

Well Planning Proposal FOR

**Berry Petroleum Co.
SHP OM02B B21 696
Garfield Co., CO**

Well File: Design #1 (5/2/12)

Presented By:

Pat Rasmussen
Regional Manager

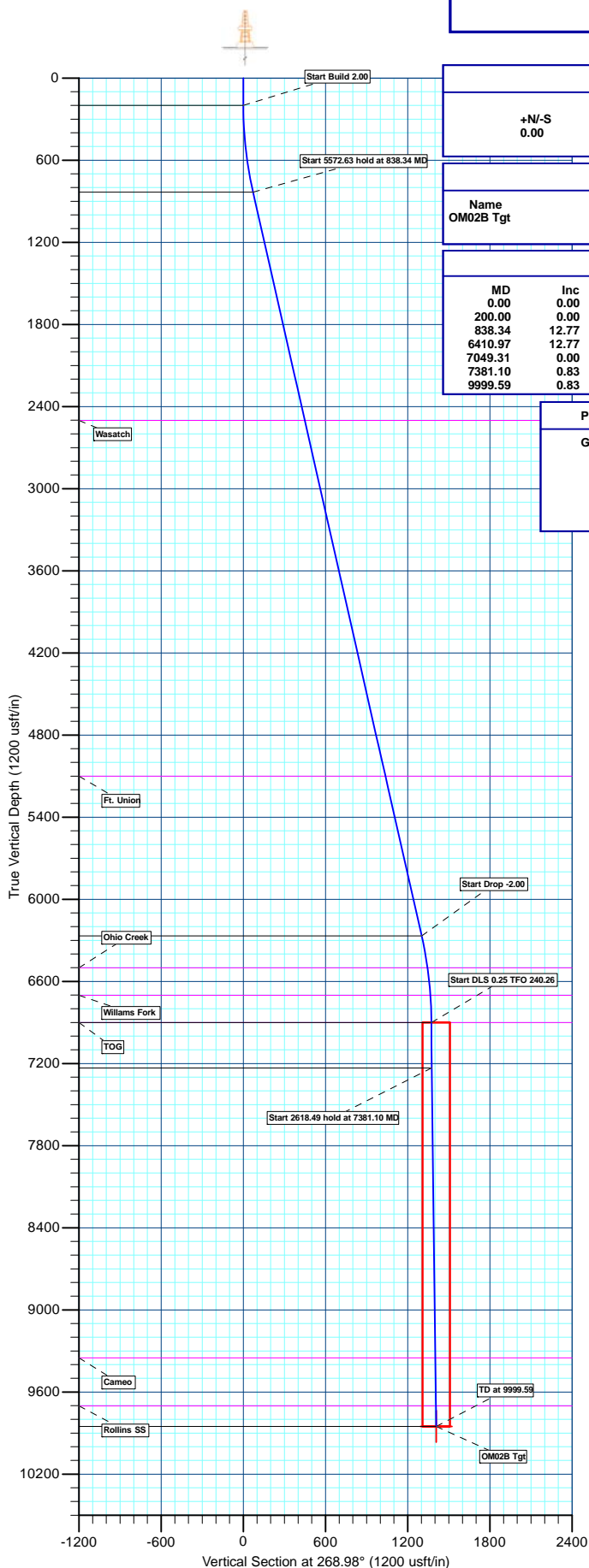
Bret Wolford
Well Planner



Sharewell
Energy Services



Berry Petroleum Company
Project: Garfield Co., CO (CO83C)
Site: B21 696 Pad (Sec.21-T6S-R96W)
Well: OM02B B21 696
Wellbore: Wellbore #1
Design: Design #1
Latitude: 39° 30' 52.358 N
Longitude: 108° 6' 27.911 W
Ground Level: 8288.00
WELL @ 8288.00usft



WELL DETAILS: OM02B B21 696

+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude	Slot
0.00	0.00	1622859.982	2264385.795	8288.00	39° 30' 52.358 N	108° 6' 27.911 W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
OM02B Tgt	9851.00	-25.09	-1408.09	39° 30' 52.110 N	108° 6' 45.878 W	Rectangle (Sides: L100.00 W200.00)

