

Project: Mesa
 Site: NWNW Sec 1-T7S-R97W
 Well: Puckett 11A-1D
 Wellbore: DD
 Design: Plan #2



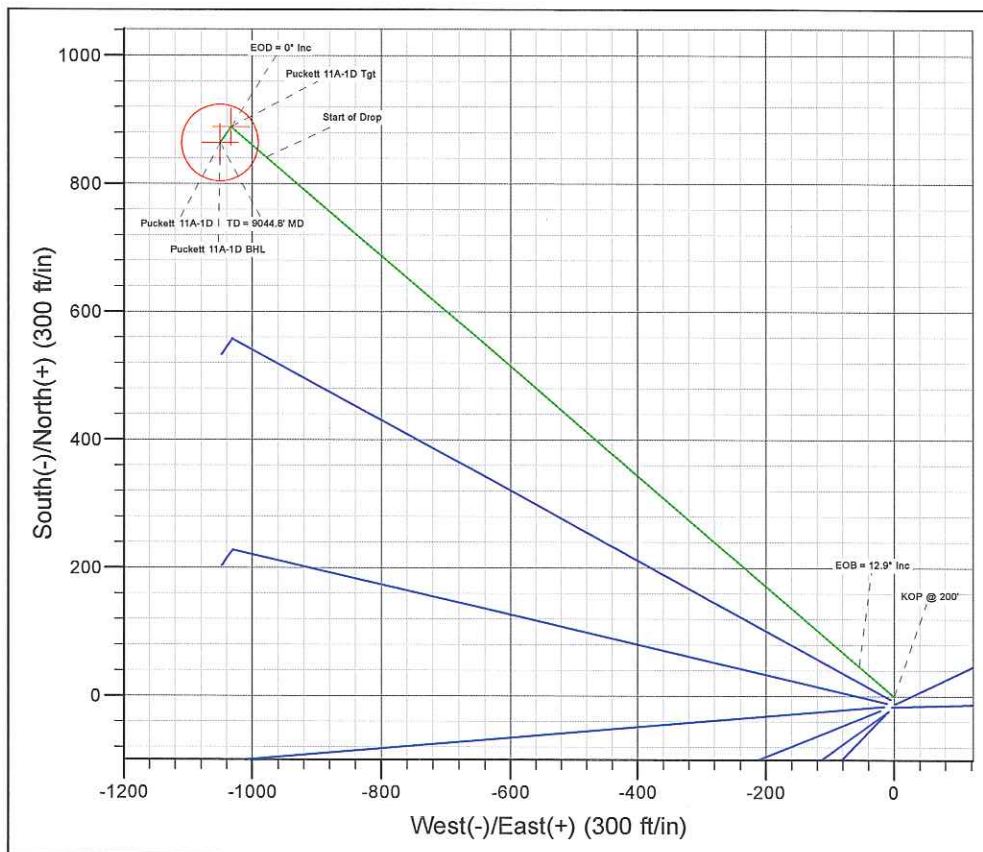
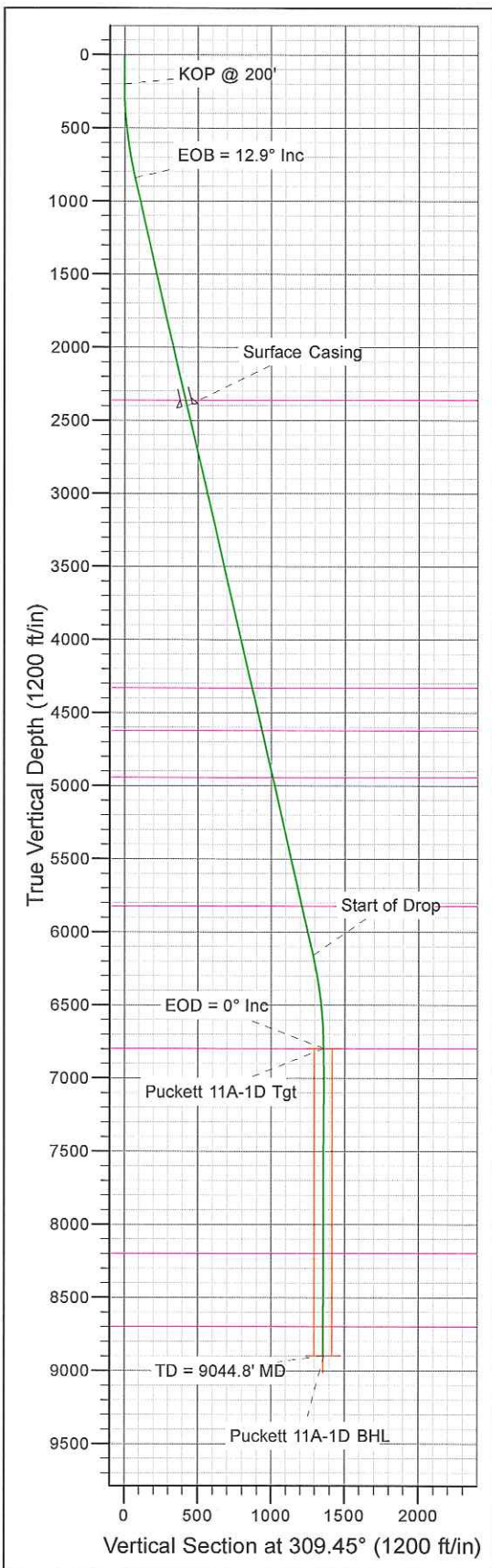
WELL DETAILS: Puckett 11A-1D

