

5D Survey 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*
Survey: *Definitive survey*

20 August 2015



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Black Mamba 15 State Com 7H

Field Name:	Map Units: US ft		Company Name: Devon Energy	
Lea Co, NM Nad 83 NMEZ	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)			
	Comment:			

Site:	Units: US ft	North Reference: Grid	Convergence Angle: 0.42
	Position:	Northing: 478570.71US ft	Latitude: 32° 18' 47.73"
		Easting: 782005.33US ft	Longitude: -103° 33' 15.50"
Black Mamba 15 State Com 7H,8H,9H Pad	Elevation above MSL: 3653.00 US ft		
	Comment:		

Slot:	Position (Relative to Site Centre)		
	+N/-S: 0.00US ft	Northing: 478570.71US ft	Latitude: 32°18'47.73"
	+E/-W: 0.00US ft	Easting: 782005.33US ft	Longitude: -103°33'15.50"
	Elevation above MSL: 3653.00US ft		
Black Mamba 15 State Com 7H	Comment:		

Well:	Type: Main well		UWI:
	File Number:	Comment:	
	Closure Distance: 5398.74US ft	Closure Azimuth: 182.92°	
	Vertical Section: Position of Origin (Relative to Slot centre)		
	+N/-S: 0.00US ft	+E/-W: 0.00US ft	Az: 182.88°
Black Mamba 15 State Com 7H			

Drill floor: Survey Name: Definitive Survey			
Rig Height (Well TVD Reference): 27.00us ft	Elevation above MSL: 3680.00us ft	Inclination: 0.00°	Azimuth: 0.00°

Survey Name: Definitive Survey			
Date: 03/Jun/2015	Survey Tool: See Survey Tool Ranges below.	Comment:	Company:

Magnetic Model:			
Model Name: BGGM	Date: 15/Aug/2015	Field Strength: 48285.2nT	Declination: 7.24° Dip: 60.23°

Tie Point:					
MD: 0.00 US ft	Inclination: 0.00°	Azimuth: 0.00°	TVD: 0.00 US ft	North Offset: 0.00 US ft	East Offset: 0.00 US ft

Survey Tool Ranges:			
Name	Start MD(USFt)	End MD(USFt)	Source Survey
MWD	0.00	4977.00	Rig MWD Svy
MWD	4977.00	16402.00	Wft MWD Svy

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Casing Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)								
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Name
5107.00	0.97	46.49	5106.05	42.80	44.95	478613.51	782050.28	9 5/8 in

Wellpath created using minimum curvature.

Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	Northing (US ft)	Easting (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	478570.71	782005.33	
180.00	0.30	1.50	180.00	0.47	0.01	-0.47	0.17	478571.18	782005.34	
273.00	0.31	5.99	273.00	0.96	0.04	-0.97	0.03	478571.67	782005.37	
335.00	0.31	35.80	335.00	1.27	0.16	-1.27	0.26	478571.98	782005.49	
398.00	0.49	26.59	398.00	1.65	0.38	-1.66	0.30	478572.36	782005.71	
461.00	0.40	34.21	460.99	2.07	0.63	-2.10	0.17	478572.78	782005.96	
525.00	0.62	27.91	524.99	2.56	0.91	-2.60	0.35	478573.27	782006.24	
587.00	0.62	34.30	586.99	3.13	1.26	-3.19	0.11	478573.84	782006.59	
649.00	0.49	15.00	648.98	3.67	1.52	-3.74	0.36	478574.38	782006.85	
710.00	0.62	35.62	709.98	4.19	1.78	-4.27	0.39	478574.90	782007.11	
774.00	0.49	15.31	773.98	4.73	2.05	-4.83	0.37	478575.44	782007.38	
867.00	0.31	59.81	866.98	5.24	2.37	-5.36	0.37	478575.95	782007.70	
958.00	0.62	10.81	957.97	5.85	2.68	-5.98	0.53	478576.56	782008.01	
1051.00	0.49	14.82	1050.97	6.73	2.87	-6.86	0.15	478577.44	782008.20	
1145.00	0.49	12.62	1144.97	7.51	3.06	-7.65	0.02	478578.22	782008.39	
1243.00	0.62	12.79	1242.96	8.44	3.27	-8.59	0.13	478579.15	782008.60	
1341.00	0.62	22.49	1340.96	9.44	3.59	-9.61	0.11	478580.15	782008.92	
1396.00	0.71	33.11	1395.95	10.00	3.89	-10.19	0.28	478580.71	782009.22	
1554.00	0.09	299.78	1553.95	10.88	4.32	-11.09	0.46	478581.59	782009.65	
1649.00	0.22	148.39	1648.95	10.77	4.35	-10.97	0.32	478581.48	782009.68	
1744.00	0.09	1.61	1743.95	10.69	4.45	-10.90	0.32	478581.40	782009.78	
1937.00	0.09	5.48	1936.95	10.99	4.47	-11.20	0.00	478581.70	782009.80	
2124.00	0.09	173.48	2123.95	10.99	4.50	-11.20	0.10	478581.70	782009.83	
2312.00	0.22	52.42	2311.95	11.06	4.80	-11.29	0.15	478581.77	782010.13	
2504.00	0.40	333.88	2503.94	11.89	4.80	-12.11	0.22	478582.60	782010.13	
2693.00	0.79	20.29	2692.93	13.70	4.96	-13.93	0.31	478584.41	782010.29	
2883.00	0.44	18.18	2882.92	15.62	5.64	-15.89	0.18	478586.33	782010.97	
3074.00	0.22	33.30	3073.92	16.63	6.07	-16.91	0.12	478587.34	782011.40	
3263.00	0.70	46.70	3262.91	17.72	7.11	-18.06	0.26	478588.43	782012.44	
3453.00	1.19	35.58	3452.89	20.12	9.10	-20.56	0.27	478590.83	782014.43	
3643.00	2.20	31.01	3642.80	24.85	12.13	-25.43	0.54	478595.56	782017.46	
3832.00	1.89	12.60	3831.68	31.00	14.68	-31.70	0.38	478601.71	782020.01	
3928.00	1.19	345.62	3927.65	33.52	14.78	-34.22	1.03	478604.23	782020.11	
4118.00	0.40	50.07	4117.63	35.85	14.80	-36.55	0.57	478606.56	782020.13	
4213.00	1.41	85.81	4212.62	36.15	16.22	-36.92	1.17	478606.86	782021.55	
4309.00	1.32	68.02	4308.59	36.65	18.42	-37.53	0.45	478607.36	782023.75	
4405.00	1.01	64.02	4404.57	37.43	20.21	-38.40	0.33	478608.14	782025.54	
4499.00	1.30	89.02	4498.55	37.82	22.02	-38.87	0.61	478608.53	782027.35	
4594.00	1.80	89.20	4593.52	37.86	24.59	-39.04	0.53	478608.57	782029.92	
4688.00	2.59	76.98	4687.45	38.35	28.13	-39.72	0.97	478609.06	782033.46	
4783.00	2.99	77.29	4782.34	39.38	32.64	-40.97	0.42	478610.09	782037.97	
4878.00	3.30	78.60	4877.19	40.47	37.74	-42.31	0.33	478611.18	782043.07	
4977.00	2.02	79.00	4976.09	41.36	42.24	-43.44	1.29	478612.07	782047.57	
5013.00	1.49	63.18	5012.07	41.70	43.28	-43.82	1.98	478612.41	782048.61	Tie On Rig
5107.00	0.97	46.49	5106.05	42.80	44.95	-45.00	0.67	478613.51	782050.28	9 5/8 in
5179.00	0.70	18.57	5178.04	43.63	45.53	-45.86	0.67	478614.34	782050.86	First Wft Svy
5210.00	0.56	344.21	5209.04	43.96	45.55	-46.19	1.28	478614.67	782050.88	
5242.00	0.66	318.49	5241.04	44.25	45.39	-46.47	0.90	478614.96	782050.72	
5273.00	1.05	299.20	5272.03	44.52	45.02	-46.72	1.55	478615.23	782050.35	
5305.00	1.55	291.00	5304.02	44.82	44.36	-46.99	1.66	478615.53	782049.69	
5337.00	1.90	285.79	5336.01	45.12	43.45	-47.24	1.20	478615.83	782048.78	
5368.00	1.99	288.12	5366.99	45.42	42.44	-47.50	0.39	478616.13	782047.77	

