.000	12544.48	1768.62	-1764.36	161.35	814713.82	371071.35	32°01'01.518"N	103°27'04.651"W	0.00	0.00	0.00	
14225.00†	90.253	180.000	12544.04	1868.56	-1864.36	161.35	814713.82	370971.35	32°01'00.528"N	103°27'04.661"W	0.00	0.00	0.00	
14325.00†	90.253	180.000	12543.60	1968.51	-1964.36	161.35	814713.82	370871.35	32°00'59.539"N	103°27'04.670"W	0.00	0.00	0.00	
14425.00†	90.253	180.000	12543.16	2068.46	-2064.36	161.35	814713.82	370771.36	32°00'58.549"N	103°27'04.680"W	0.00	0.00	0.00	
14525.00†	90.253	180.000	12542.72	2168.41	-2164.36	161.35	814713.82	370671.36	32°00'57.560"N	103°27'04.689"W	0.00	0.00	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.2H SHL
Area	Lea County, NM	Well	No.2H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.2H PWB
Facility	Mean Green 27 Fed No.2H		

WELLPATH DATA (179 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
14625.00†	90.253	180.000	12542.27	2268.36	-2264.36	161.35	814713.82	370571.36	32°00'56.570"N	103°27'04.699"W	0.00	0.00	0.00	
14725.00†	90.253	180.000	12541.83	2368.30	-2364.36	161.35	814713.82	370471.36	32°00'55.581"N	103°27'04.708"W	0.00	0.00	0.00	
14825.00†	90.253	180.000	12541.39	2468.25	-2464.35	161.35	814713.82	370371.36	32°00'54.591"N	103°27'04.718"W	0.00	0.00	0.00	
14925.00†	90.253	180.000	12540.95	2568.20	-2564.35	161.35	814713.82	370271.37	32°00'53.601"N	103°27'04.727"W	0.00	0.00	0.00	
15025.00†	90.253	180.000	12540.51	2668.15	-2664.35	161.35	814713.82	370171.37	32°00'52.612"N	103°27'04.737"W	0.00	0.00	0.00	
15125.00†	90.253	180.000	12540.07	2768.10	-2764.35	161.35	814713.82	370071.37	32°00'51.622"N	103°27'04.746"W	0.00	0.00	0.00	
15225.00†	90.253	180.000	12539.63	2868.04	-2864.35	161.35	814713.82	369971.37	32°00'50.633"N	103°27'04.756"W	0.00	0.00	0.00	
15325.00†	90.253	180.000	12539.19	2967.99	-2964.35	161.35	814713.82	369871.37	32°00'49.643"N	103°27'04.765"W	0.00	0.00	0.00	
15425.00†	90.253	180.000	12538.74	3067.94	-3064.35	161.35	814713.82	369771.37	32°00'48.654"N	103°27'04.775"W	0.00	0.00	0.00	
15525.00†	90.253	180.000	12538.30	3167.89	-3164.35	161.35	814713.82	369671.38	32°00'47.664"N	103°27'04.784"W	0.00	0.00	0.00	
15625.00†	90.253	180.000	12537.86	3267.84	-3264.35	161.35	814713.82	369571.38	32°00'46.675"N	103°27'04.793"W	0.00	0.00	0.00	
