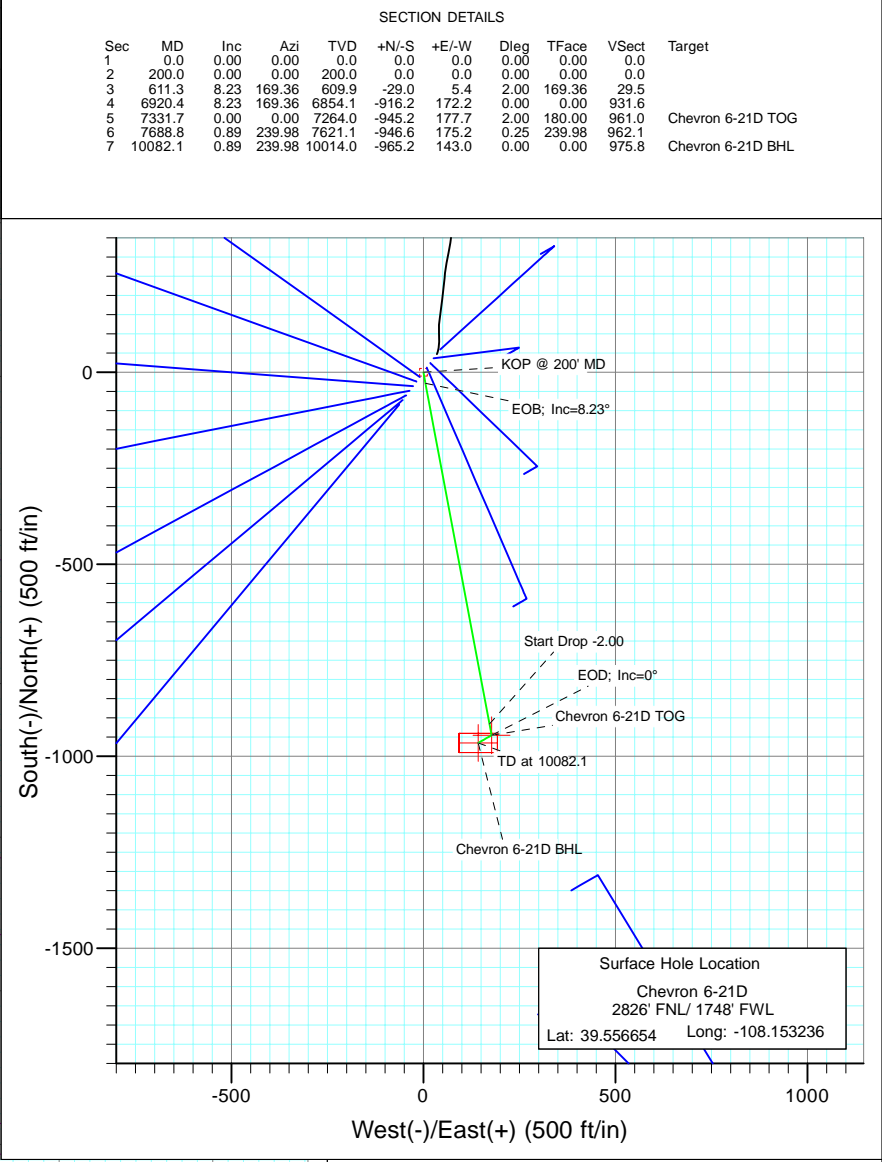
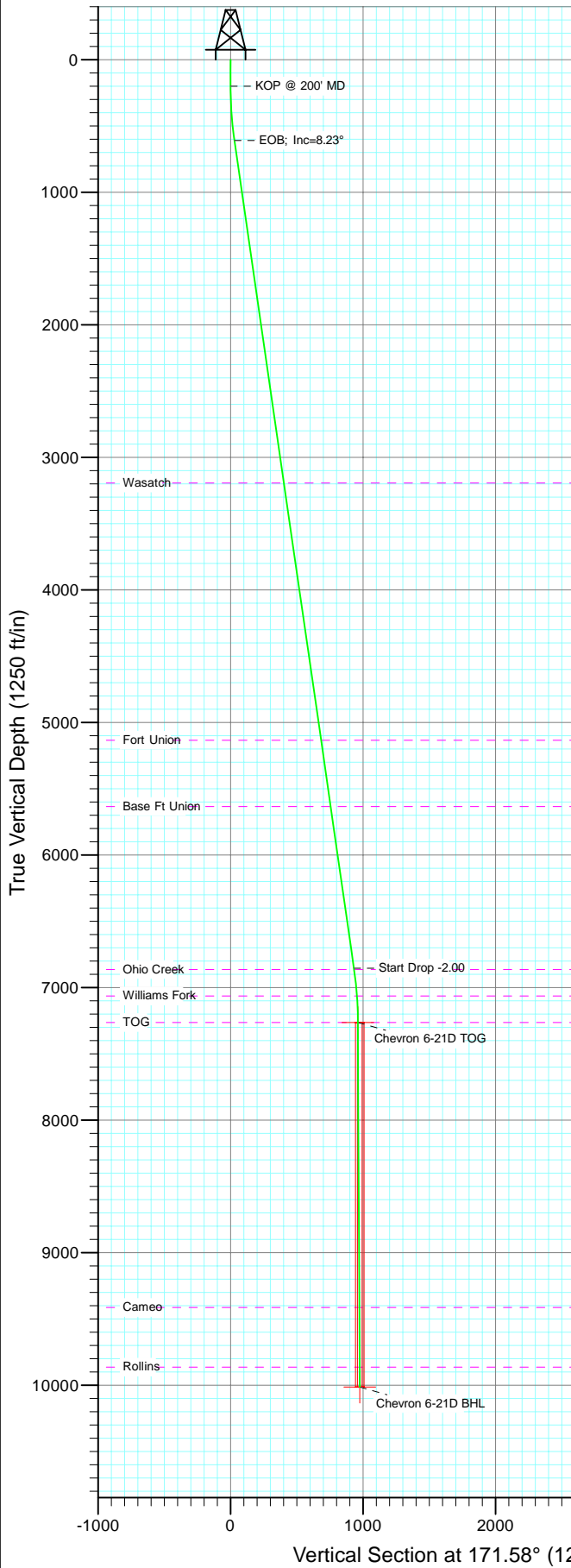




Project: Garfield County  
Site: Sec 6 T6S R96W (F06 696)  
Well: Chevron 6-21D  
Wellbore: DD  
Design: Plan #2



**Bottom Hole Location**  
Chevron 6-21D  
3790' FNL/ 1890' FWL  
Lat : 39.554004  
Long. : -108.152729

**FORMATION TOP DETAILS**

TVDPath	MDPath	Formation
3194.0	3222.3	Wasatch
5134.0	5182.5	Fort Union
5634.0	5687.7	Base Ft Union
6864.0	6930.4	Ohio Creek
7064.0	7131.6	Williams Fork
7264.0	7331.7	TOG
9414.0	9482.0	Cameo
9864.0	9932.0	Rollins

**DESIGN DETAILS: Plan #2**

95XXX; BH  
KBE @ 8244.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
Chevron 6-21D BHL	171.58	Slot	0.0	0.0	0.0

**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	611.3	8.23	169.36	609.9	-29.0	5.4	2.00	169.36	29.5	
4	6920.4	8.23	169.36	6854.1	-916.2	172.2	0.00	0.00	931.6	
5	7331.7	0.00	0.00	7264.0	-945.2	177.7	2.00	180.00	961.0	Chevron 6-21D TOG
6	7688.8	0.89	239.98	7621.1	-946.6	175.2	0.25	239.98	962.1	
7	10082.1	0.89	239.98	10014.0	-965.2	143.0	0.00	0.00	975.8	Chevron 6-21D BHL

**Magnetic Field**  
Strength: 52427.0snT  
Dip Angle: 65.81°  
Date: 12/2/2009  
Model: IGRF200510

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site:</b>	Sec 6 T6S R96W (F06 696)	<b>North Reference:</b>	True
<b>Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #2		

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

Site		Sec 6 T6S R96W (F06 696)			
Site Position:		Northing:	1,638,592.01 ft	Latitude:	39.556729
From:	Lat/Long	Easting:	2,252,075.57 ft	Longitude:	-108.153012
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.67 °