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Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	Northing (US ft)	Easting (US ft)	Comment
5400.00	2.23	284.97	5398.97	45.76	41.31	-47.77	0.83	478616.47	782046.64	
5432.00	2.61	282.78	5430.94	46.08	40.00	-48.03	1.22	478616.79	782045.33	
5463.00	3.04	279.34	5461.90	46.37	38.50	-48.24	1.49	478617.08	782043.83	
5495.00	3.43	279.57	5493.85	46.67	36.72	-48.45	1.22	478617.38	782042.05	
5527.00	3.88	277.49	5525.79	46.97	34.70	-48.65	1.47	478617.68	782040.03	
5558.00	4.42	277.16	5556.71	47.25	32.48	-48.82	1.74	478617.96	782037.81	
5590.00	5.14	274.93	5588.59	47.53	29.82	-48.97	2.32	478618.24	782035.15	
5622.00	5.39	272.88	5620.46	47.73	26.89	-49.02	0.98	478618.44	782032.22	
5653.00	5.34	269.20	5651.32	47.78	24.00	-48.92	1.12	478618.49	782029.33	
5685.00	5.41	267.04	5683.18	47.68	21.00	-48.68	0.67	478618.39	782026.33	
5717.00	5.90	264.64	5715.03	47.45	17.86	-48.29	1.70	478618.16	782023.19	
5748.00	6.36	260.75	5745.85	47.02	14.58	-47.70	2.00	478617.73	782019.91	
5780.00	6.53	259.98	5777.65	46.42	11.04	-46.92	0.60	478617.13	782016.37	
5812.00	6.51	259.11	5809.44	45.76	7.46	-46.08	0.31	478616.47	782012.79	
5843.00	6.50	260.00	5840.24	45.13	4.01	-45.27	0.33	478615.84	782009.34	
5907.00	6.54	260.02	5903.83	43.87	-3.15	-43.65	0.06	478614.58	782002.18	
5970.00	6.56	260.79	5966.42	42.67	-10.23	-42.10	0.14	478613.38	781995.10	
6002.00	6.33	259.91	5998.21	42.07	-13.77	-41.32	0.78	478612.78	781991.56	
6065.00	6.10	259.50	6060.84	40.85	-20.49	-39.77	0.37	478611.56	781984.84	
6097.00	5.99	259.03	6092.67	40.22	-23.80	-38.97	0.38	478610.93	781981.53	
6192.00	5.98	260.47	6187.15	38.46	-33.54	-36.72	0.16	478609.17	781971.79	
6286.00	5.86	260.44	6280.65	36.85	-43.10	-34.64	0.13	478607.56	781962.23	
6381.00	5.86	261.40	6375.15	35.32	-52.68	-32.63	0.10	478606.03	781952.65	
6476.00	5.73	262.04	6469.66	33.94	-62.17	-30.77	0.15	478604.65	781943.16	
6571.00	5.68	262.01	6564.19	32.63	-71.53	-28.99	0.05	478603.34	781933.80	
6666.00	5.99	263.02	6658.70	31.37	-81.10	-27.26	0.34	478602.08	781924.23	
6760.00	6.00	263.43	6752.19	30.21	-90.85	-25.61	0.05	478600.92	781914.48	
6855.00	5.92	262.45	6846.67	29.00	-100.64	-23.91	0.14	478599.71	781904.69	
6950.00	5.82	263.95	6941.18	27.85	-110.29	-22.27	0.19	478598.56	781895.04	
