OCD Artesia
HOBBSOCD

JUN 03 2015

RECEIVED

ATS-15-107

Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
BHL:NMLC061873/SHL:NMLC061863A

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
Cotton Draw Unit NM70928X

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

8. Lease Name and Well No. <300635>
Cotton Draw Unit 252H

2. Name of Operator Devon Energy Production Company, L.P. <6137>

9. API Well No.
30-025-42619

3a. Address 333 W. Sheridan
Oklahoma City, OK 73102-5010

3b. Phone No. *(include area code)*
405.228.7203

10. Field and Pool, or Exploratory
Paduca; Delaware (49466) <49490>

4. Location of Well *(Report location clearly and in accordance with any State requirements.)*
At surface 100 FNL & 1780 FEL, Unit B PP: 100 FNL & 1980 FEL
At proposed prod. zone 330 FSL & 1980 FEL, Unit O

NORTHODOX LOCATION

11. Sec., T. R. M. or Blk. and Survey or Area
Sec. 7 T25S R32E

14. Distance in miles and direction from nearest town or post office*
Approximately 20 miles SE of Malaga, 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)
See attached map

16. No. of acres in lease
NMLC061873 - 319.73 ac
NMLC061863A - 1882.6 ac

17. Spacing Unit dedicated to this well
160 ac

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

19. Proposed Depth
TVD - 8,215'
MD - 12,861'

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3447.7' GL

22. Approximate date work will start*
03/15/2014

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:

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.

Signature	Name *(Printed/Typed)*	Date
Trina C. Couch	Trina C. Couch	09/19/2014

Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Steve Caffey		MAY 18 2015
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)

E-PERMITTING - - New Well
Comp ___ P&A ___ TA ___
CSNG ___ Loc Chng ___
ReComp ___ Add New Well ___
Cancl Well ___ Create Pool ___

Pecos River Controlled Water Basin

NM OIL CONSERVATION
ARTESIA DISTRICT
MAY 26 2015

KZ 06/04/2015

RECEIVED

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

JUN 08 2015

Devon Energy, Cotton Draw Unit 252H

1. Geologic Formations

TVD of target	8215	Pilot hole depth	N/A
MD at TD:	12861	Deepest expected fresh water:	190'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	729	Water	
Salado	1075	Salt	
Top of Salt	1160	Salt	
Base of Salt	4234	Salt	
Delaware	4471	Oil	
Bell Canyon	4503	Oil	
Cherry Canyon	5423	Oil	
Bushy Canyon	6742	Oil	
Bone Spring	8359	Target Zone Oil/Gas	

*H2S, water flows, loss of circulation, abnormal pressures, etc.

See COA

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	~~760~~ 840'	13.375"	48	H40	STC	2.27	5.09	14.83
12.25"	0	~~4350~~ 4500'	9.625"	40	J55	LTC	1.136	1.75	2.99
8.75"	0	12861	5.5"	17	P110	BTC	2.18	2.71	4.07
				BLM Minimum Safety Factor			1.125	1.00	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	H_20 gal/sk	Yld ft3/ sack	500# Comp. Strength (hours)	Slurry Description
Surf.	830	14.8	6.32	1.33	7	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
Inter.	930	12.9	9.81	1.85	17	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	430	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
Prod.	530	12.5	10.86	1.96	30	1st Lead: (65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake
	1350	14.5	5.31	1.2	25	1st Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
	DV/ECP Tool ~~4500'~~ See COA					
	80	11	14.81	2.55	22	2nd stage Lead: Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake
	110	14.8	6.32	1.33	6	2nd stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake

DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	75%
Production	1st Stage = 4500' / 2nd Stage = ~~3300'~~ 500' tieback	25%

4. Pressure Control Equipment

	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	x	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other *		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other *		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2.

	On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using a multi-bowl wellhead assembly (FMC Uni-head). This assembly will only be tested when installed on the surface casing. 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. • Wellhead will be installed by FMC's representatives. • If the welding is performed by a third party, the FMC's representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. • FMC representative will install the test plug for the initial BOP test. • FMC will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 5M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time. • If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted. • Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. • Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, per Onshore Order #2. After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the FMC Uni-head wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2. After running the 9-5/8' intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the FMC Uni-head. 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

See COA

	addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP. Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns. See attached schematic.

See COA

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	~~760'~~ 840'	FW Gel	8.6-8.8	28-34	N/C
~~760'~~	~~4350'~~ 4500'	Saturated Brine	10.0-10.2	28-34	N/C
~~4350'~~	12861'	Cut Brine	8.5-9.3	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	3697 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

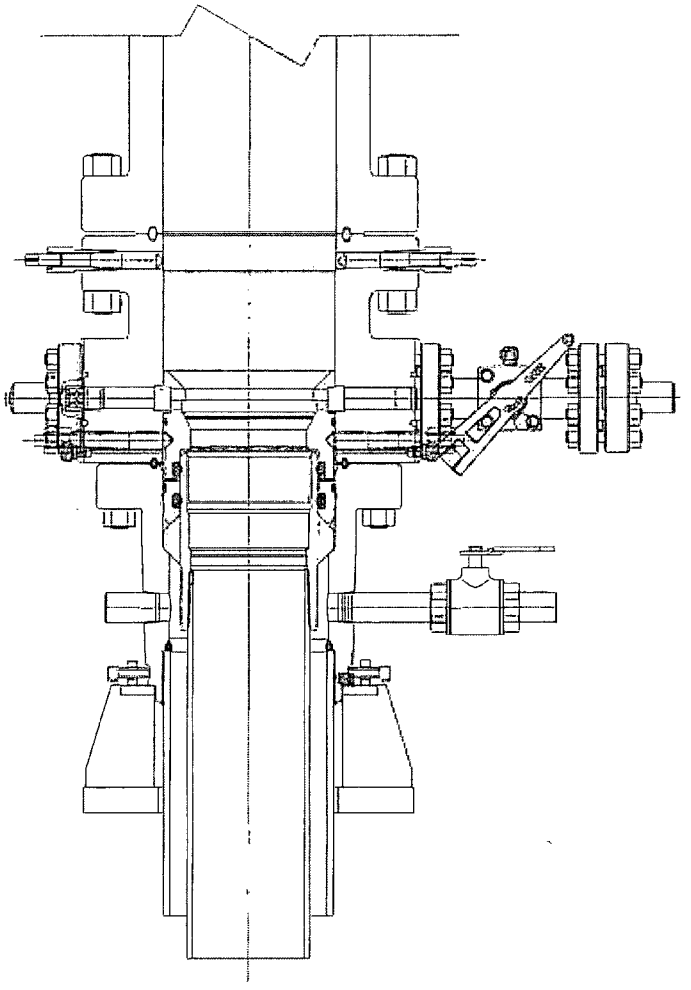
Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

Is this a walking operation? No.
Will be pre-setting casing? No.

