

HOBBS OCD

OCD Hobbs

Form 3160-3
(March 2012)

MAY 19 2014

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

Split Estate

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM 97158
Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.
MILO 27 FEDERAL 1H 313258

9. API Well No.
30-025-41855

10. Field and Pool, or Exploratory
WC-025 G-08 52335270; PIONEER

11. Sec., T. R. M. or Blk. and Survey or Area
27-23S-35E SPRING

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. 6137

3a. Address 333 W. Sheridan Ave.
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 330 FSL & 1980 FEL Unit O PP: 330 FSL & 1980 FEL
At proposed prod. zone 330 FNL & 1980 FEL Unit B

14. Distance in miles and direction from nearest town or post office*
Approximately 11 miles northwest of Jal, NM
12. County or Parish Lea County
13. State NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330'
16. No. of acres in lease 1600 acres
17. Spacing Unit dedicated to this well 160 acres

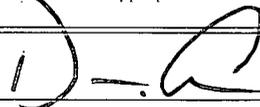
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. See attached map
19. Proposed Depth TVD: 11,333' MD: 15,704'
20. BLM/BIA Bond No. on file CO-1104 & NMB-000801

21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3,452.2' GL
22. Approximate date work will start* 08/01/2013
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:

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

25. Signature  Name (Printed/Typed) David H. Cook Date 07/24/2013

Title Regulatory Specialist

Approved by (Signature)  Name (Printed/Typed) Steve Caffey Date MAY 12 2014

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)

Capitan Controlled Water Basin

Ka 05/19/14

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Witness Surface &
Intermediate Casing

Approval Subject to General Requirements
& Special Stipulations Attached

MAY 20 2014

PM

MAY 19 2014

Operators Representative:

RECEIVED

The Devon Energy Production Company, L.P. representatives responsible for ensuring compliance of the surface use plan are listed below.

Justin Lazzari - Operations Engineer
Devon Energy Production Company, L.P.
333 W. Sheridan
Oklahoma City, OK 73102-5010
(405) 228-8466 (office)
(405) 464-9261 (Cellular)

Don Mayberry - Superintendent
Devon Energy Production Company, L.P.
Post Office Box 250
Artesia, NM 88211-0250
(575) 748-3371 (office)
(575) 746-4945 (home)

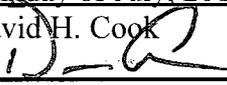
Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Devon Energy Production Company, L.P. am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

I hereby also certify that I, or Devon Energy Production Company, L.P. have made a good faith effort to provide the surface owner with a copy of the Surface Use Plan of Operations and any Conditions of Approval that are attached to the APD.

Executed this 24th day of July, 2013.

Printed Name: David H. Cook

Signed Name: 

Position Title: Regulatory Specialist

Address: 333 W. Sheridan, OKC OK 73102

Telephone: (405)-552-7848

DRILLING PROGRAM

Devon Energy Production Company, LP
Milo 27 Federal 1H

Surface Location: 330 FSL & 1980 FEL, Unit O, Sec 27 T23S R35E, Lea, NM
Bottom Hole Location: 330 FNL & 1980 FEL, Unit B, Sec 27 T23S R35E, Lea, NM

1. Geologic Name of Surface Formation

a. Quaternary

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

a. Fresh Water	230'	
b. Rustler	1,900'	
c. Top of Salt	2,186'	
d. Base of Salt	5,566'	
e. Delaware	5,800'	Oil
f. Bell Canyon	5,932'	Oil
g. Cherry Canyon	6,073'	Oil
h. Brushy Canyon	7,500'	Oil
i. Bone Spring	8,806'	Oil/Gas
j. 1 st Bone Spring Sand	9,773'	Oil/Gas
k. 2 nd Bone Spring Lime	9,848'	Oil/Gas
l. 2 nd Bone Spring Sand	10,255'	Oil/Gas
m. 3 rd Bone Spring Lime	10,681'	Oil/Gas
n. 3 rd Bone Spring Sand	11,220'	Oil/Gas
o. Wolfcamp	11,383'	Oil/Gas

Total Depth 15,704' MD 11,333' TVD

3. Casing Program: (All casing is new and API approved.)

Kurtis Schmitz

*SEP
COA*

<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 - 1,950	113-3/8"	0 - 1,950	61#	STC	J-55
12-1/4"	1,950 - 5,800	9-5/8"	0 - 5,800	40#	LTC	HCK-55
8-3/4"	5,800 - 10,500	5-1/2"	0 - 10,500	17#	LTC	HCP-110
8-3/4"	10,500 - 15,704	5-1/2"	10,500 - 15,704	17#	BTC	HCP-110