7045.00	5.90	263.53	7035.68	26.79	-119.93	-20.73	0.10	478597.50	781885.40	
7140.00	5.59	259.60	7130.20	25.41	-129.33	-18.88	0.53	478596.12	781876.00	
7235.00	5.55	259.86	7224.75	23.76	-138.40	-16.78	0.05	478594.47	781866.93	
7330.00	5.58	261.09	7319.31	22.24	-147.49	-14.80	0.13	478592.95	781857.84	
7424.00	5.47	261.69	7412.87	20.88	-156.44	-13.00	0.13	478591.59	781848.89	
7519.00	5.29	262.18	7507.45	19.63	-165.25	-11.31	0.20	478590.34	781840.08	
7614.00	4.91	262.32	7602.08	18.49	-173.62	-9.75	0.40	478589.20	781831.71	
7709.00	4.63	261.02	7696.75	17.35	-181.44	-8.21	0.32	478588.06	781823.89	
7804.00	4.90	261.43	7791.42	16.15	-189.24	-6.62	0.29	478586.86	781816.09	
7899.00	4.77	260.25	7886.08	14.88	-197.14	-4.95	0.17	478585.59	781808.19	
7994.00	4.70	261.74	7980.76	13.65	-204.89	-3.34	0.15	478584.36	781800.44	
8089.00	5.41	264.62	8075.39	12.67	-213.20	-1.94	0.79	478583.38	781792.13	
8184.00	5.11	262.94	8169.99	11.73	-221.86	-0.57	0.35	478582.44	781783.47	
8280.00	4.66	264.02	8265.64	10.80	-229.98	0.77	0.48	478581.51	781775.35	
8374.00	5.07	263.09	8359.30	9.90	-237.90	2.07	0.44	478580.61	781767.43	
8470.00	4.79	261.80	8454.94	8.82	-246.08	3.56	0.31	478579.53	781759.25	
8565.00	5.25	261.65	8549.58	7.62	-254.30	5.17	0.48	478578.33	781751.03	
8659.00	5.47	260.64	8643.17	6.27	-262.98	6.95	0.25	478576.98	781742.35	
8754.00	5.03	257.75	8737.77	4.65	-271.52	9.00	0.54	478575.36	781733.81	
8849.00	5.13	260.99	8832.40	3.10	-279.78	10.96	0.32	478573.81	781725.55	
8944.00	5.77	266.45	8926.97	2.14	-288.74	12.37	0.87	478572.85	781716.59	
9038.00	5.31	268.85	9020.53	1.76	-297.81	13.21	0.55	478572.47	781707.52	
9133.00	5.28	263.54	9115.12	1.18	-306.54	14.23	0.52	478571.89	781698.79	
9228.00	5.30	260.02	9209.72	-0.07	-315.21	15.91	0.34	478570.64	781690.12	
9323.00	4.28	260.94	9304.38	-1.39	-323.03	17.62	1.08	478569.32	781682.30	
9418.00	3.26	259.60	9399.18	-2.44	-329.19	18.98	1.08	478568.27	781676.14	
9513.00	2.38	252.61	9494.06	-3.52	-333.73	20.28	0.99	478567.19	781671.60	
9608.00	1.97	252.33	9588.99	-4.60	-337.17	21.54	0.43	478566.11	781668.16	
9702.00	1.83	254.75	9682.94	-5.49	-340.15	22.57	0.17	478565.22	781665.18	
9798.00	1.55	258.66	9778.90	-6.14	-342.91	23.37	0.32	478564.57	781662.42	