Attachments
_X_ Directional Plan
___ Other, describe

FMC Technologies



PRIMARY MODE

DEVON ENERGY

ARTESIA
S.E.N.M
13 3/8 X 9 5/8

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315

REVISIONS	
A	05-08-13
B	1-22-14
C	5-13-14

DESCRIPTION

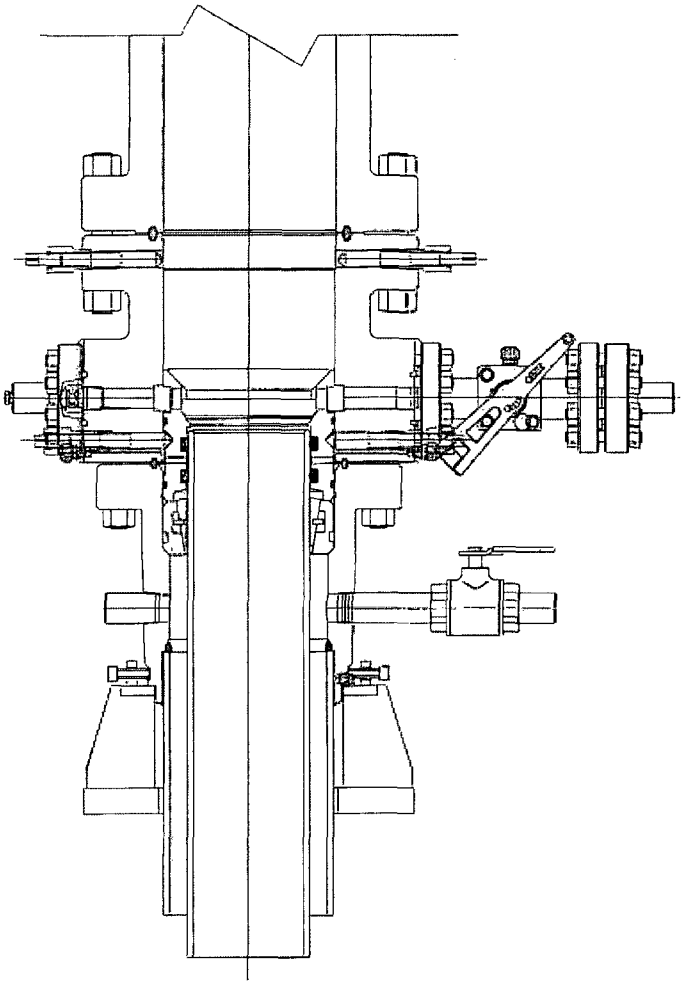
SURFACE WELLHEAD LAYOUT
UNIHEAD, UH-1, SOW,
DEVON ENERGY, ODESSA

DRAWN BY	K. VU	05-08-13
DRAFTING REVIEW	Z. MARQUEZ	05-08-13
DESIGN REVIEW	K. TAHA	05-08-13
APPROVED BY	R. HAMILTON	05-08-13

FMC Technologies

DRAWING NUMBER
DM100161771-2A

FMC Technologies



CONTINGENCY MODE

DEVON ENERGY

ARTESIA

S.E.N.M

13 3/8 X 9 5/8

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315

REVISIONS	
A	05-08-13
B	1-22-14
C	5-13-14

DESCRIPTION

SURFACE WELLHEAD LAYOUT
UNIHEAD, UH-1, SOW,
DEVON ENERGY, ODESSA

DRAWN BY	K. VU	05-08-13
DRAFTING REVIEW	Z. MARQUEZ	05-08-13
DESIGN REVIEW	K. TAHA	05-08-13
APPROVED BY	R. HAMILTON	05-08-13

FMC Technologies

DRAWING NUMBER
DM100161771-2B

DEVON ENERGY

Project: Eddy County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 252H
Wellbore: 252H OH
Design: Plan #1

Azimuths to Grid North
True North: -0.33°
Magnetic North: 7.08°

Magnetic Field
Strength: 48192.5snT
Dip Angle: 60.01°
Date: 9/11/2014
Model: BGGM2014

devon

PROJECT DETAILS: Eddy 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

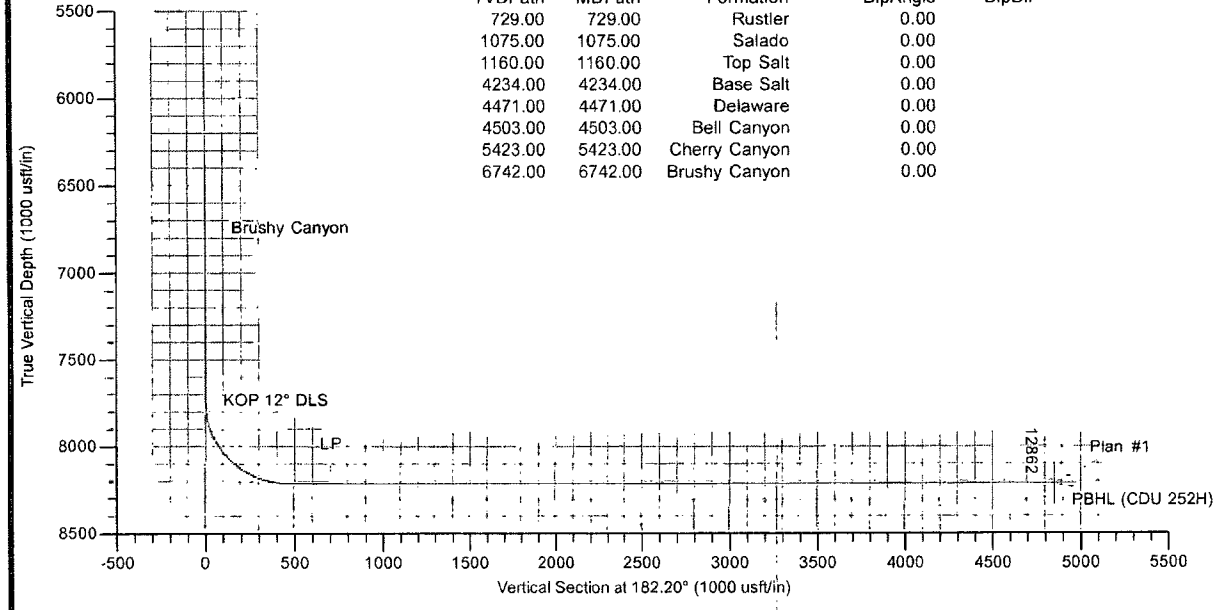
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL (CDU 252H)	0.00	0.00	0.00	419518.01	733772.13	32° 9' 6.501 N	103° 42' 41.512 W
PBHL (CDU 252H)	8215.00	-4848.05	-186.56	414669.96	733585.57	32° 8' 18.537 N	103° 42' 44.008 W

