

DEVON ENERGY

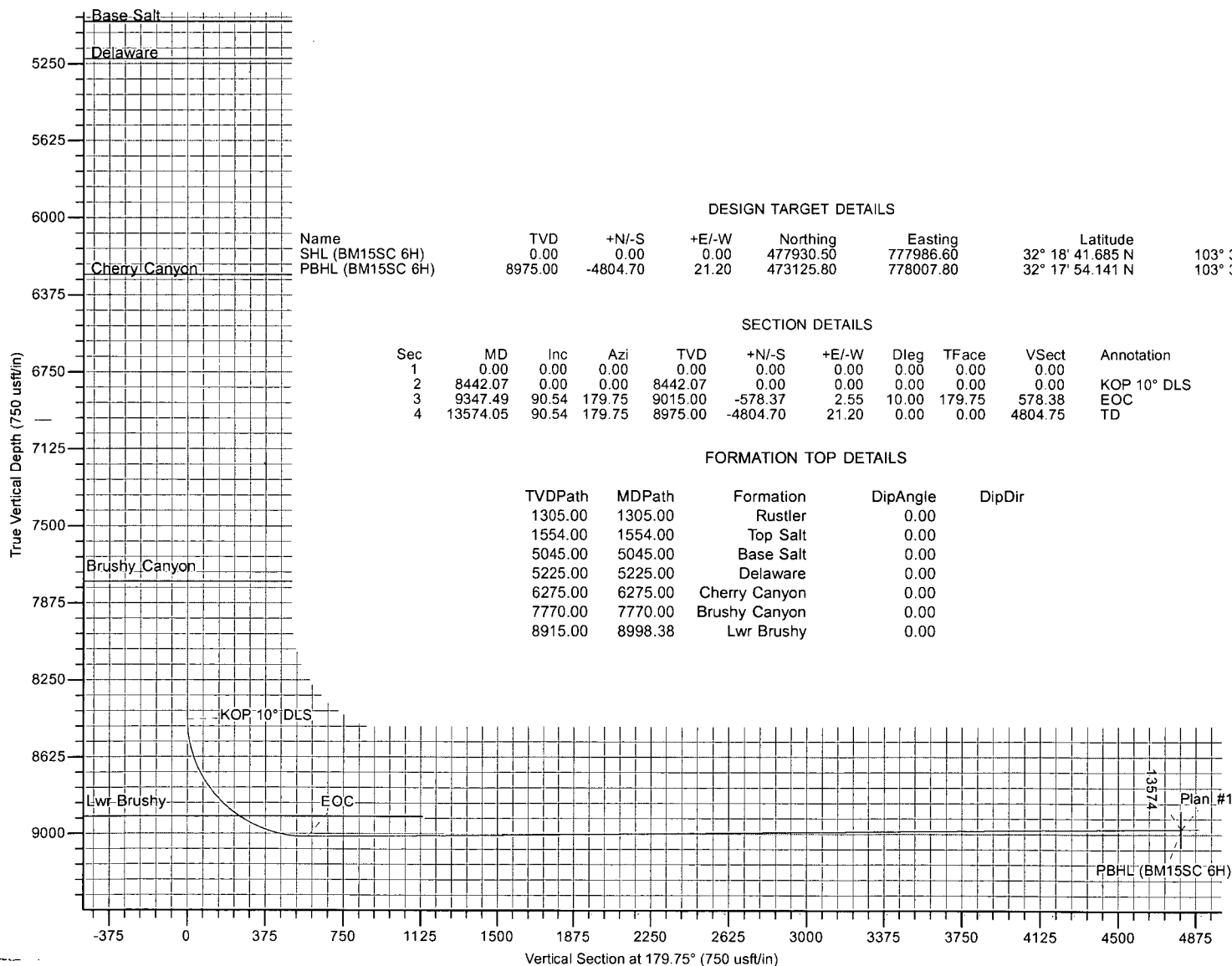
Project: Lea County, NM (NAD-83)
 Site: Black Mamba 15 State Com
 Well: 6H
 Wellbore: OH
 Design: Plan #1



