



Petroleum Development Corp.

Mesa

NWNW Sec 24-T6S-R97W

Puckett 11B-24D

DD

Survey: Production

Standard Survey Report

30 November, 2010



Company:	Petroleum Development Corp.	Local Co-ordinate Reference:	Well Puckett 11B-24D
Project:	Mesa	TVD Reference:	Puckett 11B-24D KBE @ 8399.0ft (Original Well Elev)
Site:	NWNW Sec 24-T6S-R97W	MD Reference:	Puckett 11B-24D KBE @ 8399.0ft (Original Well Elev)
Well:	Puckett 11B-24D	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	Local

Project	Mesa		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	NWNW Sec 24-T6S-R97W				
Site Position:			Northing:		
From:	Lat/Long		Easting:	Latitude:	
Position Uncertainty:	0.0	ft	Slot Radius:	Longitude:	
				Grid Convergence:	1.00

Well	Puckett 11B-24D					
Well Position	+N/-S	0.0 ft	Northing:	1,622,961.18 ft	Latitude:	39.513331
	+E/-W	0.0 ft	Easting:	2,245,699.87 ft	Longitude:	-108.173968
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,381.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010-14	09/20/10	10.53	65.74	52,291

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	311.06	

Survey Program		Date	11/30/10		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
150.0	2,589.0	Surface (DD)	MWD	Geolink MWD	
2,692.0	9,245.0	Production (DD)	MWD	Geolink MWD	

Survey											
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Subsea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
2,589.0	6.60	321.40	2,578.2	-5,820.8	142.4	-156.0	211.2	0.00	0.00	0.00	
2,692.0	7.20	323.50	2,680.5	-5,718.5	152.2	-163.5	223.3	0.63	0.58	2.04	
2,786.0	6.40	316.40	2,773.8	-5,625.2	160.8	-170.6	234.3	1.23	-0.85	-7.55	
2,880.0	5.60	316.20	2,867.3	-5,531.7	167.9	-177.4	244.1	0.85	-0.85	-0.21	
2,975.0	5.40	312.10	2,961.9	-5,437.1	174.2	-183.9	253.1	0.46	-0.21	-4.32	
3,069.0	4.60	311.10	3,055.5	-5,343.5	179.7	-190.1	261.3	0.86	-0.85	-1.06	
3,163.0	5.00	313.70	3,149.2	-5,249.8	185.0	-195.9	269.2	0.48	0.43	2.77	
3,257.0	5.60	311.40	3,242.8	-5,156.2	190.8	-202.3	277.9	0.68	0.64	-2.45	

Company:	Petroleum Development Corp.	Local Co-ordinate Reference:	Well Puckett 11B-24D
Project:	Mesa	TVD Reference:	Puckett 11B-24D KBE @ 8399.0ft (Original Well Elev)
Site:	NWNW Sec 24-T6S-R97W	MD Reference:	Puckett 11B-24D KBE @ 8399.0ft (Original Well Elev)
Well:	Puckett 11B-24D	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	Local