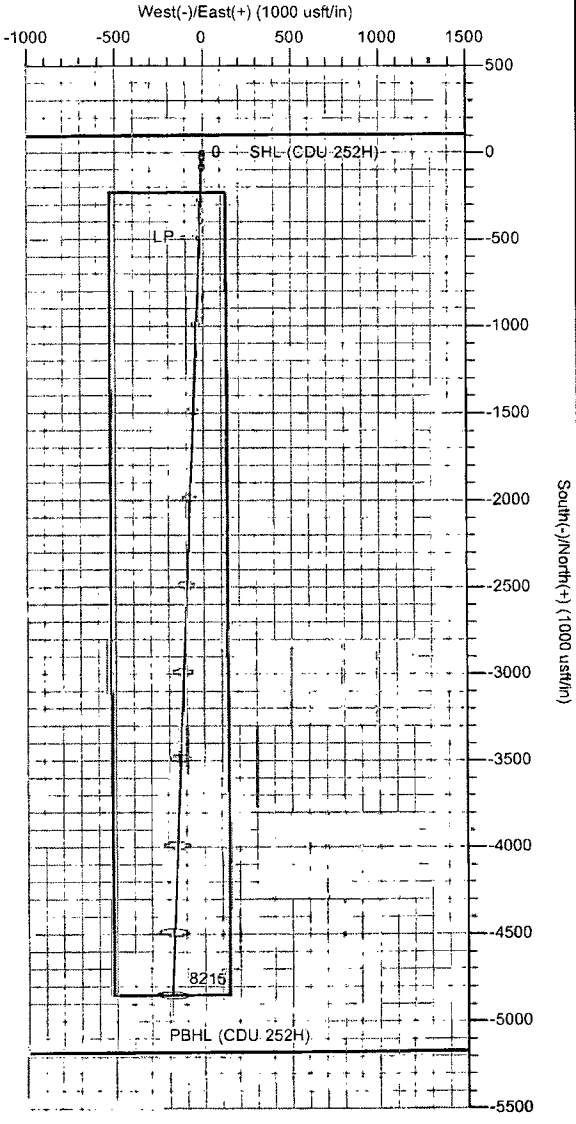
SECTION DETAILS

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	7737.54	0.00	0.00	7737.54	0.00	0.00	0.00	0.00	0.00	KOP 12° DLS
3	8487.54	90.00	182.20	8215.00	-477.11	-18.36	12.00	182.20	477.46	LP
4	12861.71	90.00	182.20	8215.00	-4848.05	-186.56	0.00	0.00	4851.64	TD

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
729.00	729.00	Rustler	0.00	
1075.00	1075.00	Salado	0.00	
1160.00	1160.00	Top Salt	0.00	
4234.00	4234.00	Base Salt	0.00	
4471.00	4471.00	Delaware	0.00	
4503.00	4503.00	Bell Canyon	0.00	
5423.00	5423.00	Cherry Canyon	0.00	
6742.00	6742.00	Brushy Canyon	0.00	





LEAM Drilling Systems, Inc.

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

Plan: Plan #1 (252H/252H OH)
Cotton Draw Unit
Created By: Brady Deaver Date: 13:31, September 11 2014
Date: _____
Approved: _____ Date: _____

DEVON ENERGY

Eddy County, NM (NAD-83)
Cotton Draw Unit
252H

252H OH

Plan: Plan #1

Standard Planning Report

11 September, 2014

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 252H
Company:	DEVON ENERGY	**TVD Reference:**	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	252H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	252H OH		
Design:	Plan #1		

Project	Eddy 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	Cotton Draw Unit				
Site Position:		**Northing:**	419,194.51 usft	**Latitude:**	32° 9' 3.901 N
From:	Map	**Easting:**	722,955.98 usft	**Longitude:**	103° 44' 47.345 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.31 °

Well	252H, Brushy Canyon					
Well Position	**+N/-S**	323.50 usft	**Northing:**	419,518.01 usft	**Latitude:**	32° 9' 6.501 N
	+E/-W	10,816.15 usft	**Easting:**	733,772.13 usft	**Longitude:**	103° 42' 41.512 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	3,472.70 usft	**Ground Level:**	3,447.70 usft

Wellbore	252H OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	BGGM2014	9/11/2014	7.41	60.01	48,193

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)**	**Direction (°)**	
	0.00	0.00	0.00	182.20	

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	
7,737.54	0.00	0.00	7,737.54	0.00	0.00	0.00	0.00	0.00	0.00	
8,487.54	90.00	182.20	8,215.00	-477.11	-18.36	12.00	12.00	0.00	182.20	
12,861.71	90.00	182.20	8,215.00	-4,848.05	-186.56	0.00	0.00	0.00	0.00	PBHL (CDU 252H)

