

Project: Mesa
 Site: NESW Sec 36-T6S-R97W
 Well: Puckett 22A-36D
 Wellbore: DD
 Design: Plan #1

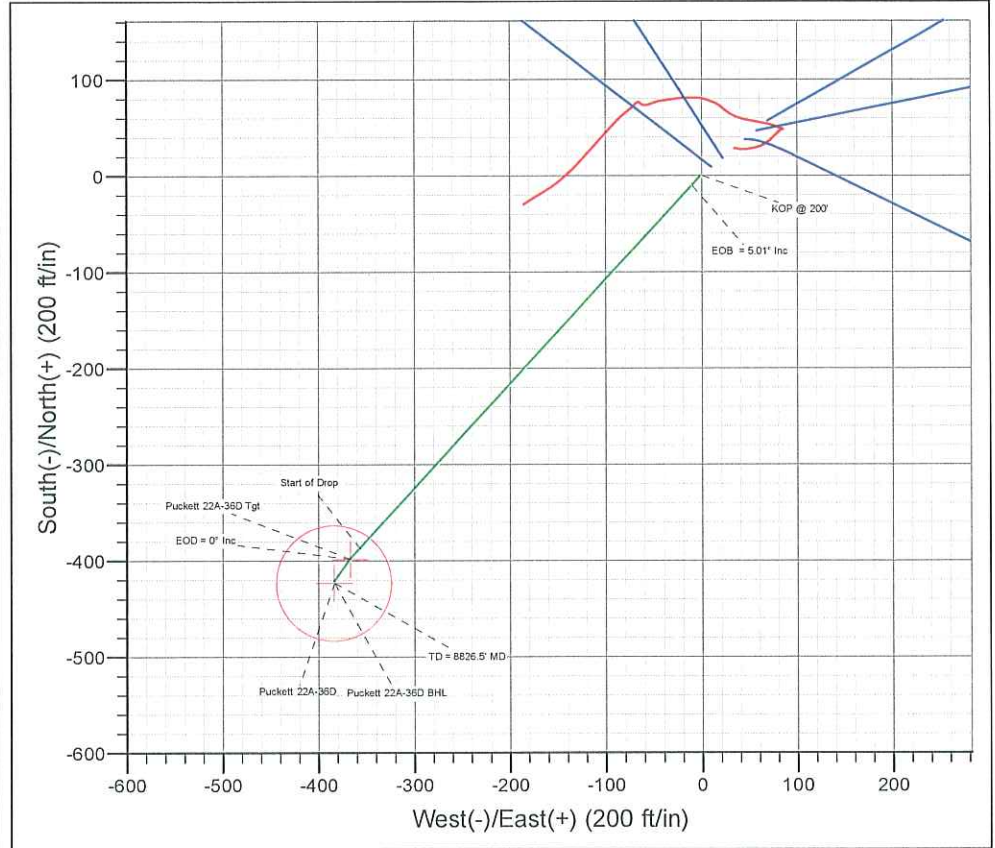
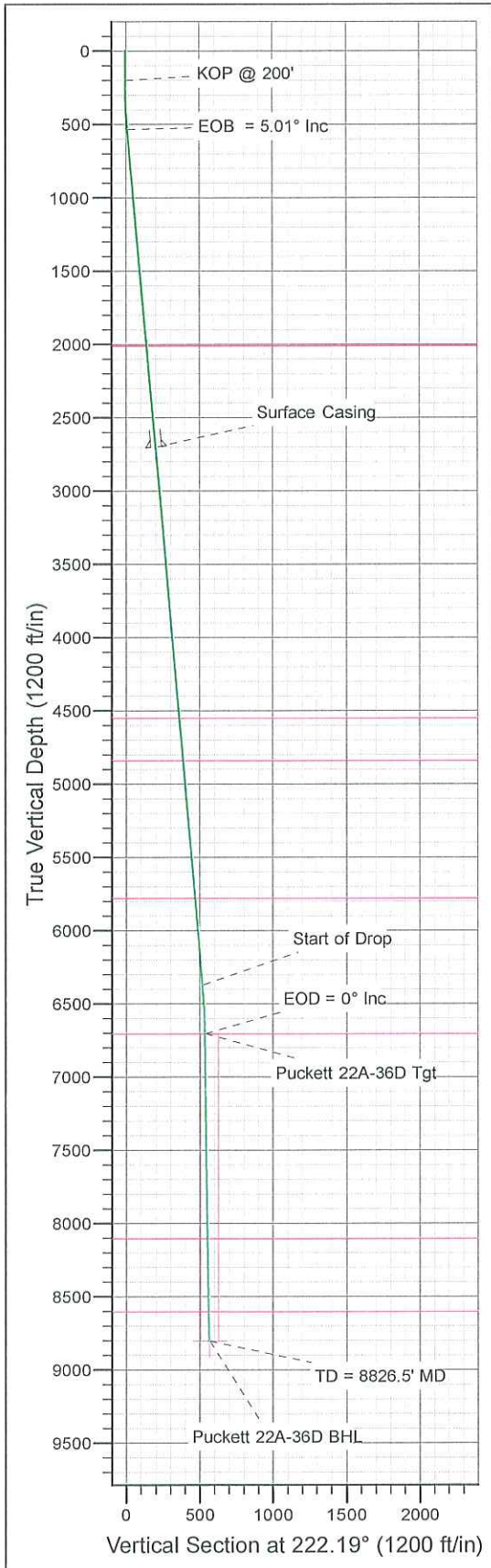