15725.00†	90.253	180.000	12537.42	3367.78	-3364.35	161.35	814713.82	369471.38	32°00'45.685"N	103°27'04.803"W	0.00	0.00	0.00	
15825.00†	90.253	180.000	12536.98	3467.73	-3464.35	161.36	814713.82	369371.38	32°00'44.696"N	103°27'04.812"W	0.00	0.00	0.00	
15925.00†	90.253	180.000	12536.54	3567.68	-3564.34	161.36	814713.82	369271.38	32°00'43.706"N	103°27'04.822"W	0.00	0.00	0.00	
16025.00†	90.253	180.000	12536.10	3667.63	-3664.34	161.36	814713.82	369171.38	32°00'42.717"N	103°27'04.831"W	0.00	0.00	0.00	
16125.00†	90.253	180.000	12535.66	3767.58	-3764.34	161.36	814713.83	369071.39	32°00'41.727"N	103°27'04.841"W	0.00	0.00	0.00	
16225.00†	90.253	180.000	12535.22	3867.52	-3864.34	161.36	814713.83	368971.39	32°00'40.738"N	103°27'04.850"W	0.00	0.00	0.00	
16325.00†	90.253	180.000	12534.77	3967.47	-3964.34	161.36	814713.83	368871.39	32°00'39.748"N	103°27'04.860"W	0.00	0.00	0.00	
16425.00†	90.253	180.000	12534.33	4067.42	-4064.34	161.36	814713.83	368771.39	32°00'38.759"N	103°27'04.869"W	0.00	0.00	0.00	
16525.00†	90.253	180.000	12533.89	4167.37	-4164.34	161.36	814713.83	368671.39	32°00'37.769"N	103°27'04.879"W	0.00	0.00	0.00	
16625.00†	90.253	180.000	12533.45	4267.32	-4264.34	161.36	814713.83	368571.39	32°00'36.780"N	103°27'04.888"W	0.00	0.00	0.00	
16725.00†	90.253	180.000	12533.01	4367.26	-4364.34	161.36	814713.83	368471.40	32°00'35.790"N	103°27'04.898"W	0.00	0.00	0.00	
16825.00†	90.253	180.000	12532.57	4467.21	-4464.34	161.36	814713.83	368371.40	32°00'34.801"N	103°27'04.907"W	0.00	0.00	0.00	
16925.00†	90.253	180.000	12532.13	4567.16	-4564.33	161.36	814713.83	368271.40	32°00'33.811"N	103°27'04.917"W	0.00	0.00	0.00	
17025.00†	90.253	180.000	12531.69	4667.11	-4664.33	161.36	814713.83	368171.40	32°00'32.822"N	103°27'04.926"W	0.00	0.00	0.00	
17125.00†	90.253	180.000	12531.25	4767.06	-4764.33	161.36	814713.83	368071.40	32°00'31.832"N	103°27'04.936"W	0.00	0.00	0.00	
17225.00†	90.253	180.000	12530.80	4867.00	-4864.33	161.36	814713.83	367971.40	32°00'30.843"N	103°27'04.945"W	0.00	0.00	0.00	
17325.00†	90.253	180.000	12530.36	4966.95	-4964.33	161.36	814713.83	367871.41	32°00'29.853"N	103°27'04.954"W	0.00	0.00	0.00	
17407.22	90.253	180.000	12530.00†	5049.13	-5046.55	161.36	814713.83	367789.19	32°00'29.040"N	103°27'04.962"W	0.00	0.00	0.00	PBHL