MAXIMUM LATERAL TVD **11,333'**

Design Parameter Factors:

Casing Size	Collapse Design Factor	Burst Design Factor	Tension Design Factor
13-3/8" 61# J-55 STC	1.69	3.39	8.09
9-5/8" 40# HCK-55 LTC	1.86	1.17	2.72
5-1/2" 17# HCP-110 LTC	1.41	2.01	1.78
5-1/2" 17# HCP-110 BTC	1.75	2.17	7.95

Cementing Program (cement volumes based on at least Surface 100% excess, Intermediate 75% excess and Production is 25% excess)

13-3/8" Surface

Lead: 580 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

Tail: 740 sacks Class C Cement + 1% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 63.1% Fresh Water, 14.8 ppg, **Yield: 1.34 cf/sk**

9-5/8" Intermediate

Lead: 950 sacks (65:35) Class H Cement:Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 73.5 % Fresh Water, 12.5 ppg, **Yield: 2.04 cf/sk.**

TOC @ surface

Tail: 430 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.9% Fresh Water, 14.8 ppg, **Yield: 1.33 cf/sk**

5-1/2" Production

Lead #1: 420 sacks (50:50) Class H Cement:Poz (Fly Ash) + 10% BWOC Bentonite + 0.15% SA-1015 + 0.1% BWOC HR-601 + 0.25 lb/sk D-Air 5000 + 80.01 % Fresh Water, 11.5 ppg, **Yield: 2.57 cf/sk.**

TOC @ 5300ft

Lead #2: 330 sacks (65:35) Class H Cement:Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 74.1 % Fresh Water, 12.5 ppg, **Yield: 1.96 cf/sk**

Tail: 1610 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg **Yield: 1.22 fc³/sk**

*See
COA*

50' above Capitan Reef estimated @ 4352'

TOC for All Strings:

Surface: 1950ft

Intermediate: 5800ft

Production: 17000ft
of fill of Tail)

0ft (1450ft of Lead and 500ft of fill of Tail)

0ft (4800ft of fill of Lead & 1000 ft of fill of Tail)

~~5300ft~~ (3460ft of fill of Lead #1 & 2000ft of fill of Lead #2 & 6240ft

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

4. Pressure Control Equipment

A 3M-13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the ^{1st} intermediate casing shoe. The BOP system used to drill the intermediate hole will be tested per BLM Onshore Oil and Gas Order 2.

A 3M-13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the ^{2nd} intermediate casing shoe. The BOP system used to drill the production hole will be tested per BLM Onshore Oil and Gas Order 2.

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

See COA

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.

5. Proposed Mud Circulation System

See COA

Depth	Mud Wt.	Visc.	Fluid Loss	Type System
0 - 1,950	8.4-9.0	30 - 34	N/C	FW
1,950 - 5,800	9.6 - 10.0	28 - 32	N/C	Brine
5,800 - 15,704	8.6 - 9.0	28 - 32	N/C-12	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. 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.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

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. The open hole electrical logging program will be:
 - i. Total Depth to Intermediate Casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
 - ii. Total Depth to Surface Compensated Neutron with Gamma Ray
 - iii. No coring program is planned.
 - iv. Additional testing will be initiated subsequent to setting the 5 ½" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

8. Potential Hazards:

- a. No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area. If H₂S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6 No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 4950 psi and Estimated BHT 160°. No H₂S is anticipated to be encountered.

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.

DEVON ENERGY

Project: Lea County, NM (NAD-83)
 Site: Milo "27" Fed
 Well: 1H
 Wellbore: OH
 Design: Plan #1



Azimuths to Grid North
 True North: -0.52°
 Magnetic North: 6.70°



Magnetic Field
 Strength: 48456.2snT
 Dip Angle: 60.21°
 Date: 7/23/2013
 Model: IGRF2010

