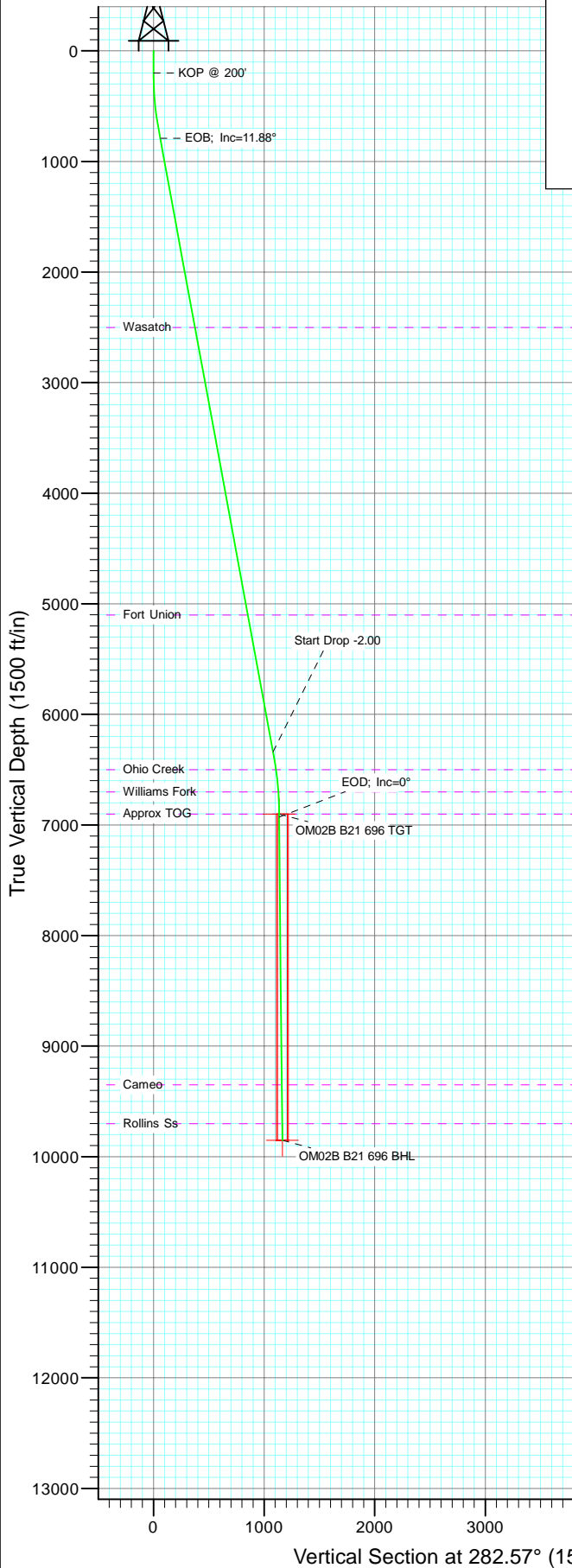
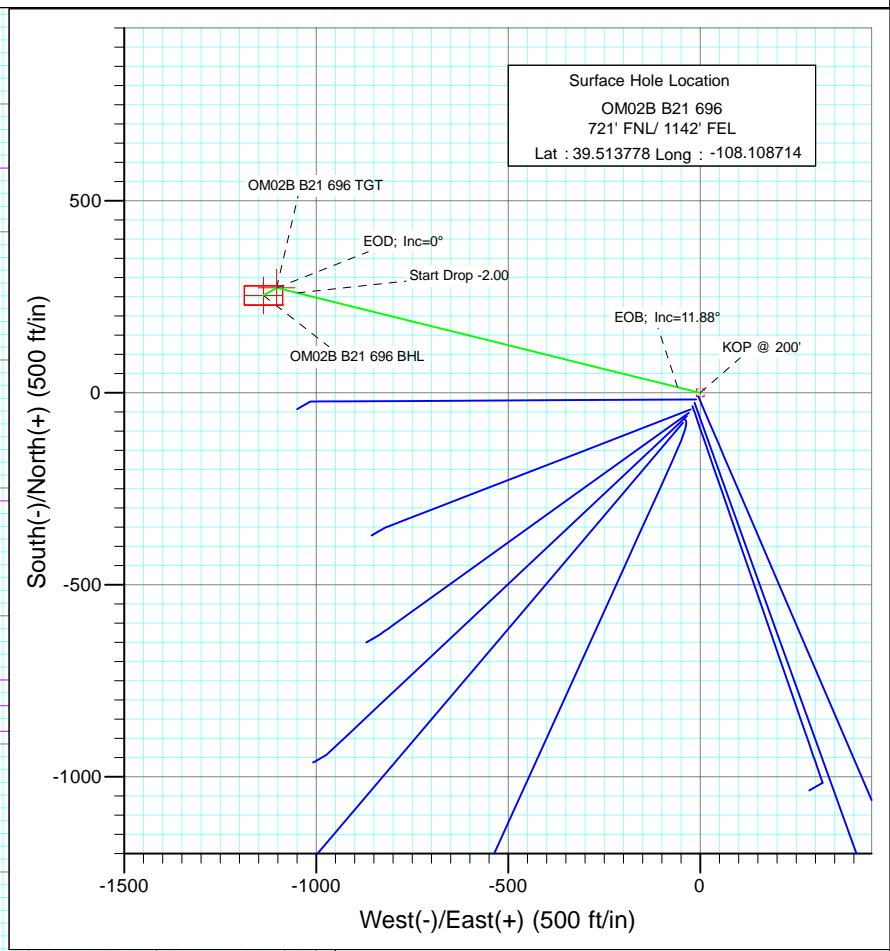


Project: Garfield County
 Site: NENE S21-T6S-R96W (B21 696 Pad)
 Well: OM02B B21 696
 Wellbore: DD
 Design: Plan #1



SECTION 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	720.9	10.42	283.93	718.0	11.4	-45.8	2.00	283.93	47.2	
4	6480.8	10.42	283.93	6383.0	262.1	-1056.8	0.00	0.00	1088.5	
5	7001.7	0.00	0.00	6901.0	273.5	-1102.6	2.00	180.00	1135.7	OM02B B21 696 TGT
6	7330.6	0.82	240.07	7230.0	272.3	-1104.6	0.25	240.07	1137.4	
7	9952.0	0.82	240.07	9851.0	253.6	-1137.3	0.00	0.00	1165.2	OM02B B21 696 BHL