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 252H
Company:	DEVON ENERGY	**TVD Reference:**	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	252H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	252H 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
SHL (CDU 252H)									
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
729.00	0.00	0.00	729.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,075.00	0.00	0.00	1,075.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,160.00	0.00	0.00	1,160.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
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
4,234.00	0.00	0.00	4,234.00	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 252H
Company:	DEVON ENERGY	**TVD Reference:**	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	252H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	252H 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)
Base Salt									
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
4,471.00	0.00	0.00	4,471.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,503.00	0.00	0.00	4,503.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
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
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
5,423.00	0.00	0.00	5,423.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
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
6,742.00	0.00	0.00	6,742.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
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
7,737.54	0.00	0.00	7,737.54	0.00	0.00	0.00	0.00	0.00	0.00
KOP 12° DLS									
7,750.00	1.50	182.20	7,750.00	-0.16	-0.01	0.16	12.00	12.00	0.00
7,775.00	4.50	182.20	7,774.96	-1.47	-0.06	1.47	12.00	12.00	0.00
7,800.00	7.50	182.20	7,799.82	-4.08	-0.16	4.08	12.00	12.00	0.00
7,825.00	10.50	182.20	7,824.51	-7.98	-0.31	7.99	12.00	12.00	0.00
7,850.00	13.50	182.20	7,848.96	-13.17	-0.51	13.18	12.00	12.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 252H
Company:	DEVON ENERGY	**TVD Reference:**	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	252H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	252H 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)
7,875.00	16.50	182.20	7,873.11	-19.64	-0.76	19.65	12.00	12.00	0.00
7,900.00	19.50	182.20	7,896.88	-27.35	-1.05	27.37	12.00	12.00	0.00
7,925.00	22.50	182.20	7,920.22	-36.30	-1.40	36.33	12.00	12.00	0.00
7,950.00	25.50	182.20	7,943.06	-46.46	-1.79	46.50	12.00	12.00	0.00
7,975.00	28.50	182.20	7,965.33	-57.80	-2.22	57.84	12.00	12.00	0.00
8,000.00	31.50	182.20	7,986.98	-70.29	-2.70	70.34	12.00	12.00	0.00
8,025.00	34.50	182.20	8,007.95	-83.89	-3.23	83.95	12.00	12.00	0.00
8,050.00	37.50	182.20	8,028.17	-98.57	-3.79	98.65	12.00	12.00	0.00
8,075.00	40.50	182.20	8,047.60	-114.29	-4.40	114.37	12.00	12.00	0.00
8,100.00	43.50	182.20	8,066.17	-131.00	-5.04	131.10	12.00	12.00	0.00
8,125.00	46.50	182.20	8,083.85	-148.66	-5.72	148.77	12.00	12.00	0.00
8,150.00	49.50	182.20	8,100.58	-167.23	-6.44	167.35	12.00	12.00	0.00
8,175.00	52.50	182.20	8,116.31	-186.64	-7.18	186.77	12.00	12.00	0.00
8,200.00	55.50	182.20	8,131.01	-206.84	-7.96	207.00	12.00	12.00	0.00
8,225.00	58.50	182.20	8,144.62	-227.79	-8.77	227.96	12.00	12.00	0.00
8,250.00	61.50	182.20	8,157.12	-249.42	-9.60	249.61	12.00	12.00	0.00
8,275.00	64.50	182.20	8,168.47	-271.68	-10.45	271.88	12.00	12.00	0.00
8,300.00	67.50	182.20	8,178.64	-294.50	-11.33	294.71	12.00	12.00	0.00
8,325.00	70.50	182.20	8,187.60	-317.82	-12.23	318.05	12.00	12.00	0.00
8,350.00	73.50	182.20	8,195.33	-341.57	-13.14	341.82	12.00	12.00	0.00
8,375.00	76.50	182.20	8,201.80	-365.70	-14.07	365.97	12.00	12.00	0.00
8,400.00	79.50	182.20	8,207.00	-390.13	-15.01	390.42	12.00	12.00	0.00
8,425.00	82.50	182.20	8,210.91	-414.80	-15.96	415.11	12.00	12.00	0.00
8,450.00	85.50	182.20	8,213.53	-439.64	-16.92	439.97	12.00	12.00	0.00
8,475.00	88.50	182.20	8,214.84	-464.59	-17.88	464.93	12.00	12.00	0.00
8,487.54	90.00	182.20	8,215.00	-477.11	-18.36	477.46	12.00	12.00	0.00
LP									