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Devon Energy	Slot	No.2H SHL
Area	Lea County, NM	Well	No.2H
Field	(Mean Green) Sec 22, T26S, R34E	Wellbore	No.2H PWB
Facility	Mean Green 27 Fed No.2H		

HOLE & CASING SECTIONS - Ref Wellbore: No.2H PWB Ref Wellpath: Rev-A.0

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
17.5in Casing Surface	25.00	900.00	875.00	25.00	900.00	0.00	0.00	0.00	0.00
12.25in Casing Intermediate	25.00	5300.00	5275.00	25.00	5300.00	0.00	0.00	0.00	0.00
8.75in Open Hole	25.00	17407.22	17382.22	25.00	NA	0.00	0.00	NA	NA

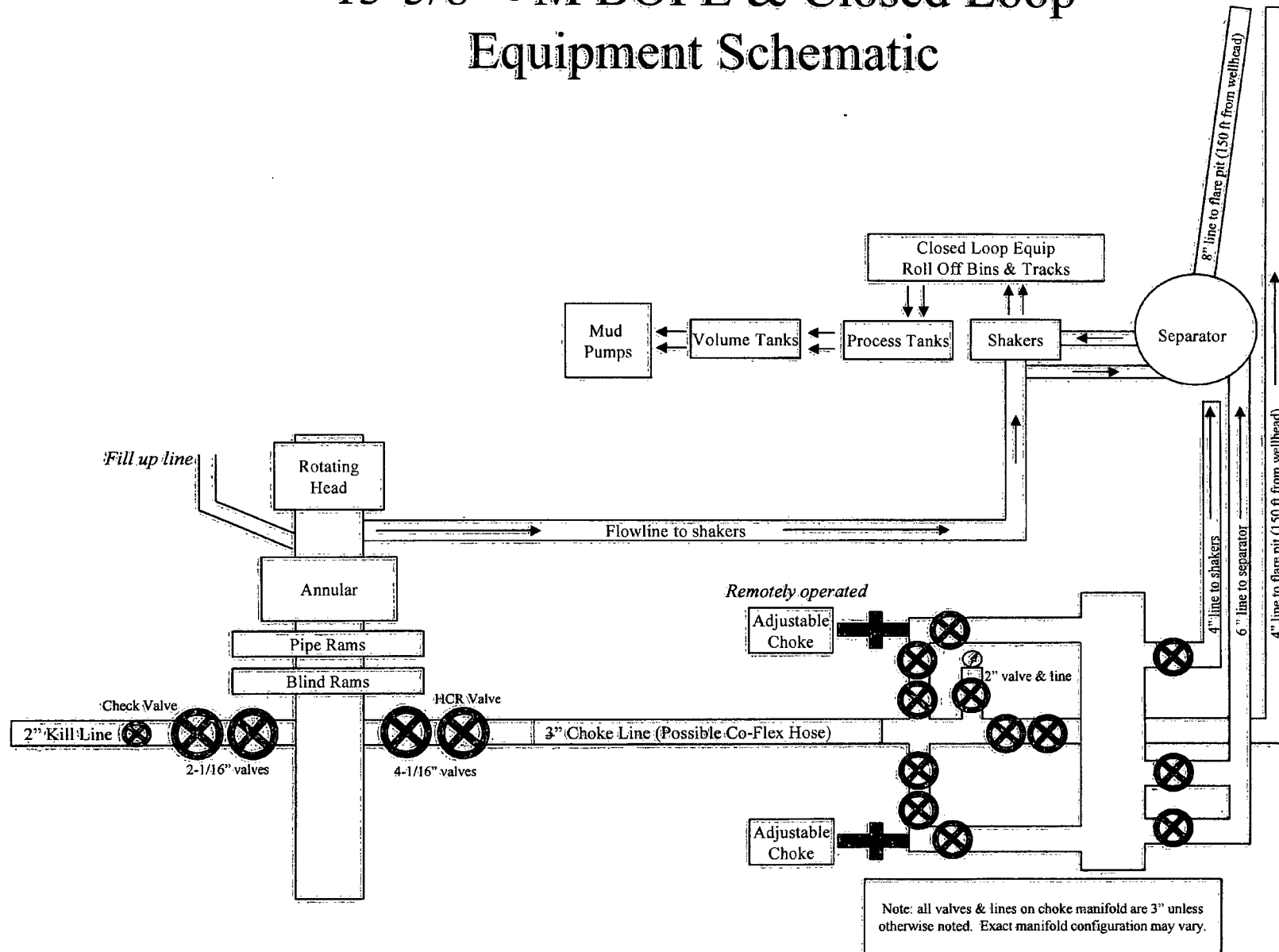
TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) 27 No.2H PBHL	17407.22	12530.00	-5046.55	161.36	814713.83	367789.19	32°00'29.040"N	103°27'04.962"W	point

SURVEY PROGRAM - Ref Wellbore: No.2H PWB Ref Wellpath: Rev-A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	17414.43	NaviTrak (MagCorr)		No.2H PWB