Azimuths to True North
 Magnetic North: 10.45°

Magnetic Field
 Strength: 52312.4snT
 Dip Angle: 65.76°
 Date: 11/30/2010
 Model: IGRF200510

FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
2501.0	2533.8	Wasatch	
5101.0	5177.3	Fort Union	
6501.0	6600.4	Ohio Creek	
6701.0	6801.5	Williams Fork	
6901.0	7001.7	Approx TOG	
9351.0	9451.9	Cameo	
9701.0	9802.0	Rollins Ss	

DESIGN DETAILS: Plan #1					
1055XX; BH KBE @ 8293.0ft					
Target OM02B B21 696 BHL	Azimuth 282.57	Origin Slot	N/S 0.0	E/W 0.0	From TVD 0.0

Bottom Hole Location
 OM02B B21 696
 467' FNL/ 2279' FEL
 Lat : 39.514474
 Long. : -108.112745

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM02B B21 696
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8293.0ft
Project:	Garfield County	MD Reference:	KBE @ 8293.0ft
Site:	NENE S21-T6S-R96W (B21 696 Pad)	North Reference:	True
Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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

Site		NENE S21-T6S-R96W (B21 696 Pad)			
Site Position:		Northing:	1,622,587.75 ft	Latitude:	39.513778
From:	Lat/Long	Easting:	2,264,263.59 ft	Longitude:	-108.108174
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.64 °

Well	OM02B B21 696					
Well Position	+N/-S	0.0 ft	Northing:	1,622,592.11 ft	Latitude:	39.513778
	+E/-W	0.0 ft	Easting:	2,264,111.30 ft	Longitude:	-108.108714
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,278.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/30/2010	10.45	65.76	52,312

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	282.57

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	
720.9	10.42	283.93	718.0	11.4	-45.8	2.00	2.00	0.00	283.93	
6,480.8	10.42	283.93	6,383.0	262.1	-1,056.8	0.00	0.00	0.00	0.00	
7,001.7	0.00	0.00	6,901.0	273.5	-1,102.6	2.00	-2.00	0.00	180.00	OM02B B21 696 TGT
7,330.6	0.82	240.07	7,230.0	272.3	-1,104.6	0.25	0.25	-36.46	240.07	
9,952.0	0.82	240.07	9,851.0	253.6	-1,137.3	0.00	0.00	0.00	0.00	OM02B B21 696 BHL