+N/-S	+E/-W	Northing	Ground Level:	8347.0	Longitude	Slot
0.0	0.0	1610382.25	Easting	2245392.60	Latitude	
				39.478786	-108.173744	



Azimuths to True North
 Magnetic North: 10.52°

Magnetic Field
 Strength: 52271.8snT
 Dip Angle: 65.71°
 Date: 2010/09/21
 Model: IGRF2010-14



ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP @ 200'
839.6	845.1	EOB = 12.9° Inc
6156.4	6299.5	Start of Drop
6796.0	6944.6	EOD = 0° Inc
8896.0	9044.8	TD = 9044.8' MD

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2361.0	2405.8	Wasatch
4331.0	4426.9	Wasatch "G" Sand
4621.0	4724.4	Fort Union
4941.0	5052.7	Base Fort Union
5821.0	5955.4	Mesaverde/Williams Fk
6796.0	6944.6	Top Gas Cell
8196.0	8344.7	Cameo
8696.0	8844.8	Rollins

WELLBORE TARGET DETAILS (LAT/LONG)

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	845.1	12.90	310.71	839.6	47.2	-54.8	2.00	310.71	72.3	
4	6299.5	12.90	310.71	6156.4	841.4	-978.0	0.00	0.00	1289.8	
5	6944.6	0.00	0.00	6796.0	888.6	-1032.8	2.00	180.00	1362.1	Puckett 11A-1D Tgt
6	7302.7	0.90	214.98	7154.1	886.3	-1034.4	0.25	214.98	1361.9	
7	9044.8	0.90	214.98	8896.0	864.0	-1050.0	0.00	0.00	1359.8	Puckett 11A-1D BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Puckett 11A-1D Tgt	6796.0	888.6	-1032.8	39.481226	-108.177403	Point
Puckett 11A-1D BHL	8896.0	864.0	-1050.0	39.481158	-108.177464	Circle (Radius: 60.0)

CASING DETAILS

TVD	MD	Name	Size
2400.0	2445.8	Surface Casing	

Plan: Plan #2 (Puckett 11A-1D/DD)

Created By: Jon Schweigert Date: 10:15, September 22 2010
 Checked: Date: _____
 Reviewed: Date: _____
 Approved: Date: _____



Database:	Local	Local Co-ordinate Reference:	Well Puckett 11A-1D
Company:	Petroleum Development Corp.	TVD Reference:	Puckett 11A-1D KBE @ 8371.0ft (H&P 318)
Project:	Mesa	MD Reference:	Puckett 11A-1D KBE @ 8371.0ft (H&P 318)
Site:	NWNW Sec 1-T7S-R97W	North Reference:	True
Well:	Puckett 11A-1D	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

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 1-T7S-R97W				
Site Position:		Northing:	1,610,382.25 ft	Latitude:	39.478786
From:	Lat/Long	Easting:	2,245,392.60 ft	Longitude:	-108.173744
Position Uncertainty:	0.0 ft	Slot Radius:		Grid Convergence:	-1.69 °