WELL DETAILS: Puckett 22A-36D

+N/-S 0.0 +E/-W 0.0 Northing 1612070.59 Ground Level: 8204.0 Easting 2246564.61 Latitude 39° 29' 0.650 N Longitude 108° 10' 11.170 W Slot



Azimuths to True North
 Magnetic North: 10.57°
 Magnetic Field
 Strength: 52313.9snT
 Dip Angle: 65.73°
 Date: 2010/05/07
 Model: IGRF2010-14



ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP @ 200'
533.8	534.2	EOB = 5.01° Inc
6369.2	6392.1	Start of Drop
6703.0	6726.3	EOD = 0° Inc
8803.0	8826.5	TD = 8826.5' MD

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2008.0	2014.1	Wasatch
4548.0	4563.8	Fort Union
4838.0	4855.0	Base Fort Union
4838.0	4855.0	Wasatch "G" Sand
5778.0	5798.6	Mesaverde/Williams Fk
6703.0	6726.3	Top Gas Cell
8103.0	8126.4	Cameo
8603.0	8626.5	Rollins

ON DETAILS

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	534.2	5.01	222.60	533.8	-10.8	-9.9	1.50	222.60	14.6	
4	6392.1	5.01	222.60	6369.2	-387.5	-356.3	0.00	0.00	526.4	
5	6726.3	0.00	0.00	6703.0	-398.3	-366.2	1.50	180.00	541.0	Puckett 22A-36D Tgt
6	7084.4	0.90	214.95	7061.2	-400.6	-367.8	0.25	214.95	543.8	
7	8826.5	0.90	214.95	8803.0	-422.9	-383.4	0.00	0.00	570.8	Puckett 22A-36D BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Puckett 22A-36D Tgt	6703.0	-398.3	-366.2	39° 28' 56.713 N	108° 10' 15.841 W	Point
Puckett 22A-36D BHL	8803.0	-422.9	-383.4	39° 28' 56.470 N	108° 10' 16.060 W	Circle (Radius: 60.0)

CASING DETAILS

TVD	MD	Name	Size
2700.0	2708.7	Surface Casing	

Plan: Plan #1 (Puckett 22A-36D/DD)

Created By: Jon Schweigert Date: 9:55, May 11 2010
 Checked: _____ Date: _____
 Reviewed: _____ Date: _____
 Approved: _____ Date: _____