8,500.00	90.00	182.20	8,215.00	-489.57	-18.84	489.93	0.00	0.00	0.00
8,600.00	90.00	182.20	8,215.00	-589.49	-22.68	589.93	0.00	0.00	0.00
8,700.00	90.00	182.20	8,215.00	-689.42	-26.53	689.93	0.00	0.00	0.00
8,800.00	90.00	182.20	8,215.00	-789.35	-30.38	789.93	0.00	0.00	0.00
8,900.00	90.00	182.20	8,215.00	-889.27	-34.22	889.93	0.00	0.00	0.00
9,000.00	90.00	182.20	8,215.00	-989.20	-38.07	989.93	0.00	0.00	0.00
9,100.00	90.00	182.20	8,215.00	-1,089.12	-41.91	1,089.93	0.00	0.00	0.00
9,200.00	90.00	182.20	8,215.00	-1,189.05	-45.76	1,189.93	0.00	0.00	0.00
9,300.00	90.00	182.20	8,215.00	-1,288.98	-49.60	1,289.93	0.00	0.00	0.00
9,400.00	90.00	182.20	8,215.00	-1,388.90	-53.45	1,389.93	0.00	0.00	0.00
9,500.00	90.00	182.20	8,215.00	-1,488.83	-57.29	1,489.93	0.00	0.00	0.00
9,600.00	90.00	182.20	8,215.00	-1,588.75	-61.14	1,589.93	0.00	0.00	0.00
9,700.00	90.00	182.20	8,215.00	-1,688.68	-64.98	1,689.93	0.00	0.00	0.00
9,800.00	90.00	182.20	8,215.00	-1,788.61	-68.83	1,789.93	0.00	0.00	0.00
9,900.00	90.00	182.20	8,215.00	-1,888.53	-72.67	1,889.93	0.00	0.00	0.00
10,000.00	90.00	182.20	8,215.00	-1,988.46	-76.52	1,989.93	0.00	0.00	0.00
10,100.00	90.00	182.20	8,215.00	-2,088.38	-80.36	2,089.93	0.00	0.00	0.00
10,200.00	90.00	182.20	8,215.00	-2,188.31	-84.21	2,189.93	0.00	0.00	0.00
10,300.00	90.00	182.20	8,215.00	-2,288.24	-88.05	2,289.93	0.00	0.00	0.00
10,400.00	90.00	182.20	8,215.00	-2,388.16	-91.90	2,389.93	0.00	0.00	0.00
10,500.00	90.00	182.20	8,215.00	-2,488.09	-95.75	2,489.93	0.00	0.00	0.00
10,600.00	90.00	182.20	8,215.00	-2,588.01	-99.59	2,589.93	0.00	0.00	0.00
10,700.00	90.00	182.20	8,215.00	-2,687.94	-103.44	2,689.93	0.00	0.00	0.00
10,800.00	90.00	182.20	8,215.00	-2,787.87	-107.28	2,789.93	0.00	0.00	0.00
10,900.00	90.00	182.20	8,215.00	-2,887.79	-111.13	2,889.93	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 252H
Company:	DEVON ENERGY	TVD Reference:	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Project:	Eddy County, NM (NAD-83)	MD Reference:	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Site:	Cotton Draw Unit	North Reference:	Grid
Well:	252H	Survey Calculation Method:	Minimum Curvature
Wellbore:	252H 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)
11,000.00	90.00	182.20	8,215.00	-2,987.72	-114.97	2,989.93	0.00	0.00	0.00
11,100.00	90.00	182.20	8,215.00	-3,087.64	-118.82	3,089.93	0.00	0.00	0.00
11,200.00	90.00	182.20	8,215.00	-3,187.57	-122.66	3,189.93	0.00	0.00	0.00
11,300.00	90.00	182.20	8,215.00	-3,287.50	-126.51	3,289.93	0.00	0.00	0.00
11,400.00	90.00	182.20	8,215.00	-3,387.42	-130.35	3,389.93	0.00	0.00	0.00
11,500.00	90.00	182.20	8,215.00	-3,487.35	-134.20	3,489.93	0.00	0.00	0.00
11,600.00	90.00	182.20	8,215.00	-3,587.27	-138.04	3,589.93	0.00	0.00	0.00
11,700.00	90.00	182.20	8,215.00	-3,687.20	-141.89	3,689.93	0.00	0.00	0.00
11,800.00	90.00	182.20	8,215.00	-3,787.13	-145.73	3,789.93	0.00	0.00	0.00
11,900.00	90.00	182.20	8,215.00	-3,887.05	-149.58	3,889.93	0.00	0.00	0.00
12,000.00	90.00	182.20	8,215.00	-3,986.98	-153.42	3,989.93	0.00	0.00	0.00
12,100.00	90.00	182.20	8,215.00	-4,086.90	-157.27	4,089.93	0.00	0.00	0.00
12,200.00	90.00	182.20	8,215.00	-4,186.83	-161.12	4,189.93	0.00	0.00	0.00
12,300.00	90.00	182.20	8,215.00	-4,286.76	-164.96	4,289.93	0.00	0.00	0.00
12,400.00	90.00	182.20	8,215.00	-4,386.68	-168.81	4,389.93	0.00	0.00	0.00
12,500.00	90.00	182.20	8,215.00	-4,486.61	-172.65	4,489.93	0.00	0.00	0.00
12,600.00	90.00	182.20	8,215.00	-4,586.54	-176.50	4,589.93	0.00	0.00	0.00
12,700.00	90.00	182.20	8,215.00	-4,686.46	-180.34	4,689.93	0.00	0.00	0.00
12,800.00	90.00	182.20	8,215.00	-4,786.39	-184.19	4,789.93	0.00	0.00	0.00
12,861.71	90.00	182.20	8,215.00	-4,848.05	-186.56	4,851.64	0.00	0.00	0.00
TD - PBHL (CDU 252H)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (CDU 252H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	419,518.01	733,772.13	32° 9' 6.501 N	103° 42' 41.512 W
PBHL (CDU 252H) - plan hits target center - Point	0.00	0.00	8,215.00	-4,848.05	-186.56	414,669.96	733,585.57	32° 8' 18.537 N	103° 42' 44.008 W