Azimuths to Grid North
 True North: -0.41°
 Magnetic North: 6.91°
 Magnetic Field
 Strength: 48260.1snT
 Dip Angle: 60.17°
 Date: 1/21/2015
 Model: BGGM2014

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

devon



DESIGN TARGET DETAILS

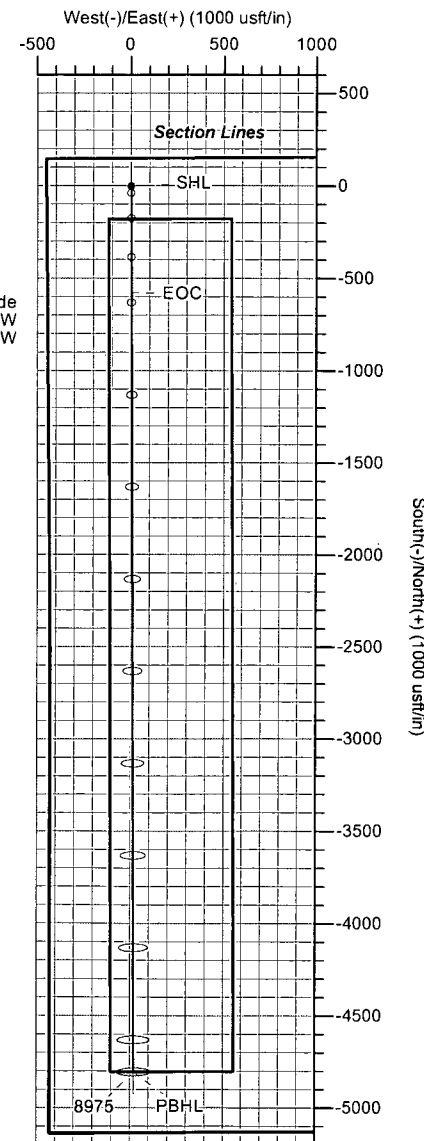
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL (BM15SC 6H)	0.00	0.00	0.00	477930.50	777986.60	32° 18' 41.685 N	103° 34' 2.380 W
PBHL (BM15SC 6H)	8975.00	-4804.70	21.20	473125.80	778007.80	32° 17' 54.141 N	103° 34' 2.533 W

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	8442.07	0.00	0.00	8442.07	0.00	0.00	0.00	0.00	0.00	KOP 10° DLS
3	9347.49	90.54	179.75	9015.00	-578.37	2.55	10.00	179.75	578.38	EOC
4	13574.05	90.54	179.75	8975.00	-4804.70	21.20	0.00	0.00	4804.75	TD

FORMATION TOP DETAILS

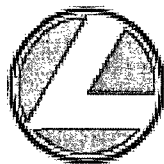
TVDPath	MDPath	Formation	DipAngle	DipDir
1305.00	1305.00	Rustler	0.00	
1554.00	1554.00	Top Salt	0.00	
5045.00	5045.00	Base Salt	0.00	
5225.00	5225.00	Delaware	0.00	
6275.00	6275.00	Cherry Canyon	0.00	
7770.00	7770.00	Brushy Canyon	0.00	
8915.00	8998.38	Lwr Brushy	0.00	



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

Plan: Plan #1 (6H/OH)
 Black Mamba 15 State Com
 Created By: Brady Deaver
 Date: 10/11, January 21 2015
 Approved: _____
 Date: _____

PER 05 2013



LEAM
Drilling Systems, Inc.