Well	Chevron 6-21D					
Well Position	+N/-S	0.0 ft	Northing:	1,638,566.54 ft	Latitude:	39.556654
	+E/-W	0.0 ft	Easting:	2,252,011.64 ft	Longitude:	-108.153236
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,222.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/2/2009	10.60	65.81	52,427

<b>Design</b>	Plan #2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	171.58

<b>Plan Sections</b>										
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	
611.3	8.23	169.36	609.9	-29.0	5.4	2.00	2.00	0.00	169.36	
6,920.4	8.23	169.36	6,854.1	-916.2	172.2	0.00	0.00	0.00	0.00	
7,331.7	0.00	0.00	7,264.0	-945.2	177.7	2.00	-2.00	0.00	180.00	Chevron 6-21D TOG
7,688.8	0.89	239.98	7,621.1	-946.6	175.2	0.25	0.25	-33.61	239.98	
10,082.1	0.89	239.98	10,014.0	-965.2	143.0	0.00	0.00	0.00	0.00	Chevron 6-21D BHL

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site:</b>	Sec 6 T6S R96W (F06 696)	<b>North Reference:</b>	True
<b>Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #2		

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' MD
210.0	0.20	169.36	210.0	0.0	0.0	0.0	2.00	2.00	
240.0	0.80	169.36	240.0	-0.3	0.1	0.3	2.00	2.00	
270.0	1.40	169.36	270.0	-0.8	0.2	0.9	2.00	2.00	
300.0	2.00	169.36	300.0	-1.7	0.3	1.7	2.00	2.00	
330.0	2.60	169.36	330.0	-2.9	0.5	2.9	2.00	2.00	
360.0	3.20	169.36	359.9	-4.4	0.8	4.5	2.00	2.00	
390.0	3.80	169.36	389.9	-6.2	1.2	6.3	2.00	2.00	
420.0	4.40	169.36	419.8	-8.3	1.6	8.4	2.00	2.00	
450.0	5.00	169.36	449.7	-10.7	2.0	10.9	2.00	2.00	
480.0	5.60	169.36	479.6	-13.4	2.5	13.7	2.00	2.00	
510.0	6.20	169.36	509.4	-16.5	3.1	16.7	2.00	2.00	
540.0	6.80	169.36	539.2	-19.8	3.7	20.1	2.00	2.00	
570.0	7.40	169.36	569.0	-23.4	4.4	23.8	2.00	2.00	
600.0	8.00	169.36	598.7	-27.4	5.1	27.9	2.00	2.00	
611.3	8.23	169.36	609.9	-29.0	5.4	29.5	2.00	2.00	EOB; Inc=8.23°
630.0	8.23	169.36	628.4	-31.6	5.9	32.1	0.00	0.00	
660.0	8.23	169.36	658.1	-35.8	6.7	36.4	0.00	0.00	
690.0	8.23	169.36	687.8	-40.0	7.5	40.7	0.00	0.00	
720.0	8.23	169.36	717.5	-44.3	8.3	45.0	0.00	0.00	
750.0	8.23	169.36	747.2	-48.5	9.1	49.3	0.00	0.00	
780.0	8.23	169.36	776.9	-52.7	9.9	53.6	0.00	0.00	
810.0	8.23	169.36	806.5	-56.9	10.7	57.9	0.00	0.00	
840.0	8.23	169.36	836.2	-61.1	11.5	62.2	0.00	0.00	
870.0	8.23	169.36	865.9	-65.3	12.3	66.4	0.00	0.00	
900.0	8.23	169.36	895.6	-69.6	13.1	70.7	0.00	0.00	
930.0	8.23	169.36	925.3	-73.8	13.9	75.0	0.00	0.00	
960.0	8.23	169.36	955.0	-78.0	14.7	79.3	0.00	0.00	
990.0	8.23	169.36	984.7	-82.2	15.5	83.6	0.00	0.00	
1,020.0	8.23	169.36	1,014.4	-86.4	16.2	87.9	0.00	0.00	
1,050.0	8.23	169.36	1,044.1	-90.7	17.0	92.2	0.00	0.00	
1,080.0	8.23	169.36	1,073.8	-94.9	17.8	96.5	0.00	0.00	
1,110.0	8.23	169.36	1,103.5	-99.1	18.6	100.8	0.00	0.00	
1,140.0	8.23	169.36	1,133.1	-103.3	19.4	105.0	0.00	0.00	
1,170.0	8.23	169.36	1,162.8	-107.5	20.2	109.3	0.00	0.00	
1,200.0	8.23	169.36	1,192.5	-111.8	21.0	113.6	0.00	0.00	
1,230.0	8.23	169.36	1,222.2	-116.0	21.8	117.9	0.00	0.00	
1,260.0	8.23	169.36	1,251.9	-120.2	22.6	122.2	0.00	0.00	
1,290.0	8.23	169.36	1,281.6	-124.4	23.4	126.5	0.00	0.00	
1,320.0	8.23	169.36	1,311.3	-128.6	24.2	130.8	0.00	0.00	
1,350.0	8.23	169.36	1,341.0	-132.9	25.0	135.1	0.00	0.00	
1,380.0	8.23	169.36	1,370.7	-137.1	25.8	139.4	0.00	0.00	
1,410.0	8.23	169.36	1,400.4	-141.3	26.6	143.7	0.00	0.00	
1,440.0	8.23	169.36	1,430.1	-145.5	27.3	147.9	0.00	0.00	
1,470.0	8.23	169.36	1,459.8	-149.7	28.1	152.2	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site:</b>	Sec 6 T6S R96W (F06 696)	<b>North Reference:</b>	True
<b>Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #2		

### 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
1,500.0	8.23	169.36	1,489.4	-153.9	28.9	156.5	0.00	0.00	
1,530.0	8.23	169.36	1,519.1	-158.2	29.7	160.8	0.00	0.00	
1,560.0	8.23	169.36	1,548.8	-162.4	30.5	165.1	0.00	0.00	
1,590.0	8.23	169.36	1,578.5	-166.6	31.3	169.4	0.00	0.00	
1,620.0	8.23	169.36	1,608.2	-170.8	32.1	173.7	0.00	0.00	
1,650.0	8.23	169.36	1,637.9	-175.0	32.9	178.0	0.00	0.00	
1,680.0	8.23	169.36	1,667.6	-179.3	33.7	182.3	0.00	0.00	
1,710.0	8.23	169.36	1,697.3	-183.5	34.5	186.6	0.00	0.00	
1,740.0	8.23	169.36	1,727.0	-187.7	35.3	190.8	0.00	0.00	
1,770.0	8.23	169.36	1,756.7	-191.9	36.1	195.1	0.00	0.00	
1,800.0	8.23	169.36	1,786.4	-196.1	36.9	199.4	0.00	0.00	
1,830.0	8.23	169.36	1,816.0	-200.4	37.7	203.7	0.00	0.00	
1,860.0	8.23	169.36	1,845.7	-204.6	38.4	208.0	0.00	0.00	
1,890.0	8.23	169.36	1,875.4	-208.8	39.2	212.3	0.00	0.00	
1,920.0	8.23	169.36	1,905.1	-213.0	40.0	216.6	0.00	0.00	
1,950.0	8.23	169.36	1,934.8	-217.2	40.8	220.9	0.00	0.00	
1,980.0	8.23	169.36	1,964.5	-221.4	41.6	225.2	0.00	0.00	
2,010.0	8.23	169.36	1,994.2	-225.7	42.4	229.4	0.00	0.00	
2,040.0	8.23	169.36	2,023.9	-229.9	43.2	233.7	0.00	0.00	
2,070.0	8.23	169.36	2,053.6	-234.1	44.0	238.0	0.00	0.00	
2,100.0	8.23	169.36	2,083.3	-238.3	44.8	242.3	0.00	0.00	
2,130.0	8.23	169.36	2,113.0	-242.5	45.6	246.6	0.00	0.00	
2,160.0	8.23	169.36	2,142.7	-246.8	46.4	250.9	0.00	0.00	
2,190.0	8.23	169.36	2,172.3	-251.0	47.2	255.2	0.00	0.00	
2,220.0	8.23	169.36	2,202.0	-255.2	48.0	259.5	0.00	0.00	
2,250.0	8.23	169.36	2,231.7	-259.4	48.8	263.8	0.00	0.00	
2,280.0	8.23	169.36	2,261.4	-263.6	49.6	268.1	0.00	0.00	
2,310.0	8.23	169.36	2,291.1	-267.9	50.3	272.3	0.00	0.00	
2,340.0	8.23	169.36	2,320.8	-272.1	51.1	276.6	0.00	0.00	
2,370.0	8.23	169.36	2,350.5	-276.3	51.9	280.9	0.00	0.00	
2,400.0	8.23	169.36	2,380.2	-280.5	52.7	285.2	0.00	0.00	
2,430.0	8.23	169.36	2,409.9	-284.7	53.5	289.5	0.00	0.00	
2,460.0	8.23	169.36	2,439.6	-289.0	54.3	293.8	0.00	0.00	
2,490.0	8.23	169.36	2,469.3	-293.2	55.1	298.1	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
- hit/miss target									
- Shape									
Chevron 6-21D BHL	0.00	0.00	10,014.0	-965.2	143.0	1,637,597.53	2,252,126.35	39.554004	-108.152729
- plan misses target center by 7575.1ft at 2490.0ft MD (2469.3 TVD, -293.2 N, 55.1 E)									
- Rectangle (sides W50.0 H100.0 D0.0)									
Chevron 6-21D TOG	0.00	0.00	7,264.0	-945.2	177.7	1,637,616.55	2,252,161.61	39.554059	-108.152606
- plan misses target center by 4840.4ft at 2490.0ft MD (2469.3 TVD, -293.2 N, 55.1 E)									
- Point									