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	Start 5572.63 hold at 838.34 MD
838.34	12.77	269.79	833.07	-0.26	-70.82	2.00	269.79	70.82	Start Drop -2.00
6410.97	12.77	269.79	6267.93	-4.83	-1302.27	0.00	0.00	1302.15	Start DLS 0.25 TFO 240.26
7049.31	0.00	0.00	6901.00	-5.09	-1373.09	2.00	180.00	1372.97	Start 2618.49 hold at 7381.10 MD
7381.10	0.83	240.26	7232.78	-6.28	-1375.18	0.25	240.26	1375.07	TD at 9999.59
9999.59	0.83	240.26	9851.00	-25.09	-1408.09	0.00	0.00	1408.32	

PROJECT DETAILS: Garfield Co., CO (CO83C)

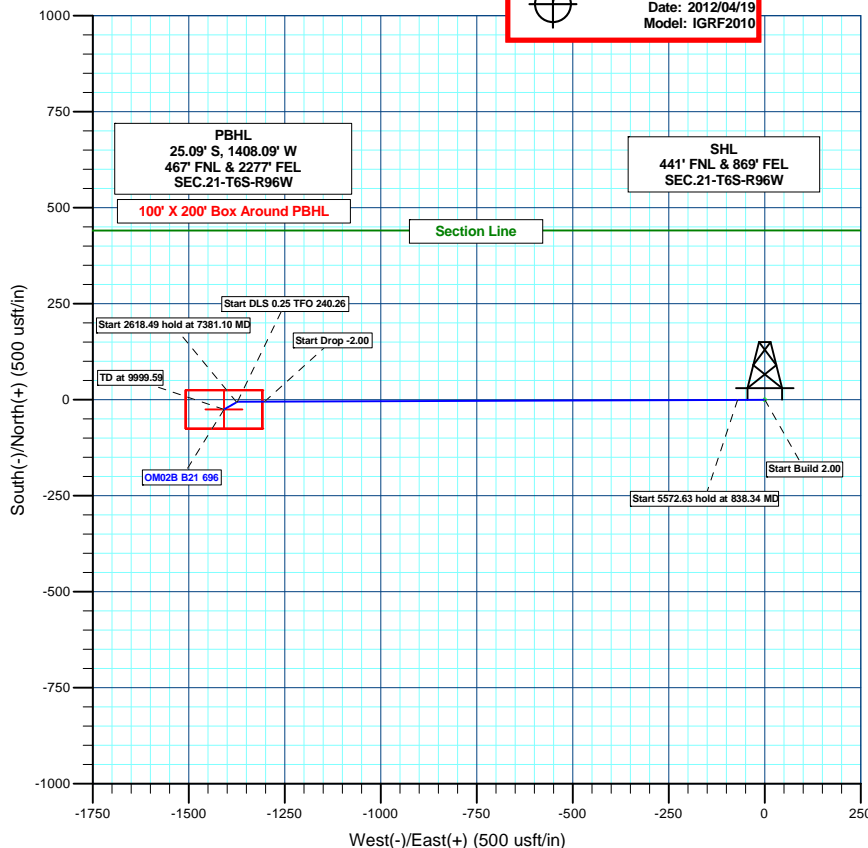
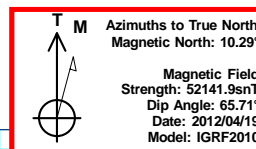
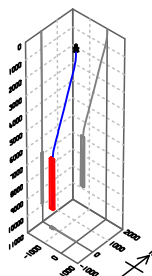
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone
System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (NE) Reference: Well OM02B B21 696, True North
Vertical (TVD) Reference: WELL @ 8288.00usft
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: WELL @ 8288.00usft
Calculation Method: Minimum Curvature

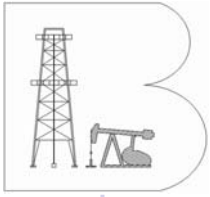
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2501.00	2548.55	Wasatch
5101.00	5214.46	Ft. Union
6501.00	6647.99	Ohio Creek
6701.00	6849.14	Williams Fork
6901.00	7049.31	TOG
9351.00	9499.54	Cameo
9701.00	9849.58	Rollins SS



Plan: Design #1 (OM02B B21 696/Wellbore #1)

Created By: BRET WOLFORD Date: 10:27, May 02 2012



Berry Petroleum Company

Garfield Co., CO (CO83C)

B21 696 Pad (Sec.21-T6S-R96W)