DEVON ENERGY

Lea County, NM (NAD-83)
Black Mamba 15 State Com
6H

OH

Plan: Plan #1

Standard Planning Report

21 January, 2015


devon

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 6H
Company:	DEVON ENERGY	TVD Reference:	3700' GL + 25' RKB @ 3725.00usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3700' GL + 25' RKB @ 3725.00usft
Site:	Black Mamba 15 State Com	North Reference:	Grid
Well:	6H	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	Black Mamba 15 State Com		
Site Position:		Northing:	477,647.32 usft
From:	Map	Easting:	780,402.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 18' 38.711 N
		Longitude:	103° 33' 34.257 W
		Grid Convergence:	0.41 °

Well	6H, Delaware		
Well Position	+N/-S	283.18 usft	Northing:
	+E/-W	-2,415.70 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	3,725.00 usft
		Latitude:	32° 18' 41.685 N
		Longitude:	103° 34' 2.380 W
		Ground Level:	3,700.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	BGGM2014	1/21/2015	7.32
			Dip Angle
			(°)
			60.17
			Field Strength
			(nT)
			48,260

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			179.75

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	
8,442.07	0.00	0.00	8,442.07	0.00	0.00	0.00	0.00	0.00	0.00	
9,347.49	90.54	179.75	9,015.00	-578.37	2.55	10.00	10.00	19.85	179.75	
13,574.05	90.54	179.75	8,975.00	-4,804.70	21.20	0.00	0.00	0.00	0.00	PBHL (BM15SC 6H)



LEAM Drilling Systems LLC

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 6H
Company:	DEVON ENERGY	TVD Reference:	3700' GL + 25' RKB @ 3725.00usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3700' GL + 25' RKB @ 3725.00usft
Site:	Black Mamba 15 State Com	North Reference:	Grid
Well:	6H	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
SHL (BM15SC 6H)									
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
1,305.00	0.00	0.00	1,305.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,554.00	0.00	0.00	1,554.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
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

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 6H
Company:	DEVON ENERGY	TVD Reference:	3700' GL + 25' RKB @ 3725.00usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3700' GL + 25' RKB @ 3725.00usft
Site:	Black Mamba 15 State Com	North Reference:	Grid
Well:	6H	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)
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
5,045.00	0.00	0.00	5,045.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
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
5,225.00	0.00	0.00	5,225.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
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
6,275.00	0.00	0.00	6,275.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
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
7,770.00	0.00	0.00	7,770.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
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
8,442.07	0.00	0.00	8,442.07	0.00	0.00	0.00	0.00	0.00	0.00
KOP 10° DLS									
8,450.00	0.79	179.75	8,450.00	-0.05	0.00	0.05	10.00	10.00	0.00
8,500.00	5.79	179.75	8,499.90	-2.93	0.01	2.93	10.00	10.00	0.00
8,550.00	10.79	179.75	8,549.36	-10.14	0.04	10.14	10.00	10.00	0.00
8,600.00	15.79	179.75	8,598.01	-21.63	0.10	21.63	10.00	10.00	0.00
8,650.00	20.79	179.75	8,645.47	-37.32	0.16	37.32	10.00	10.00	0.00
8,700.00	25.79	179.75	8,691.38	-57.08	0.25	57.08	10.00	10.00	0.00
8,750.00	30.79	179.75	8,735.39	-80.77	0.36	80.77	10.00	10.00	0.00