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Subsea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,352.0	7.50	319.70	3,337.2	-5,061.9	198.6	-209.8	288.6	2.23	2.00	8.74
3,446.0	8.00	325.50	3,430.3	-4,968.7	208.7	-217.4	301.0	0.99	0.53	6.17
3,539.0	7.00	316.80	3,522.5	-4,876.5	218.2	-225.0	312.9	1.62	-1.08	-9.35
3,633.0	6.40	313.00	3,615.9	-4,783.1	225.9	-232.7	323.9	0.79	-0.64	-4.04
3,727.0	6.20	309.10	3,709.3	-4,689.7	232.7	-240.5	334.2	0.50	-0.21	-4.15
3,821.0	5.80	310.70	3,802.8	-4,596.2	239.0	-248.0	344.0	0.46	-0.43	1.70
3,915.0	6.40	313.80	3,896.3	-4,502.8	245.7	-255.4	354.0	0.73	0.64	3.30
4,010.0	6.60	311.10	3,990.6	-4,408.4	253.0	-263.4	364.7	0.38	0.21	-2.84
4,104.0	6.70	314.40	4,084.0	-4,315.0	260.4	-271.3	375.6	0.42	0.11	3.51
4,198.0	6.30	309.50	4,177.4	-4,221.6	267.5	-279.2	386.2	0.73	-0.43	-5.21
4,292.0	5.90	312.00	4,270.9	-4,128.1	274.0	-286.8	396.2	0.51	-0.43	2.66
4,387.0	6.50	308.50	4,365.3	-4,033.7	280.6	-294.7	406.5	0.75	0.63	-3.68
4,481.0	6.30	307.00	4,458.7	-3,940.3	287.0	-302.9	416.9	0.28	-0.21	-1.60
4,575.0	5.80	307.10	4,552.2	-3,846.8	293.0	-310.8	426.8	0.53	-0.53	0.11
4,670.0	6.20	307.00	4,646.7	-3,752.3	299.0	-318.8	436.7	0.42	0.42	-0.11
4,764.0	6.90	307.40	4,740.1	-3,658.9	305.4	-327.3	447.4	0.75	0.74	0.43
4,858.0	6.20	318.40	4,833.5	-3,565.6	312.7	-335.2	458.1	1.53	-0.74	11.70
4,952.0	6.10	315.80	4,926.9	-3,472.1	320.1	-342.0	468.1	0.31	-0.11	-2.77
5,047.0	5.10	301.20	5,021.5	-3,377.5	325.9	-349.1	477.3	1.82	-1.05	-15.37
5,141.0	5.60	306.70	5,115.1	-3,284.0	330.8	-356.4	486.0	0.76	0.53	5.85
5,235.0	6.40	321.60	5,208.6	-3,190.5	337.6	-363.3	495.7	1.86	0.85	15.85
5,330.0	6.60	323.80	5,302.9	-3,096.1	346.2	-369.8	506.2	0.34	0.21	2.32
5,424.0	6.60	322.50	5,396.3	-3,002.7	354.8	-376.3	516.8	0.16	0.00	-1.38
5,518.0	6.50	321.90	5,489.7	-2,909.3	363.3	-382.9	527.3	0.13	-0.11	-0.64
5,612.0	5.50	318.90	5,583.2	-2,815.8	370.9	-389.1	537.0	1.11	-1.06	-3.19
5,707.0	6.00	320.70	5,677.7	-2,721.3	378.1	-395.3	546.4	0.56	0.53	1.89
5,801.0	5.70	317.20	5,771.2	-2,627.8	385.4	-401.6	555.9	0.50	-0.32	-3.72
5,895.0	6.10	307.50	5,864.7	-2,534.3	391.8	-408.7	565.5	1.14	0.43	-10.32
5,990.0	6.00	305.70	5,959.2	-2,439.8	397.8	-416.7	575.5	0.23	-0.11	-1.89
6,084.0	6.80	309.20	6,052.6	-2,346.4	404.2	-425.0	586.0	0.95	0.85	3.72
6,178.0	6.40	309.20	6,146.0	-2,253.0	411.0	-433.4	596.8	0.43	-0.43	0.00
6,273.0	5.30	310.50	6,240.5	-2,158.5	417.2	-440.8	606.4	1.17	-1.16	1.37
6,367.0	5.10	308.50	6,334.1	-2,064.9	422.6	-447.4	615.0	0.29	-0.21	-2.13
6,461.0	4.10	320.40	6,427.8	-1,971.2	427.8	-452.8	622.5	1.47	-1.06	12.66
6,555.0	4.20	321.00	6,521.6	-1,877.5	433.1	-457.1	629.2	0.12	0.11	0.64
6,650.0	3.60	314.80	6,616.3	-1,782.7	437.9	-461.4	635.6	0.77	-0.63	-6.53
6,744.0	3.70	308.50	6,710.1	-1,688.9	441.9	-465.9	641.5	0.44	0.11	-6.70
6,838.0	2.60	323.20	6,804.0	-1,595.0	445.5	-469.6	646.7	1.44	-1.17	15.64
6,932.0	3.30	2.00	6,897.9	-1,501.1	449.9	-470.7	650.4	2.20	0.74	41.28
7,027.0	3.00	9.20	6,992.7	-1,406.3	455.1	-470.3	653.5	0.52	-0.32	7.58
7,121.0	2.50	12.50	7,086.6	-1,312.4	459.5	-469.4	655.8	0.56	-0.53	3.51
7,216.0	1.80	344.90	7,181.6	-1,217.4	462.9	-469.4	658.0	1.30	-0.74	-29.05