Formations

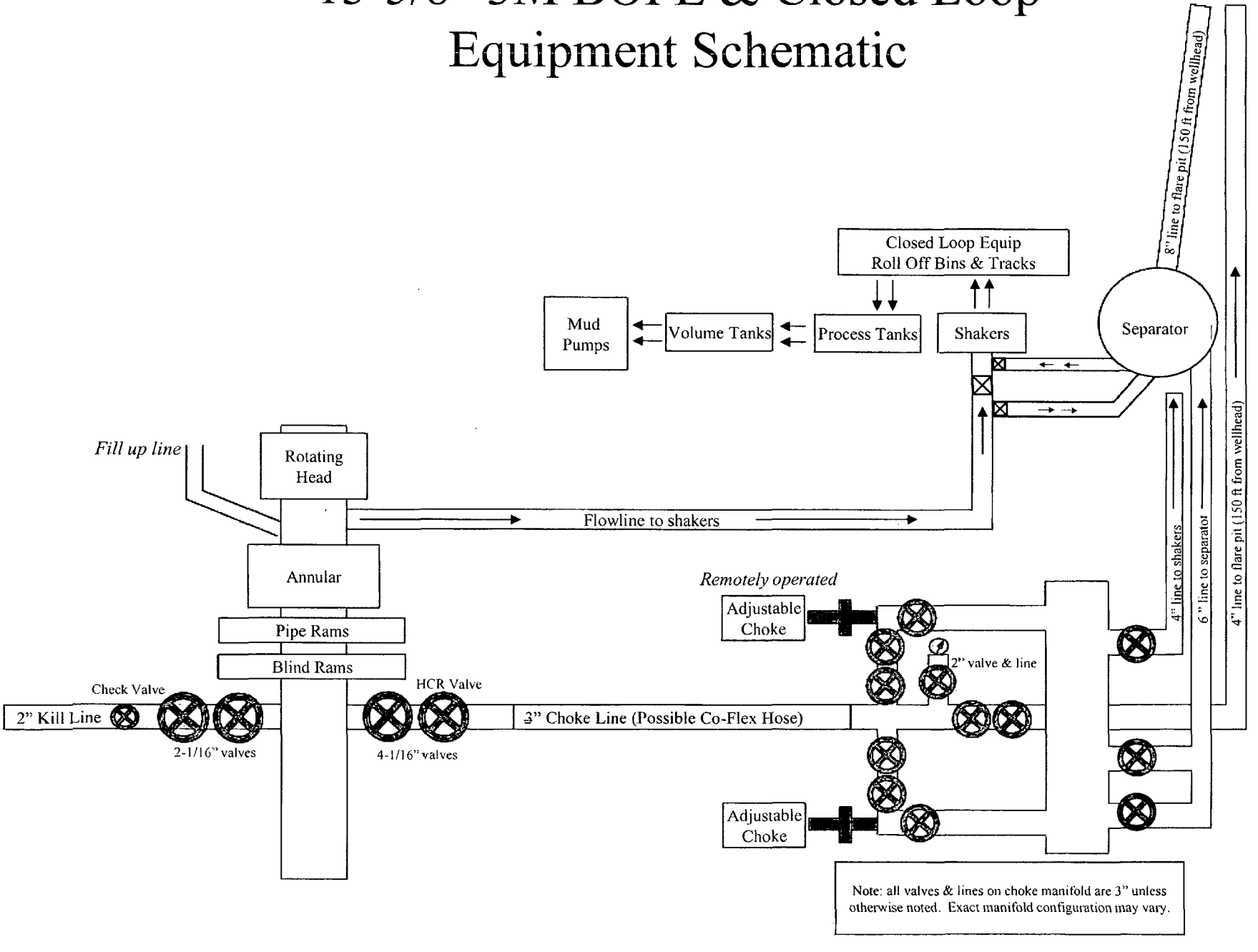
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
729.00	729.00	Rustler		0.00	
1,075.00	1,075.00	Salado		0.00	
1,160.00	1,160.00	Top Salt		0.00	
4,234.00	4,234.00	Base Salt		0.00	
4,471.00	4,471.00	Delaware		0.00	
4,503.00	4,503.00	Bell Canyon		0.00	
5,423.00	5,423.00	Cherry Canyon		0.00	
6,742.00	6,742.00	Brushy Canyon		0.00	

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 252H
Company:	DEVON ENERGY	**TVD Reference:**	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	Cactus 126: 3447.7' GL + 25' RKB @ 3472.70usft (Original Well Elev)
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	252H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	252H OH		
Design:	Plan #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
7,737.54	7,737.54	0.00	0.00	KOP 12° DLS
8,487.54	8,215.00	-477.11	-18.36	LP
12,861.71	8,215.00	-4,848.05	-186.56	TD

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



NOTES REGARDING BLOWOUT PREVENTERS

Devon Energy Production Company, L.P.
Cotton Draw Unit 252H

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 3000psi working pressure.

4. All fittings will be flanged.

5. A fill bore safety valve tested to a minimum of 3000psi 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.

Continental CONTITECH

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

DATE: 02/08/12 11:32AM

PACKING LIST

Midwest Hose & Specialty, Inc.

Ship From
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Road
Oklahoma City OK 73129
USA

Ship To
Cactus Drilling Co., LLC
8300 SW 15th
Oklahoma City OK
USA

Bill To
Cactus Drilling Co., LLC
ATTN: Accounts Payable
8300 SW 15th Street
Oklahoma City OK 73128-9594
USA

Payment Terms	1% 10 - NET 30 DAYS (1NET30)
Ship Method	DELIVR
Freight Terms	Prepaid
Customer Ship	CACTUS01
Cartons	1
Weight	0.00
Tracking Nbrs	

Shipping Notes:

Cust phone: 577-5347
Written by: MSMILEY

Customer PO: JEFF WILBUR R-129 15062

Mark Number: ASSET#M13387

Packing List #:00137890

INVOICE REQUIREMENTS:
1.Purchase Order Number and Rig # Required
2. Proof of Delivery Required
*****GIVE ALL PACKING LISTS TO MENDI JACKSON TO APPROVE PRIOR TO DELIVERY**

Received By: _____
Date Received: 2-8-12

Print Name: RICHARD
Work Phone #: _____

LINE	ITEM / DESCRIPTION	UOM	QUANTITY ORDERED	QUANTITY PREV SHIPPED	QUANTITY BACK ORDERED	QUANTITY THIS SHIPMENT
0010	CK64-SS-10K-6410K-6410K-35.00' FT-W/LIFTER4 Choke & Kill 10K with 10K Flanges	EA	1.00	0.00	0.00 Unit Price: 29500.0000	1.00 Ext. Price: 29500.00
	PL#: 00137890 Picked by: DMCLEMORE SO#: 00116983 Shipped by: AMARTIN				AMOUNT FREIGHT/INSUR/HANDLE SALES TAX TOTAL	29,500.00 0.00 $2,470.63 31,970.63

Questions? Phone: (800) 375-2358

Midwest Hose & Specialty, Inc.