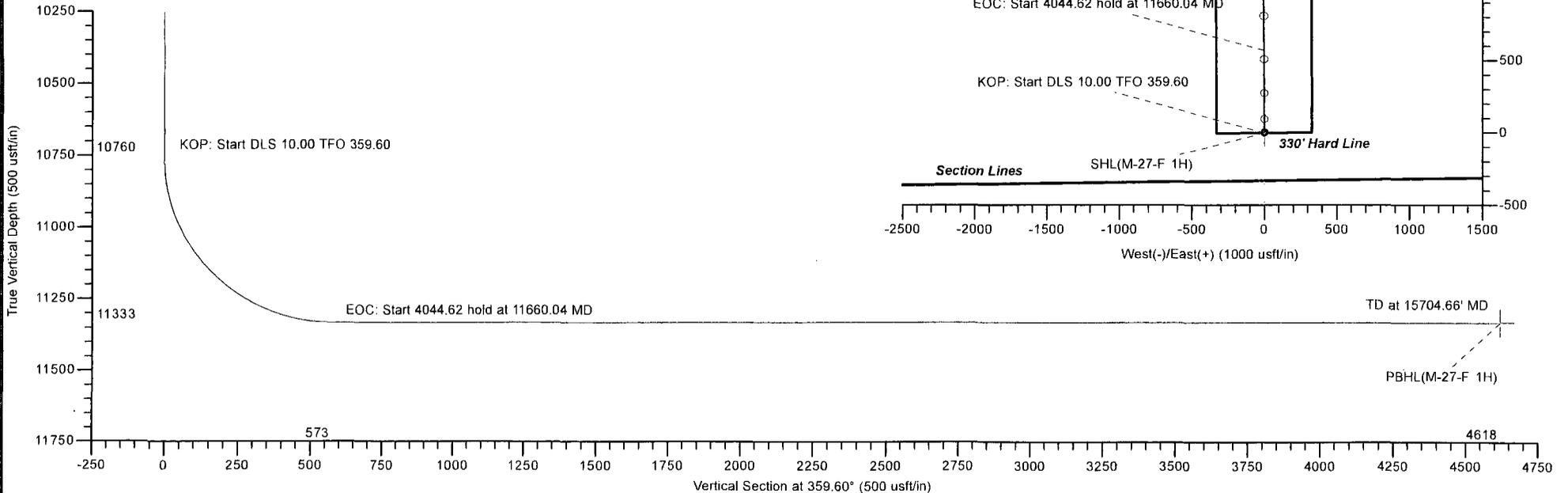
PROJECT DETAILS: Lea County, NM (NAD-83)
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL(M-27-F 1H)	0.00	0.00	0.00	463083.13	844241.31	32° 16' 9.437 N	103° 21' 11.996 W
PBHL(M-27-F 1H)	11333.00	4617.46	-32.12	467700.59	844209.19	32° 16' 55.127 N	103° 21' 11.879 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	10760.04	0.00	0.00	10760.04	0.00	0.00	0.00	0.00	0.00	KOP: Start DLS 10.00 TFO 359.60
3	11660.04	90.00	359.60	11333.00	572.94	-3.99	10.00	359.60	572.96	EOC: Start 4044.62 hold at 11660.04 MD
4	15704.66	90.00	359.60	11333.00	4617.46	-32.12	0.00	0.00	4617.58	TD at 15704.66' MD



LEAM DRILLING SYSTEMS LLC
 2010 East Davis, Conroe, Texas 77301
 Phone: 936/756-7577, Fax 936/756-7595

Plan: Plan #1 (1H/OH)
 Milo "27" Fed
 Created By: Tyler Carlson Date: 12:13, July 23 2013
 Date: _____ Date: _____
 Approved: _____ Date: _____

Leam Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db.	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	GE 3452' + KB 25' @ 3477.00usft (Permitting)
Project:	Lea County, NM (NAD-83)	MD Reference:	GE 3452' + KB 25' @ 3477.00usft (Permitting)
Site:	Milo "27" Fed	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project:	Lea County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Milo "27" Fed		
Site Position:	Northing:	463,083.13 usft	Latitude: 32° 16' 9.437 N
From: Map	Easting:	844,241.31 usft	Longitude: 103° 21' 11.996 W
Position Uncertainty:	0.00 usft	Slot Radius: 13-3/16"	Grid Convergence: 0.52 °

Well:	1H		
Well Position	+N/-S	0.00 usft	Northing: 463,083.13 usft
	+E/-W	0.00 usft	Easting: 844,241.31 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,452.00 usft
			Latitude: 32° 16' 9.437 N
			Longitude: 103° 21' 11.996 W

Wellbore:	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	7/23/2013	7.23
			Dip Angle (°) 60.21
			Field Strength (nT) 48,456