OM02B B21 696

Wellbore #1

Plan: Design #1

Standard Planning Report

02 May, 2012





Sharewell Energy Services, LP

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well OM02B B21 696
Company:	Berry Petroleum Company	TVD Reference:	WELL @ 8288.00usft
Project:	Garfield Co., CO (CO83C)	MD Reference:	WELL @ 8288.00usft
Site:	B21 696 Pad (Sec.21-T6S-R96W)	North Reference:	True
Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Garfield Co., CO (CO83C)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		B21 696 Pad (Sec.21-T6S-R96W)			
Site Position:		Northing:	1,622,859.990 usft	Latitude:	39° 30' 52.358 N
From:	Lat/Long	Easting:	2,264,385.795 usft	Longitude:	108° 6' 27.911 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.64 °

Well	OM02B B21 696					
Well Position	+N/-S	-0.01 usft	Northing:	1,622,859.982 usft	Latitude:	39° 30' 52.358 N
	+E/-W	0.00 usft	Easting:	2,264,385.795 usft	Longitude:	108° 6' 27.911 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	8,288.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	04/19/12	10.29	65.71	52,142

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	268.98

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
838.34	12.77	269.79	833.07	-0.26	-70.82	2.00	2.00	0.00	269.79	
6,410.97	12.77	269.79	6,267.93	-4.83	-1,302.27	0.00	0.00	0.00	0.00	
7,049.31	0.00	0.00	6,901.00	-5.09	-1,373.09	2.00	-2.00	0.00	180.00	
7,381.10	0.83	240.26	7,232.78	-6.28	-1,375.18	0.25	0.25	-36.09	240.26	
9,999.59	0.83	240.26	9,851.00	-25.09	-1,408.09	0.00	0.00	0.00	0.00	OM02B Tgt