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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)
8,800.00	35.79	179.75	8,777.17	-108.21	0.48	108.21	10.00	10.00	0.00
8,850.00	40.79	179.75	8,816.40	-139.18	0.61	139.19	10.00	10.00	0.00
8,900.00	45.79	179.75	8,852.78	-173.46	0.77	173.46	10.00	10.00	0.00
8,950.00	50.79	179.75	8,886.04	-210.78	0.93	210.78	10.00	10.00	0.00
8,998.38	55.63	179.75	8,915.00	-249.51	1.10	249.51	10.00	10.00	0.00
Lwr Brushy									
9,000.00	55.79	179.75	8,915.91	-250.85	1.11	250.85	10.00	10.00	0.00
9,050.00	60.79	179.75	8,942.18	-293.37	1.29	293.37	10.00	10.00	0.00
9,100.00	65.79	179.75	8,964.65	-338.02	1.49	338.03	10.00	10.00	0.00
9,150.00	70.79	179.75	8,983.13	-384.46	1.70	384.46	10.00	10.00	0.00
9,200.00	75.79	179.75	8,997.50	-432.33	1.91	432.34	10.00	10.00	0.00
9,250.00	80.79	179.75	9,007.65	-481.28	2.12	481.28	10.00	10.00	0.00
9,300.00	85.79	179.75	9,013.48	-530.92	2.34	530.93	10.00	10.00	0.00
9,347.49	90.54	179.75	9,015.00	-578.37	2.55	578.38	10.00	10.00	0.00
EOC									
9,400.00	90.54	179.75	9,014.51	-630.88	2.78	630.89	0.00	0.00	0.00
9,500.00	90.54	179.75	9,013.56	-730.87	3.22	730.88	0.00	0.00	0.00
9,600.00	90.54	179.75	9,012.61	-830.87	3.67	830.88	0.00	0.00	0.00
9,700.00	90.54	179.75	9,011.67	-930.86	4.11	930.87	0.00	0.00	0.00
9,800.00	90.54	179.75	9,010.72	-1,030.86	4.55	1,030.87	0.00	0.00	0.00
9,900.00	90.54	179.75	9,009.77	-1,130.85	4.99	1,130.86	0.00	0.00	0.00
10,000.00	90.54	179.75	9,008.83	-1,230.85	5.43	1,230.86	0.00	0.00	0.00
10,100.00	90.54	179.75	9,007.88	-1,330.84	5.87	1,330.85	0.00	0.00	0.00
10,200.00	90.54	179.75	9,006.93	-1,430.84	6.31	1,430.85	0.00	0.00	0.00
10,300.00	90.54	179.75	9,005.99	-1,530.83	6.75	1,530.85	0.00	0.00	0.00
10,400.00	90.54	179.75	9,005.04	-1,630.82	7.20	1,630.84	0.00	0.00	0.00
10,500.00	90.54	179.75	9,004.09	-1,730.82	7.64	1,730.84	0.00	0.00	0.00
10,600.00	90.54	179.75	9,003.15	-1,830.81	8.08	1,830.83	0.00	0.00	0.00
10,700.00	90.54	179.75	9,002.20	-1,930.81	8.52	1,930.83	0.00	0.00	0.00
10,800.00	90.54	179.75	9,001.26	-2,030.80	8.96	2,030.82	0.00	0.00	0.00
10,900.00	90.54	179.75	9,000.31	-2,130.80	9.40	2,130.82	0.00	0.00	0.00
11,000.00	90.54	179.75	8,999.36	-2,230.79	9.84	2,230.81	0.00	0.00	0.00
11,100.00	90.54	179.75	8,998.42	-2,330.79	10.28	2,330.81	0.00	0.00	0.00
11,200.00	90.54	179.75	8,997.47	-2,430.78	10.73	2,430.80	0.00	0.00	0.00