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM02B B21 696
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8293.0ft
Project:	Garfield County	MD Reference:	KBE @ 8293.0ft
Site:	NENE S21-T6S-R96W (B21 696 Pad)	North Reference:	True
Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	0.0	0.0	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	0.0	0.0	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP @ 200'
210.0	0.20	283.93	210.0	0.0	0.0	0.0	2.00	2.00	
240.0	0.80	283.93	240.0	0.1	-0.3	0.3	2.00	2.00	
270.0	1.40	283.93	270.0	0.2	-0.8	0.9	2.00	2.00	
300.0	2.00	283.93	300.0	0.4	-1.7	1.7	2.00	2.00	
330.0	2.60	283.93	330.0	0.7	-2.9	2.9	2.00	2.00	
360.0	3.20	283.93	359.9	1.1	-4.3	4.5	2.00	2.00	
390.0	3.80	283.93	389.9	1.5	-6.1	6.3	2.00	2.00	
420.0	4.40	283.93	419.8	2.0	-8.2	8.4	2.00	2.00	
450.0	5.00	283.93	449.7	2.6	-10.6	10.9	2.00	2.00	
480.0	5.60	283.93	479.6	3.3	-13.3	13.7	2.00	2.00	
510.0	6.20	283.93	509.4	4.0	-16.3	16.8	2.00	2.00	
540.0	6.80	283.93	539.2	4.9	-19.6	20.1	2.00	2.00	
570.0	7.40	283.93	569.0	5.7	-23.2	23.9	2.00	2.00	
600.0	8.00	283.93	598.7	6.7	-27.1	27.9	2.00	2.00	
630.0	8.60	283.93	628.4	7.8	-31.3	32.2	2.00	2.00	
660.0	9.20	283.93	658.0	8.9	-35.8	36.8	2.00	2.00	
690.0	9.80	283.93	687.6	10.1	-40.6	41.8	2.00	2.00	
720.0	10.40	283.93	717.1	11.3	-45.7	47.1	2.00	2.00	
720.9	10.42	283.93	718.0	11.4	-45.8	47.2	2.00	2.00	
750.0	10.42	283.93	746.7	12.6	-50.9	52.5	0.00	0.00	
780.0	10.42	283.93	776.2	13.9	-56.2	57.9	0.00	0.00	
794.1	10.42	283.93	790.0	14.6	-58.7	60.4	0.00	0.00	EOB; Inc=11.88°
810.0	10.42	283.93	805.7	15.2	-61.5	63.3	0.00	0.00	
840.0	10.42	283.93	835.2	16.6	-66.7	68.7	0.00	0.00	
870.0	10.42	283.93	864.7	17.9	-72.0	74.2	0.00	0.00	
900.0	10.42	283.93	894.2	19.2	-77.3	79.6	0.00	0.00	
930.0	10.42	283.93	923.7	20.5	-82.5	85.0	0.00	0.00	
960.0	10.42	283.93	953.2	21.8	-87.8	90.4	0.00	0.00	
990.0	10.42	283.93	982.7	23.1	-93.1	95.9	0.00	0.00	
1,020.0	10.42	283.93	1,012.2	24.4	-98.3	101.3	0.00	0.00	
1,050.0	10.42	283.93	1,041.7	25.7	-103.6	106.7	0.00	0.00	
1,080.0	10.42	283.93	1,071.2	27.0	-108.9	112.1	0.00	0.00	
1,110.0	10.42	283.93	1,100.7	28.3	-114.1	117.6	0.00	0.00	
1,140.0	10.42	283.93	1,130.2	29.6	-119.4	123.0	0.00	0.00	
1,170.0	10.42	283.93	1,159.7	30.9	-124.7	128.4	0.00	0.00	
1,200.0	10.42	283.93	1,189.2	32.2	-129.9	133.8	0.00	0.00	
1,230.0	10.42	283.93	1,218.7	33.5	-135.2	139.2	0.00	0.00	
1,260.0	10.42	283.93	1,248.2	34.8	-140.5	144.7	0.00	0.00	
1,290.0	10.42	283.93	1,277.8	36.1	-145.7	150.1	0.00	0.00	
1,320.0	10.42	283.93	1,307.3	37.5	-151.0	155.5	0.00	0.00	
1,350.0	10.42	283.93	1,336.8	38.8	-156.3	160.9	0.00	0.00	
1,380.0	10.42	283.93	1,366.3	40.1	-161.5	166.4	0.00	0.00	
1,410.0	10.42	283.93	1,395.8	41.4	-166.8	171.8	0.00	0.00	
1,440.0	10.42	283.93	1,425.3	42.7	-172.0	177.2	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM02B B21 696
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8293.0ft
Project:	Garfield County	MD Reference:	KBE @ 8293.0ft
Site:	NENE S21-T6S-R96W (B21 696 Pad)	North Reference:	True
Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
1,470.0	10.42	283.93	1,454.8	44.0	-177.3	182.6	0.00	0.00	
1,500.0	10.42	283.93	1,484.3	45.3	-182.6	188.1	0.00	0.00	
1,530.0	10.42	283.93	1,513.8	46.6	-187.8	193.5	0.00	0.00	
1,560.0	10.42	283.93	1,543.3	47.9	-193.1	198.9	0.00	0.00	
1,590.0	10.42	283.93	1,572.8	49.2	-198.4	204.3	0.00	0.00	
1,620.0	10.42	283.93	1,602.3	50.5	-203.6	209.8	0.00	0.00	
1,650.0	10.42	283.93	1,631.8	51.8	-208.9	215.2	0.00	0.00	
1,680.0	10.42	283.93	1,661.3	53.1	-214.2	220.6	0.00	0.00	
1,710.0	10.42	283.93	1,690.8	54.4	-219.4	226.0	0.00	0.00	
1,740.0	10.42	283.93	1,720.3	55.7	-224.7	231.4	0.00	0.00	
1,770.0	10.42	283.93	1,749.8	57.0	-230.0	236.9	0.00	0.00	
1,800.0	10.42	283.93	1,779.3	58.3	-235.2	242.3	0.00	0.00	
1,830.0	10.42	283.93	1,808.9	59.7	-240.5	247.7	0.00	0.00	
1,860.0	10.42	283.93	1,838.4	61.0	-245.8	253.1	0.00	0.00	
1,890.0	10.42	283.93	1,867.9	62.3	-251.0	258.6	0.00	0.00	
1,920.0	10.42	283.93	1,897.4	63.6	-256.3	264.0	0.00	0.00	
1,950.0	10.42	283.93	1,926.9	64.9	-261.6	269.4	0.00	0.00	
1,980.0	10.42	283.93	1,956.4	66.2	-266.8	274.8	0.00	0.00	
2,010.0	10.42	283.93	1,985.9	67.5	-272.1	280.3	0.00	0.00	
2,040.0	10.42	283.93	2,015.4	68.8	-277.4	285.7	0.00	0.00	
2,070.0	10.42	283.93	2,044.9	70.1	-282.6	291.1	0.00	0.00	
2,100.0	10.42	283.93	2,074.4	71.4	-287.9	296.5	0.00	0.00	
2,130.0	10.42	283.93	2,103.9	72.7	-293.2	301.9	0.00	0.00	
2,160.0	10.42	283.93	2,133.4	74.0	-298.4	307.4	0.00	0.00	
2,190.0	10.42	283.93	2,162.9	75.3	-303.7	312.8	0.00	0.00	
2,220.0	10.42	283.93	2,192.4	76.6	-308.9	318.2	0.00	0.00	
2,250.0	10.42	283.93	2,221.9	77.9	-314.2	323.6	0.00	0.00	
2,280.0	10.42	283.93	2,251.4	79.2	-319.5	329.1	0.00	0.00	
2,310.0	10.42	283.93	2,280.9	80.6	-324.7	334.5	0.00	0.00	
2,340.0	10.42	283.93	2,310.4	81.9	-330.0	339.9	0.00	0.00	
2,370.0	10.42	283.93	2,339.9	83.2	-335.3	345.3	0.00	0.00	
2,400.0	10.42	283.93	2,369.5	84.5	-340.5	350.8	0.00	0.00	
2,430.0	10.42	283.93	2,399.0	85.8	-345.8	356.2	0.00	0.00	
2,460.0	10.42	283.93	2,428.5	87.1	-351.1	361.6	0.00	0.00	
2,490.0	10.42	283.93	2,458.0	88.4	-356.3	367.0	0.00	0.00	

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
OM02B B21 696 TGT	0.00	0.00	6,901.0	273.5	-1,102.6	1,622,897.16	2,263,017.01	39.514529	-108.112622
- hit/miss target									
- Shape									
- plan misses target center by 4509.1ft at 2490.0ft MD (2458.0 TVD, 88.4 N, -356.3 E)									
- Point									
OM02B B21 696 BHL	0.00	0.00	9,851.0	253.6	-1,137.3	1,622,878.21	2,262,981.80	39.514474	-108.112745
- hit/miss target									
- Shape									
- plan misses target center by 7436.0ft at 2490.0ft MD (2458.0 TVD, 88.4 N, -356.3 E)									
- Rectangle (sides W50.0 H100.0 D0.0)									