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9892.00	1.04	291.32	9872.88	-6.08	-344.95	23.41	0.93	478564.63	781660.38	
9987.00	0.63	254.07	9967.87	-5.91	-346.25	23.30	0.69	478564.80	781659.08	
10082.00	0.85	225.39	10062.86	-6.55	-347.26	23.99	0.45	478564.16	781658.07	
10177.00	1.13	237.21	10157.85	-7.55	-348.55	25.06	0.36	478563.16	781656.78	
10258.00	1.64	244.89	10238.82	-8.48	-350.27	26.07	0.67	478562.23	781655.06	
10271.00	1.68	241.18	10251.82	-8.65	-350.60	26.25	0.88	478562.06	781654.73	
10366.00	0.94	259.23	10346.79	-9.47	-352.59	27.17	0.88	478561.24	781652.74	
10460.00	0.43	306.37	10440.78	-9.40	-353.63	27.16	0.77	478561.31	781651.70	
10555.00	0.16	124.14	10535.78	-9.26	-353.81	27.03	0.62	478561.45	781651.52	
10631.00	0.64	107.80	10611.78	-9.45	-353.31	27.19	0.64	478561.26	781652.02	
10648.00	0.55	107.91	10628.78	-9.51	-353.15	27.24	0.53	478561.20	781652.18	
10680.00	0.80	108.01	10660.78	-9.62	-352.79	27.34	0.78	478561.09	781652.54	
10712.00	2.50	147.68	10692.76	-10.28	-352.20	27.97	6.10	478560.43	781653.13	
10743.00	6.03	157.54	10723.67	-12.36	-351.22	29.99	11.59	478558.35	781654.11	
10775.00	10.35	161.35	10755.34	-16.64	-349.66	34.19	13.60	478554.07	781655.67	
10807.00	14.52	163.10	10786.58	-23.20	-347.57	40.64	13.08	478547.51	781657.76	
10838.00	18.50	165.03	10816.30	-31.68	-345.17	48.98	12.96	478539.03	781660.16	
10870.00	20.95	167.87	10846.42	-42.18	-342.65	59.34	8.22	478528.53	781662.68	
10901.00	23.41	172.99	10875.13	-53.71	-340.74	70.76	10.09	478517.00	781664.59	
10933.00	25.84	176.93	10904.22	-66.99	-339.59	83.96	9.16	478503.72	781665.74	
10965.00	28.17	178.55	10932.73	-81.50	-339.02	98.43	7.63	478489.21	781666.31	
10996.00	30.34	177.06	10959.77	-96.64	-338.44	113.52	7.38	478474.07	781666.89	
11028.00	32.52	175.53	10987.07	-113.29	-337.35	130.10	7.25	478457.42	781667.98	
11060.00	35.71	175.43	11013.56	-131.18	-335.94	147.89	9.97	478439.53	781669.39	
11091.00	38.73	174.30	11038.25	-149.85	-334.25	166.46	9.99	478420.86	781671.08	
11123.00	42.08	174.84	11062.61	-170.50	-332.29	186.98	10.53	478400.21	781673.04	
11155.00	45.80	174.53	11085.65	-192.60	-330.24	208.95	11.64	478378.11	781675.09	
11171.00	47.43	175.06	11096.64	-204.18	-329.18	220.46	10.47	478366.53	781676.15	
11218.00	51.86	177.38	11127.07	-239.91	-326.84	256.03	10.15	478330.80	781678.49	
11265.00	56.92	180.27	11154.43	-278.09	-326.09	294.13	11.87	478292.62	781679.24	