Design:	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°) 359.60

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,760.04	0.00	0.00	10,760.04	0.00	0.00	0.00	0.00	0.00	0.00	
11,660.04	90.00	359.60	11,333.00	572.94	-3.99	10.00	10.00	-0.04	359.60	
15,704.66	90.00	359.60	11,333.00	4,617.46	-32.12	0.00	0.00	0.00	0.00	PBHL(M-27-F 1H)

Leam Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	GE 3452' + KB 25' @ 3477.00usft (Permitting)
Project:	Lea County, NM (NAD-83)	MD Reference:	GE 3452' + KB 25' @ 3477.00usft (Permitting)
Site:	Milo #27 Fed.	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00

Leam Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	GE 3452' + KB 25' @ 3477.00usft (Permitting)
Project:	Lea County, NM (NAD-83)	MD Reference:	GE 3452' + KB 25' @ 3477.00usft (Permitting)
Site:	Milo "27" Fed	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan.#1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00
10,100.00	0.00	0.00	10,100.00	0.00	0.00	0.00	0.00	0.00	0.00
10,200.00	0.00	0.00	10,200.00	0.00	0.00	0.00	0.00	0.00	0.00
10,300.00	0.00	0.00	10,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Leam Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	GE 3452' + KB 25' @ 3477.00usft (Permitting)
Project:	Lea County, NM (NAD-83)	MD Reference:	GE 3452' + KB 25' @ 3477.00usft (Permitting)
Site:	Milo "27" Fed	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,400.00	0.00	0.00	10,400.00	0.00	0.00	0.00	0.00	0.00	0.00
10,500.00	0.00	0.00	10,500.00	0.00	0.00	0.00	0.00	0.00	0.00
10,600.00	0.00	0.00	10,600.00	0.00	0.00	0.00	0.00	0.00	0.00
10,700.00	0.00	0.00	10,700.00	0.00	0.00	0.00	0.00	0.00	0.00
10,760.04	0.00	0.00	10,760.04	0.00	0.00	0.00	0.00	0.00	0.00
10,800.00	4.00	359.60	10,799.97	1.39	-0.01	1.39	10.00	10.00	0.00
10,850.00	9.00	359.60	10,849.63	7.05	-0.05	7.05	10.00	10.00	0.00
10,900.00	14.00	359.60	10,898.61	17.01	-0.12	17.01	10.00	10.00	0.00
10,950.00	19.00	359.60	10,946.54	31.20	-0.22	31.20	10.00	10.00	0.00
11,000.00	24.00	359.60	10,993.05	49.52	-0.34	49.52	10.00	10.00	0.00
11,050.00	29.00	359.60	11,037.78	71.82	-0.50	71.82	10.00	10.00	0.00
11,100.00	34.00	359.60	11,080.40	97.93	-0.68	97.93	10.00	10.00	0.00
11,150.00	39.00	359.60	11,120.58	127.66	-0.89	127.66	10.00	10.00	0.00
11,200.00	44.00	359.60	11,158.02	160.77	-1.12	160.78	10.00	10.00	0.00
11,250.00	49.00	359.60	11,192.43	197.03	-1.37	197.03	10.00	10.00	0.00
11,300.00	54.00	359.60	11,223.55	236.14	-1.64	236.15	10.00	10.00	0.00
11,350.00	59.00	359.60	11,251.14	277.82	-1.93	277.83	10.00	10.00	0.00