Well	Puckett 11A-1D					
Well Position	+N/-S	0.0 ft	Northing:	1,610,382.24 ft	Latitude:	39.478786
	+E/-W	0.0 ft	Easting:	2,245,392.60 ft	Longitude:	-108.173744
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	8,347.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010-14	2010/09/21	10.52	65.71	52,272

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	309.45

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
845.1	12.90	310.71	839.6	47.2	-54.8	2.00	2.00	0.00	310.71	
6,299.5	12.90	310.71	6,156.4	841.4	-978.0	0.00	0.00	0.00	0.00	
6,944.6	0.00	0.00	6,796.0	888.6	-1,032.8	2.00	-2.00	0.00	180.00	Puckett 11A-1D Tgt
7,302.7	0.90	214.98	7,154.1	886.3	-1,034.4	0.25	0.25	-40.50	214.98	
9,044.8	0.90	214.98	8,896.0	864.0	-1,050.0	0.00	0.00	0.00	0.00	Puckett 11A-1D BHL

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Project:	Mesa	MD Reference:	Puckett 11A-1D KBE @ 8371.0ft (H&P 318)
Site:	NWNW Sec 1-T7S-R97W	North Reference:	True
Well:	Puckett 11A-1D	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned 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)
0.0	0.00	0.00	0.0	-8,371.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	-8,271.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP @ 200'										
200.0	0.00	0.00	200.0	-8,171.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	2.00	310.71	300.0	-8,071.0	1.1	-1.3	1.7	2.00	2.00	0.00
400.0	4.00	310.71	399.8	-7,971.2	4.6	-5.3	7.0	2.00	2.00	0.00
500.0	6.00	310.71	499.5	-7,871.5	10.2	-11.9	15.7	2.00	2.00	0.00
600.0	8.00	310.71	598.7	-7,772.3	18.2	-21.1	27.9	2.00	2.00	0.00
700.0	10.00	310.71	697.5	-7,673.5	28.4	-33.0	43.5	2.00	2.00	0.00
800.0	12.00	310.71	795.6	-7,575.4	40.8	-47.5	62.6	2.00	2.00	0.00
EOB = 12.9° Inc										
845.1	12.90	310.71	839.6	-7,531.4	47.2	-54.8	72.3	2.00	2.00	0.00
900.0	12.90	310.71	893.2	-7,477.8	55.2	-64.1	84.6	0.00	0.00	0.00
1,000.0	12.90	310.71	990.7	-7,380.3	69.7	-81.0	106.9	0.00	0.00	0.00
1,100.0	12.90	310.71	1,088.1	-7,282.9	84.3	-98.0	129.2	0.00	0.00	0.00
1,200.0	12.90	310.71	1,185.6	-7,185.4	98.9	-114.9	151.5	0.00	0.00	0.00
1,300.0	12.90	310.71	1,283.1	-7,087.9	113.4	-131.8	173.9	0.00	0.00	0.00
1,400.0	12.90	310.71	1,380.6	-6,990.4	128.0	-148.7	196.2	0.00	0.00	0.00
1,500.0	12.90	310.71	1,478.0	-6,893.0	142.5	-165.7	218.5	0.00	0.00	0.00
1,600.0	12.90	310.71	1,575.5	-6,795.5	157.1	-182.6	240.8	0.00	0.00	0.00
1,700.0	12.90	310.71	1,673.0	-6,698.0	171.7	-199.5	263.1	0.00	0.00	0.00
1,800.0	12.90	310.71	1,770.5	-6,600.5	186.2	-216.4	285.5	0.00	0.00	0.00
1,900.0	12.90	310.71	1,867.9	-6,503.1	200.8	-233.4	307.8	0.00	0.00	0.00
2,000.0	12.90	310.71	1,965.4	-6,405.6	215.3	-250.3	330.1	0.00	0.00	0.00
2,100.0	12.90	310.71	2,062.9	-6,308.1	229.9	-267.2	352.4	0.00	0.00	0.00
2,200.0	12.90	310.71	2,160.4	-6,210.6	244.5	-284.1	374.7	0.00	0.00	0.00
2,300.0	12.90	310.71	2,257.8	-6,113.2	259.0	-301.1	397.1	0.00	0.00	0.00
2,400.0	12.90	310.71	2,355.3	-6,015.7	273.6	-318.0	419.4	0.00	0.00	0.00
Wasatch										
2,405.8	12.90	310.71	2,361.0	-6,010.0	274.4	-319.0	420.7	0.00	0.00	0.00
Surface Casing										
2,445.8	12.90	310.71	2,400.0	-5,971.0	280.3	-325.8	429.6	0.00	0.00	0.00
2,500.0	12.90	310.71	2,452.8	-5,918.2	288.2	-334.9	441.7	0.00	0.00	0.00
2,600.0	12.90	310.71	2,550.3	-5,820.7	302.7	-351.8	464.0	0.00	0.00	0.00
2,700.0	12.90	310.71	2,647.7	-5,723.3	317.3	-368.8	486.4	0.00	0.00	0.00
2,800.0	12.90	310.71	2,745.2	-5,625.8	331.8	-385.7	508.7	0.00	0.00	0.00
2,900.0	12.90	310.71	2,842.7	-5,528.3	346.4	-402.6	531.0	0.00	0.00	0.00
3,000.0	12.90	310.71	2,940.2	-5,430.8	361.0	-419.5	553.3	0.00	0.00	0.00
3,100.0	12.90	310.71	3,037.6	-5,333.4	375.5	-436.5	575.6	0.00	0.00	0.00
3,200.0	12.90	310.71	3,135.1	-5,235.9	390.1	-453.4	598.0	0.00	0.00	0.00
3,300.0	12.90	310.71	3,232.6	-5,138.4	404.7	-470.3	620.3	0.00	0.00	0.00
3,400.0	12.90	310.71	3,330.1	-5,040.9	419.2	-487.2	642.6	0.00	0.00	0.00
3,500.0	12.90	310.71	3,427.5	-4,943.5	433.8	-504.2	664.9	0.00	0.00	0.00
3,600.0	12.90	310.71	3,525.0	-4,846.0	448.3	-521.1	687.3	0.00	0.00	0.00
3,700.0	12.90	310.71	3,622.5	-4,748.5	462.9	-538.0	709.6	0.00	0.00	0.00
3,800.0	12.90	310.71	3,720.0	-4,651.0	477.5	-554.9	731.9	0.00	0.00	0.00
3,900.0	12.90	310.71	3,817.4	-4,553.6	492.0	-571.9	754.2	0.00	0.00	0.00
4,000.0	12.90	310.71	3,914.9	-4,456.1	506.6	-588.8	776.5	0.00	0.00	0.00
4,100.0	12.90	310.71	4,012.4	-4,358.6	521.1	-605.7	798.9	0.00	0.00	0.00
4,200.0	12.90	310.71	4,109.9	-4,261.1	535.7	-622.6	821.2	0.00	0.00	0.00
4,300.0	12.90	310.71	4,207.3	-4,163.7	550.3	-639.6	843.5	0.00	0.00	0.00
4,400.0	12.90	310.71	4,304.8	-4,066.2	564.8	-656.5	865.8	0.00	0.00	0.00
Wasatch "G" Sand										
4,426.9	12.90	310.71	4,331.0	-4,040.0	568.7	-661.0	871.8	0.00	0.00	0.00