Database:	RMR1 Database	Local Co-ordinate Reference:	Well Puckett 22A-36D
Company:	Petroleum Development Corp.	TVD Reference:	Puckett 22A-36D KBE @ 8228.0ft (H&P 318)
Project:	Mesa	MD Reference:	Puckett 22A-36D KBE @ 8228.0ft (H&P 318)
Site:	NESW Sec 36-T6S-R97W	North Reference:	True
Well:	Puckett 22A-36D	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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	NESW Sec 36-T6S-R97W	
Site Position:	Northing: 1,612,095.79 ft	Latitude: 39° 29' 0.904 N
From: Lat/Long	Easting: 2,246,581.45 ft	Longitude: 108° 10' 10.965 W
Position Uncertainty: 0.0 ft	Slot Radius:	Grid Convergence: -1.68 °

Well	Puckett 22A-36D		
Well Position	+N/-S -25.7 ft	Northing: 1,612,070.59 ft	Latitude: 39° 29' 0.650 N
	+E/-W -16.1 ft	Easting: 2,246,564.61 ft	Longitude: 108° 10' 11.170 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	Ground Level: 8,204.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010-14	2010/05/07	10.57	65.73	52,314

Design	Plan #1			
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	222.19

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	
534.2	5.01	222.60	533.8	-10.8	-9.9	1.50	1.50	0.00	222.60	
6,392.1	5.01	222.60	6,369.2	-387.5	-356.3	0.00	0.00	0.00	0.00	
6,726.3	0.00	0.00	6,703.0	-398.3	-366.2	1.50	-1.50	0.00	180.00	Puckett 22A-36D Tgt
7,084.4	0.90	214.95	7,061.2	-400.6	-367.8	0.25	0.25	-40.50	214.95	
8,826.5	0.90	214.95	8,803.0	-422.9	-383.4	0.00	0.00	0.00	0.00	Puckett 22A-36D BHL