13-5/8" 5M BOPE & Closed Loop Equipment Schematic



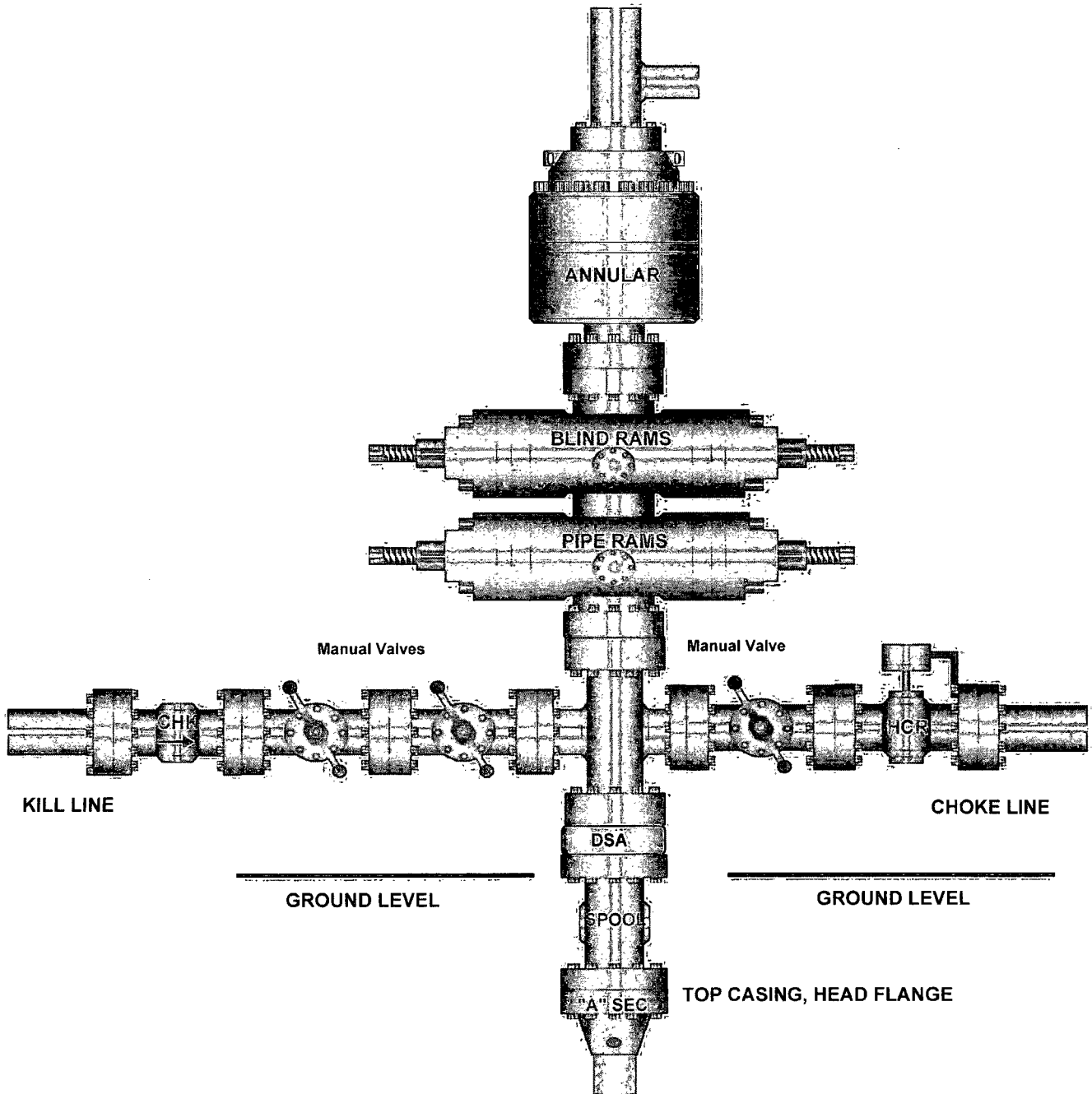
NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, L.P.

Mean Green 27 Fed 2H

1. Drilling Nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Wear ring will be properly installed in head.
3. Blowout preventer and all associated filings will be in operable condition to withstand a minimum of 5000psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum of 5000psi WP with proper thread connections will be available on the rotary rig floor at all times.
6. All choke lines will be anchored to prevent movement.
7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
8. Will maintain a kelly cock attached to the kelly.
9. Hand wheels and wrenches will be properly installed and tested for safe operation.
10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.
11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

13-5/8" x 5,000 psi BOP Stack





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.