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM02B B21 696
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8293.0ft
Project:	Garfield County	MD Reference:	KBE @ 8293.0ft
Site:	NENE S21-T6S-R96W (B21 696 Pad)	North Reference:	True
Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
2,500.0	10.42	283.93	2,467.8	88.8	-358.1	368.8	0.00	0.00	
2,533.8	10.42	283.93	2,501.0	90.3	-364.0	374.9	0.00	0.00	Wasatch
2,600.0	10.42	283.93	2,566.2	93.2	-375.6	386.9	0.00	0.00	
2,700.0	10.42	283.93	2,664.5	97.5	-393.2	405.0	0.00	0.00	
2,800.0	10.42	283.93	2,762.9	101.9	-410.7	423.1	0.00	0.00	
2,900.0	10.42	283.93	2,861.2	106.2	-428.3	441.1	0.00	0.00	
3,000.0	10.42	283.93	2,959.6	110.6	-445.8	459.2	0.00	0.00	
3,100.0	10.42	283.93	3,057.9	114.9	-463.4	477.3	0.00	0.00	
3,200.0	10.42	283.93	3,156.3	119.3	-480.9	495.4	0.00	0.00	
3,300.0	10.42	283.93	3,254.6	123.7	-498.5	513.5	0.00	0.00	
3,400.0	10.42	283.93	3,353.0	128.0	-516.1	531.5	0.00	0.00	
3,500.0	10.42	283.93	3,451.3	132.4	-533.6	549.6	0.00	0.00	
3,600.0	10.42	283.93	3,549.7	136.7	-551.2	567.7	0.00	0.00	
3,700.0	10.42	283.93	3,648.0	141.1	-568.7	585.8	0.00	0.00	
3,800.0	10.42	283.93	3,746.4	145.4	-586.3	603.9	0.00	0.00	
3,900.0	10.42	283.93	3,844.7	149.8	-603.8	621.9	0.00	0.00	
4,000.0	10.42	283.93	3,943.1	154.1	-621.4	640.0	0.00	0.00	
4,100.0	10.42	283.93	4,041.4	158.5	-638.9	658.1	0.00	0.00	
4,200.0	10.42	283.93	4,139.8	162.8	-656.5	676.2	0.00	0.00	
4,300.0	10.42	283.93	4,238.1	167.2	-674.0	694.2	0.00	0.00	
4,400.0	10.42	283.93	4,336.5	171.5	-691.6	712.3	0.00	0.00	
4,500.0	10.42	283.93	4,434.8	175.9	-709.1	730.4	0.00	0.00	
4,600.0	10.42	283.93	4,533.2	180.3	-726.7	748.5	0.00	0.00	
4,700.0	10.42	283.93	4,631.5	184.6	-744.2	766.6	0.00	0.00	
4,800.0	10.42	283.93	4,729.9	189.0	-761.8	784.6	0.00	0.00	
4,900.0	10.42	283.93	4,828.2	193.3	-779.3	802.7	0.00	0.00	
5,000.0	10.42	283.93	4,926.6	197.7	-796.9	820.8	0.00	0.00	
5,100.0	10.42	283.93	5,024.9	202.0	-814.4	838.9	0.00	0.00	
5,177.3	10.42	283.93	5,101.0	205.4	-828.0	852.8	0.00	0.00	Fort Union
5,200.0	10.42	283.93	5,123.3	206.4	-832.0	856.9	0.00	0.00	
5,300.0	10.42	283.93	5,221.6	210.7	-849.5	875.0	0.00	0.00	
5,400.0	10.42	283.93	5,320.0	215.1	-867.1	893.1	0.00	0.00	
5,500.0	10.42	283.93	5,418.3	219.4	-884.6	911.2	0.00	0.00	
5,600.0	10.42	283.93	5,516.7	223.8	-902.2	929.3	0.00	0.00	
5,700.0	10.42	283.93	5,615.1	228.1	-919.7	947.3	0.00	0.00	
5,800.0	10.42	283.93	5,713.4	232.5	-937.3	965.4	0.00	0.00	
5,900.0	10.42	283.93	5,811.8	236.8	-954.8	983.5	0.00	0.00	
6,000.0	10.42	283.93	5,910.1	241.2	-972.4	1,001.6	0.00	0.00	
6,100.0	10.42	283.93	6,008.5	245.6	-989.9	1,019.6	0.00	0.00	
6,200.0	10.42	283.93	6,106.8	249.9	-1,007.5	1,037.7	0.00	0.00	
6,300.0	10.42	283.93	6,205.2	254.3	-1,025.0	1,055.8	0.00	0.00	
6,400.0	10.42	283.93	6,303.5	258.6	-1,042.6	1,073.9	0.00	0.00	
6,436.3	10.42	283.93	6,339.2	260.2	-1,049.0	1,080.4	0.00	0.00	Start Drop -2.00
6,480.8	10.42	283.93	6,383.0	262.1	-1,056.8	1,088.5	0.00	0.00	
6,500.0	10.03	283.93	6,401.9	263.0	-1,060.1	1,091.9	2.00	-2.00	
6,600.0	8.03	283.93	6,500.6	266.7	-1,075.3	1,107.6	2.00	-2.00	
6,600.4	8.03	283.93	6,501.0	266.7	-1,075.4	1,107.6	2.00	-2.00	Ohio Creek
6,700.0	6.03	283.93	6,599.9	269.7	-1,087.2	1,119.8	2.00	-2.00	
6,800.0	4.03	283.93	6,699.5	271.8	-1,095.7	1,128.6	2.00	-2.00	
6,801.5	4.00	283.93	6,701.0	271.8	-1,095.8	1,128.7	2.00	-2.00	Williams Fork
6,900.0	2.03	283.93	6,799.3	273.1	-1,100.9	1,133.9	2.00	-2.00	
7,000.0	0.03	283.93	6,899.3	273.5	-1,102.6	1,135.7	2.00	-2.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM02B B21 696
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8293.0ft
Project:	Garfield County	MD Reference:	KBE @ 8293.0ft
Site:	NENE S21-T6S-R96W (B21 696 Pad)	North Reference:	True
Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
7,001.7	0.00	0.00	6,901.0	273.5	-1,102.6	1,135.7	2.00	-2.00	Approx TOG - OM02B B21 696 TGT
7,030.4	0.07	240.07	6,929.7	273.5	-1,102.6	1,135.7	0.25	0.25	EOD; Inc=0°
7,100.0	0.25	240.07	6,999.3	273.4	-1,102.8	1,135.9	0.25	0.25	
7,200.0	0.50	240.07	7,099.3	273.1	-1,103.3	1,136.3	0.25	0.25	
7,300.0	0.75	240.07	7,199.3	272.5	-1,104.3	1,137.1	0.25	0.25	
7,330.6	0.82	240.07	7,230.0	272.3	-1,104.6	1,137.4	0.25	0.25	
7,400.0	0.82	240.07	7,299.3	271.8	-1,105.5	1,138.2	0.00	0.00	
7,500.0	0.82	240.07	7,399.3	271.1	-1,106.8	1,139.2	0.00	0.00	
7,600.0	0.82	240.07	7,499.3	270.4	-1,108.0	1,140.3	0.00	0.00	
7,700.0	0.82	240.07	7,599.3	269.7	-1,109.2	1,141.3	0.00	0.00	
7,800.0	0.82	240.07	7,699.3	269.0	-1,110.5	1,142.4	0.00	0.00	
7,900.0	0.82	240.07	7,799.2	268.2	-1,111.7	1,143.5	0.00	0.00	
8,000.0	0.82	240.07	7,899.2	267.5	-1,113.0	1,144.5	0.00	0.00	
8,100.0	0.82	240.07	7,999.2	266.8	-1,114.2	1,145.6	0.00	0.00	
8,200.0	0.82	240.07	8,099.2	266.1	-1,115.5	1,146.6	0.00	0.00	
8,300.0	0.82	240.07	8,199.2	265.4	-1,116.7	1,147.7	0.00	0.00	
8,400.0	0.82	240.07	8,299.2	264.7	-1,117.9	1,148.8	0.00	0.00	
8,500.0	0.82	240.07	8,399.2	263.9	-1,119.2	1,149.8	0.00	0.00	
8,600.0	0.82	240.07	8,499.2	263.2	-1,120.4	1,150.9	0.00	0.00	
8,700.0	0.82	240.07	8,599.2	262.5	-1,121.7	1,151.9	0.00	0.00	
8,800.0	0.82	240.07	8,699.2	261.8	-1,122.9	1,153.0	0.00	0.00	
8,900.0	0.82	240.07	8,799.1	261.1	-1,124.2	1,154.0	0.00	0.00	
9,000.0	0.82	240.07	8,899.1	260.4	-1,125.4	1,155.1	0.00	0.00	
9,100.0	0.82	240.07	8,999.1	259.7	-1,126.7	1,156.2	0.00	0.00	
9,200.0	0.82	240.07	9,099.1	258.9	-1,127.9	1,157.2	0.00	0.00	
9,300.0	0.82	240.07	9,199.1	258.2	-1,129.1	1,158.3	0.00	0.00	
9,400.0	0.82	240.07	9,299.1	257.5	-1,130.4	1,159.3	0.00	0.00	
9,451.9	0.82	240.07	9,351.0	257.1	-1,131.0	1,159.9	0.00	0.00	Cameo
9,500.0	0.82	240.07	9,399.1	256.8	-1,131.6	1,160.4	0.00	0.00	
9,600.0	0.82	240.07	9,499.1	256.1	-1,132.9	1,161.5	0.00	0.00	
9,700.0	0.82	240.07	9,599.1	255.4	-1,134.1	1,162.5	0.00	0.00	
9,800.0	0.82	240.07	9,699.0	254.6	-1,135.4	1,163.6	0.00	0.00	
9,802.0	0.82	240.07	9,701.0	254.6	-1,135.4	1,163.6	0.00	0.00	Rollins Ss
9,900.0	0.82	240.07	9,799.0	253.9	-1,136.6	1,164.6	0.00	0.00	
9,952.0	0.82	240.07	9,851.0	253.6	-1,137.3	1,165.2	0.00	0.00	OM02B B21 696 BHL