11,300.00	90.54	179.75	8,996.52	-2,530.78	11.17	2,530.80	0.00	0.00	0.00
11,400.00	90.54	179.75	8,995.58	-2,630.77	11.61	2,630.80	0.00	0.00	0.00
11,500.00	90.54	179.75	8,994.63	-2,730.76	12.05	2,730.79	0.00	0.00	0.00
11,600.00	90.54	179.75	8,993.68	-2,830.76	12.49	2,830.79	0.00	0.00	0.00
11,700.00	90.54	179.75	8,992.74	-2,930.75	12.93	2,930.78	0.00	0.00	0.00
11,800.00	90.54	179.75	8,991.79	-3,030.75	13.37	3,030.78	0.00	0.00	0.00
11,900.00	90.54	179.75	8,990.84	-3,130.74	13.81	3,130.77	0.00	0.00	0.00
12,000.00	90.54	179.75	8,989.90	-3,230.74	14.26	3,230.77	0.00	0.00	0.00
12,100.00	90.54	179.75	8,988.95	-3,330.73	14.70	3,330.76	0.00	0.00	0.00
12,200.00	90.54	179.75	8,988.00	-3,430.73	15.14	3,430.76	0.00	0.00	0.00
12,300.00	90.54	179.75	8,987.06	-3,530.72	15.58	3,530.76	0.00	0.00	0.00
12,400.00	90.54	179.75	8,986.11	-3,630.72	16.02	3,630.75	0.00	0.00	0.00
12,500.00	90.54	179.75	8,985.17	-3,730.71	16.46	3,730.75	0.00	0.00	0.00
12,600.00	90.54	179.75	8,984.22	-3,830.70	16.90	3,830.74	0.00	0.00	0.00
12,700.00	90.54	179.75	8,983.27	-3,930.70	17.34	3,930.74	0.00	0.00	0.00
12,800.00	90.54	179.75	8,982.33	-4,030.69	17.78	4,030.73	0.00	0.00	0.00
12,900.00	90.54	179.75	8,981.38	-4,130.69	18.23	4,130.73	0.00	0.00	0.00
13,000.00	90.54	179.75	8,980.43	-4,230.68	18.67	4,230.72	0.00	0.00	0.00
13,100.00	90.54	179.75	8,979.49	-4,330.68	19.11	4,330.72	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 6H
Company:	DEVON ENERGY	TVD Reference:	3700' GL + 25' RKB @ 3725.00usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3700' GL + 25' RKB @ 3725.00usft
Site:	Black Mamba 15 State Com	North Reference:	Grid
Well:	6H	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)
13,200.00	90.54	179.75	8,978.54	-4,430.67	19.55	4,430.72	0.00	0.00	0.00
13,300.00	90.54	179.75	8,977.59	-4,530.67	19.99	4,530.71	0.00	0.00	0.00
13,400.00	90.54	179.75	8,976.65	-4,630.66	20.43	4,630.71	0.00	0.00	0.00
13,500.00	90.54	179.75	8,975.70	-4,730.66	20.87	4,730.70	0.00	0.00	0.00
13,574.05	90.54	179.75	8,975.00	-4,804.70	21.20	4,804.75	0.00	0.00	0.00
TD - PBHL (BM15SC 6H)									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (BM15SC 6H) - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	477,930.50	777,986.60	32° 18' 41.685 N	103° 34' 2.380 W
PBHL (BM15SC 6H) - plan hits target center - Point	0.00	0.00	8,975.00	-4,804.70	21.20	473,125.80	778,007.80	32° 17' 54.141 N	103° 34' 2.533 W