11313.00	61.17	179.85	11179.11	-319.25	-326.13	335.23	8.89	478251.46	781679.20	
11360.00	65.18	179.54	11200.32	-361.18	-325.91	377.10	8.55	478209.53	781679.42	
11408.00	69.70	179.52	11218.73	-405.49	-325.54	421.34	9.42	478165.22	781679.79	
11455.00	74.63	181.00	11233.12	-450.22	-325.75	466.02	10.91	478120.49	781679.58	
11502.00	78.74	181.64	11243.94	-495.93	-326.81	511.73	8.84	478074.78	781678.52	
11549.00	83.20	181.41	11251.32	-542.32	-328.04	558.12	9.50	478028.39	781677.29	
11564.00	84.96	181.41	11252.86	-557.24	-328.41	573.03	11.73	478013.47	781676.92	
11582.00	86.57	181.63	11254.19	-575.18	-328.89	590.98	9.03	477995.53	781676.44	
11597.00	87.83	181.73	11254.93	-590.16	-329.33	605.96	8.43	477980.55	781676.00	
11607.00	88.25	181.77	11255.27	-600.15	-329.63	615.95	4.22	477970.56	781675.70	
11622.00	88.74	181.82	11255.66	-615.13	-330.10	630.94	3.28	477955.58	781675.23	
11702.00	89.93	181.77	11256.59	-695.09	-332.61	710.92	1.49	477875.62	781672.72	
11766.00	91.47	181.07	11255.81	-759.06	-334.19	774.89	2.64	477811.65	781671.14	
11797.00	91.61	180.78	11254.98	-790.05	-334.69	805.86	1.04	477780.66	781670.64	
11892.00	91.68	179.65	11252.25	-885.00	-335.05	900.72	1.19	477685.71	781670.28	
11987.00	91.68	179.18	11249.46	-979.96	-334.08	995.51	0.49	477590.75	781671.25	
12082.00	92.38	179.50	11246.10	-1074.89	-332.99	1090.26	0.81	477495.82	781672.34	
12177.00	91.68	178.41	11242.73	-1169.81	-331.25	1184.98	1.36	477400.90	781674.08	
12272.00	92.38	178.37	11239.37	-1264.72	-328.59	1279.63	0.74	477305.99	781676.74	
12367.00	93.01	175.51	11234.90	-1359.47	-323.52	1374.00	3.08	477211.24	781681.81	
12462.00	90.77	179.26	11231.77	-1454.29	-319.19	1468.49	4.60	477116.42	781686.14	
12556.00	90.63	179.05	11230.62	-1548.27	-317.81	1562.29	0.27	477022.44	781687.52	
12651.00	90.70	179.04	11229.51	-1643.25	-316.22	1657.07	0.07	476927.46	781689.11	
12746.00	90.49	178.94	11228.53	-1738.24	-314.55	1751.84	0.24	476832.47	781690.78	
12841.00	90.56	178.58	11227.66	-1833.21	-312.49	1846.59	0.39	476737.50	781692.84	
12935.00	90.70	178.04	11226.62	-1927.16	-309.72	1940.29	0.59	476643.55	781695.61	
13030.00	90.63	178.26	11225.52	-2022.11	-306.66	2034.96	0.24	476548.60	781698.67	
13125.00	90.00	178.10	11225.00	-2117.06	-303.64	2129.64	0.68	476453.65	781701.69	
13220.00	90.00	178.24	11225.00	-2212.01	-300.60	2224.32	0.15	476358.70	781704.73	