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site:</b>	Sec 6 T6S R96W (F06 696)	<b>North Reference:</b>	True
<b>Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #2		

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	8.23	169.36	2,479.2	-294.6	55.4	299.5	0.00	0.00	
2,600.0	8.23	169.36	2,578.1	-308.6	58.0	313.8	0.00	0.00	
2,700.0	8.23	169.36	2,677.1	-322.7	60.7	328.1	0.00	0.00	
2,800.0	8.23	169.36	2,776.1	-336.8	63.3	342.4	0.00	0.00	
2,900.0	8.23	169.36	2,875.0	-350.8	65.9	356.7	0.00	0.00	
3,000.0	8.23	169.36	2,974.0	-364.9	68.6	371.0	0.00	0.00	
3,100.0	8.23	169.36	3,073.0	-379.0	71.2	385.3	0.00	0.00	
3,200.0	8.23	169.36	3,171.9	-393.0	73.9	399.6	0.00	0.00	
3,222.3	8.23	169.36	3,194.0	-396.2	74.5	402.8	0.00	0.00	Wasatch
3,300.0	8.23	169.36	3,270.9	-407.1	76.5	413.9	0.00	0.00	
3,400.0	8.23	169.36	3,369.9	-421.1	79.2	428.2	0.00	0.00	
3,500.0	8.23	169.36	3,468.9	-435.2	81.8	442.5	0.00	0.00	
3,600.0	8.23	169.36	3,567.8	-449.3	84.4	456.8	0.00	0.00	
3,700.0	8.23	169.36	3,666.8	-463.3	87.1	471.1	0.00	0.00	
3,800.0	8.23	169.36	3,765.8	-477.4	89.7	485.4	0.00	0.00	
3,900.0	8.23	169.36	3,864.7	-491.5	92.4	499.7	0.00	0.00	
4,000.0	8.23	169.36	3,963.7	-505.5	95.0	514.0	0.00	0.00	
4,100.0	8.23	169.36	4,062.7	-519.6	97.7	528.3	0.00	0.00	
4,200.0	8.23	169.36	4,161.7	-533.7	100.3	542.6	0.00	0.00	
4,300.0	8.23	169.36	4,260.6	-547.7	102.9	556.9	0.00	0.00	
4,400.0	8.23	169.36	4,359.6	-561.8	105.6	571.2	0.00	0.00	
4,500.0	8.23	169.36	4,458.6	-575.8	108.2	585.5	0.00	0.00	
4,600.0	8.23	169.36	4,557.5	-589.9	110.9	599.8	0.00	0.00	
4,700.0	8.23	169.36	4,656.5	-604.0	113.5	614.1	0.00	0.00	
4,800.0	8.23	169.36	4,755.5	-618.0	116.2	628.4	0.00	0.00	
4,900.0	8.23	169.36	4,854.5	-632.1	118.8	642.7	0.00	0.00	
5,000.0	8.23	169.36	4,953.4	-646.2	121.4	657.0	0.00	0.00	
5,100.0	8.23	169.36	5,052.4	-660.2	124.1	671.3	0.00	0.00	
5,182.5	8.23	169.36	5,134.0	-671.8	126.3	683.1	0.00	0.00	Fort Union
5,200.0	8.23	169.36	5,151.4	-674.3	126.7	685.6	0.00	0.00	
5,300.0	8.23	169.36	5,250.3	-688.3	129.4	699.9	0.00	0.00	
5,400.0	8.23	169.36	5,349.3	-702.4	132.0	714.2	0.00	0.00	
5,500.0	8.23	169.36	5,448.3	-716.5	134.7	728.5	0.00	0.00	
5,600.0	8.23	169.36	5,547.3	-730.5	137.3	742.8	0.00	0.00	
5,687.7	8.23	169.36	5,634.0	-742.9	139.6	755.3	0.00	0.00	Base Ft Union
5,700.0	8.23	169.36	5,646.2	-744.6	139.9	757.1	0.00	0.00	
5,800.0	8.23	169.36	5,745.2	-758.7	142.6	771.4	0.00	0.00	
5,900.0	8.23	169.36	5,844.2	-772.7	145.2	785.7	0.00	0.00	
6,000.0	8.23	169.36	5,943.1	-786.8	147.9	800.0	0.00	0.00	
6,100.0	8.23	169.36	6,042.1	-800.9	150.5	814.3	0.00	0.00	
6,200.0	8.23	169.36	6,141.1	-814.9	153.2	828.6	0.00	0.00	
6,300.0	8.23	169.36	6,240.0	-829.0	155.8	842.9	0.00	0.00	
6,400.0	8.23	169.36	6,339.0	-843.0	158.4	857.2	0.00	0.00	
6,500.0	8.23	169.36	6,438.0	-857.1	161.1	871.5	0.00	0.00	
6,600.0	8.23	169.36	6,537.0	-871.2	163.7	885.8	0.00	0.00	
6,700.0	8.23	169.36	6,635.9	-885.2	166.4	900.1	0.00	0.00	
6,800.0	8.23	169.36	6,734.9	-899.3	169.0	914.4	0.00	0.00	
6,900.0	8.23	169.36	6,833.9	-913.4	171.7	928.7	0.00	0.00	
6,920.4	8.23	169.36	6,854.1	-916.2	172.2	931.6	0.00	0.00	Start Drop -2.00
6,930.4	8.03	169.36	6,864.0	-917.6	172.5	933.0	2.00	-2.00	Ohio Creek
7,000.0	6.63	169.36	6,933.0	-926.3	174.1	941.9	2.00	-2.00	
7,100.0	4.63	169.36	7,032.5	-936.0	175.9	951.7	2.00	-2.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site:</b>	Sec 6 T6S R96W (F06 696)	<b>North Reference:</b>	True
<b>Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #2		