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well OM02B B21 696
Company:	Berry Petroleum Company	TVD Reference:	WELL @ 8288.00usft
Project:	Garfield Co., CO (CO83C)	MD Reference:	WELL @ 8288.00usft
Site:	B21 696 Pad (Sec.21-T6S-R96W)	North Reference:	True
Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	2.00	269.79	299.98	-0.01	-1.75	1.74	2.00	2.00	0.00
400.00	4.00	269.79	399.84	-0.03	-6.98	6.98	2.00	2.00	0.00
500.00	6.00	269.79	499.45	-0.06	-15.69	15.69	2.00	2.00	0.00
600.00	8.00	269.79	598.70	-0.10	-27.88	27.88	2.00	2.00	0.00
700.00	10.00	269.79	697.47	-0.16	-43.52	43.52	2.00	2.00	0.00
800.00	12.00	269.79	795.62	-0.23	-62.60	62.60	2.00	2.00	0.00
Start 5572.63 hold at 838.34 MD									
838.34	12.77	269.79	833.07	-0.26	-70.82	70.82	2.00	2.00	0.00
900.00	12.77	269.79	893.21	-0.31	-84.45	84.44	0.00	0.00	0.00
1,000.00	12.77	269.79	990.73	-0.39	-106.55	106.54	0.00	0.00	0.00
1,100.00	12.77	269.79	1,088.26	-0.48	-128.65	128.63	0.00	0.00	0.00
1,200.00	12.77	269.79	1,185.79	-0.56	-150.74	150.73	0.00	0.00	0.00
1,300.00	12.77	269.79	1,283.32	-0.64	-172.84	172.83	0.00	0.00	0.00
1,400.00	12.77	269.79	1,380.85	-0.72	-194.94	194.92	0.00	0.00	0.00
1,500.00	12.77	269.79	1,478.37	-0.80	-217.04	217.02	0.00	0.00	0.00
1,600.00	12.77	269.79	1,575.90	-0.89	-239.14	239.11	0.00	0.00	0.00
1,700.00	12.77	269.79	1,673.43	-0.97	-261.23	261.21	0.00	0.00	0.00
1,800.00	12.77	269.79	1,770.96	-1.05	-283.33	283.31	0.00	0.00	0.00
1,900.00	12.77	269.79	1,868.48	-1.13	-305.43	305.40	0.00	0.00	0.00
2,000.00	12.77	269.79	1,966.01	-1.21	-327.53	327.50	0.00	0.00	0.00
2,100.00	12.77	269.79	2,063.54	-1.30	-349.63	349.59	0.00	0.00	0.00
2,200.00	12.77	269.79	2,161.07	-1.38	-371.73	371.69	0.00	0.00	0.00
2,300.00	12.77	269.79	2,258.60	-1.46	-393.82	393.79	0.00	0.00	0.00
2,400.00	12.77	269.79	2,356.12	-1.54	-415.92	415.88	0.00	0.00	0.00
2,500.00	12.77	269.79	2,453.65	-1.62	-438.02	437.98	0.00	0.00	0.00
Wasatch									
2,548.55	12.77	269.79	2,501.00	-1.66	-448.75	448.71	0.00	0.00	0.00
2,600.00	12.77	269.79	2,551.18	-1.71	-460.12	460.07	0.00	0.00	0.00
2,700.00	12.77	269.79	2,648.71	-1.79	-482.22	482.17	0.00	0.00	0.00
2,800.00	12.77	269.79	2,746.23	-1.87	-504.31	504.27	0.00	0.00	0.00
2,900.00	12.77	269.79	2,843.76	-1.95	-526.41	526.36	0.00	0.00	0.00
3,000.00	12.77	269.79	2,941.29	-2.03	-548.51	548.46	0.00	0.00	0.00
3,100.00	12.77	269.79	3,038.82	-2.12	-570.61	570.56	0.00	0.00	0.00
3,200.00	12.77	269.79	3,136.35	-2.20	-592.71	592.65	0.00	0.00	0.00
3,300.00	12.77	269.79	3,233.87	-2.28	-614.80	614.75	0.00	0.00	0.00
3,400.00	12.77	269.79	3,331.40	-2.36	-636.90	636.84	0.00	0.00	0.00
3,500.00	12.77	269.79	3,428.93	-2.44	-659.00	658.94	0.00	0.00	0.00
3,600.00	12.77	269.79	3,526.46	-2.52	-681.10	681.04	0.00	0.00	0.00
3,700.00	12.77	269.79	3,623.98	-2.61	-703.20	703.13	0.00	0.00	0.00
3,800.00	12.77	269.79	3,721.51	-2.69	-725.29	725.23	0.00	0.00	0.00
3,900.00	12.77	269.79	3,819.04	-2.77	-747.39	747.32	0.00	0.00	0.00
4,000.00	12.77	269.79	3,916.57	-2.85	-769.49	769.42	0.00	0.00	0.00
4,100.00	12.77	269.79	4,014.10	-2.93	-791.59	791.52	0.00	0.00	0.00
4,200.00	12.77	269.79	4,111.62	-3.02	-813.69	813.61	0.00	0.00	0.00
4,300.00	12.77	269.79	4,209.15	-3.10	-835.79	835.71	0.00	0.00	0.00
4,400.00	12.77	269.79	4,306.68	-3.18	-857.88	857.80	0.00	0.00	0.00
4,500.00	12.77	269.79	4,404.21	-3.26	-879.98	879.90	0.00	0.00	0.00
4,600.00	12.77	269.79	4,501.73	-3.34	-902.08	902.00	0.00	0.00	0.00
4,700.00	12.77	269.79	4,599.26	-3.43	-924.18	924.09	0.00	0.00	0.00