11,400.00	64.00	359.60	11,275.00	321.74	-2.24	321.75	10.00	10.00	0.00
11,450.00	69.00	359.60	11,294.93	367.58	-2.56	367.59	10.00	10.00	0.00
11,500.00	74.00	359.60	11,310.79	414.98	-2.89	414.99	10.00	10.00	0.00
11,550.00	79.00	359.60	11,322.47	463.58	-3.23	463.59	10.00	10.00	0.00
11,600.00	84.00	359.60	11,329.86	513.01	-3.57	513.03	10.00	10.00	0.00
11,650.00	89.00	359.60	11,332.91	562.90	-3.92	562.92	10.00	10.00	0.00
11,660.04	90.00	359.60	11,333.00	572.94	-3.99	572.96	10.00	10.00	0.00
11,700.00	90.00	359.60	11,333.00	612.90	-4.26	612.92	0.00	0.00	0.00
11,800.00	90.00	359.60	11,333.00	712.90	-4.96	712.92	0.00	0.00	0.00
11,900.00	90.00	359.60	11,333.00	812.90	-5.66	812.92	0.00	0.00	0.00
12,000.00	90.00	359.60	11,333.00	912.89	-6.35	912.92	0.00	0.00	0.00
12,100.00	90.00	359.60	11,333.00	1,012.89	-7.05	1,012.92	0.00	0.00	0.00
12,200.00	90.00	359.60	11,333.00	1,112.89	-7.74	1,112.92	0.00	0.00	0.00
12,300.00	90.00	359.60	11,333.00	1,212.89	-8.44	1,212.92	0.00	0.00	0.00
12,400.00	90.00	359.60	11,333.00	1,312.88	-9.13	1,312.92	0.00	0.00	0.00
12,500.00	90.00	359.60	11,333.00	1,412.88	-9.83	1,412.92	0.00	0.00	0.00
12,600.00	90.00	359.60	11,333.00	1,512.88	-10.53	1,512.92	0.00	0.00	0.00
12,700.00	90.00	359.60	11,333.00	1,612.88	-11.22	1,612.92	0.00	0.00	0.00
12,800.00	90.00	359.60	11,333.00	1,712.87	-11.92	1,712.92	0.00	0.00	0.00
12,900.00	90.00	359.60	11,333.00	1,812.87	-12.61	1,812.92	0.00	0.00	0.00
13,000.00	90.00	359.60	11,333.00	1,912.87	-13.31	1,912.92	0.00	0.00	0.00
13,100.00	90.00	359.60	11,333.00	2,012.87	-14.00	2,012.92	0.00	0.00	0.00
13,200.00	90.00	359.60	11,333.00	2,112.86	-14.70	2,112.92	0.00	0.00	0.00
13,300.00	90.00	359.60	11,333.00	2,212.86	-15.40	2,212.92	0.00	0.00	0.00
13,400.00	90.00	359.60	11,333.00	2,312.86	-16.09	2,312.92	0.00	0.00	0.00
13,500.00	90.00	359.60	11,333.00	2,412.86	-16.79	2,412.92	0.00	0.00	0.00
13,600.00	90.00	359.60	11,333.00	2,512.85	-17.48	2,512.92	0.00	0.00	0.00
13,700.00	90.00	359.60	11,333.00	2,612.85	-18.18	2,612.92	0.00	0.00	0.00
13,800.00	90.00	359.60	11,333.00	2,712.85	-18.87	2,712.92	0.00	0.00	0.00
13,900.00	90.00	359.60	11,333.00	2,812.85	-19.57	2,812.92	0.00	0.00	0.00
14,000.00	90.00	359.60	11,333.00	2,912.85	-20.27	2,912.92	0.00	0.00	0.00
14,100.00	90.00	359.60	11,333.00	3,012.84	-20.96	3,012.92	0.00	0.00	0.00
14,200.00	90.00	359.60	11,333.00	3,112.84	-21.66	3,112.92	0.00	0.00	0.00
14,300.00	90.00	359.60	11,333.00	3,212.84	-22.35	3,212.92	0.00	0.00	0.00
14,400.00	90.00	359.60	11,333.00	3,312.84	-23.05	3,312.92	0.00	0.00	0.00