Formations

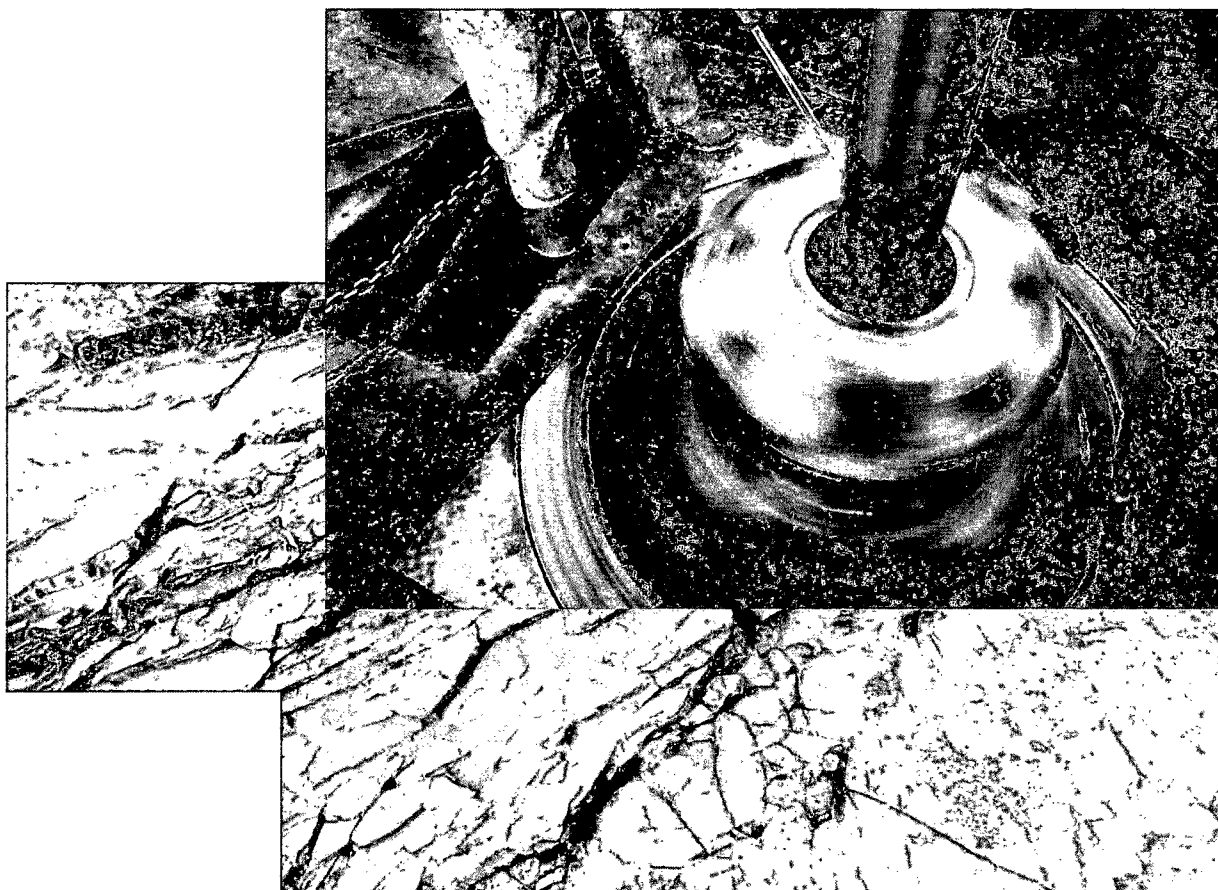
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,305.00	1,305.00	Rustler		0.00	
1,554.00	1,554.00	Top Salt		0.00	
5,045.00	5,045.00	Base Salt		0.00	
5,225.00	5,225.00	Delaware		0.00	
6,275.00	6,275.00	Cherry Canyon		0.00	
7,770.00	7,770.00	Brushy Canyon		0.00	
8,998.38	8,915.00	Lwr Brushy		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,442.07	8,442.07	0.00	0.00	KOP 10° DLS
9,347.49	9,015.00	-578.37	2.55	EOC
13,574.05	8,975.00	-4,804.70	21.20	TD



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.