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Site:	NWNW Sec 1-T7S-R97W	North Reference:	True
Well:	Puckett 11A-1D	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned 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)
4,500.0	12.90	310.71	4,402.3	-3,968.7	579.4	-673.4	888.1	0.00	0.00	0.00
4,600.0	12.90	310.71	4,499.8	-3,871.2	594.0	-690.3	910.5	0.00	0.00	0.00
4,700.0	12.90	310.71	4,597.3	-3,773.7	608.5	-707.3	932.8	0.00	0.00	0.00
Fort Union										
4,724.4	12.90	310.71	4,621.0	-3,750.0	612.1	-711.4	938.2	0.00	0.00	0.00
4,800.0	12.90	310.71	4,694.7	-3,676.3	623.1	-724.2	955.1	0.00	0.00	0.00
4,900.0	12.90	310.71	4,792.2	-3,578.8	637.6	-741.1	977.4	0.00	0.00	0.00
5,000.0	12.90	310.71	4,889.7	-3,481.3	652.2	-758.0	999.8	0.00	0.00	0.00
Base Fort Union										
5,052.7	12.90	310.71	4,941.0	-3,430.0	659.9	-767.0	1,011.5	0.00	0.00	0.00
5,100.0	12.90	310.71	4,987.2	-3,383.8	666.8	-775.0	1,022.1	0.00	0.00	0.00
5,200.0	12.90	310.71	5,084.6	-3,286.4	681.3	-791.9	1,044.4	0.00	0.00	0.00
5,300.0	12.90	310.71	5,182.1	-3,188.9	695.9	-808.8	1,066.7	0.00	0.00	0.00
5,400.0	12.90	310.71	5,279.6	-3,091.4	710.4	-825.7	1,089.0	0.00	0.00	0.00
5,500.0	12.90	310.71	5,377.1	-2,993.9	725.0	-842.7	1,111.4	0.00	0.00	0.00
5,600.0	12.90	310.71	5,474.5	-2,896.5	739.6	-859.6	1,133.7	0.00	0.00	0.00
5,700.0	12.90	310.71	5,572.0	-2,799.0	754.1	-876.5	1,156.0	0.00	0.00	0.00
5,800.0	12.90	310.71	5,669.5	-2,701.5	768.7	-893.4	1,178.3	0.00	0.00	0.00
5,900.0	12.90	310.71	5,767.0	-2,604.0	783.3	-910.4	1,200.7	0.00	0.00	0.00
Mesaverde/Williams Fk *										
5,955.4	12.90	310.71	5,821.0	-2,550.0	791.3	-919.7	1,213.0	0.00	0.00	0.00
6,000.0	12.90	310.71	5,864.4	-2,506.6	797.8	-927.3	1,223.0	0.00	0.00	0.00
6,100.0	12.90	310.71	5,961.9	-2,409.1	812.4	-944.2	1,245.3	0.00	0.00	0.00
6,200.0	12.90	310.71	6,059.4	-2,311.6	826.9	-961.1	1,267.6	0.00	0.00	0.00
Start of Drop										
6,299.5	12.90	310.71	6,156.4	-2,214.6	841.4	-978.0	1,289.8	0.00	0.00	0.00
6,300.0	12.89	310.71	6,156.9	-2,214.1	841.5	-978.1	1,289.9	2.00	-2.00	0.00
6,400.0	10.89	310.71	6,254.7	-2,116.3	854.9	-993.7	1,310.5	2.00	-2.00	0.00
6,500.0	8.89	310.71	6,353.2	-2,017.8	866.1	-1,006.7	1,327.7	2.00	-2.00	0.00
6,600.0	6.89	310.71	6,452.3	-1,918.7	875.1	-1,017.1	1,341.4	2.00	-2.00	0.00
6,700.0	4.89	310.71	6,551.7	-1,819.3	881.8	-1,024.9	1,351.7	2.00	-2.00	0.00
6,800.0	2.89	310.71	6,651.5	-1,719.5	886.2	-1,030.0	1,358.5	2.00	-2.00	0.00
6,900.0	0.89	310.71	6,751.4	-1,619.6	888.4	-1,032.5	1,361.8	2.00	-2.00	0.00
EOD = 0° Inc - Top Gas Cell - Puckett 11A-1D Tgt										
6,944.6	0.00	0.00	6,796.0	-1,575.0	888.6	-1,032.8	1,362.1	2.00	-2.00	0.00
7,000.0	0.14	214.98	6,851.4	-1,519.6	888.5	-1,032.8	1,362.1	0.25	0.25	0.00
7,100.0	0.39	214.98	6,951.4	-1,419.6	888.2	-1,033.1	1,362.1	0.25	0.25	0.00
7,200.0	0.64	214.98	7,051.4	-1,319.6	887.4	-1,033.6	1,362.0	0.25	0.25	0.00
7,300.0	0.89	214.98	7,151.4	-1,219.6	886.3	-1,034.4	1,361.9	0.25	0.25	0.00
7,302.7	0.90	214.98	7,154.1	-1,216.9	886.3	-1,034.4	1,361.9	0.25	0.25	0.00
7,400.0	0.90	214.98	7,251.4	-1,119.6	885.1	-1,035.3	1,361.8	0.00	0.00	0.00
7,500.0	0.90	214.98	7,351.4	-1,019.6	883.8	-1,036.2	1,361.7	0.00	0.00	0.00
7,600.0	0.90	214.98	7,451.4	-919.6	882.5	-1,037.1	1,361.5	0.00	0.00	0.00
7,700.0	0.90	214.98	7,551.4	-819.6	881.2	-1,038.0	1,361.4	0.00	0.00	0.00
7,800.0	0.90	214.98	7,651.4	-719.6	879.9	-1,038.9	1,361.3	0.00	0.00	0.00
7,900.0	0.90	214.98	7,751.3	-619.7	878.7	-1,039.8	1,361.2	0.00	0.00	0.00
8,000.0	0.90	214.98	7,851.3	-519.7	877.4	-1,040.7	1,361.1	0.00	0.00	0.00
8,100.0	0.90	214.98	7,951.3	-419.7	876.1	-1,041.5	1,360.9	0.00	0.00	0.00
8,200.0	0.90	214.98	8,051.3	-319.7	874.8	-1,042.4	1,360.8	0.00	0.00	0.00
8,300.0	0.90	214.98	8,151.3	-219.7	873.5	-1,043.3	1,360.7	0.00	0.00	0.00
Cameo										
8,344.7	0.90	214.98	8,196.0	-175.0	873.0	-1,043.7	1,360.6	0.00	0.00	0.00
8,400.0	0.90	214.98	8,251.3	-119.7	872.3	-1,044.2	1,360.6	0.00	0.00	0.00