5D Survey Report

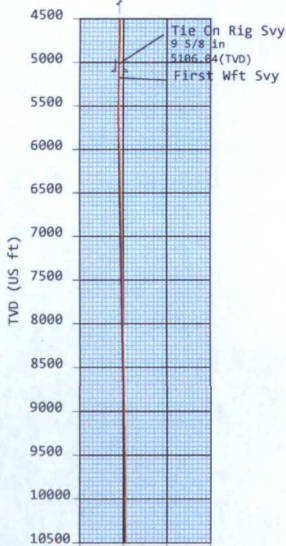
Survey Points: (Relative to Slot centre)(TVD relative to Well TVD Reference)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	Northing (US ft)	Easting (US ft)	Comment
13315.00	90.42	178.22	11224.65	-2306.96	-297.67	2319.00	0.44	476263.75	781707.66	
13410.00	90.84	178.87	11223.61	-2401.92	-295.26	2413.73	0.81	476168.79	781710.07	
13505.00	92.31	179.68	11221.00	-2496.88	-294.06	2508.50	1.77	476073.83	781711.27	
13600.00	92.66	179.17	11216.88	-2591.78	-293.10	2603.24	0.65	475978.93	781712.23	
13695.00	92.87	178.57	11212.29	-2686.65	-291.23	2697.89	0.67	475884.06	781714.10	
13790.00	92.10	179.38	11208.17	-2781.55	-289.53	2792.58	1.18	475789.16	781715.80	
13885.00	92.17	178.99	11204.64	-2876.47	-288.18	2887.32	0.42	475694.24	781717.15	
13980.00	90.56	179.44	11202.37	-2971.43	-286.88	2982.09	1.76	475599.28	781718.45	
14075.00	90.70	179.28	11201.33	-3066.42	-285.82	3076.91	0.22	475504.29	781719.51	
14170.00	90.21	180.29	11200.57	-3161.42	-285.47	3171.77	1.18	475409.29	781719.86	
14265.00	90.49	180.15	11199.99	-3256.41	-285.83	3266.66	0.33	475314.30	781719.50	
14360.00	90.28	179.84	11199.35	-3351.41	-285.82	3361.54	0.39	475219.30	781719.51	
14455.00	91.19	179.17	11198.14	-3446.40	-285.00	3456.36	1.19	475124.31	781720.33	
14550.00	93.01	179.41	11194.66	-3541.32	-283.83	3551.11	1.93	475029.39	781721.50	
14645.00	93.85	180.34	11188.97	-3636.15	-283.62	3645.81	1.32	474934.56	781721.71	
14739.00	93.36	179.64	11183.06	-3729.96	-283.60	3739.50	0.91	474840.75	781721.73	
14834.00	93.36	179.10	11177.49	-3824.79	-282.56	3834.16	0.57	474745.92	781722.77	
14929.00	94.41	178.67	11171.06	-3919.56	-280.71	3928.71	1.19	474651.15	781724.62	
15024.00	93.78	179.42	11164.27	-4014.30	-279.14	4023.25	1.03	474556.41	781726.19	
15119.00	91.12	180.19	11160.21	-4109.20	-278.81	4118.02	2.91	474461.51	781726.52	
15214.00	89.72	180.48	11159.52	-4204.20	-279.37	4212.92	1.50	474366.51	781725.96	
15309.00	89.23	180.76	11160.39	-4299.19	-280.40	4307.84	0.59	474271.52	781724.93	
15403.00	90.07	180.25	11160.96	-4393.18	-281.23	4401.76	1.05	474177.53	781724.10	
15498.00	89.23	180.25	11161.54	-4488.18	-281.64	4496.66	0.88	474082.53	781723.69	
15593.00	88.81	180.55	11163.16	-4583.16	-282.30	4591.55	0.54	473987.55	781723.03	
15688.00	90.70	180.74	11163.57	-4678.15	-283.37	4686.48	2.00	473892.56	781721.96	
15783.00	90.91	180.69	11162.24	-4773.13	-284.56	4781.40	0.23	473797.58	781720.77	
15878.00	91.12	180.64	11160.55	-4868.11	-285.66	4876.31	0.23	473702.60	781719.67	
15973.00	91.89	180.71	11158.06	-4963.07	-286.78	4971.21	0.81	473607.64	781718.55	
16068.00	90.42	179.10	11156.14	-5058.04	-286.62	5066.06	2.29	473512.67	781718.71	
16163.00	90.28	178.42	11155.56	-5153.02	-284.57	5160.81	0.73	473417.69	781720.76	
16258.00	89.09	178.06	11156.09	-5247.97	-281.65	5255.49	1.31	473322.74	781723.68	
16329.00	87.27	177.34	11158.34	-5318.88	-278.80	5326.17	2.76	473251.83	781726.53	Last Wft Svy
16402.00	87.27	177.34	11161.82	-5391.71	-275.42	5398.74	0.00	473179.00	781729.91	Prj to Bit