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									
OM02B B21 696 TGT	0.00	0.00	6,901.0	273.5	-1,102.6	1,622,897.16	2,263,017.01	39.514529	-108.112622
- plan hits target center									
- Point									
OM02B B21 696 BHL	0.00	0.00	9,851.0	253.6	-1,137.3	1,622,878.21	2,262,981.80	39.514474	-108.112745
- plan hits target center									
- Rectangle (sides W50.0 H100.0 D0.0)									

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM02B B21 696
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8293.0ft
Project:	Garfield County	MD Reference:	KBE @ 8293.0ft
Site:	NENE S21-T6S-R96W (B21 696 Pad)	North Reference:	True
Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,533.8	2,501.0	Wasatch		0.00	
5,177.3	5,101.0	Fort Union		0.00	
6,600.4	6,501.0	Ohio Creek		0.00	
6,801.5	6,701.0	Williams Fork		0.00	
7,001.7	6,901.0	Approx TOG		0.00	
9,451.9	9,351.0	Cameo		0.00	
9,802.0	9,701.0	Rollins Ss		0.00	

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'
794.1	790.0	14.6	-58.7	EOB; Inc=11.88°
6,436.3	6,339.2	260.2	-1,049.0	Start Drop -2.00
7,030.4	6,929.7	273.5	-1,102.6	EOD; Inc=0°
9,980.7				TD at 9980.7

Berry Petroleum Company (NAD 83)

Garfield County

NENE S21-T6S-R96W (B21 696 Pad)

OM02B B21 696

DD

Plan #1

Anticollision Report

06 December, 2010

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 100.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	12/6/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	9,952.0	Plan #1 (DD)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
NENE S21-T6S-R96W (B21 696 Pad)						
OM02C B21 696 - DD - Plan #1	200.0	200.0	19.9	19.3	30.819	CC, ES
OM02C B21 696 - DD - Plan #1	2,200.0	2,196.5	95.5	82.6	7.436	SF
OM02D B21 696 - DD - Plan #1	479.9	479.5	48.0	46.4	28.472	CC
OM02D B21 696 - DD - Plan #1	500.0	499.5	48.1	46.3	27.202	ES
OM02D B21 696 - DD - Plan #1	1,100.0	1,094.0	98.2	93.2	19.924	SF
OM07A B21 696 - DD - Plan #1	503.5	502.9	57.8	56.0	32.385	CC, ES
OM07A B21 696 - DD - Plan #1	800.0	793.3	77.7	74.6	24.632	SF
OM07B B21 696 - DD - Plan #1	437.0	436.0	68.2	66.7	45.070	CC, ES
OM07B B21 696 - DD - Plan #1	800.0	788.8	94.2	91.0	29.154	SF
OM07C B21 696 - DD - Plan #1	334.1	333.0	89.2	88.1	79.473	CC, ES
OM07C B21 696 - DD - Plan #1	500.0	493.7	93.2	91.4	52.988	SF
OM07D B21 696 - DD - Plan #1	311.1	310.4	79.9	78.8	76.642	CC, ES
OM07D B21 696 - DD - Plan #1	600.0	589.0	96.6	94.4	44.092	SF
OM08B B21 696 - DD - Plan #1	452.4	452.1	38.4	36.8	24.346	CC, ES
OM08B B21 696 - DD - Plan #1	600.0	598.7	41.9	39.7	19.202	SF
OM08C B21 696 - DD - Plan #1	332.4	332.1	29.3	28.2	26.220	CC, ES
OM08C B21 696 - DD - Plan #1	500.0	497.2	36.2	34.4	20.584	SF
OM08D B21 696 - DD - Plan #1	200.0	200.0	10.1	9.5	15.655	CC, ES
OM08D B21 696 - DD - Plan #1	300.0	299.7	11.1	10.1	11.100	SF