Leam Drilling Systems LLC

Planning Report

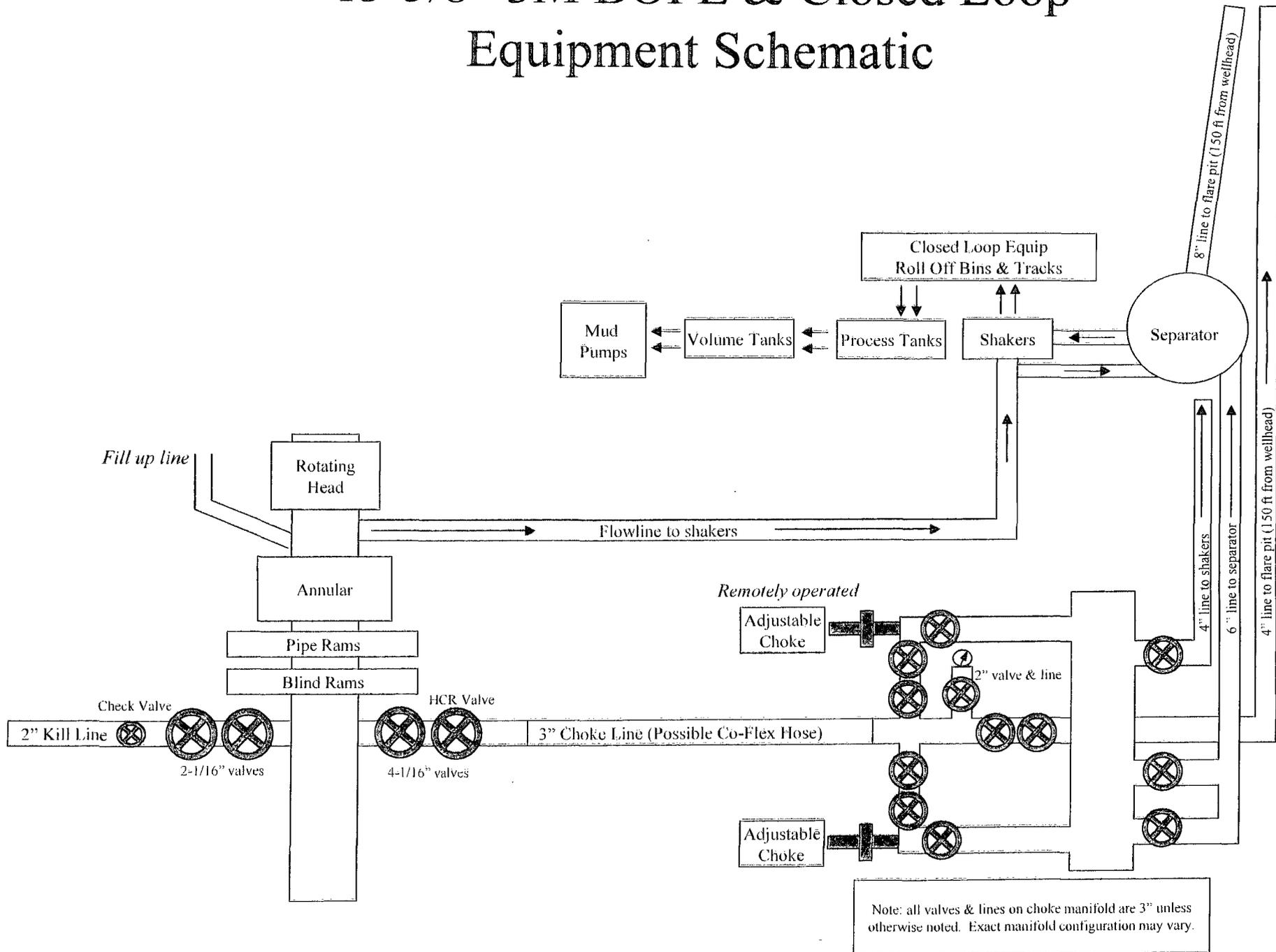
Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	GE 3452 + KB 25' @ 3477.00usft (Permitting)
Project:	Lea County, NM (NAD-83)	MD Reference:	GE 3452 + KB 25' @ 3477.00usft (Permitting)
Site:	Milo #27 Fed	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,500.00	90.00	359.60	11,333.00	3,412.83	-23.74	3,412.92	0.00	0.00	0.00
14,600.00	90.00	359.60	11,333.00	3,512.83	-24.44	3,512.92	0.00	0.00	0.00
14,700.00	90.00	359.60	11,333.00	3,612.83	-25.14	3,612.92	0.00	0.00	0.00
14,800.00	90.00	359.60	11,333.00	3,712.83	-25.83	3,712.92	0.00	0.00	0.00
14,900.00	90.00	359.60	11,333.00	3,812.82	-26.53	3,812.92	0.00	0.00	0.00
15,000.00	90.00	359.60	11,333.00	3,912.82	-27.22	3,912.92	0.00	0.00	0.00
15,100.00	90.00	359.60	11,333.00	4,012.82	-27.92	4,012.92	0.00	0.00	0.00
15,200.00	90.00	359.60	11,333.00	4,112.82	-28.61	4,112.92	0.00	0.00	0.00
15,300.00	90.00	359.60	11,333.00	4,212.81	-29.31	4,212.92	0.00	0.00	0.00
15,400.00	90.00	359.60	11,333.00	4,312.81	-30.01	4,312.92	0.00	0.00	0.00
15,500.00	90.00	359.60	11,333.00	4,412.81	-30.70	4,412.92	0.00	0.00	0.00
15,600.00	90.00	359.60	11,333.00	4,512.81	-31.40	4,512.92	0.00	0.00	0.00
15,704.66	90.00	359.60	11,333.00	4,617.46	-32.12	4,617.58	0.00	0.00	0.00