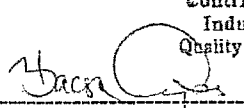
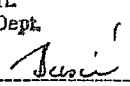
ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

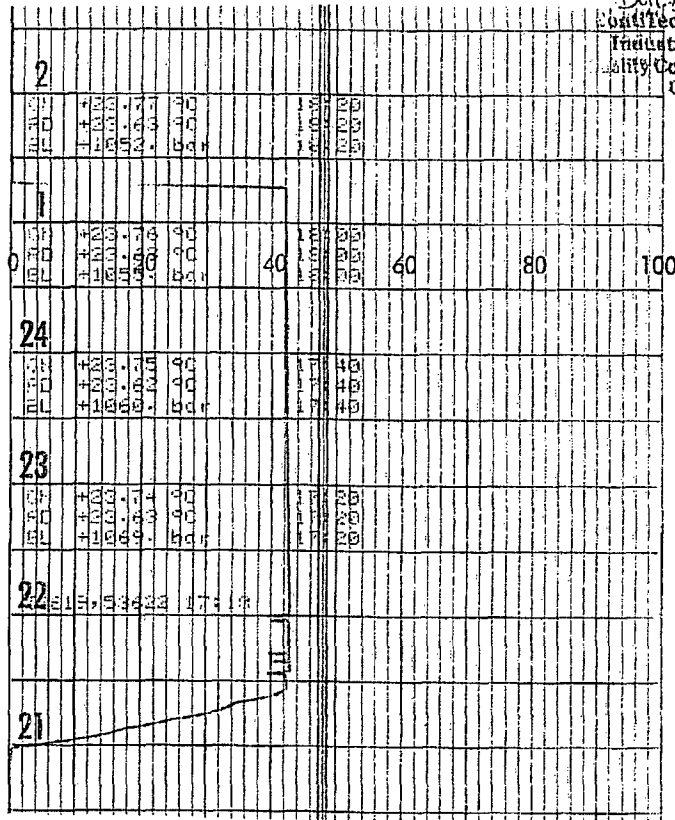
Robin Hodgson
Sales Manager
ContiTech Beattie Corp

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



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		5503 2029		AISI 4130	
4 1/16" Flange end				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:		Inspector		Quality Control	
25. August. 2008				ContiTech Rubber Industrial Kft. Quality Control Dept.  	