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Project:	Mesa	MD Reference:	Puckett 11A-1D KBE @ 8371.0ft (H&P 318)
Site:	NWNW Sec 1-T7S-R97W	North Reference:	True
Well:	Puckett 11A-1D	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned 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)	
8,500.0	0.90	214.98	8,351.3	-19.7	871.0	-1,045.1	1,360.5	0.00	0.00	0.00	
8,600.0	0.90	214.98	8,451.3	80.3	869.7	-1,046.0	1,360.3	0.00	0.00	0.00	
8,700.0	0.90	214.98	8,551.3	180.3	868.4	-1,046.9	1,360.2	0.00	0.00	0.00	
8,800.0	0.90	214.98	8,651.2	280.2	867.1	-1,047.8	1,360.1	0.00	0.00	0.00	
Rollins											
8,844.8	0.90	214.98	8,696.0	325.0	866.6	-1,048.2	1,360.0	0.00	0.00	0.00	
8,900.0	0.90	214.98	8,751.2	380.2	865.9	-1,048.7	1,360.0	0.00	0.00	0.00	
9,000.0	0.90	214.98	8,851.2	480.2	864.6	-1,049.6	1,359.8	0.00	0.00	0.00	
Puckett 11A-1D BHL											
9,044.8	0.90	214.98	8,896.0	525.0	864.0	-1,050.0	1,359.8	0.00	0.00	0.00	