Design Targets										
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL(M-27-F 1H)	- plan hits target center	0.00	0.01	0.00	0.00	0.00	463,083.13	844,241.31	32° 16' 9.437 N	103° 21' 11.996 W
	- Point									
PBHL(M-27-F 1H)	- plan hits target center	0.00	0.01	11,333.00	4,617.46	-32.12	467,700.59	844,209.18	32° 16' 55.127 N	103° 21' 11.879 W
	- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
10,760.04	10,760.04	0.00	0.00	KOP: Start DLS 10.00 TFO 359.60
11,660.04	11,333.00	572.94	-3.99	EOC: Start 4044.62 hold at 11660.04 MD
15,704.66	11,333.00	4,617.46	-32.12	TD at 15704.66' MD

13-5/8" 3M BOPE & Closed Loop Equipment Schematic

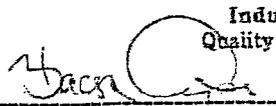
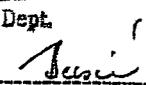


NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, LP
Milo 27 Federal 1H

Surface Location: 330 FSL & 1980 FEL, Unit O, Sec 27 T23S R35E, Lea, NM
Bottom Hole Location: 330 FNL & 1980 FEL, Unit B, Sec 27 T23S R35E, Lea, NM

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 fittings will be in operable condition to withstand a minimum 3000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum 3000 psi 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.

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 <p style="text-align: center;">See attachment. (1 page)</p> <p>↑ 10 mm = 10 Min. → 10 mm = 25 MPa</p>					
COUPLINGS Type	Serial N°		Quality	Heat N°	
3" coupling with 4 1/16" Flange end	5503	2029	AISI 4130 AISI 4130	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.  		



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,

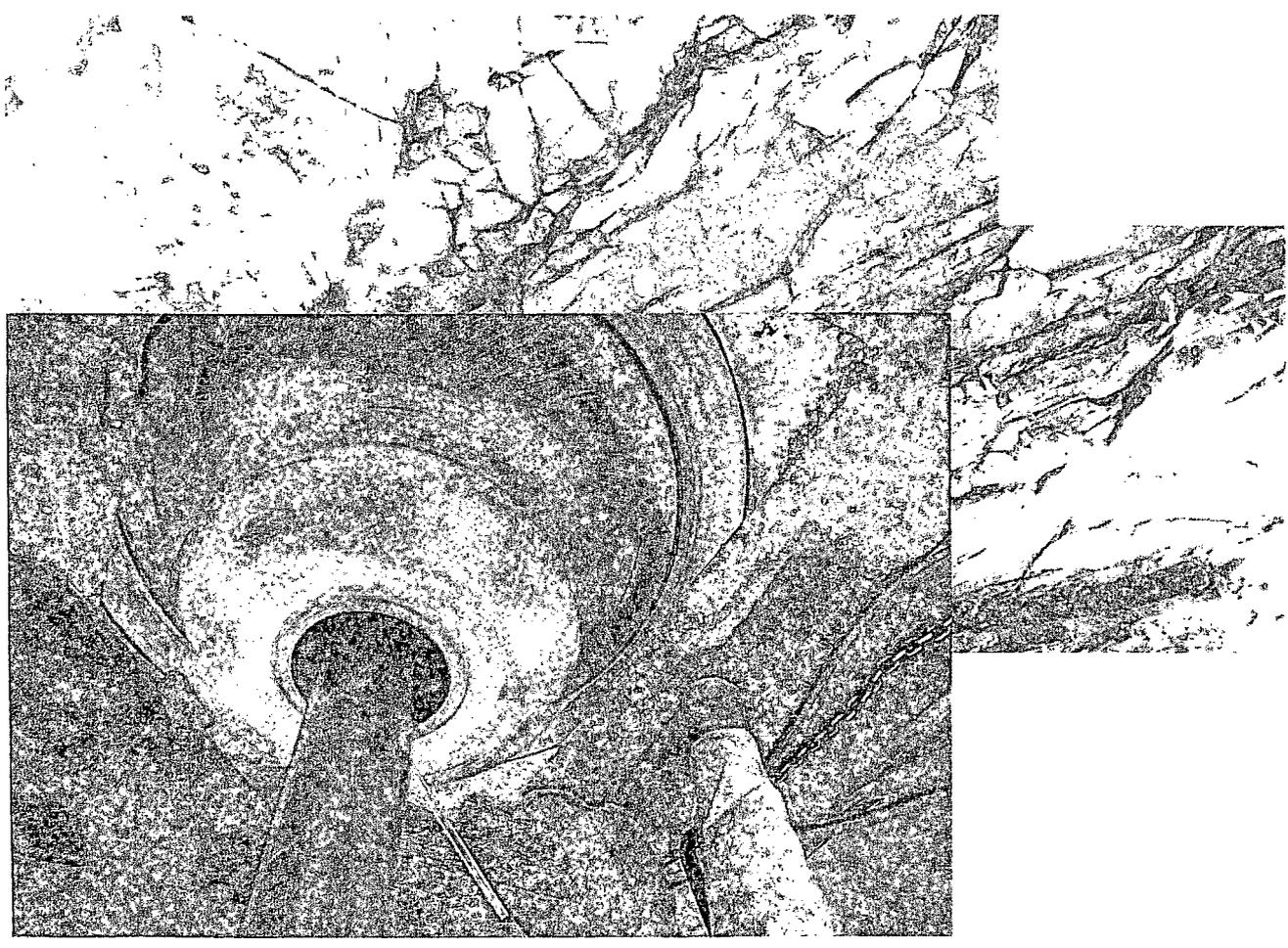
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SENM - Closed Loop Systems
August 2012