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Project:	Mesa	MD Reference:	Puckett 22A-36D KBE @ 8228.0ft (H&P 318)
Site:	NESW Sec 36-T6S-R97W	North Reference:	True
Well:	Puckett 22A-36D	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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	-8,228.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	-8,128.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP @ 200'										
200.0	0.00	0.00	200.0	-8,028.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	1.50	222.60	300.0	-7,928.0	-1.0	-0.9	1.3	1.50	1.50	0.00
400.0	3.00	222.60	399.9	-7,828.1	-3.9	-3.5	5.2	1.50	1.50	0.00
500.0	4.50	222.60	499.7	-7,728.3	-8.7	-8.0	11.8	1.50	1.50	0.00
EOB = 5.01° Inc										
534.2	5.01	222.60	533.8	-7,694.2	-10.8	-9.9	14.6	1.50	1.50	0.00
600.0	5.01	222.60	599.3	-7,628.7	-15.0	-13.8	20.4	0.00	0.00	0.00
700.0	5.01	222.60	698.9	-7,529.1	-21.4	-19.7	29.1	0.00	0.00	0.00
800.0	5.01	222.60	798.6	-7,429.4	-27.9	-25.6	37.8	0.00	0.00	0.00
900.0	5.01	222.60	898.2	-7,329.8	-34.3	-31.5	46.6	0.00	0.00	0.00
1,000.0	5.01	222.60	997.8	-7,230.2	-40.7	-37.4	55.3	0.00	0.00	0.00
1,100.0	5.01	222.60	1,097.4	-7,130.6	-47.1	-43.3	64.0	0.00	0.00	0.00
1,200.0	5.01	222.60	1,197.0	-7,031.0	-53.6	-49.3	72.8	0.00	0.00	0.00
1,300.0	5.01	222.60	1,296.6	-6,931.4	-60.0	-55.2	81.5	0.00	0.00	0.00
1,400.0	5.01	222.60	1,396.3	-6,831.7	-66.4	-61.1	90.3	0.00	0.00	0.00
1,500.0	5.01	222.60	1,495.9	-6,732.1	-72.9	-67.0	99.0	0.00	0.00	0.00
1,600.0	5.01	222.60	1,595.5	-6,632.5	-79.3	-72.9	107.7	0.00	0.00	0.00
1,700.0	5.01	222.60	1,695.1	-6,532.9	-85.7	-78.8	116.5	0.00	0.00	0.00
1,800.0	5.01	222.60	1,794.7	-6,433.3	-92.2	-84.7	125.2	0.00	0.00	0.00
1,900.0	5.01	222.60	1,894.4	-6,333.6	-98.6	-90.7	133.9	0.00	0.00	0.00
2,000.0	5.01	222.60	1,994.0	-6,234.0	-105.0	-96.6	142.7	0.00	0.00	0.00
Wasatch										
2,014.1	5.01	222.60	2,008.0	-6,220.0	-105.9	-97.4	143.9	0.00	0.00	0.00
2,100.0	5.01	222.60	2,093.6	-6,134.4	-111.5	-102.5	151.4	0.00	0.00	0.00
2,200.0	5.01	222.60	2,193.2	-6,034.8	-117.9	-108.4	160.2	0.00	0.00	0.00
2,300.0	5.01	222.60	2,292.8	-5,935.2	-124.3	-114.3	168.9	0.00	0.00	0.00
2,400.0	5.01	222.60	2,392.4	-5,835.6	-130.8	-120.2	177.6	0.00	0.00	0.00
2,500.0	5.01	222.60	2,492.1	-5,735.9	-137.2	-126.1	186.4	0.00	0.00	0.00
2,600.0	5.01	222.60	2,591.7	-5,636.3	-143.6	-132.1	195.1	0.00	0.00	0.00
2,700.0	5.01	222.60	2,691.3	-5,536.7	-150.1	-138.0	203.8	0.00	0.00	0.00
Surface Casing										
2,708.7	5.01	222.60	2,700.0	-5,528.0	-150.6	-138.5	204.6	0.00	0.00	0.00
2,800.0	5.01	222.60	2,790.9	-5,437.1	-156.5	-143.9	212.6	0.00	0.00	0.00
2,900.0	5.01	222.60	2,890.5	-5,337.5	-162.9	-149.8	221.3	0.00	0.00	0.00
3,000.0	5.01	222.60	2,990.1	-5,237.9	-169.4	-155.7	230.1	0.00	0.00	0.00
3,100.0	5.01	222.60	3,089.8	-5,138.2	-175.8	-161.6	238.8	0.00	0.00	0.00
3,200.0	5.01	222.60	3,189.4	-5,038.6	-182.2	-167.5	247.5	0.00	0.00	0.00
3,300.0	5.01	222.60	3,289.0	-4,939.0	-188.7	-173.5	256.3	0.00	0.00	0.00
3,400.0	5.01	222.60	3,388.6	-4,839.4	-195.1	-179.4	265.0	0.00	0.00	0.00
3,500.0	5.01	222.60	3,488.2	-4,739.8	-201.5	-185.3	273.7	0.00	0.00	0.00
3,600.0	5.01	222.60	3,587.8	-4,640.2	-208.0	-191.2	282.5	0.00	0.00	0.00
3,700.0	5.01	222.60	3,687.5	-4,540.5	-214.4	-197.1	291.2	0.00	0.00	0.00
3,800.0	5.01	222.60	3,787.1	-4,440.9	-220.8	-203.0	300.0	0.00	0.00	0.00
3,900.0	5.01	222.60	3,886.7	-4,341.3	-227.3	-208.9	308.7	0.00	0.00	0.00
4,000.0	5.01	222.60	3,986.3	-4,241.7	-233.7	-214.8	317.4	0.00	0.00	0.00
4,100.0	5.01	222.60	4,085.9	-4,142.1	-240.1	-220.8	326.2	0.00	0.00	0.00
4,200.0	5.01	222.60	4,185.6	-4,042.4	-246.5	-226.7	334.9	0.00	0.00	0.00
4,300.0	5.01	222.60	4,285.2	-3,942.8	-253.0	-232.6	343.6	0.00	0.00	0.00
4,400.0	5.01	222.60	4,384.8	-3,843.2	-259.4	-238.5	352.4	0.00	0.00	0.00
4,500.0	5.01	222.60	4,484.4	-3,743.6	-265.8	-244.4	361.1	0.00	0.00	0.00
Fort Union										