### 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
7,131.6	4.00	169.36	7,064.0	-938.3	176.4	954.0	2.00	-2.00	Williams Fork
7,200.0	2.63	169.36	7,132.3	-942.2	177.1	958.0	2.00	-2.00	
7,300.0	0.63	169.36	7,232.3	-945.0	177.6	960.9	2.00	-2.00	
7,331.7	0.00	0.00	7,264.0	-945.2	177.7	961.0	2.00	-2.00	EOD; Inc=0° - TOG - Chevron 6-21D TOG
7,400.0	0.17	239.98	7,332.3	-945.3	177.6	961.1	0.25	0.25	
7,500.0	0.42	239.98	7,432.2	-945.5	177.1	961.3	0.25	0.25	
7,600.0	0.67	239.98	7,532.2	-946.0	176.3	961.6	0.25	0.25	
7,688.8	0.89	239.98	7,621.1	-946.6	175.2	962.1	0.25	0.25	
7,700.0	0.89	239.98	7,632.2	-946.7	175.1	962.1	0.00	0.00	
7,800.0	0.89	239.98	7,732.2	-947.5	173.7	962.7	0.00	0.00	
7,900.0	0.89	239.98	7,832.2	-948.2	172.4	963.3	0.00	0.00	
8,000.0	0.89	239.98	7,932.2	-949.0	171.0	963.8	0.00	0.00	
8,100.0	0.89	239.98	8,032.2	-949.8	169.7	964.4	0.00	0.00	
8,200.0	0.89	239.98	8,132.2	-950.6	168.3	965.0	0.00	0.00	
8,300.0	0.89	239.98	8,232.2	-951.4	167.0	965.6	0.00	0.00	
8,400.0	0.89	239.98	8,332.1	-952.1	165.6	966.1	0.00	0.00	
8,500.0	0.89	239.98	8,432.1	-952.9	164.3	966.7	0.00	0.00	
8,600.0	0.89	239.98	8,532.1	-953.7	163.0	967.3	0.00	0.00	
8,700.0	0.89	239.98	8,632.1	-954.5	161.6	967.8	0.00	0.00	
8,800.0	0.89	239.98	8,732.1	-955.3	160.3	968.4	0.00	0.00	
8,900.0	0.89	239.98	8,832.1	-956.0	158.9	969.0	0.00	0.00	
9,000.0	0.89	239.98	8,932.1	-956.8	157.6	969.6	0.00	0.00	
9,100.0	0.89	239.98	9,032.1	-957.6	156.2	970.1	0.00	0.00	
9,200.0	0.89	239.98	9,132.1	-958.4	154.9	970.7	0.00	0.00	
9,300.0	0.89	239.98	9,232.0	-959.1	153.5	971.3	0.00	0.00	
9,400.0	0.89	239.98	9,332.0	-959.9	152.2	971.9	0.00	0.00	
9,482.0	0.89	239.98	9,414.0	-960.6	151.1	972.3	0.00	0.00	Cameo
9,500.0	0.89	239.98	9,432.0	-960.7	150.8	972.4	0.00	0.00	
9,600.0	0.89	239.98	9,532.0	-961.5	149.5	973.0	0.00	0.00	
9,700.0	0.89	239.98	9,632.0	-962.3	148.1	973.6	0.00	0.00	
9,800.0	0.89	239.98	9,732.0	-963.0	146.8	974.2	0.00	0.00	
9,900.0	0.89	239.98	9,832.0	-963.8	145.4	974.7	0.00	0.00	
9,932.0	0.89	239.98	9,864.0	-964.1	145.0	974.9	0.00	0.00	Rollins
10,000.0	0.89	239.98	9,932.0	-964.6	144.1	975.3	0.00	0.00	
10,082.1	0.89	239.98	10,014.0	-965.2	143.0	975.8	0.00	0.00	Chevron 6-21D 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									
Chevron 6-21D BHL	0.00	0.00	10,014.0	-965.2	143.0	1,637,597.53	2,252,126.35	39.554004	-108.152729
- plan hits target center									
- Rectangle (sides W50.0 H100.0 D0.0)									
Chevron 6-21D TOG	0.00	0.00	7,264.0	-945.2	177.7	1,637,616.55	2,252,161.61	39.554059	-108.152606
- plan hits target center									
- Point									

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site:</b>	Sec 6 T6S R96W (F06 696)	<b>North Reference:</b>	True
<b>Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #2		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,222.3	3,194.0	Wasatch		0.00		
5,182.5	5,134.0	Fort Union		0.00		
5,687.7	5,634.0	Base Ft Union		0.00		
6,930.4	6,864.0	Ohio Creek		0.00		
7,131.6	7,064.0	Williams Fork		0.00		
7,331.7	7,264.0	TOG		0.00		
9,482.0	9,414.0	Cameo		0.00		
9,932.0	9,864.0	Rollins		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP @ 200' MD	
611.3	609.9	-29.0	5.4	EOB; Inc=8.23°	
6,920.4	6,854.1	-916.2	172.2	Start Drop -2.00	
7,331.7	7,264.0	-945.2	177.7	EOD; Inc=0°	
10,082.1	10,014.0	-946.6	175.2	TD at 10082.1	

# **Berry Petroleum Company (NAD 83)**

**Garfield County**

**Sec 6 T6S R96W (F06 696)**

**Chevron 6-21D**

**DD**

**Plan #2**

## **Anticollision Report**

**17 November, 2010**



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Plan #2		
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 1,221.6ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	11/17/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	10,082.1	Plan #2 (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						
Chevron O06 Pad						
Chevron 6-17D (O06 Pad) - DD - Plan #1	7,354.6	7,295.3	712.5	684.3	25.222	CC
Chevron 6-17D (O06 Pad) - DD - Plan #1	8,000.0	7,935.7	713.3	682.9	23.433	ES
Chevron 6-17D (O06 Pad) - DD - Plan #1	10,082.1	10,016.5	723.7	685.6	18.967	SF
Chevron 6-18D (O06 Pad) - DD - Plan #1	10,082.1	10,054.7	454.1	417.8	12.501	CC, ES, SF
Sec 6 T6S R96W (F06 696)						
Chevron 6-19D - DD - Plan #2	200.0	200.0	15.0	14.4	24.189	CC
Chevron 6-19D - DD - Plan #2	300.0	300.3	15.3	14.4	15.722	ES
Chevron 6-19D - DD - Plan #2	600.0	600.6	21.4	19.2	9.620	SF
Chevron 6-20D - DD - Plan #2	200.0	200.0	30.1	29.4	48.379	CC, ES
Chevron 6-20D - DD - Plan #2	10,082.1	10,034.2	710.7	674.1	19.466	SF
Chevron 6-22D - DD - Plan #3	200.0	200.0	45.2	44.6	72.768	CC, ES
Chevron 6-22D - DD - Plan #3	10,082.1	10,028.7	1,012.0	976.3	28.357	SF
Chevron 6-23D - DD - Plan #2	200.0	200.0	74.1	73.4	119.186	CC, ES
Chevron 6-23D - DD - Plan #2	6,600.0	6,558.7	1,209.6	1,185.0	49.049	SF
Chevron 6-25D - DD - DD	0.0	0.0	59.0			
Chevron 6-25D - DD - DD	500.0	489.7	92.2	90.5	54.923	SF
Chevron 6-32D - DD - Plan #2	200.0	200.0	104.9	104.2	168.782	CC, ES
Chevron 6-32D - DD - Plan #2	6,900.0	6,809.4	1,219.9	1,180.7	31.131	SF
Chevron 6-33D - DD - Plan #2	459.9	455.0	86.8	85.2	55.757	CC, ES
Chevron 6-33D - DD - Plan #2	7,100.0	7,077.5	1,217.6	1,177.8	30.537	SF
Chevron 6-34D - DD - Plan #2	632.4	628.1	61.1	58.8	26.458	CC, ES
Chevron 6-34D - DD - Plan #2	800.0	790.5	69.5	66.4	22.434	SF
Chevron 6-35D - DD - Plan #2	457.7	454.8	56.4	54.8	36.192	CC, ES
Chevron 6-35D - DD - Plan #2	700.0	689.2	71.1	68.5	27.090	SF
Chevron 6-36D - DD - Plan #2	324.8	323.7	44.7	43.7	41.956	CC, ES
Chevron 6-36D - DD - Plan #2	600.0	591.9	59.5	57.4	27.319	SF
Chevron 6-37D - DD - Plan #2	433.3	432.3	26.2	24.8	17.795	CC, ES
Chevron 6-37D - DD - Plan #2	500.0	498.0	27.9	26.1	15.950	SF
Chevron 6-38D - DD - Plan #2	327.7	327.4	14.1	13.0	13.004	CC, ES
Chevron 6-38D - DD - Plan #2	400.0	399.1	16.0	14.7	11.837	SF

