

5D Plan Report**Devon Energy****Field Name:** *Lea Co, NM Nad 83 NMEZ***Site Name:** *Black Mamba 15 State Com 7H,8H,9H Pad***Well Name:** *Black Mamba 15 State Com 7H***Plan:** *P1:V2*

03 June 2015



Black Mamba 15 State Com 7H



Map Units : US ft

Company Name : Devon Energy

Vertical Reference Datum (VRD) : Mean Sea Level

Projected Coordinate System : NAD83 / New Mexico East (ftUS)

Comment :



Units : US ft

North Reference : Grid

Convergence Angle : 0.42

Position

Northing : 478570.71 US ft

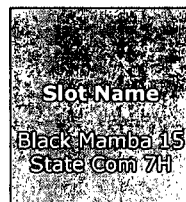
Latitude : 32° 18' 47.73"

Easting : 782005.33 US ft

Longitude : -103° 33' 15.50"

Elevation above Mean Sea Level: 3653.00 US ft

Comment :



Position (Offsets relative to Site Centre)

+N / -S : 0.00 US ft

Northing : 478570.71 US ft

Latitude : 32°18'47.73"

+E / -W : 0.00 US ft

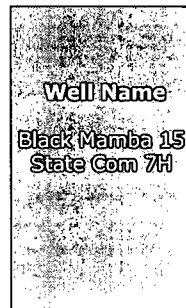
Easting : 782005.33 US ft

Longitude : -103°33'15.50"

Slot TVD Reference : Ground Elevation

Elevation above Mean Sea Level : 3653.00 US ft

Comment :



Type : Main well

UWI :

Plan : P1:V2

Rig Height *Kelly Bushing* : 27.00 US ft

Comment :

Relative to Mean Sea Level: 3680.00 US ft

Closure Distance : 5427.69 US ft

Closure Azimuth : 182.879°

Vertical Section (Position of Origin Relative to Slot)

+N / -S : 0.00 US ft

+E / -W : 0.00 US ft

Az : 182.88°

Magnetic Parameters

Model : BGGM

Field Strength : 48267.8nT

Dec : 7.22°

Dip : 60.23°

Date : 15/Oct/2015

Target Set

Name : Black Mamba 15

Number of Targets : 1

State Com 7H

Comment :

Target Names	Position (Relative to Slot centre)		
PBHL 7H	+N / -S : -5420.84US ft	Northing : 473149.87 US ft	Latitude : 32°17'54.11"
	+E / -W : -272.58 US ft	Easting : 781732.75US ft	Longitude : -103°33'19.13"
Shapes	TVD (Kelly Bushing) : 11010.00 US ft		
Cuboid	Orientation Azimuth : 0.00°	Inclination : 0.00°	
	Dimensions Length : 20.00 US ft	Breadth : 20.00 US ft	Height : 20.00 US ft

Casing Points (Relative to Slot centre, TVD relative to Kelly Bushing)								
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (US ft)	Easting (US ft)	Name
5200.00	0.00	0.00	5200.00	0.00	0.00	478570.71	782005.33	9 5/8 in

5D Plan Report

Well path created using minimum curvature

Salient Points (Relative to Slot centre, TVD relative to Kelly Bushing)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	B. Rate (°/100 US ft)	T. Rate (°/100 US ft)	T. Face (°)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	9 5/8 in
5300.00	0.00	0.00	5300.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	Nudge
5550.00	5.00	270.00	5549.68	0.00	-10.90	0.55	2.00	2.00	0.00	270.00	Hold
9230.00	5.00	270.00	9215.68	0.00	-331.63	16.66	0.00	0.00	0.00	0.00	Drop
9480.00	0.00	0.00	9465.36	0.00	-342.54	17.21	2.00	-2.00	0.00	180.00	Hold
10466.68	0.00	0.00	10452.04	0.00	-342.54	17.21	0.00	0.00	0.00	0.00	KOP
11368.45	90.18	179.26	11025.00	-574.68	-335.12	590.79	10.00	10.00	0.00	179.26	LP
16215.03	90.18	179.26	11010.00	-5420.84	-272.58	5427.69	0.00	0.00	0.00	0.00	PBHL 7H