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Well:	Puckett 22A-36D	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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)
4,563.8	5.01	222.60	4,548.0	-3,680.0	-269.9	-248.2	366.7	0.00	0.00	0.00
4,600.0	5.01	222.60	4,584.0	-3,644.0	-272.3	-250.3	369.9	0.00	0.00	0.00
4,700.0	5.01	222.60	4,683.6	-3,544.4	-278.7	-256.2	378.6	0.00	0.00	0.00
4,800.0	5.01	222.60	4,783.3	-3,444.7	-285.1	-262.2	387.3	0.00	0.00	0.00
Wasatch "G" Sand - Base Fort Union										
4,855.0	5.01	222.60	4,838.0	-3,390.0	-288.7	-265.4	392.1	0.00	0.00	0.00
4,900.0	5.01	222.60	4,882.9	-3,345.1	-291.6	-268.1	396.1	0.00	0.00	0.00
5,000.0	5.01	222.60	4,982.5	-3,245.5	-298.0	-274.0	404.8	0.00	0.00	0.00
5,100.0	5.01	222.60	5,082.1	-3,145.9	-304.4	-279.9	413.5	0.00	0.00	0.00
5,200.0	5.01	222.60	5,181.7	-3,046.3	-310.9	-285.8	422.3	0.00	0.00	0.00
5,300.0	5.01	222.60	5,281.3	-2,946.7	-317.3	-291.7	431.0	0.00	0.00	0.00
5,400.0	5.01	222.60	5,381.0	-2,847.0	-323.7	-297.6	439.8	0.00	0.00	0.00
5,500.0	5.01	222.60	5,480.6	-2,747.4	-330.2	-303.6	448.5	0.00	0.00	0.00
5,600.0	5.01	222.60	5,580.2	-2,647.8	-336.6	-309.5	457.2	0.00	0.00	0.00
5,700.0	5.01	222.60	5,679.8	-2,548.2	-343.0	-315.4	466.0	0.00	0.00	0.00
Mesaverde/Williams Fk *										
5,798.6	5.01	222.60	5,778.0	-2,450.0	-349.4	-321.2	474.6	0.00	0.00	0.00
5,800.0	5.01	222.60	5,779.4	-2,448.6	-349.5	-321.3	474.7	0.00	0.00	0.00
5,900.0	5.01	222.60	5,879.1	-2,348.9	-355.9	-327.2	483.4	0.00	0.00	0.00
6,000.0	5.01	222.60	5,978.7	-2,249.3	-362.3	-333.1	492.2	0.00	0.00	0.00
6,100.0	5.01	222.60	6,078.3	-2,149.7	-368.8	-339.0	500.9	0.00	0.00	0.00
6,200.0	5.01	222.60	6,177.9	-2,050.1	-375.2	-345.0	509.7	0.00	0.00	0.00
6,300.0	5.01	222.60	6,277.5	-1,950.5	-381.6	-350.9	518.4	0.00	0.00	0.00
Start of Drop										
6,392.1	5.01	222.60	6,369.2	-1,858.8	-387.5	-356.3	526.4	0.00	0.00	0.00
6,400.0	4.89	222.60	6,377.1	-1,850.9	-388.0	-356.8	527.1	1.50	-1.50	0.00
6,500.0	3.39	222.60	6,476.9	-1,751.1	-393.4	-361.7	534.3	1.50	-1.50	0.00
6,600.0	1.89	222.60	6,576.8	-1,651.2	-396.8	-364.8	539.0	1.50	-1.50	0.00
6,700.0	0.39	222.60	6,676.7	-1,551.3	-398.2	-366.1	541.0	1.50	-1.50	0.00
EOD = 0° Inc - Top Gas Cell - Puckett 22A-36D Tgt										
6,726.3	0.00	0.00	6,703.0	-1,525.0	-398.3	-366.2	541.0	1.50	-1.50	0.00
6,800.0	0.18	214.95	6,776.7	-1,451.3	-398.4	-366.3	541.2	0.25	0.25	0.00
6,900.0	0.43	214.95	6,876.7	-1,351.3	-398.8	-366.6	541.7	0.25	0.25	0.00
7,000.0	0.68	214.95	6,976.7	-1,251.3	-399.6	-367.1	542.7	0.25	0.25	0.00
7,084.4	0.90	214.95	7,061.2	-1,166.8	-400.6	-367.8	543.8	0.25	0.25	0.00
7,100.0	0.90	214.95	7,076.7	-1,151.3	-400.8	-367.9	544.1	0.00	0.00	0.00
7,200.0	0.90	214.95	7,176.7	-1,051.3	-402.1	-368.8	545.6	0.00	0.00	0.00
7,300.0	0.90	214.95	7,276.7	-951.3	-403.4	-369.7	547.2	0.00	0.00	0.00
7,400.0	0.90	214.95	7,376.7	-851.3	-404.6	-370.6	548.7	0.00	0.00	0.00
7,500.0	0.90	214.95	7,476.7	-751.3	-405.9	-371.5	550.3	0.00	0.00	0.00
7,600.0	0.90	214.95	7,576.7	-651.3	-407.2	-372.4	551.8	0.00	0.00	0.00
7,700.0	0.90	214.95	7,676.7	-551.3	-408.5	-373.3	553.4	0.00	0.00	0.00
7,800.0	0.90	214.95	7,776.6	-451.4	-409.8	-374.2	554.9	0.00	0.00	0.00
7,900.0	0.90	214.95	7,876.6	-351.4	-411.0	-375.1	556.5	0.00	0.00	0.00
8,000.0	0.90	214.95	7,976.6	-251.4	-412.3	-376.0	558.0	0.00	0.00	0.00
8,100.0	0.90	214.95	8,076.6	-151.4	-413.6	-376.9	559.6	0.00	0.00	0.00
Cameo										
8,126.4	0.90	214.95	8,103.0	-125.0	-413.9	-377.1	560.0	0.00	0.00	0.00
8,200.0	0.90	214.95	8,176.6	-51.4	-414.9	-377.8	561.1	0.00	0.00	0.00
8,300.0	0.90	214.95	8,276.6	48.6	-416.2	-378.7	562.7	0.00	0.00	0.00
8,400.0	0.90	214.95	8,376.6	148.6	-417.4	-379.6	564.2	0.00	0.00	0.00
8,500.0	0.90	214.95	8,476.6	248.6	-418.7	-380.5	565.8	0.00	0.00	0.00
8,600.0	0.90	214.95	8,576.5	348.5	-420.0	-381.4	567.3	0.00	0.00	0.00