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Chevron O06 Pad - Chevron 6-17D (O06 Pad) - DD - Plan #1														
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	
5,300.0	5,250.3	5,417.0	5,356.4	15.4	16.5	-10.18	-1,817.0	551.5	1,218.1	1,197.9	20.18	60.374		
5,400.0	5,349.3	5,512.8	5,450.9	15.7	16.8	-9.98	-1,806.1	540.7	1,189.7	1,169.1	20.56	57.853		
5,500.0	5,448.3	5,608.6	5,545.5	16.0	17.2	-9.78	-1,795.2	529.9	1,161.3	1,140.3	20.95	55.423		
5,600.0	5,547.3	5,704.4	5,640.1	16.3	17.5	-9.57	-1,784.3	519.1	1,132.9	1,111.5	21.34	53.078		
5,700.0	5,646.2	5,800.2	5,734.6	16.6	17.8	-9.34	-1,773.5	508.3	1,104.5	1,082.8	21.74	50.814		
5,800.0	5,745.2	5,896.0	5,829.2	16.9	18.1	-9.11	-1,762.6	497.5	1,076.2	1,054.0	22.13	48.627		
5,900.0	5,844.2	5,991.8	5,923.8	17.2	18.4	-8.86	-1,751.7	486.7	1,047.9	1,025.3	22.53	46.513		
6,000.0	5,943.1	6,087.6	6,018.3	17.5	18.7	-8.60	-1,740.8	475.9	1,019.5	996.6	22.93	44.468		
6,100.0	6,042.1	6,183.4	6,112.9	17.8	19.1	-8.32	-1,730.0	465.1	991.3	967.9	23.33	42.489		
6,200.0	6,141.1	6,279.2	6,207.5	18.1	19.4	-8.02	-1,719.1	454.3	963.0	939.3	23.73	40.573		
6,300.0	6,240.0	6,375.0	6,302.0	18.5	19.7	-7.71	-1,708.2	443.5	934.8	910.6	24.14	38.718		
6,400.0	6,339.0	6,470.8	6,396.6	18.8	20.0	-7.38	-1,697.3	432.7	906.5	882.0	24.55	36.919		
6,500.0	6,438.0	6,566.6	6,491.2	19.1	20.3	-7.03	-1,686.5	421.9	878.4	853.4	24.97	35.175		
6,600.0	6,537.0	6,662.4	6,585.7	19.4	20.6	-6.65	-1,675.6	411.1	850.2	824.8	25.39	33.483		
6,700.0	6,635.9	6,758.2	6,680.3	19.7	21.0	-6.25	-1,664.7	400.3	822.1	796.3	25.82	31.841		
6,800.0	6,734.9	6,846.3	6,767.2	20.0	21.2	-5.87	-1,654.8	390.5	794.2	768.0	26.22	30.285		
6,900.0	6,833.9	6,924.0	6,844.3	20.3	21.4	-5.57	-1,647.3	383.1	768.3	741.7	26.59	28.893		
7,000.0	6,933.0	7,000.0	6,919.8	20.6	21.6	-5.30	-1,641.5	377.3	745.7	718.7	27.01	27.614		
7,100.0	7,032.5	7,083.5	7,003.0	20.8	21.8	-5.07	-1,636.7	372.5	729.0	701.5	27.41	26.592		
7,200.0	7,132.3	7,164.9	7,084.3	20.9	21.9	-4.92	-1,633.6	369.5	718.1	690.3	27.77	25.857		
7,300.0	7,232.3	7,246.9	7,166.3	21.1	22.0	-4.85	-1,632.2	368.1	713.1	685.1	28.09	25.390		
7,354.6	7,286.8	7,295.3	7,214.6	21.1	22.0	-20.22	-1,632.1	368.0	712.5	684.3	28.25	25.222 CC		
7,400.0	7,332.3	7,340.4	7,259.7	21.2	22.1	-75.47	-1,632.2	367.9	712.8	684.4	28.40	25.102		
7,500.0	7,432.2	7,439.6	7,359.0	21.3	22.2	-75.47	-1,632.4	367.5	712.8	684.1	28.72	24.817		
7,600.0	7,532.2	7,538.8	7,458.2	21.4	22.3	-75.47	-1,632.9	366.7	712.8	683.8	29.05	24.535		
7,686.8	7,619.0	7,625.0	7,544.3	21.5	22.4	-75.47	-1,633.5	365.7	712.8	683.5	29.34	24.291		
7,700.0	7,632.2	7,638.1	7,557.4	21.5	22.4	-75.47	-1,633.6	365.5	712.8	683.4	29.39	24.254		
7,800.0	7,732.2	7,737.3	7,656.6	21.6	22.5	-75.45	-1,634.5	363.9	712.9	683.1	29.73	23.977		
7,900.0	7,832.2	7,836.5	7,755.8	21.7	22.6	-75.40	-1,635.6	362.0	713.0	682.9	30.08	23.703		
8,000.0	7,932.2	7,935.7	7,855.0	21.9	22.7	-75.31	-1,636.9	359.7	713.3	682.9	30.44	23.433 ES		
8,100.0	8,032.2	8,035.0	7,954.2	22.0	22.9	-75.20	-1,638.4	357.1	713.7	682.9	30.81	23.167		
8,200.0	8,132.2	8,134.8	8,054.0	22.1	23.0	-75.05	-1,640.1	354.1	714.2	683.0	31.18	22.906		
8,300.0	8,232.2	8,234.8	8,153.9	22.2	23.1	-74.91	-1,641.8	351.2	714.6	683.1	31.55	22.652		
8,400.0	8,332.1	8,334.8	8,253.8	22.3	23.2	-74.77	-1,643.5	348.3	715.1	683.2	31.92	22.403		
8,500.0	8,432.1	8,434.8	8,353.7	22.5	23.3	-74.63	-1,645.2	345.3	715.6	683.3	32.29	22.160		
8,600.0	8,532.1	8,534.7	8,453.7	22.6	23.5	-74.49	-1,646.9	342.4	716.1	683.4	32.66	21.923		
8,700.0	8,632.1	8,634.7	8,553.6	22.7	23.6	-74.35	-1,648.6	339.5	716.6	683.5	33.03	21.692		
8,800.0	8,732.1	8,734.7	8,653.5	22.8	23.7	-74.21	-1,650.3	336.5	717.0	683.6	33.40	21.466		
8,900.0	8,832.1	8,834.7	8,753.4	23.0	23.8	-74.07	-1,652.0	333.6	717.5	683.8	33.78	21.244		
9,000.0	8,932.1	8,934.7	8,853.4	23.1	24.0	-73.93	-1,653.6	330.7	718.0	683.9	34.15	21.028		
9,100.0	9,032.1	9,034.7	8,953.3	23.2	24.1	-73.79	-1,655.3	327.7	718.5	684.0	34.52	20.817		
9,200.0	9,132.1	9,134.6	9,053.2	23.3	24.2	-73.65	-1,657.0	324.8	719.1	684.2	34.89	20.610		
9,300.0	9,232.0	9,234.6	9,153.1	23.5	24.4	-73.51	-1,658.7	321.9	719.6	684.3	35.26	20.408		
9,400.0	9,332.0	9,334.6	9,253.1	23.6	24.5	-73.37	-1,660.4	318.9	720.1	684.5	35.63	20.210		
9,500.0	9,432.0	9,434.6	9,353.0	23.7	24.6	-73.23	-1,662.1	316.0	720.6	684.6	36.00	20.016		
9,600.0	9,532.0	9,534.6	9,452.9	23.8	24.7	-73.09	-1,663.8	313.1	721.1	684.8	36.37	19.827		
9,700.0	9,632.0	9,634.6	9,552.9	24.0	24.9	-72.95	-1,665.5	310.1	721.7	684.9	36.74	19.641		
9,800.0	9,732.0	9,734.5	9,652.8	24.1	25.0	-72.81	-1,667.2	307.2	722.2	685.1	37.11	19.460		
9,900.0	9,832.0	9,834.5	9,752.7	24.2	25.1	-72.67	-1,668.9	304.3	722.7	685.3	37.48	19.282		
10,000.0	9,932.0	9,934.5	9,852.6	24.4	25.3	-72.53	-1,670.5	301.3	723.3	685.4	37.85	19.107		
10,082.1	10,014.0	10,016.5	9,934.6	24.5	25.4	-72.42	-1,671.9	298.9	723.7	685.6	38.16	18.967 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