Database: EDM 5000.1 Single User Db
Company: Berry Petroleum Company
Project: Garfield Co., CO (CO83C)
Site: B21 696 Pad (Sec.21-T6S-R96W)
Well: OM02B B21 696
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well OM02B B21 696
TVD Reference: WELL @ 8288.00usft
MD Reference: WELL @ 8288.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.00	12.77	269.79	4,696.79	-3.51	-946.28	946.19	0.00	0.00	0.00
4,900.00	12.77	269.79	4,794.32	-3.59	-968.37	968.28	0.00	0.00	0.00
5,000.00	12.77	269.79	4,891.85	-3.67	-990.47	990.38	0.00	0.00	0.00
5,100.00	12.77	269.79	4,989.37	-3.75	-1,012.57	1,012.48	0.00	0.00	0.00
5,200.00	12.77	269.79	5,086.90	-3.84	-1,034.67	1,034.57	0.00	0.00	0.00
Ft. Union									
5,214.46	12.77	269.79	5,101.00	-3.85	-1,037.86	1,037.77	0.00	0.00	0.00
5,300.00	12.77	269.79	5,184.43	-3.92	-1,056.77	1,056.67	0.00	0.00	0.00
5,400.00	12.77	269.79	5,281.96	-4.00	-1,078.86	1,078.76	0.00	0.00	0.00
5,500.00	12.77	269.79	5,379.48	-4.08	-1,100.96	1,100.86	0.00	0.00	0.00
5,600.00	12.77	269.79	5,477.01	-4.16	-1,123.06	1,122.96	0.00	0.00	0.00
5,700.00	12.77	269.79	5,574.54	-4.24	-1,145.16	1,145.05	0.00	0.00	0.00
5,800.00	12.77	269.79	5,672.07	-4.33	-1,167.26	1,167.15	0.00	0.00	0.00
5,900.00	12.77	269.79	5,769.60	-4.41	-1,189.35	1,189.24	0.00	0.00	0.00
6,000.00	12.77	269.79	5,867.12	-4.49	-1,211.45	1,211.34	0.00	0.00	0.00
6,100.00	12.77	269.79	5,964.65	-4.57	-1,233.55	1,233.44	0.00	0.00	0.00
6,200.00	12.77	269.79	6,062.18	-4.65	-1,255.65	1,255.53	0.00	0.00	0.00
6,300.00	12.77	269.79	6,159.71	-4.74	-1,277.75	1,277.63	0.00	0.00	0.00
6,400.00	12.77	269.79	6,257.23	-4.82	-1,299.85	1,299.73	0.00	0.00	0.00
Start Drop -2.00									
6,410.97	12.77	269.79	6,267.93	-4.83	-1,302.27	1,302.15	0.00	0.00	0.00
6,500.00	10.99	269.79	6,355.05	-4.90	-1,320.59	1,320.47	2.00	-2.00	0.00
6,600.00	8.99	269.79	6,453.53	-4.96	-1,337.93	1,337.81	2.00	-2.00	0.00
Ohio Creek									
6,647.99	8.03	269.79	6,501.00	-4.99	-1,345.03	1,344.91	2.00	-2.00	0.00
6,700.00	6.99	269.79	6,552.56	-5.01	-1,351.82	1,351.70	2.00	-2.00	0.00
6,800.00	4.99	269.79	6,652.01	-5.05	-1,362.25	1,362.13	2.00	-2.00	0.00
Williams Fork									
6,849.14	4.00	269.79	6,701.00	-5.06	-1,366.10	1,365.98	2.00	-2.00	0.00
6,900.00	2.99	269.79	6,751.76	-5.08	-1,369.20	1,369.08	2.00	-2.00	0.00
7,000.00	0.99	269.79	6,851.70	-5.09	-1,372.67	1,372.54	2.00	-2.00	0.00
Start DLS 0.25 TFO 240.26 - TOG									
7,049.31	0.00	0.00	6,901.00	-5.09	-1,373.09	1,372.97	2.00	-2.00	0.00
7,100.00	0.13	240.26	6,951.69	-5.12	-1,373.14	1,373.01	0.25	0.25	0.00
7,200.00	0.38	240.26	7,051.69	-5.34	-1,373.52	1,373.40	0.25	0.25	0.00
7,300.00	0.63	240.26	7,151.69	-5.77	-1,374.28	1,374.17	0.25	0.25	0.00
Start 2618.49 hold at 7381.10 MD									
7,381.10	0.83	240.26	7,232.78	-6.28	-1,375.18	1,375.07	0.25	0.25	0.00
7,400.00	0.83	240.26	7,251.68	-6.42	-1,375.42	1,375.31	0.00	0.00	0.00
7,500.00	0.83	240.26	7,351.67	-7.13	-1,376.67	1,376.58	0.00	0.00	0.00
7,600.00	0.83	240.26	7,451.66	-7.85	-1,377.93	1,377.85	0.00	0.00	0.00
7,700.00	0.83	240.26	7,551.65	-8.57	-1,379.19	1,379.12	0.00	0.00	0.00
7,800.00	0.83	240.26	7,651.64	-9.29	-1,380.44	1,380.39	0.00	0.00	0.00
7,900.00	0.83	240.26	7,751.63	-10.01	-1,381.70	1,381.66	0.00	0.00	0.00