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Wellbore:	DD		
Design:	Plan #1		

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)
Rollins										
8,626.5	0.90	214.95	8,603.0	375.0	-420.3	-381.6	567.7	0.00	0.00	0.00
8,700.0	0.90	214.95	8,676.5	448.5	-421.3	-382.3	568.9	0.00	0.00	0.00
8,800.0	0.90	214.95	8,776.5	548.5	-422.6	-383.2	570.4	0.00	0.00	0.00
Puckett 22A-36D BHL										
8,826.5	0.90	214.95	8,803.0	575.0	-422.9	-383.4	570.8	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	
Puckett 22A-36D Tgt - hit/miss target - Shape - Point	0.00	0.00	6,703.0	-398.3	-366.2	1,611,683.22	2,246,186.87	39° 28' 56.713 N	108° 10' 15.841 W	
Puckett 22A-36D BHL - plan hits target center - Circle (radius 60.0)	0.00	0.00	8,803.0	-422.9	-383.4	1,611,659.13	2,246,168.95	39° 28' 56.470 N	108° 10' 16.060 W	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
2,708.7	2,700.0	Surface Casing				

Formations							
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)		
2,014.1	2,008.0	Wasatch					
4,563.8	4,548.0	Fort Union					
4,855.0	4,838.0	Wasatch "G" Sand					
4,855.0	4,838.0	Base Fort Union					
5,798.6	5,778.0	Mesaverde/Williams Fk	*				
6,726.3	6,703.0	Top Gas Cell					
8,126.4	8,103.0	Cameo					
8,626.5	8,603.0	Rollins					

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP @ 200'	
534.2	533.8	-10.8	-9.9	EOB = 5.01° Inc	
6,392.1	6,369.2	-387.5	-356.3	Start of Drop	
6,726.3	6,703.0	-398.3	-366.2	EOD = 0° Inc	
8,826.5	8,803.0	-422.9	-383.4	TD = 8826.5' MD	