## Cathedral Energy Services

### Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chevron O06 Pad - Chevron 6-18D (O06 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
4,700.0	4,656.5	4,881.9	4,807.1	13.6	16.8	-17.68	-1,652.6	663.8	1,205.0	1,187.9	17.10	70.483		
4,800.0	4,755.5	4,976.7	4,900.3	13.9	17.1	-17.84	-1,637.6	654.6	1,173.3	1,155.8	17.46	67.215		
4,900.0	4,854.5	5,071.5	4,993.4	14.2	17.5	-18.01	-1,622.7	645.5	1,141.6	1,123.7	17.82	64.074		
5,000.0	4,953.4	5,166.2	5,086.6	14.5	17.8	-18.18	-1,607.7	636.4	1,109.9	1,091.7	18.18	61.055		
5,100.0	5,052.4	5,261.0	5,179.7	14.8	18.2	-18.37	-1,592.7	627.2	1,078.2	1,059.6	18.54	58.149		
5,200.0	5,151.4	5,355.8	5,272.8	15.1	18.5	-18.57	-1,577.7	618.1	1,046.5	1,027.6	18.91	55.351		
5,300.0	5,250.3	5,450.6	5,366.0	15.4	18.9	-18.78	-1,562.7	609.0	1,014.8	995.5	19.27	52.655		
5,400.0	5,349.3	5,545.4	5,459.1	15.7	19.2	-19.00	-1,547.8	599.8	983.1	963.5	19.64	50.055		
5,500.0	5,448.3	5,640.2	5,552.3	16.0	19.6	-19.24	-1,532.8	590.7	951.5	931.5	20.01	47.545		
5,600.0	5,547.3	5,734.9	5,645.4	16.3	19.9	-19.49	-1,517.8	581.6	919.9	899.5	20.39	45.122		
5,700.0	5,646.2	5,829.7	5,738.6	16.6	20.3	-19.77	-1,502.8	572.4	888.2	867.5	20.76	42.780		
5,800.0	5,745.2	5,924.5	5,831.7	16.9	20.6	-20.06	-1,487.8	563.3	856.6	835.5	21.14	40.516		
5,900.0	5,844.2	6,019.3	5,924.9	17.2	21.0	-20.37	-1,472.9	554.2	825.1	803.5	21.53	38.325		
6,000.0	5,943.1	6,114.1	6,018.0	17.5	21.3	-20.71	-1,457.9	545.0	793.5	771.6	21.92	36.204		
6,100.0	6,042.1	6,208.9	6,111.2	17.8	21.7	-21.08	-1,442.9	535.9	762.0	739.7	22.31	34.149		
6,200.0	6,141.1	6,303.6	6,204.3	18.1	22.0	-21.48	-1,427.9	526.8	730.5	707.8	22.72	32.157		
6,300.0	6,240.0	6,398.4	6,297.4	18.5	22.4	-21.92	-1,413.0	517.6	699.1	675.9	23.13	30.225		
6,400.0	6,339.0	6,493.2	6,390.6	18.8	22.7	-22.40	-1,398.0	508.5	667.6	644.1	23.55	28.351		
6,500.0	6,438.0	6,588.0	6,483.7	19.1	23.1	-22.92	-1,383.0	499.4	636.3	612.3	23.98	26.531		
6,600.0	6,537.0	6,682.8	6,576.9	19.4	23.4	-23.50	-1,368.0	490.2	605.0	580.5	24.43	24.763		
6,700.0	6,635.9	6,777.6	6,670.0	19.7	23.8	-24.14	-1,353.0	481.1	573.7	548.8	24.90	23.044		
6,800.0	6,734.9	6,858.7	6,749.9	20.0	24.0	-24.74	-1,341.0	473.7	543.6	518.3	25.34	21.453		
6,900.0	6,833.9	6,939.7	6,830.0	20.3	24.3	-25.38	-1,330.9	467.6	516.3	490.5	25.80	20.011		
7,000.0	6,933.0	7,022.1	6,911.9	20.6	24.5	-25.86	-1,322.6	462.5	492.7	466.4	26.28	18.748		
7,100.0	7,032.5	7,100.0	6,989.5	20.8	24.6	-26.18	-1,316.6	458.9	475.1	448.4	26.71	17.785		
7,200.0	7,132.3	7,191.6	7,080.9	20.9	24.8	-26.47	-1,311.8	456.0	463.5	436.3	27.14	17.078		
7,300.0	7,232.3	7,277.7	7,166.9	21.1	24.8	-26.59	-1,309.6	454.6	457.9	430.5	27.49	16.657		
7,362.0	7,294.2	7,333.0	7,222.3	21.1	24.9	-46.47	-1,309.4	454.5	457.2	429.5	27.69	16.509		
7,400.0	7,332.3	7,371.1	7,260.4	21.2	24.9	-97.23	-1,309.4	454.4	457.4	429.6	27.81	16.446		
7,500.0	7,432.2	7,471.4	7,360.6	21.3	25.0	-97.23	-1,309.6	454.0	457.4	429.3	28.15	16.253		
7,600.0	7,532.2	7,571.6	7,460.9	21.4	25.1	-97.24	-1,310.1	453.3	457.5	429.0	28.48	16.062		
7,700.0	7,632.2	7,671.9	7,561.1	21.5	25.2	-97.25	-1,310.7	452.1	457.5	428.6	28.82	15.875		
7,800.0	7,732.2	7,772.2	7,661.4	21.6	25.3	-97.23	-1,311.6	450.6	457.4	428.3	29.15	15.695		
7,900.0	7,832.2	7,872.4	7,761.6	21.7	25.4	-97.15	-1,312.7	448.7	457.4	427.9	29.47	15.522		
8,000.0	7,932.2	7,972.6	7,861.8	21.9	25.5	-97.01	-1,314.0	446.4	457.2	427.4	29.77	15.356		
8,100.0	8,032.2	8,072.9	7,962.0	22.0	25.6	-96.83	-1,315.5	443.7	457.0	427.0	30.07	15.197		
8,200.0	8,132.2	8,172.9	8,062.0	22.1	25.7	-96.60	-1,317.2	440.8	456.8	426.4	30.37	15.042		
8,300.0	8,232.2	8,272.9	8,161.9	22.2	25.8	-96.37	-1,318.9	437.9	456.6	425.9	30.67	14.889		
8,400.0	8,332.1	8,372.9	8,261.8	22.3	25.9	-96.14	-1,320.6	435.0	456.4	425.4	30.97	14.738		
8,500.0	8,432.1	8,472.9	8,361.7	22.5	26.0	-95.92	-1,322.3	432.0	456.2	424.9	31.27	14.589		
8,600.0	8,532.1	8,572.8	8,461.7	22.6	26.1	-95.69	-1,324.0	429.1	456.0	424.4	31.57	14.443		
8,700.0	8,632.1	8,672.8	8,561.6	22.7	26.2	-95.46	-1,325.7	426.2	455.8	424.0	31.88	14.298		
8,800.0	8,732.1	8,772.8	8,661.5	22.8	26.3	-95.23	-1,327.4	423.2	455.7	423.5	32.19	14.155		
8,900.0	8,832.1	8,872.8	8,761.4	23.0	26.4	-95.00	-1,329.1	420.3	455.5	423.0	32.50	14.014		
9,000.0	8,932.1	8,972.8	8,861.4	23.1	26.5	-94.77	-1,330.8	417.4	455.3	422.5	32.82	13.876		
9,100.0	9,032.1	9,072.8	8,961.3	23.2	26.6	-94.54	-1,332.4	414.4	455.2	422.1	33.13	13.739		
9,200.0	9,132.1	9,172.7	9,061.2	23.3	26.7	-94.31	-1,334.1	411.5	455.0	421.6	33.45	13.604		
9,300.0	9,232.0	9,272.7	9,161.2	23.5	26.8	-94.08	-1,335.8	408.6	454.9	421.1	33.77	13.472		
9,400.0	9,332.0	9,372.7	9,261.1	23.6	26.9	-93.85	-1,337.5	405.6	454.8	420.7	34.09	13.341		
9,500.0	9,432.0	9,472.7	9,361.0	23.7	27.0	-93.62	-1,339.2	402.7	454.7	420.2	34.41	13.212		
9,600.0	9,532.0	9,572.7	9,460.9	23.8	27.2	-93.39	-1,340.9	399.8	454.5	419.8	34.74	13.085		
9,700.0	9,632.0	9,672.7	9,560.9	24.0	27.3	-93.16	-1,342.6	396.8	454.4	419.4	35.06	12.960		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Chevron O06 Pad - Chevron 6-18D (O06 Pad) - DD - Plan #1													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD													<b>Offset Well Error:</b>	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		