8,000.00	0.83	240.26	7,851.62	-10.73	-1,382.96	1,382.93	0.00	0.00	0.00
8,100.00	0.83	240.26	7,951.61	-11.44	-1,384.21	1,384.20	0.00	0.00	0.00
8,200.00	0.83	240.26	8,051.60	-12.16	-1,385.47	1,385.47	0.00	0.00	0.00
8,300.00	0.83	240.26	8,151.59	-12.88	-1,386.73	1,386.74	0.00	0.00	0.00
8,400.00	0.83	240.26	8,251.58	-13.60	-1,387.99	1,388.01	0.00	0.00	0.00
8,500.00	0.83	240.26	8,351.56	-14.32	-1,389.24	1,389.28	0.00	0.00	0.00
8,600.00	0.83	240.26	8,451.55	-15.03	-1,390.50	1,390.55	0.00	0.00	0.00
8,700.00	0.83	240.26	8,551.54	-15.75	-1,391.76	1,391.82	0.00	0.00	0.00
8,800.00	0.83	240.26	8,651.53	-16.47	-1,393.01	1,393.09	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well OM02B B21 696
Company:	Berry Petroleum Company	TVD Reference:	WELL @ 8288.00usft
Project:	Garfield Co., CO (CO83C)	MD Reference:	WELL @ 8288.00usft
Site:	B21 696 Pad (Sec.21-T6S-R96W)	North Reference:	True
Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,900.00	0.83	240.26	8,751.52	-17.19	-1,394.27	1,394.36	0.00	0.00	0.00	
9,000.00	0.83	240.26	8,851.51	-17.91	-1,395.53	1,395.63	0.00	0.00	0.00	
9,100.00	0.83	240.26	8,951.50	-18.62	-1,396.78	1,396.90	0.00	0.00	0.00	
9,200.00	0.83	240.26	9,051.49	-19.34	-1,398.04	1,398.16	0.00	0.00	0.00	
9,300.00	0.83	240.26	9,151.48	-20.06	-1,399.30	1,399.43	0.00	0.00	0.00	
9,400.00	0.83	240.26	9,251.47	-20.78	-1,400.56	1,400.70	0.00	0.00	0.00	
Cameo										
9,499.54	0.83	240.26	9,351.00	-21.49	-1,401.81	1,401.97	0.00	0.00	0.00	
9,500.00	0.83	240.26	9,351.46	-21.50	-1,401.81	1,401.97	0.00	0.00	0.00	
9,600.00	0.83	240.26	9,451.45	-22.22	-1,403.07	1,403.24	0.00	0.00	0.00	
9,700.00	0.83	240.26	9,551.44	-22.93	-1,404.33	1,404.51	0.00	0.00	0.00	
9,800.00	0.83	240.26	9,651.43	-23.65	-1,405.58	1,405.78	0.00	0.00	0.00	
Rollins SS										
9,849.58	0.83	240.26	9,701.00	-24.01	-1,406.21	1,406.41	0.00	0.00	0.00	
9,900.00	0.83	240.26	9,751.42	-24.37	-1,406.84	1,407.05	0.00	0.00	0.00	
TD at 9999.59 - OM02B Tgt										
9,999.59	0.83	240.26	9,851.00	-25.09	-1,408.09	1,408.32	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
OM02B Tgt	0.00	0.00	9,851.00	-25.09	-1,408.09	1,622,875.321	2,262,977.562	39° 30' 52.110 N	108° 6' 45.878 W	
- hit/miss target										
- Shape										
- plan hits target center										
- Rectangle (sides W100.00 H200.00 D0.00)										

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,548.55	2,501.00	Wasatch		0.00		
5,214.46	5,101.00	Ft. Union		0.00		
6,647.99	6,501.00	Ohio Creek		0.00		
6,849.14	6,701.00	Williams Fork		0.00		
7,049.31	6,901.00	TOG		0.00		
9,499.54	9,351.00	Cameo		0.00		
9,849.58	9,701.00	Rollins SS		0.00		



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well OM02B B21 696
Company:	Berry Petroleum Company	TVD Reference:	WELL @ 8288.00usft
Project:	Garfield Co., CO (CO83C)	MD Reference:	WELL @ 8288.00usft
Site:	B21 696 Pad (Sec.21-T6S-R96W)	North Reference:	True
Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.00	200.00	0.00	0.00	Start Build 2.00
838.34	833.07	-0.26	-70.82	Start 5572.63 hold at 838.34 MD
6,410.97	6,267.93	-4.83	-1,302.27	Start Drop -2.00
7,049.31	6,901.00	-5.09	-1,373.09	Start DLS 0.25 TFO 240.26
7,381.10	7,232.78	-6.28	-1,375.18	Start 2618.49 hold at 7381.10 MD
9,999.59	9,851.00	-25.09	-1,408.09	TD at 9999.59