Interpolated Points (Relative to Slot centre, TVD relative to Kelly Bushing)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)		Comment
5200.00	0.00	0.00	5200.00	0.00	0.00	-0.00	0.00	478570.71	782005.33		9 5/8 in
5300.00	0.00	0.00	5300.00	0.00	0.00	-0.00	0.00	478570.71	782005.33		Nudge
5400.00	2.00	270.00	5399.98	0.00	-1.75	0.09	2.00	478570.71	782003.58		
5500.00	4.00	270.00	5499.84	0.00	-6.98	0.35	2.00	478570.71	781998.35		
5550.00	5.00	270.00	5549.68	0.00	-10.90	0.55	2.00	478570.71	781994.43		Hold
5600.00	5.00	270.00	5599.49	0.00	-15.26	0.77	0.00	478570.71	781990.07		
5700.00	5.00	270.00	5699.11	0.00	-23.97	1.20	0.00	478570.71	781981.36		
5800.00	5.00	270.00	5798.73	0.00	-32.69	1.64	0.00	478570.71	781972.64		
5900.00	5.00	270.00	5898.35	0.00	-41.41	2.08	0.00	478570.71	781963.92		
6000.00	5.00	270.00	5997.97	0.00	-50.12	2.52	0.00	478570.71	781955.21		
6100.00	5.00	270.00	6097.59	0.00	-58.84	2.96	0.00	478570.71	781946.49		
6200.00	5.00	270.00	6197.21	0.00	-67.55	3.39	0.00	478570.71	781937.78		
6300.00	5.00	270.00	6296.83	0.00	-76.27	3.83	0.00	478570.71	781929.06		
6400.00	5.00	270.00	6396.45	0.00	-84.98	4.27	0.00	478570.71	781920.35		
6500.00	5.00	270.00	6496.07	0.00	-93.70	4.71	0.00	478570.71	781911.63		
6600.00	5.00	270.00	6595.69	0.00	-102.41	5.15	0.00	478570.71	781902.92		
6700.00	5.00	270.00	6695.31	0.00	-111.13	5.58	0.00	478570.71	781894.20		
6800.00	5.00	270.00	6794.93	0.00	-119.85	6.02	0.00	478570.71	781885.48		
6900.00	5.00	270.00	6894.55	0.00	-128.56	6.46	0.00	478570.71	781876.77		
7000.00	5.00	270.00	6994.17	0.00	-137.28	6.90	0.00	478570.71	781868.05		
7100.00	5.00	270.00	7093.78	0.00	-145.99	7.34	0.00	478570.71	781859.34		
7200.00	5.00	270.00	7193.40	0.00	-154.71	7.77	0.00	478570.71	781850.62		
7300.00	5.00	270.00	7293.02	0.00	-163.42	8.21	0.00	478570.71	781841.91		
7400.00	5.00	270.00	7392.64	0.00	-172.14	8.65	0.00	478570.71	781833.19		
7500.00	5.00	270.00	7492.26	0.00	-180.86	9.09	0.00	478570.71	781824.47		
7600.00	5.00	270.00	7591.88	0.00	-189.57	9.52	0.00	478570.71	781815.76		
7700.00	5.00	270.00	7691.50	0.00	-198.29	9.96	0.00	478570.71	781807.04		
7800.00	5.00	270.00	7791.12	0.00	-207.00	10.40	0.00	478570.71	781798.33		
7900.00	5.00	270.00	7890.74	0.00	-215.72	10.84	0.00	478570.71	781789.61		
8000.00	5.00	270.00	7990.36	0.00	-224.43	11.28	0.00	478570.71	781780.90		
8100.00	5.00	270.00	8089.98	0.00	-233.15	11.71	0.00	478570.71	781772.18		
8200.00	5.00	270.00	8189.60	0.00	-241.86	12.15	0.00	478570.71	781763.47		
8300.00	5.00	270.00	8289.22	0.00	-250.58	12.59	0.00	478570.71	781754.75		
8400.00	5.00	270.00	8388.84	0.00	-259.30	13.03	0.00	478570.71	781746.03		
8500.00	5.00	270.00	8488.46	0.00	-268.01	13.47	0.00	478570.71	781737.32		
8600.00	5.00	270.00	8588.08	0.00	-276.73	13.90	0.00	478570.71	781728.60		
8700.00	5.00	270.00	8687.70	0.00	-285.44	14.34	0.00	478570.71	781719.89		
8800.00	5.00	270.00	8787.32	0.00	-294.16	14.78	0.00	478570.71	781711.17		
8900.00	5.00	270.00	8886.94	0.00	-302.87	15.22	0.00	478570.71	781702.46		
9000.00	5.00	270.00	8986.55	0.00	-311.59	15.66	0.00	478570.71	781693.74		
9100.00	5.00	270.00	9086.17	0.00	-320.30	16.09	0.00	478570.71	781685.03		
9200.00	5.00	270.00	9185.79	0.00	-329.02	16.53	0.00	478570.71	781676.31		
9230.00	5.00	270.00	9215.68	0.00	-331.63	16.66	0.00	478570.71	781673.70		Drop
9300.00	3.60	270.00	9285.48	0.00	-336.88	16.93	2.00	478570.71	781668.45		