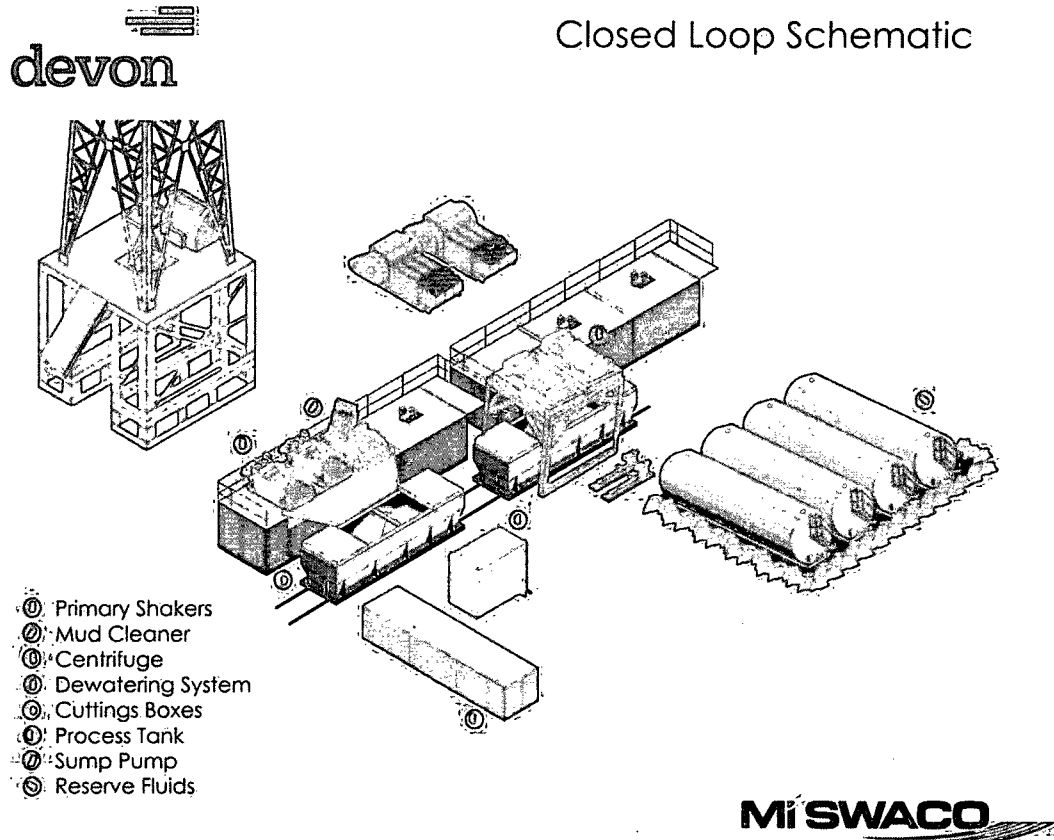
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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

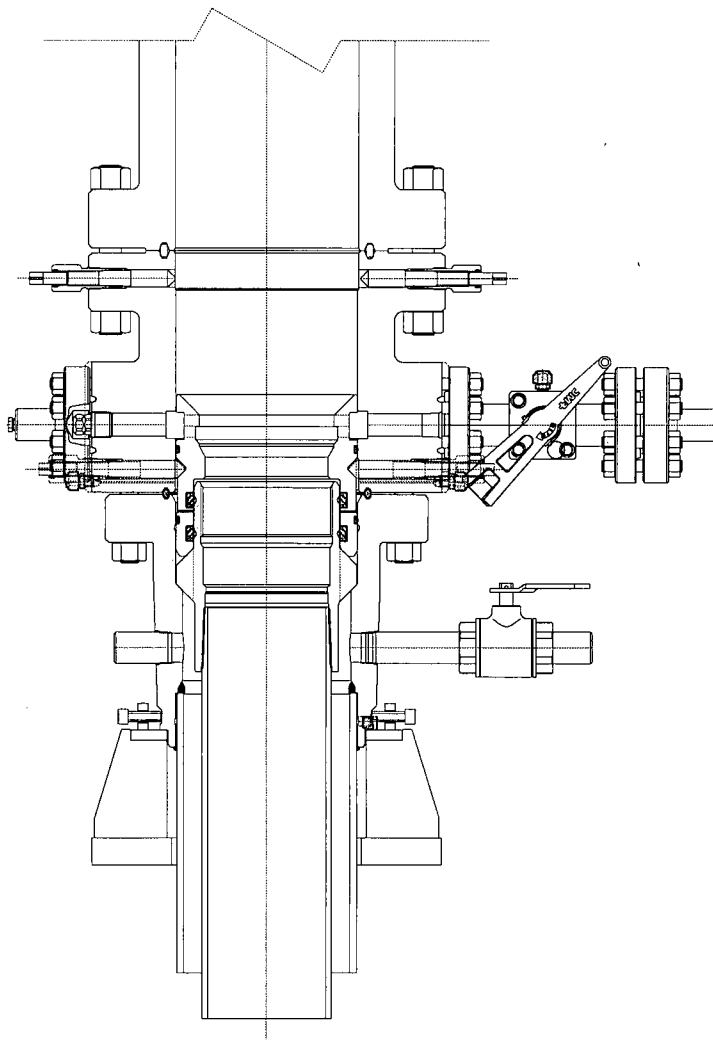
dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