Company:	Petroleum Development Corp.	Local Co-ordinate Reference:	Well Puckett 11B-24D
Project:	Mesa	TVD Reference:	Puckett 11B-24D KBE @ 8399.0ft (Original Well Elev)
Site:	NWNW Sec 24-T6S-R97W	MD Reference:	Puckett 11B-24D KBE @ 8399.0ft (Original Well Elev)
Well:	Puckett 11B-24D	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	Local

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Subsea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,310.0	1.30	345.50	7,275.5	-1,123.5	465.4	-470.0	660.1	0.53	-0.53	0.64
7,404.0	1.10	318.80	7,369.5	-1,029.5	467.1	-470.9	661.9	0.62	-0.21	-28.40
7,498.0	0.90	304.60	7,463.5	-935.5	468.2	-472.1	663.5	0.34	-0.21	-15.11
7,593.0	1.00	280.00	7,558.5	-840.5	468.8	-473.5	664.9	0.44	0.11	-25.89
7,687.0	1.60	264.20	7,652.5	-746.5	468.8	-475.6	666.5	0.74	0.64	-16.81
7,781.0	1.50	258.80	7,746.4	-652.6	468.4	-478.1	668.2	0.19	-0.11	-5.74
7,876.0	1.90	240.10	7,841.4	-557.6	467.4	-480.7	669.5	0.71	0.42	-19.68
7,970.0	2.30	237.20	7,935.3	-463.7	465.6	-483.6	670.5	0.44	0.43	-3.09
8,065.0	2.80	252.90	8,030.2	-368.8	463.9	-487.5	672.3	0.90	0.53	16.53
8,159.0	2.20	227.80	8,124.1	-274.9	462.0	-491.0	673.7	1.31	-0.64	-26.70
8,253.0	1.70	178.00	8,218.1	-180.9	459.4	-492.3	672.9	1.81	-0.53	-52.98
8,348.0	1.80	188.00	8,313.1	-86.0	456.5	-492.4	671.2	0.34	0.11	10.53
8,442.0	1.90	213.40	8,407.0	8.0	453.7	-493.5	670.2	0.87	0.11	27.02
8,536.0	2.20	217.60	8,500.9	101.9	451.0	-495.5	669.8	0.36	0.32	4.47
8,631.0	2.10	221.30	8,595.9	196.9	448.3	-497.7	669.7	0.18	-0.11	3.89
8,725.0	3.10	224.70	8,689.8	290.8	445.2	-500.7	669.9	1.08	1.06	3.62
8,820.0	3.40	234.40	8,784.6	385.6	441.7	-504.8	670.7	0.66	0.32	10.21
8,914.0	3.80	234.60	8,878.4	479.4	438.3	-509.6	672.1	0.43	0.43	0.21
9,008.0	4.60	238.10	8,972.2	573.2	434.5	-515.3	673.9	0.89	0.85	3.72
9,103.0	4.80	239.40	9,066.9	667.9	430.4	-522.0	676.3	0.24	0.21	1.37
9,195.0	4.60	237.80	9,158.6	759.5	426.5	-528.4	678.6	0.26	-0.22	-1.74
Projection to Bit										
9,245.0	4.50	236.90	9,208.4	809.4	424.4	-531.7	679.7	0.25	-0.20	-1.80

Survey Annotations				
Measured Depth (')	Vertical Depth (')	Local Coordinates		Comment
		+N/-S (')	+E/-W (')	
9,245.0	9,208.4	424.4	-531.7	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____