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S21-T6S-R96W (B21 696 Pad) - OM02C B21 696 - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-149.31	-17.1	-10.2	19.9					
100.0	100.0	100.0	100.0	0.1	0.1	-149.31	-17.1	-10.2	19.9	19.6	0.30	67.076		
200.0	200.0	200.0	200.0	0.3	0.3	-149.31	-17.1	-10.2	19.9	19.3	0.65	30.819	CC, ES	
300.0	300.0	299.6	299.6	0.5	0.5	-73.75	-17.1	-11.9	20.3	19.3	1.00	20.287		
400.0	399.8	399.3	399.1	0.7	0.7	-75.13	-17.2	-17.1	21.5	20.1	1.38	15.521		
500.0	499.5	498.9	498.3	0.9	0.9	-77.13	-17.2	-25.7	23.5	21.7	1.82	12.881		
600.0	598.7	598.5	597.2	1.2	1.2	-79.40	-17.3	-37.8	26.3	24.0	2.34	11.238		
700.0	697.5	698.2	695.7	1.5	1.5	-82.19	-17.3	-53.1	29.9	27.0	2.95	10.138		
800.0	795.8	798.0	794.3	1.8	1.8	-87.51	-17.4	-69.0	33.6	30.0	3.61	9.298		
900.0	894.2	897.9	892.9	2.2	2.1	-91.88	-17.5	-84.8	37.5	33.2	4.29	8.748		
1,000.0	992.5	997.8	991.5	2.5	2.4	-95.42	-17.6	-100.7	41.6	36.6	4.96	8.379		
1,100.0	1,090.9	1,097.7	1,090.2	2.9	2.8	-98.31	-17.7	-116.6	45.8	40.1	5.63	8.125		
1,200.0	1,189.2	1,197.6	1,188.8	3.3	3.1	-100.71	-17.8	-132.5	50.1	43.8	6.30	7.945		
1,300.0	1,287.6	1,297.5	1,287.4	3.6	3.4	-102.73	-17.9	-148.4	54.5	47.5	6.97	7.814		
1,400.0	1,385.9	1,397.4	1,386.0	4.0	3.7	-104.45	-18.0	-164.3	58.9	51.3	7.63	7.717		
1,500.0	1,484.3	1,497.3	1,484.6	4.3	4.1	-105.92	-18.0	-180.2	63.4	55.1	8.29	7.645		
1,600.0	1,582.6	1,597.1	1,583.2	4.7	4.4	-107.20	-18.1	-196.0	67.9	59.0	8.95	7.589		
1,700.0	1,681.0	1,697.0	1,681.9	5.1	4.7	-108.32	-18.2	-211.9	72.4	62.8	9.60	7.546		
1,800.0	1,779.3	1,796.9	1,780.5	5.4	5.0	-109.30	-18.3	-227.8	77.0	66.8	10.25	7.513		
1,900.0	1,877.7	1,896.8	1,879.1	5.8	5.4	-110.18	-18.4	-243.7	81.6	70.7	10.90	7.487		
2,000.0	1,976.0	1,996.7	1,977.7	6.2	5.7	-110.96	-18.5	-259.6	86.2	74.7	11.55	7.466		
2,100.0	2,074.4	2,096.6	2,076.3	6.5	6.0	-111.67	-18.6	-275.5	90.9	78.7	12.20	7.450		
2,200.0	2,172.8	2,196.5	2,174.9	6.9	6.4	-112.30	-18.7	-291.4	95.5	82.6	12.84	7.436	SF	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-150.19	-43.3	-24.8	49.9					
100.0	100.0	100.0	100.0	0.1	0.1	-150.19	-43.3	-24.8	49.9	49.7	0.30	168.341		
200.0	200.0	200.0	200.0	0.3	0.3	-150.19	-43.3	-24.8	49.9	49.3	0.65	77.346		
300.0	300.0	300.0	300.0	0.5	0.5	-76.08	-43.3	-24.8	49.5	48.5	1.00	49.584		
400.0	399.8	399.8	399.8	0.7	0.7	-82.10	-43.3	-24.8	48.5	47.1	1.37	35.468		
479.9	479.5	479.5	479.5	0.9	0.8	-90.00	-43.3	-24.8	48.0	46.4	1.69	28.472	CC	
500.0	499.5	499.5	499.5	0.9	0.8	-92.41	-43.3	-24.8	48.1	46.3	1.77	27.202	ES	
600.0	598.7	598.1	598.1	1.2	1.0	-104.45	-43.9	-26.4	50.7	48.5	2.20	23.043		
700.0	697.5	696.9	696.8	1.5	1.2	-114.65	-45.8	-31.1	57.3	54.7	2.66	21.574		
800.0	795.8	796.0	795.4	1.8	1.4	-121.42	-48.9	-39.1	66.9	63.8	3.13	21.354		
900.0	894.2	895.3	894.1	2.2	1.6	-123.98	-53.2	-50.2	77.2	73.6	3.66	21.119		
1,000.0	992.5	994.7	992.3	2.5	1.9	-123.66	-58.7	-64.6	87.6	83.4	4.25	20.621		
1,100.0	1,090.9	1,094.0	1,089.7	2.9	2.3	-121.40	-65.5	-82.1	98.2	93.2	4.93	19.924	SF	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S21-T6S-R96W (B21 696 Pad) - OM07A B21 696 - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-150.14	-52.1	-29.9	60.1				
100.0	100.0	100.0	100.0	0.1	0.1	-150.14	-52.1	-29.9	60.1	59.8	0.30	202.414	
200.0	200.0	200.0	200.0	0.3	0.3	-150.14	-52.1	-29.9	60.1	59.4	0.65	93.001	
300.0	300.0	300.0	300.0	0.5	0.5	-75.69	-52.1	-29.9	59.6	58.6	1.00	59.705	
400.0	399.8	399.8	399.8	0.7	0.7	-80.67	-52.1	-29.9	58.5	57.2	1.37	42.802	
500.0	499.5	499.5	499.5	0.9	0.8	-89.22	-52.1	-29.9	57.8	56.0	1.77	32.670	
503.5	503.0	502.9	502.9	0.9	0.9	-89.58	-52.1	-29.9	57.8	56.0	1.78	32.385 CC, ES	
600.0	598.7	597.4	597.4	1.2	1.0	-99.65	-53.0	-31.3	59.9	57.7	2.20	27.203	
700.0	697.5	695.4	695.2	1.5	1.2	-109.29	-56.0	-35.3	66.8	64.2	2.67	25.017	
800.0	795.8	793.3	792.8	1.8	1.4	-116.30	-60.8	-42.1	77.7	74.6	3.16	24.632 SF	
900.0	894.2	891.3	890.1	2.2	1.6	-119.59	-67.6	-51.6	90.6	87.0	3.68	24.659	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
0.0	0.0	0.0	0.0	0.0	0.0	-150.29	-60.8	-34.7	70.0						
100.0	100.0	100.0	100.0	0.1	0.1	-150.29	-60.8	-34.7	70.0	69.7	0.30	236.015			
200.0	200.0	200.0	200.0	0.3	0.3	-150.29	-60.8	-34.7	70.0	69.4	0.65	108.439			
300.0	300.0	300.0	300.0	0.5	0.5	-75.62	-60.8	-34.7	69.6	68.6	1.00	69.693			
400.0	399.8	399.8	399.8	0.7	0.7	-79.88	-60.8	-34.7	68.5	67.1	1.37	50.070			
437.0	436.7	436.0	436.0	0.8	0.7	-82.09	-61.0	-34.9	68.2	66.7	1.51	45.070	CC, ES		
500.0	499.5	497.4	497.4	0.9	0.8	-86.31	-62.0	-35.9	68.9	67.2	1.76	39.072			
600.0	598.7	594.9	594.7	1.2	1.0	-93.64	-65.4	-39.5	73.3	71.0	2.21	33.194			
700.0	697.5	692.0	691.5	1.5	1.2	-100.73	-71.0	-45.5	81.8	79.1	2.70	30.251			
800.0	795.8	788.8	787.6	1.8	1.5	-106.35	-78.9	-53.9	94.2	91.0	3.23	29.154	SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S21-T6S-R96W (B21 696 Pad) - OM07C B21 696 - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-150.24	-77.9	-44.6	89.8				
100.0	100.0	100.0	100.0	0.1	0.1	-150.24	-77.9	-44.6	89.8	89.5	0.30	302.636	
200.0	200.0	200.0	200.0	0.3	0.3	-150.24	-77.9	-44.6	89.8	89.1	0.65	139.049	
300.0	300.0	300.0	300.0	0.5	0.5	-75.25	-77.9	-44.6	89.3	88.3	1.00	89.489	
334.1	334.1	333.0	333.0	0.6	0.6	-76.07	-78.1	-44.7	89.2	88.1	1.12	79.473 CC, ES	
400.0	399.8	396.9	396.9	0.7	0.7	-78.17	-79.2	-45.6	89.8	88.4	1.36	65.912	
500.0	499.5	493.7	493.5	0.9	0.9	-82.42	-82.9	-48.8	93.2	91.4	1.76	52.988 SF	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												NENE S21-T6S-R96W (B21 696 Pad) - OM07D B21 696 - DD - Plan #1		Offset Site Error:		0.0 ft	
Survey Program:												0-MWD		Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)							
0.0	0.0	0.0	0.0	0.0	0.0	-150.24	-69.6	-39.8	80.1								
100.0	100.0	100.0	100.0	0.1	0.1	-150.24	-69.6	-39.8	80.1	79.8	0.30	270.088					
200.0	200.0	200.0	200.0	0.3	0.3	-150.24	-69.6	-39.8	80.1	79.5	0.65	124.094					
300.0	300.0	299.6	299.6	0.5	0.5	-76.61	-70.6	-38.4	79.9	78.9	1.00	79.786					
311.1	311.1	310.4	310.4	0.5	0.5	-77.15	-70.8	-38.1	79.9	78.8	1.04	76.642	CC, ES				
400.0	399.8	396.6	396.5	0.7	0.7	-82.35	-73.9	-36.4	81.3	79.9	1.37	59.291					
500.0	499.5	493.1	492.8	0.9	0.9	-89.39	-80.0	-36.2	86.6	84.8	1.76	49.071					
600.0	598.7	589.0	588.3	1.2	1.1	-96.63	-88.8	-37.7	96.6	94.4	2.19	44.092	SF				