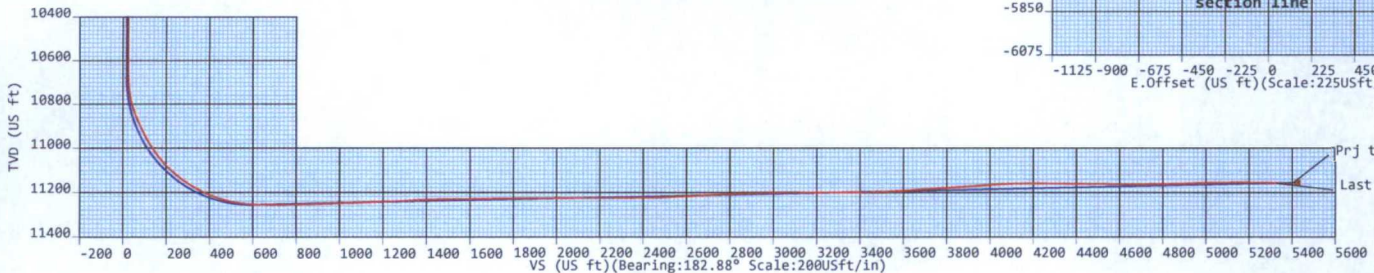
Black Mamba 15 State Com 7H
Lea Co, NM



KB-3680
GL-3653



VS (US ft)(Bearing:182.88° Scale:500USft/in)



Plan Data for Black Mamba 15 State Com 7H

Plan Point Information:

MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)
5013.00	1.49	63.18	5012.07	41.70	43.28	478612.41	782048.61	-43.82	1.98
5207.00	1.49	63.18	5206.00	43.97	47.79	478614.68	782053.12	-46.32	0.00
5899.31	5.50	263.12	5897.44	44.06	22.83	478614.77	782028.16	-45.15	1.00
9460.66	5.50	263.12	9442.37	3.16	-316.29	478573.87	781689.04	12.73	0.00
10011.04	0.00	0.00	9991.90	0.00	-342.52	478570.71	781662.81	17.21	1.00
10702.29	0.00	0.00	10683.16	0.00	-342.52	478570.71	781662.81	17.21	0.00
11614.14	91.18	179.26	11256.00	-584.75	-334.97	477985.96	781670.36	600.84	10.00
16455.66	91.18	179.26	11156.00	-5420.84	-272.58	473149.87	781732.75	5427.69	0.00

Plan Data for Black Mamba 15 State Com 7H

Slot: Black Mamba 15 State Com 7H
Position:
Offset is from Site centre
+N/-S: 0.00USft Northing: 478570.71USft Latitude: 32°18'47.7"
+E/-W: 0.00USft Easting: 782005.33USft Longitude: -103°33'15.5"
Elevation Above VRD: 3653.00USft

Plan Data for Black Mamba 15 State Com 7H

Target Set Information:
Name: Black Mamba 15 State Com 7H
Position offset from Slot centre
Name TVD +N/-S +E/-W Northing Easting Shape Comment
PBHL 7H 11156.00 -5420.84 -272.58 473149.87 781732.75 Cuboid

Plan Data for Black Mamba 15 State Com 7H

Well: Black Mamba 15 State Com 7H
Type: Main-Well
File Number:
Plan Folder: P3 Plan: P3:V1
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 182.88°
+E/-W: 0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
BGM 48285(nT) 7.24° 60.23° 2015-08-15

Black Mamba 15 State Com 7H
Black Mamba 15 State Com 8H
Black Mamba 15 State Com 9H
Black Mamba 15 State Com 7H