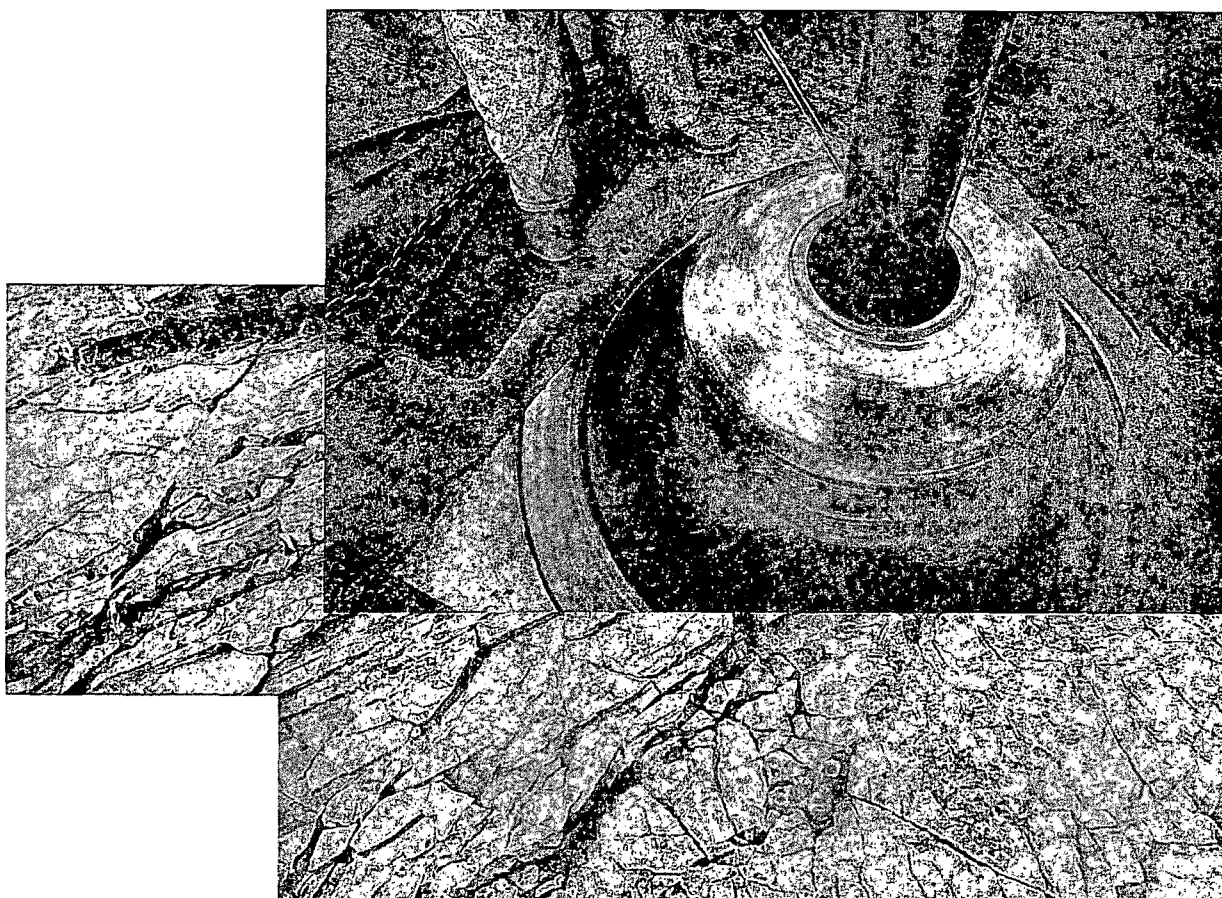
HARTMANN &



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



Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
February 2014

I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

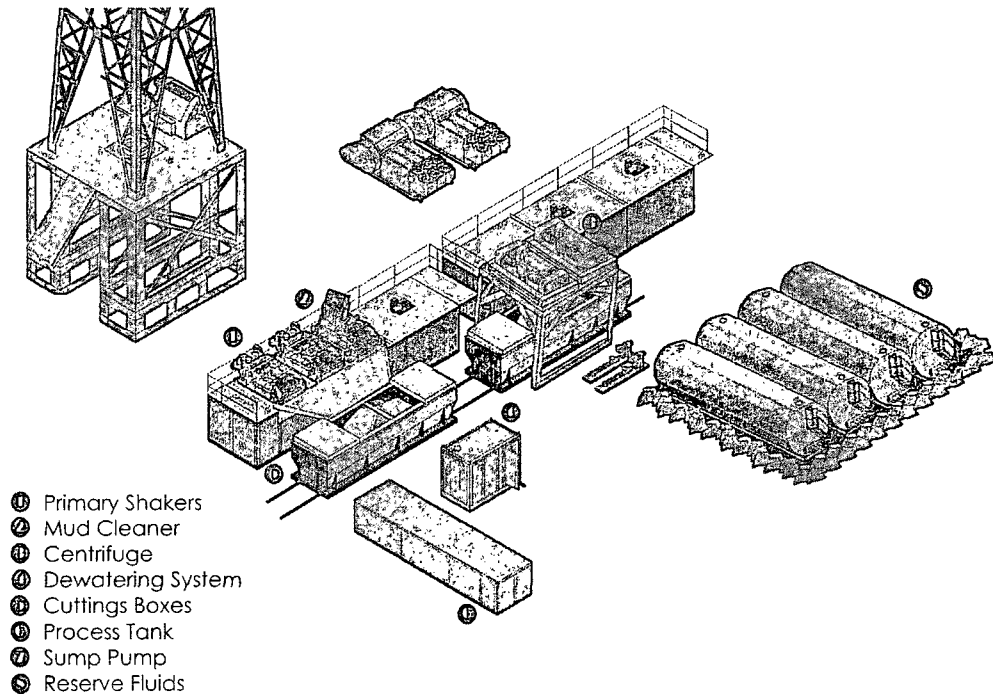
II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.

devon

Closed Loop Schematic



MI SWACO

Centrifuges: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.

H&P Flex Rig Location Layout