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S21-T6S-R96W (B21 696 Pad) - OM08B B21 696 - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty	Separation		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-149.93	-34.6	-20.0	40.0					
100.0	100.0	100.0	100.0	0.1	0.1	-149.93	-34.6	-20.0	40.0	39.7	0.30	134.742		
200.0	200.0	200.0	200.0	0.3	0.3	-149.93	-34.6	-20.0	40.0	39.3	0.65	61.909		
300.0	300.0	300.0	300.0	0.5	0.5	-76.30	-34.6	-20.0	39.5	38.5	1.00	39.597		
400.0	399.8	399.8	399.8	0.7	0.7	-83.87	-34.6	-20.0	38.6	37.3	1.37	28.239		
452.4	452.1	452.1	452.1	0.8	0.8	-90.00	-34.6	-20.0	38.4	36.8	1.58	24.346 CC, ES		
500.0	499.5	499.5	499.5	0.9	0.8	-96.77	-34.6	-20.0	38.7	36.9	1.77	21.891		
600.0	598.7	598.7	598.7	1.2	1.0	-113.38	-34.6	-20.0	41.9	39.7	2.18	19.202 SF		
700.0	697.5	695.8	695.7	1.5	1.2	-129.25	-36.1	-19.5	51.9	49.3	2.57	20.162		
800.0	795.8	791.5	791.4	1.8	1.4	-140.03	-40.6	-17.9	69.6	66.7	2.93	23.755		
900.0	894.2	886.3	885.8	2.2	1.6	-145.57	-48.1	-15.4	91.8	88.5	3.29	27.909		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													NENE S21-T6S-R96W (B21 696 Pad) - OM08C B21 696 - DD - Plan #1		Offset Site Error:		0.0 ft	
Survey Program:													0-MWD		Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor						
0.0	0.0	0.0	0.0	0.0	0.0	-149.96	-25.9	-15.0	29.9									
100.0	100.0	100.0	100.0	0.1	0.1	-149.96	-25.9	-15.0	29.9	29.6	0.30	100.669						
200.0	200.0	200.0	200.0	0.3	0.3	-149.96	-25.9	-15.0	29.9	29.2	0.65	46.253						
300.0	300.0	300.0	300.0	0.5	0.5	-77.16	-25.9	-15.0	29.4	28.4	1.00	29.482						
332.4	332.3	332.1	332.1	0.6	0.6	-79.90	-26.0	-14.9	29.3	28.2	1.12	26.220	CC, ES					
400.0	399.8	399.0	399.0	0.7	0.7	-89.20	-27.5	-14.4	30.1	28.8	1.37	22.036						
500.0	499.5	497.2	497.1	0.9	0.9	-107.55	-32.2	-12.7	36.2	34.4	1.76	20.584	SF					
600.0	598.7	594.1	593.6	1.2	1.1	-123.18	-40.0	-9.9	50.1	47.9	2.15	23.310						
700.0	697.5	689.1	687.9	1.5	1.3	-133.14	-50.7	-6.0	71.7	69.2	2.54	28.235						
800.0	795.8	782.2	779.9	1.8	1.6	-138.93	-64.0	-1.3	99.4	96.4	2.93	33.867						