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.



PRIMARY MODE

DEVON ENERGY

ARTESIA

S.E.N.M

13 3/8 X 9 5/8

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315

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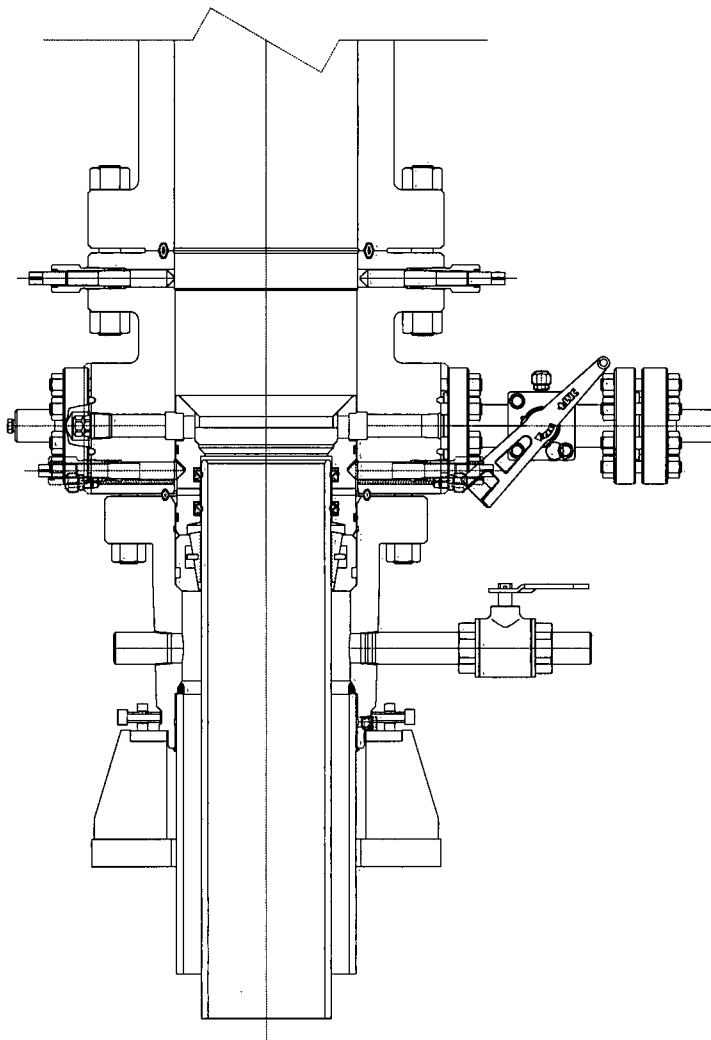
REVISIONS	DESCRIPTION
A 05-08-13	
B 1-22-14	
C 5-13-14	

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

FMCTechnologies

DRAWING NUMBER
DM100161771-2A



CONTINGENCY MODE

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

QUOTE LAYOUT
F18648
REF: DM100161737
DM100151315

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					K. TAHA	05-08-13
					APPROVED BY	
					R. HAMILTON	05-08-13
						DRAWING NUMBER
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