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
9400.00	1.60	270.00	9385.37	0.00	-341.42	17.15	2.00	478570.71	781663.91	
9480.00	0.00	0.00	9465.36	0.00	-342.54	17.21	2.00	478570.71	781662.79	Hold
9500.00	0.00	0.00	9485.36	0.00	-342.54	17.21	0.00	478570.71	781662.79	
9600.00	0.00	0.00	9585.36	0.00	-342.54	17.21	0.00	478570.71	781662.79	
9700.00	0.00	0.00	9685.36	0.00	-342.54	17.21	0.00	478570.71	781662.79	
9800.00	0.00	0.00	9785.36	0.00	-342.54	17.21	0.00	478570.71	781662.79	
9900.00	0.00	0.00	9885.36	0.00	-342.54	17.21	0.00	478570.71	781662.79	
10000.00	0.00	0.00	9985.36	0.00	-342.54	17.21	0.00	478570.71	781662.79	
10100.00	0.00	0.00	10085.36	0.00	-342.54	17.21	0.00	478570.71	781662.79	
10200.00	0.00	0.00	10185.36	0.00	-342.54	17.21	0.00	478570.71	781662.79	
10300.00	0.00	0.00	10285.36	0.00	-342.54	17.21	0.00	478570.71	781662.79	
10400.00	0.00	0.00	10385.36	0.00	-342.54	17.21	0.00	478570.71	781662.79	
10466.68	0.00	0.00	10452.04	0.00	-342.54	17.21	0.00	478570.71	781662.79	KOP
10500.00	3.33	179.26	10485.34	-0.97	-342.52	18.18	10.00	478569.74	781662.81	
10600.00	13.33	179.26	10584.16	-15.44	-342.34	32.62	10.00	478555.27	781662.99	
10700.00	23.33	179.26	10678.97	-46.85	-341.93	63.97	10.00	478523.86	781663.40	
10800.00	33.33	179.26	10766.88	-94.24	-341.32	111.27	10.00	478476.47	781664.01	
10900.00	43.33	179.26	10845.22	-156.18	-340.52	173.09	10.00	478414.53	781664.81	
11000.00	53.33	179.26	10911.62	-230.78	-339.56	247.55	10.00	478339.93	781665.77	
11100.00	63.33	179.26	10964.05	-315.78	-338.46	332.39	10.00	478254.93	781666.87	
11200.00	73.33	179.26	11000.92	-408.59	-337.26	425.02	10.00	478162.12	781668.07	
11300.00	83.33	179.26	11021.12	-506.39	-336.00	522.63	10.00	478064.32	781669.33	
11368.45	90.18	179.26	11025.00	-574.68	-335.12	590.79	10.00	477996.03	781670.21	LP
11400.00	90.18	179.26	11024.90	-606.23	-334.71	622.28	0.00	477964.48	781670.62	
11500.00	90.18	179.26	11024.59	-706.22	-333.42	722.08	0.00	477864.49	781671.91	
11600.00	90.18	179.26	11024.28	-806.21	-332.13	821.88	0.00	477764.50	781673.20	
11700.00	90.18	179.26	11023.97	-906.20	-330.84	921.68	0.00	477664.51	781674.49	
11800.00	90.18	179.26	11023.66	-1006.19	-329.55	1021.48	0.00	477564.52	781675.78	
11900.00	90.18	179.26	11023.35	-1106.19	-328.26	1121.28	0.00	477464.52	781677.07	
12000.00	90.18	179.26	11023.04	-1206.18	-326.97	1221.08	0.00	477364.53	781678.36	
12100.00	90.18	179.26	11022.73	-1306.17	-325.68	1320.88	0.00	477264.54	781679.65	
12200.00	90.18	179.26	11022.42	-1406.16	-324.39	1420.68	0.00	477164.55	781680.94	
12300.00	90.18	179.26	11022.11	-1506.15	-323.10	1520.48	0.00	477064.56	781682.23	
12400.00	90.18	179.26	11021.80	-1606.14	-321.81	1620.28	0.00	476964.57	781683.52	
12500.00	90.18	179.26	11021.49	-1706.13	-320.52	1720.08	0.00	476864.58	781684.81	
12600.00	90.18	179.26	11021.18	-1806.12	-319.23	1819.88	0.00	476764.59	781686.10	
12700.00	90.18	179.26	11020.88	-1906.11	-317.94	1919.68	0.00	476664.60	781687.39	