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Puckett 11A-1D Tgt	0.00	0.00	6,796.0	888.6	-1,032.8	1,611,300.85	2,244,386.40	39.481226	-108.177403
- plan hits target center									
- Point									
Puckett 11A-1D BHL	0.00	0.00	8,896.0	864.0	-1,050.0	1,611,276.77	2,244,368.47	39.481158	-108.177464
- plan hits target center									
- Circle (radius 60.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
2,445.8	2,400.0	Surface Casing			

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,405.8	2,361.0	Wasatch				
4,426.9	4,331.0	Wasatch "G" Sand				
4,724.4	4,621.0	Fort Union				
5,052.7	4,941.0	Base Fort Union				
5,955.4	5,821.0	Mesaverde/Williams Fk	*			
6,944.6	6,796.0	Top Gas Cell				
8,344.7	8,196.0	Cameo				
8,844.8	8,696.0	Rollins				

Database:	Local	Local Co-ordinate Reference:	Well Puckett 11A-1D
Company:	Petroleum Development Corp.	TVD Reference:	Puckett 11A-1D KBE @ 8371.0ft (H&P 318)
Project:	Mesa	MD Reference:	Puckett 11A-1D KBE @ 8371.0ft (H&P 318)
Site:	NWNW Sec 1-T7S-R97W	North Reference:	True
Well:	Puckett 11A-1D	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP @ 200'
845.1	839.6	47.2	-54.8	EOB = 12.9° Inc
6,299.5	6,156.4	841.4	-978.0	Start of Drop
6,944.6	6,796.0	888.6	-1,032.8	EOD = 0° Inc
9,044.8	8,896.0	864.0	-1,050.0	TD = 9044.8' MD