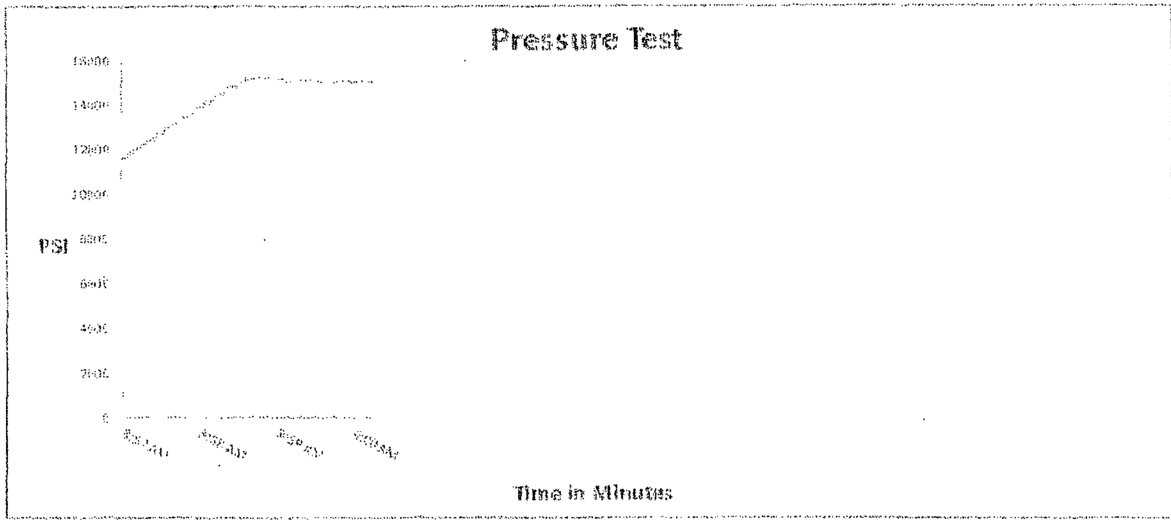
Internal Hydrostatic Test Graph

February 7, 2012

Customer: Cactus

Pick Ticket #: 137890

Hose Specifications		Verification	
Hose Type	**Length**	**Type of Fitting**	**Coupling Method**
E	35	4 1/16 10K	Swage
I.D.	**O.D.**	**Die Size**	**Final O.D.**
4"	6 7/64	6.56	6 5/8
Working Pressure	**Burst Pressure**	**Hose Serial #**	**Hose Assembly Serial #**
7500 PSI	Standard Safety Multiplier Applies	7718	137890



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	1 3/4 Minutes		15278 PSI

Comments: Hose assembly pressure tested with water at ambient temperature

Tested By: Derek Melancon

Approved By: Kim Thomas

Midwest Hose
& Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer:	Customer P.O. Number:
CACTUS	R-129

HOSE SPECIFICATIONS

Type: Rotary / Vibrator Hose C & K/API 7K	Hose Length: 35 FEET
I.D. 4 INCHES	O.D. 6 7/64 INCHES

WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE
7,500 PSI	15,000 PSI	N/A PSI

COUPLINGS

Part Number	Stem Lot Number	Ferrule Lot Number
E4.0X64WB	LOT 10-10	LOT 10-10
E4.0X64WB	LOT 10-10	LOT 10-10

Type of Coupling:	Die Size:
Swage-It	6.66 INCHES

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

TIME HELD AT TEST PRESSURE	ACTUAL BURST PRESSURE:
1 3/4 MIN.	N/A PSI

Hose Assembly Serial Number:	Hose Serial Number:
137890	7719

Comments:

Date:	Tested:	Approved:
2/7/2012		

CACTUS DRILLING COMPANY, L.L.C.

Cactus Drilling Company, L.L.C.
8300 SW 15TH
P.O. Box 270848
Oklahoma City, OK 73128-9594
405-577-5347 fax 405-577-9306

Purchase Order No. 15062

Date 06-Feb-12

PURCHASE ORDER

Vendor

Name Midwest Hose
Attn: Mendi Jackson
Address 3312 I-35 Service Road
City OKC St. OK Zip 73129
Phone 405-670-6718

Ship To

Name Cactus Drilling Company, L.L.C.
Attn:
Address 8300 SW 15TH
City Oklahoma City St OK Zip 73128
Phone 405-577-5347

Qty	Units	Description	Unit Price	Total
1	EA	CK64-SS-10K-6410K-6410K-35.00' FT-W/LIFTER4 Choke & Kill 10K with 10K Flanges	$29,500.00	$29,500.00
		Sott 116983 file		
		ORDER# 00132487		
			Sub Total	$29,500.00
			Shipping & Handling	
			Taxes	
			TOTAL	*$29,500.00*

For Cactus Use

Cap. or Exp.	EXP	Issued	
Equipment	BOP EQUIP.		
Rig No.	129		
Asset No.	M13387		
Job No.			

Approval

Josh Simons Ron Tyson

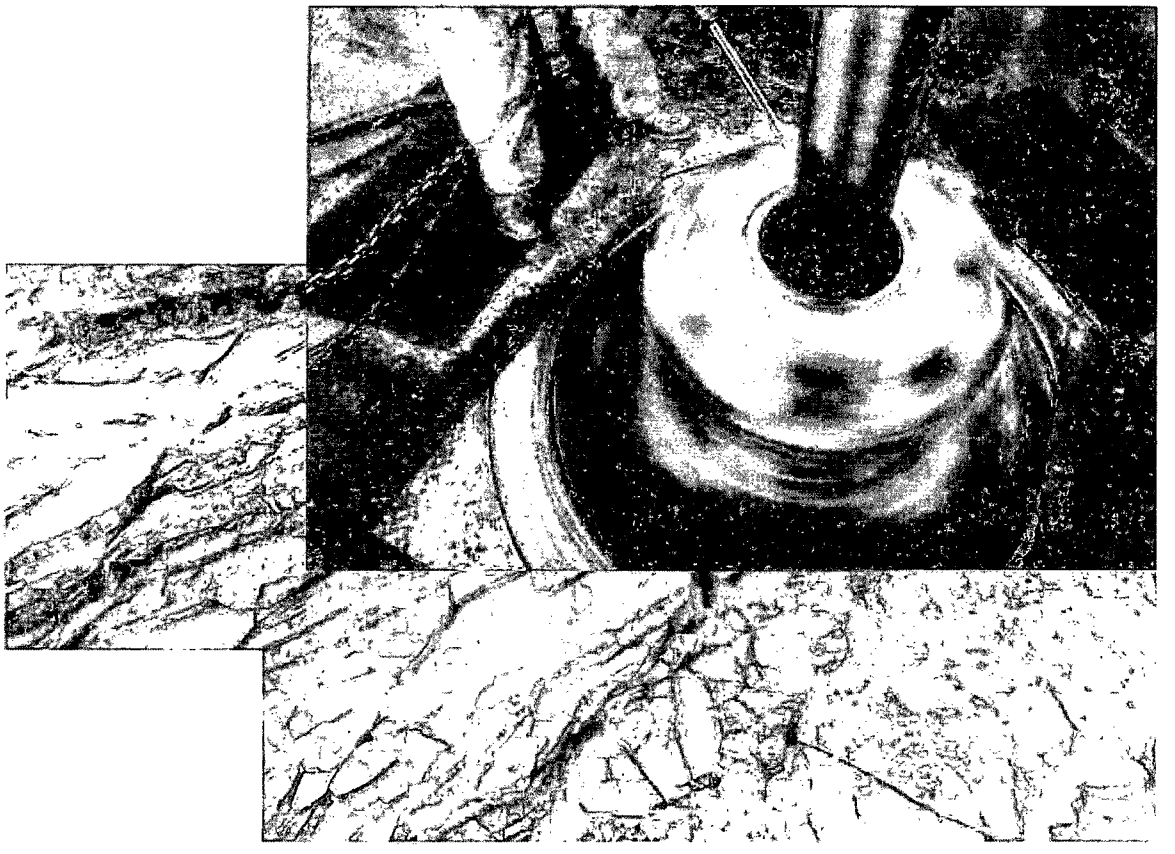
Shipping Date

Notes/Remarks

Please include this purchase order number on your invoice

devon

Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
June 2010

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.