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NENE S21-T6S-R96W (B21 696 Pad) - OM08D B21 696 - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-149.85	-8.7	-5.1	10.1				
100.0	100.0	100.0	100.0	0.1	0.1	-149.85	-8.7	-5.1	10.1	9.8	0.30	34.074	
200.0	200.0	200.0	200.0	0.3	0.3	-149.85	-8.7	-5.1	10.1	9.5	0.65	15.655 CC, ES	
300.0	300.0	299.7	299.7	0.5	0.5	-89.78	-10.3	-4.4	11.1	10.1	1.00	11.100 SF	
400.0	399.8	398.8	398.6	0.7	0.7	-118.39	-15.1	-2.4	17.4	16.0	1.36	12.765	
500.0	499.5	496.8	496.2	0.9	0.9	-134.67	-22.9	1.0	31.3	29.6	1.72	18.176	
600.0	598.7	593.1	591.8	1.2	1.2	-142.06	-33.5	5.5	52.2	50.1	2.10	24.869	
700.0	697.5	687.2	684.8	1.5	1.5	-145.69	-46.7	11.2	79.3	76.8	2.49	31.851	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM02B B21 696
Project:	Garfield County	TVD Reference:	KBE @ 8293.0ft
Reference Site:	NENE S21-T6S-R96W (B21 696 Pad)	MD Reference:	KBE @ 8293.0ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM02B B21 696	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 8293.0ft

Offset Depths are relative to Offset Datum

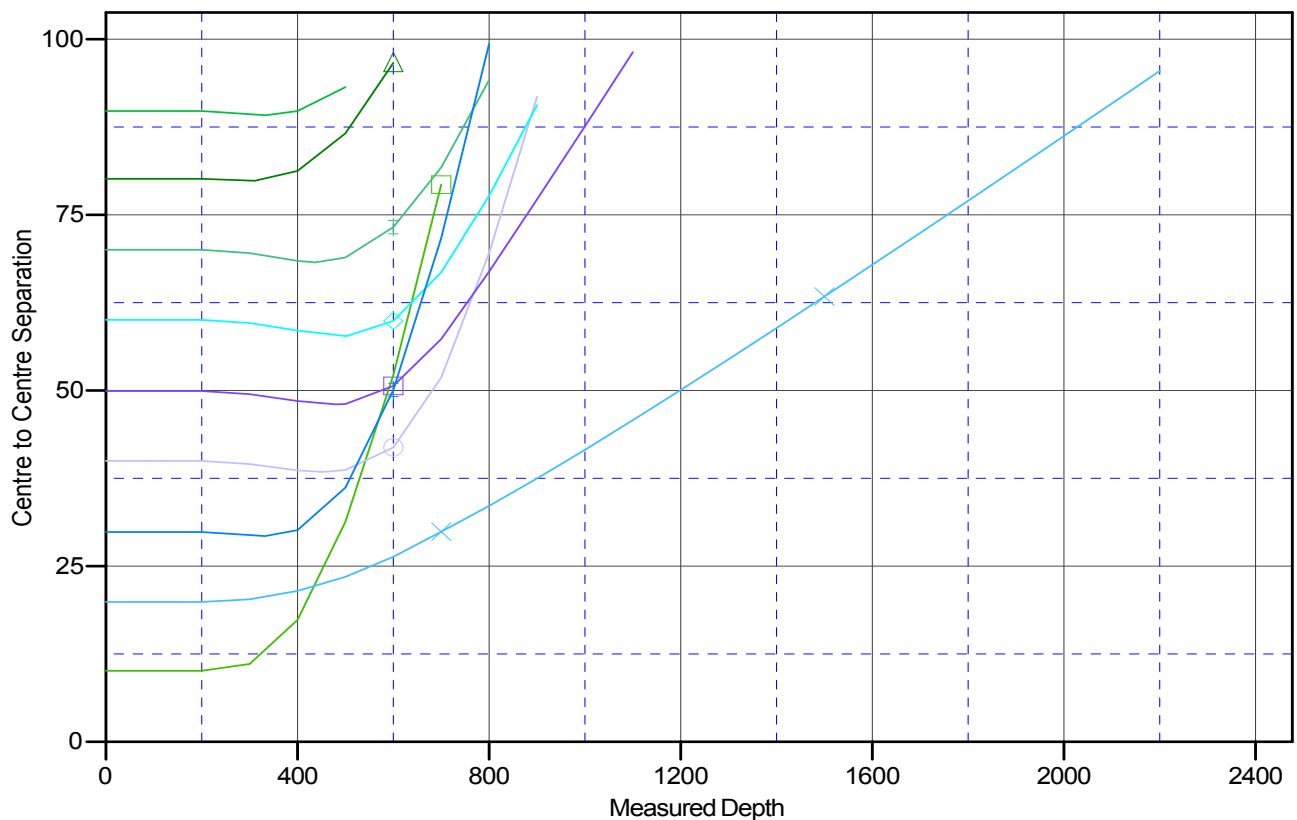
Central Meridian is -105.500000 °

Coordinates are relative to: OM02B B21 696

Coordinate System is US State Plane 1983, Colorado Central Zone

Grid Convergence at Surface is: -1.65°

Ladder Plot



LEGEND

- OM07C B21 696, DD, Plan #1 V0
- OM08B B21 696, DD, Plan #1 V0
- OM02C B21 696, DD, Plan #1 V0
- OM07B B21 696, DD, Plan #1 V0
- OM07AB21 696, DD, Plan #1 V0
- OM07D B21 696, DD, Plan #1 V0
- OM08D B21 696, DD, Plan #1 V0
- OM02D B21 696, DD, Plan #1 V0
- OM08C B21 696, DD, Plan #1 V0