9,800.0	9,732.0	9,772.6	9,660.8	24.1	27.4	-92.93	-1,344.3	393.9	454.3	418.9	35.39	12.838		
9,900.0	9,832.0	9,872.6	9,760.7	24.2	27.5	-92.70	-1,346.0	391.0	454.2	418.5	35.72	12.716		
10,000.0	9,932.0	9,972.6	9,860.6	24.4	27.6	-92.47	-1,347.7	388.0	454.2	418.1	36.05	12.597		
10,082.1	10,014.0	10,054.7	9,942.6	24.5	27.7	-92.28	-1,349.1	385.6	454.1	417.8	36.32	12.501	CC, ES, SF	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Sec 6 T6S R96W (F06 696) - Chevron 6-19D - DD - Plan #2														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Total Uncertainty Axis	Separation Factor	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)					
0.0	0.0	0.0	0.0	0.0	0.0	36.89	12.0	9.0	15.0						
100.0	100.0	100.0	100.0	0.1	0.1	36.89	12.0	9.0	15.0	14.8	0.27	55.201			
200.0	200.0	200.0	200.0	0.3	0.3	36.89	12.0	9.0	15.0	14.4	0.62	24.189 CC			
300.0	300.0	300.3	300.2	0.5	0.5	-131.59	10.4	9.7	15.3	14.4	0.98	15.722 ES			
400.0	399.8	400.5	400.3	0.7	0.7	-129.18	5.6	11.8	16.3	14.9	1.35	12.027			
500.0	499.5	500.7	500.1	0.9	0.9	-126.07	-2.3	15.2	18.0	16.2	1.78	10.108			
600.0	598.7	600.6	599.6	1.2	1.1	-128.85	-11.1	19.0	21.4	19.2	2.22	9.620 SF			
700.0	697.7	700.5	699.0	1.5	1.4	-134.39	-19.9	22.8	26.3	23.6	2.65	9.916			
800.0	796.6	800.3	798.4	1.8	1.6	-138.20	-28.7	26.6	31.3	28.3	3.07	10.215			
900.0	895.6	900.2	897.8	2.0	1.8	-140.95	-37.5	30.4	36.5	33.0	3.48	10.486			
1,000.0	994.6	1,000.0	997.2	2.3	2.1	-143.01	-46.3	34.2	41.7	37.8	3.89	10.726			
1,100.0	1,093.6	1,099.9	1,096.6	2.6	2.3	-144.61	-55.1	38.0	47.0	42.7	4.30	10.935			
1,200.0	1,192.5	1,199.7	1,196.0	2.9	2.6	-145.88	-63.9	41.8	52.3	47.6	4.70	11.118			
1,300.0	1,291.5	1,299.6	1,295.4	3.2	2.8	-146.93	-72.7	45.6	57.6	52.5	5.11	11.278			
1,400.0	1,390.5	1,399.4	1,394.8	3.5	3.0	-147.79	-81.5	49.4	63.0	57.4	5.51	11.420			
1,500.0	1,489.4	1,499.3	1,494.1	3.8	3.3	-148.52	-90.3	53.2	68.3	62.4	5.92	11.546			
1,600.0	1,588.4	1,599.1	1,593.5	4.2	3.5	-149.14	-99.1	57.0	73.7	67.3	6.32	11.658			
1,700.0	1,687.4	1,699.0	1,692.9	4.5	3.8	-149.68	-107.9	60.8	79.0	72.3	6.72	11.759			
1,800.0	1,786.4	1,798.9	1,792.3	4.8	4.0	-150.15	-116.6	64.6	84.4	77.3	7.12	11.849			
1,900.0	1,885.3	1,898.7	1,891.7	5.1	4.2	-150.57	-125.4	68.4	89.8	82.3	7.52	11.931			
2,000.0	1,984.3	1,998.6	1,991.1	5.4	4.5	-150.94	-134.2	72.2	95.2	87.2	7.93	12.006			
2,100.0	2,083.3	2,098.4	2,090.5	5.7	4.7	-151.26	-143.0	76.0	100.5	92.2	8.33	12.074			
2,200.0	2,182.2	2,198.3	2,189.9	6.0	5.0	-151.56	-151.8	79.8	105.9	97.2	8.73	12.136			
2,300.0	2,281.2	2,298.1	2,289.3	6.3	5.2	-151.83	-160.6	83.6	111.3	102.2	9.13	12.194			
2,400.0	2,380.2	2,398.0	2,388.7	6.6	5.4	-152.07	-169.4	87.4	116.7	107.2	9.53	12.247			
2,500.0	2,479.2	2,497.8	2,488.1	6.9	5.7	-152.29	-178.2	91.2	122.1	112.2	9.93	12.296			
2,600.0	2,578.1	2,597.7	2,587.5	7.2	5.9	-152.49	-187.0	95.0	127.5	117.2	10.33	12.341			
2,700.0	2,677.1	2,697.5	2,686.9	7.5	6.2	-152.67	-195.8	98.8	132.9	122.2	10.73	12.383			
2,800.0	2,776.1	2,797.4	2,786.3	7.8	6.4	-152.84	-204.6	102.6	138.3	127.2	11.13	12.423			
2,900.0	2,875.0	2,897.2	2,885.7	8.1	6.7	-153.00	-213.4	106.4	143.7	132.2	11.53	12.460			
3,000.0	2,974.0	2,997.1	2,985.0	8.4	6.9	-153.15	-222.1	110.2	149.1	137.2	11.93	12.494			
3,100.0	3,073.0	3,096.9	3,084.4	8.7	7.1	-153.29	-230.9	114.0	154.5	142.2	12.33	12.526			
3,200.0	3,171.9	3,196.8	3,183.8	9.0	7.4	-153.41	-239.7	117.8	159.9	147.2	12.73	12.557			
3,300.0	3,270.9	3,296.7	3,283.2	9.3	7.6	-153.53	-248.5	121.6	165.3	152.2	13.13	12.586			
3,400.0	3,369.9	3,396.5	3,382.6	9.6	7.9	-153.64	-257.3	125.4	170.7	157.2	13.53	12.613			
3,500.0	3,468.9	3,496.4	3,482.0	9.9	8.1	-153.75	-266.1	129.2	176.1	162.2	13.93	12.638			
3,600.0	3,567.8	3,596.2	3,581.4	10.2	8.3	-153.85	-274.9	133.0	181.5	167.2	14.33	12.662			
3,700.0	3,666.8	3,696.1	3,680.8	10.5	8.6	-153.94	-283.7	136.8	186.9	172.2	14.73	12.685			
3,800.0	3,765.8	3,795.9	3,780.2	10.8	8.8	-154.03	-292.5	140.6	192.3	177.2	15.13	12.707			
3,900.0	3,864.7	3,895.8	3,879.6	11.1	9.1	-154.11	-301.3	144.3	197.7	182.2	15.53	12.728			
4,000.0	3,963.7	3,995.6	3,979.0	11.4	9.3	-154.19	-310.1	148.1	203.1	187.2	15.93	12.747			
4,100.0	4,062.7	4,095.5	4,078.4	11.8	9.5	-154.26	-318.9	151.9	208.5	192.2	16.33	12.766			
4,200.0	4,161.7	4,195.3	4,177.8	12.1	9.8	-154.33	-327.6	155.7	213.9	197.2	16.74	12.784			
4,300.0	4,260.6	4,295.2	4,277.2	12.4	10.0	-154.40	-336.4	159.5	219.4	202.2	17.14	12.801			
4,400.0	4,359.6	4,395.0	4,376.5	12.7	10.3	-154.46	-345.2	163.3	224.8	207.2	17.54	12.818			
4,500.0	4,458.6	4,494.9	4,475.9	13.0	10.5	-154.52	-354.0	167.1	230.2	212.2	17.94	12.833			
4,600.0	4,557.5	4,594.7	4,575.3	13.3	10.8	-154.58	-362.8	170.9	235.6	217.2	18.34	12.848			
4,700.0	4,656.5	4,694.6	4,674.7	13.6	11.0	-154.63	-371.6	174.7	241.0	222.2	18.74	12.863			
4,800.0	4,755.5	4,794.5	4,774.1	13.9	11.2	-154.69	-380.4	178.5	246.4	227.3	19.13	12.876			
4,900.0	4,854.5	4,894.3	4,873.5	14.2	11.5	-154.74	-389.2	182.3	251.8	232.3	19.53	12.890			
5,000.0	4,953.4	4,994.2	4,972.9	14.5	11.7	-154.79	-398.0	186.1	257.2	237.3	19.93	12.902			