12800.00	90.18	179.26	11020.57	-2006.11	-316.65	2019.48	0.00	476564.60	781688.68	
12900.00	90.18	179.26	11020.26	-2106.10	-315.36	2119.28	0.00	476464.61	781689.97	
13000.00	90.18	179.26	11019.95	-2206.09	-314.07	2219.08	0.00	476364.62	781691.26	
13100.00	90.18	179.26	11019.64	-2306.08	-312.78	2318.88	0.00	476264.63	781692.55	
13200.00	90.18	179.26	11019.33	-2406.07	-311.49	2418.68	0.00	476164.64	781693.84	
13300.00	90.18	179.26	11019.02	-2506.06	-310.20	2518.48	0.00	476064.65	781695.13	
13400.00	90.18	179.26	11018.71	-2606.05	-308.90	2618.28	0.00	475964.66	781696.43	
13500.00	90.18	179.26	11018.40	-2706.04	-307.61	2718.08	0.00	475864.67	781697.72	
13600.00	90.18	179.26	11018.09	-2806.04	-306.32	2817.88	0.00	475764.67	781699.01	
13700.00	90.18	179.26	11017.78	-2906.03	-305.03	2917.68	0.00	475664.68	781700.30	
13800.00	90.18	179.26	11017.47	-3006.02	-303.74	3017.48	0.00	475564.69	781701.59	
13900.00	90.18	179.26	11017.16	-3106.01	-302.45	3117.28	0.00	475464.70	781702.88	
14000.00	90.18	179.26	11016.85	-3206.00	-301.16	3217.08	0.00	475364.71	781704.17	
14100.00	90.18	179.26	11016.54	-3305.99	-299.87	3316.88	0.00	475264.72	781705.46	
14200.00	90.18	179.26	11016.23	-3405.98	-298.58	3416.68	0.00	475164.73	781706.75	
14300.00	90.18	179.26	11015.93	-3505.97	-297.29	3516.48	0.00	475064.74	781708.04	
14400.00	90.18	179.26	11015.62	-3605.97	-296.00	3616.28	0.00	474964.74	781709.33	
14500.00	90.18	179.26	11015.31	-3705.96	-294.71	3716.08	0.00	474864.75	781710.62	
14600.00	90.18	179.26	11015.00	-3805.95	-293.42	3815.88	0.00	474764.76	781711.91	
14700.00	90.18	179.26	11014.69	-3905.94	-292.13	3915.68	0.00	474664.77	781713.20	
14800.00	90.18	179.26	11014.38	-4005.93	-290.84	4015.48	0.00	474564.78	781714.49	
14900.00	90.18	179.26	11014.07	-4105.92	-289.55	4115.28	0.00	474464.79	781715.78	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
15000.00	90.18	179.26	11013.76	-4205.91	-288.26	4215.08	0.00	474364.80	781717.07	
15100.00	90.18	179.26	11013.45	-4305.90	-286.97	4314.88	0.00	474264.81	781718.36	
15200.00	90.18	179.26	11013.14	-4405.89	-285.68	4414.68	0.00	474164.82	781719.65	
15300.00	90.18	179.26	11012.83	-4505.89	-284.39	4514.48	0.00	474064.82	781720.94	
15400.00	90.18	179.26	11012.52	-4605.88	-283.10	4614.28	0.00	473964.83	781722.23	
15500.00	90.18	179.26	11012.21	-4705.87	-281.81	4714.08	0.00	473864.84	781723.52	
15600.00	90.18	179.26	11011.90	-4805.86	-280.52	4813.88	0.00	473764.85	781724.81	
15700.00	90.18	179.26	11011.59	-4905.85	-279.23	4913.68	0.00	473664.86	781726.10	
15800.00	90.18	179.26	11011.28	-5005.84	-277.94	5013.48	0.00	473564.87	781727.39	
15900.00	90.18	179.26	11010.97	-5105.83	-276.65	5113.28	0.00	473464.88	781728.68	
16000.00	90.18	179.26	11010.67	-5205.82	-275.35	5213.08	0.00	473364.89	781729.98	
16100.00	90.18	179.26	11010.36	-5305.82	-274.06	5312.88	0.00	473264.89	781731.27	
16200.00	90.18	179.26	11010.05	-5405.81	-272.77	5412.68	0.00	473164.90	781732.56	
16215.03	90.18	179.26	11010.00	-5420.84	-272.58	5427.69	0.00	473149.87	781732.75	PBHL 7H