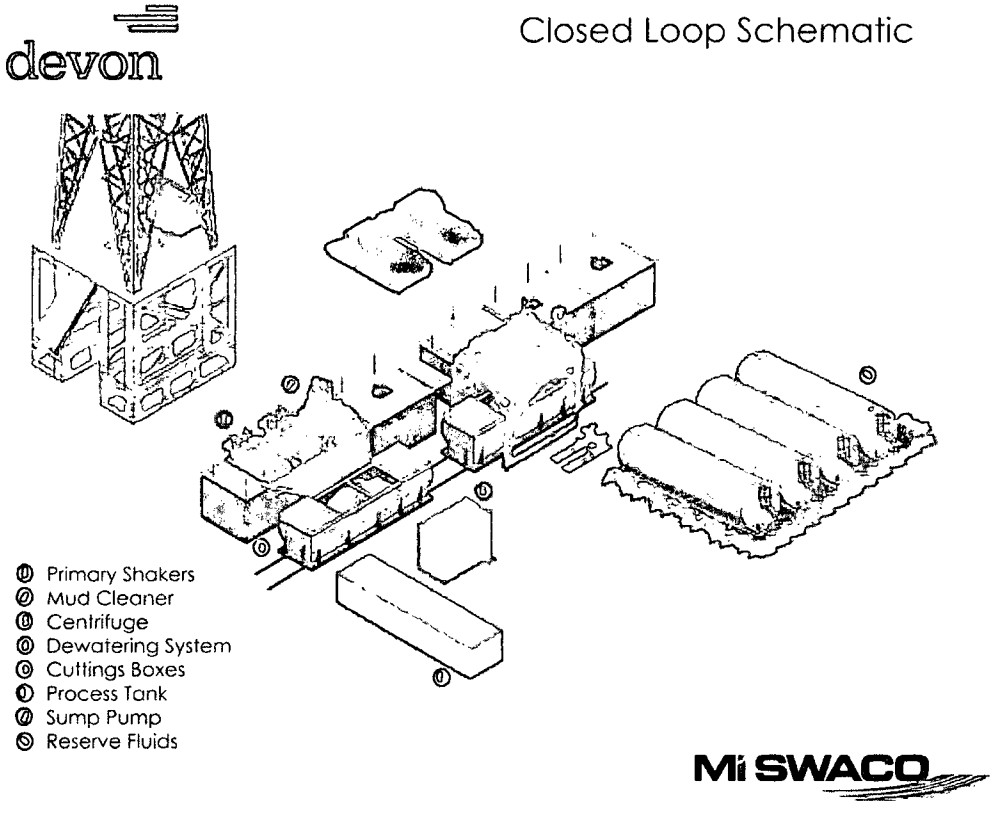
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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.



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.

Form NM 8140-9
(March 2008)

United States Department of the Interior
Bureau of Land Management
New Mexico State Office

Permian Basin Cultural Resource Mitigation Fund

The company shown below has agreed to contribute funding to the Permian Basin Cultural Resource Fund in lieu of being required to conduct a Class III survey for cultural resources associated with their project. This form verifies that the company has elected to have the Bureau of Land Management (BLM) follow the procedures specified within the Memorandum of Agreement (MOA) concerning improved strategies for managing historic properties within the Permian Basin, New Mexico, for the undertaking rather than the Protocol to meet the agency's Section 106 obligations.

Company Name: Devon Energy Production Co., LP

Address: 333 W. Sheridan, OKC, OK 73102

Project description: Application for Permit to Drill

Cultural Resource Inventory for the Cotton Draw Unit 252H proposed well location and access road.

Application for Permit to Drill (wells and immediate environment)
–$1552.00 well for the pad and a ¼ mile of road
–Anything over ¼ mile of road is $0.18/linear foot
–Total arch cost $1,463.00

5,280 = 1 mile => ¼ = 1,320
Total access road: 285' – ¼ mile of road included (1320) = 0' over 1320'
0' x $0.20 = $0.00
(See above & see well pad topo)

T. 25S, R. 32E, Section 7 NMPM, Lea County, New Mexico

Amount of contribution: $ 1552.00

Provisions of the MOA:

A. No new Class III inventories are required of industry within the Project Area for those projects where industry elects to contribute to the mitigation fund.

B. The amount of funds contributed was derived from the rate schedule established within Appendix B of the MOA. The amount of the funding contribution acknowledged on this form reflects those rates.

C. The BLM will utilize the funding to carry out a program of mitigation at high-priority sites whose study is needed to answer key questions identified within the Regional Research Design.

D. Donating to the fund is voluntary. Industry acknowledges that it is aware it has the right to pay for Class III survey rather than contributing to the mitigation fund, and that it must avoid or
fund data recovery at those sites already recorded that are eligible for nomination to the National Register or whose eligibility is unknown and that any such payments are independent of the mitigation funds established by this MOA.

E. Previously recorded archeological sites determined eligible for nomination to the National Register or whose eligibility remains undetermined must be avoided or mitigated.

F. If any skeletal remains that might be human or funerary objects are discovered by any activities, the land-use applicant will cease activities in the area of discovery, protect the remains, and notify the BLM within 24 hours. The BLM will determine the appropriate treatment of the remains in consultation with culturally affiliated Indian Tribe(s) and lineal descendents. Applicants will be required to pay for treatment of the cultural items independent and outside of the mitigation fund.

__Trina C. Couch_____ 10/14/2014
Company-Authorized Officer Date

_____ _____
BLM-Authorized Officer Date