Design Plan
Operation and Maintenance Plan
Closure Plan



Commitment Runs Deep



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.

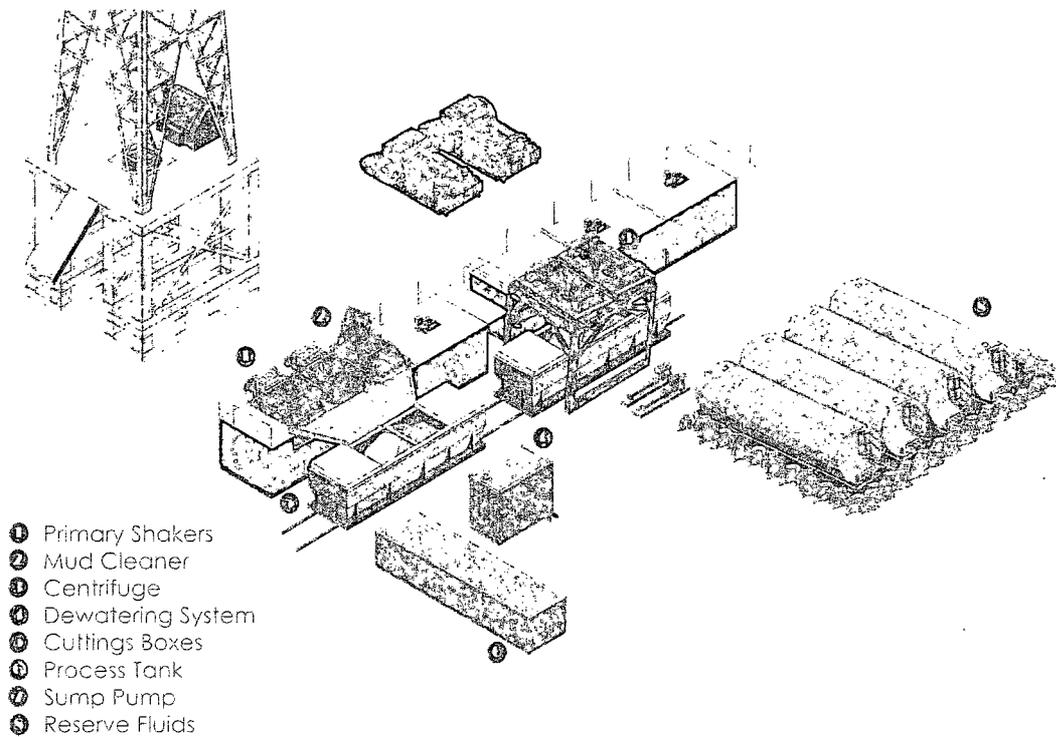
II. Operations and Maintenance Plan

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.



Closed Loop Schematic



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