5,100.0	5,052.4	5,094.0	5,072.3	14.8	12.0	-154.83	-406.8	189.9	262.6	242.3	20.33	12.915			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	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							
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
5,200.0	5,151.4	5,193.9	5,171.7	15.1	12.2	-154.88	-415.6	193.7	268.0	247.3	20.73	12.926	
5,300.0	5,250.3	5,293.7	5,271.1	15.4	12.4	-154.92	-424.4	197.5	273.4	252.3	21.13	12.938	
5,400.0	5,349.3	5,393.6	5,370.5	15.7	12.7	-154.96	-433.1	201.3	278.8	257.3	21.53	12.949	
5,500.0	5,448.3	5,493.4	5,469.9	16.0	12.9	-155.00	-441.9	205.1	284.3	262.3	21.93	12.959	
5,600.0	5,547.3	5,593.3	5,569.3	16.3	13.2	-155.04	-450.7	208.9	289.7	267.3	22.33	12.969	
5,700.0	5,646.2	5,693.1	5,668.7	16.6	13.4	-155.08	-459.5	212.7	295.1	272.3	22.73	12.979	
5,800.0	5,745.2	5,793.0	5,768.1	16.9	13.7	-155.11	-468.3	216.5	300.5	277.3	23.13	12.989	
5,900.0	5,844.2	5,892.8	5,867.4	17.2	13.9	-155.15	-477.1	220.3	305.9	282.4	23.53	12.998	
6,000.0	5,943.1	5,992.7	5,966.8	17.5	14.1	-155.18	-485.9	224.1	311.3	287.4	23.93	13.007	
6,100.0	6,042.1	6,092.5	6,066.2	17.8	14.4	-155.21	-494.7	227.9	316.7	292.4	24.33	13.015	
6,200.0	6,141.1	6,192.4	6,165.6	18.1	14.6	-155.24	-503.5	231.7	322.1	297.4	24.73	13.024	
6,300.0	6,240.0	6,292.3	6,265.0	18.5	14.9	-155.27	-512.3	235.5	327.5	302.4	25.13	13.032	
6,400.0	6,339.0	6,392.1	6,364.4	18.8	15.1	-155.30	-521.1	239.3	332.9	307.4	25.53	13.040	
6,500.0	6,438.0	6,492.0	6,463.8	19.1	15.3	-155.33	-529.9	243.1	338.4	312.4	25.93	13.047	
6,600.0	6,537.0	6,591.8	6,563.2	19.4	15.6	-155.35	-538.6	246.9	343.8	317.4	26.33	13.054	
6,700.0	6,635.9	6,691.7	6,662.6	19.7	15.8	-155.38	-547.4	250.7	349.2	322.4	26.73	13.062	
6,800.0	6,734.9	6,791.5	6,762.0	20.0	16.1	-155.41	-556.2	254.5	354.6	327.5	27.13	13.069	
6,900.0	6,833.9	6,891.4	6,861.4	20.3	16.3	-155.43	-565.0	258.3	360.0	332.5	27.53	13.075	
7,000.0	6,933.0	6,991.3	6,960.8	20.6	16.6	-155.41	-573.8	262.1	364.4	336.5	27.94	13.040	
7,100.0	7,032.5	7,086.1	7,055.2	20.8	16.8	-155.21	-581.7	265.5	366.1	337.8	28.35	12.913	
7,200.0	7,132.3	7,176.8	7,145.8	20.9	16.9	-155.06	-586.9	267.7	366.9	338.2	28.70	12.787	
7,300.0	7,232.3	7,267.6	7,236.6	21.1	17.1	-154.97	-589.5	268.8	367.1	338.1	28.98	12.665	
7,387.2	7,319.4	7,351.0	7,319.9	21.2	17.2	158.04	-589.8	268.9	367.4	338.1	29.23	12.566	
7,400.0	7,332.3	7,363.9	7,332.9	21.2	17.2	134.43	-589.8	268.9	367.0	337.7	29.28	12.535	
7,500.0	7,432.2	7,465.1	7,434.0	21.3	17.3	134.44	-590.0	268.5	367.0	337.5	29.58	12.407	
7,600.0	7,532.2	7,566.2	7,535.1	21.4	17.5	134.45	-590.5	267.7	367.1	337.2	29.88	12.284	
7,700.0	7,632.2	7,667.3	7,636.2	21.5	17.6	134.45	-591.2	266.6	367.1	336.9	30.18	12.164	
7,800.0	7,732.2	7,767.3	7,736.2	21.6	17.7	134.45	-591.9	265.2	367.1	336.6	30.47	12.048	
7,900.0	7,832.2	7,867.3	7,836.2	21.7	17.9	134.45	-592.7	263.9	367.1	336.4	30.77	11.933	
8,000.0	7,932.2	7,967.3	7,936.2	21.9	18.0	134.45	-593.5	262.5	367.1	336.1	31.06	11.820	
8,100.0	8,032.2	8,067.3	8,036.2	22.0	18.1	134.45	-594.3	261.2	367.1	335.8	31.36	11.709	
8,200.0	8,132.2	8,167.3	8,136.2	22.1	18.3	134.45	-595.0	259.8	367.1	335.5	31.65	11.599	
8,300.0	8,232.2	8,267.3	8,236.2	22.2	18.4	134.45	-595.8	258.5	367.1	335.2	31.95	11.491	
8,400.0	8,332.1	8,367.3	8,336.1	22.3	18.5	134.45	-596.6	257.1	367.1	334.9	32.25	11.385	
8,500.0	8,432.1	8,467.3	8,436.1	22.5	18.7	134.45	-597.4	255.8	367.1	334.6	32.55	11.280	
8,600.0	8,532.1	8,567.3	8,536.1	22.6	18.8	134.45	-598.2	254.4	367.1	334.3	32.85	11.176	
8,700.0	8,632.1	8,667.3	8,636.1	22.7	19.0	134.45	-598.9	253.1	367.1	334.0	33.15	11.075	
8,800.0	8,732.1	8,767.3	8,736.1	22.8	19.1	134.45	-599.7	251.7	367.1	333.7	33.45	10.975	
8,900.0	8,832.1	8,867.3	8,836.1	23.0	19.3	134.45	-600.5	250.4	367.2	333.4	33.76	10.876	
9,000.0	8,932.1	8,967.3	8,936.1	23.1	19.4	134.45	-601.3	249.0	367.2	333.1	34.06	10.779	
9,100.0	9,032.1	9,067.3	9,036.1	23.2	19.5	134.45	-602.0	247.7	367.2	332.8	34.37	10.683	
9,200.0	9,132.1	9,167.3	9,136.0	23.3	19.7	134.45	-602.8	246.3	367.2	332.5	34.68	10.589	
9,300.0	9,232.0	9,267.3	9,236.0	23.5	19.8	134.45	-603.6	245.0	367.2	332.2	34.98	10.496	
9,400.0	9,332.0	9,367.3	9,336.0	23.6	20.0	134.45	-604.4	243.7	367.2	331.9	35.29	10.404	
9,500.0	9,432.0	9,467.3	9,436.0	23.7	20.1	134.45	-605.1	242.3	367.2	331.6	35.60	10.314	
9,600.0	9,532.0	9,567.3	9,536.0	23.8	20.3	134.45	-605.9	241.0	367.2	331.3	35.91	10.225	
9,700.0	9,632.0	9,667.3	9,636.0	24.0	20.4	134.45	-606.7	239.6	367.2	331.0	36.22	10.138	
9,800.0	9,732.0	9,767.3	9,736.0	24.1	20.6	134.45	-607.5	238.3	367.2	330.7	36.53	10.051	
9,900.0	9,832.0	9,867.3	9,836.0	24.2	20.7	134.45	-608.2	236.9	367.2	330.3	36.84	9.966	
10,000.0	9,932.0	9,967.3	9,935.9	24.4	20.9	134.45	-609.0	235.6	367.2	330.0	37.16	9.883	
10,082.1	10,014.0	10,049.4	10,018.0	24.5	21.0	134.45	-609.7	234.5	367.2	329.8	37.41	9.815	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Sec 6 T6S R96W (F06 696) - Chevron 6-20D - DD - Plan #2														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)					
0.0	0.0	0.0	0.0	0.0	0.0	36.89	24.0	18.0	30.1						
100.0	100.0	100.0	100.0	0.1	0.1	36.89	24.0	18.0	30.1	29.8	0.27	110.402			
200.0	200.0	200.0	200.0	0.3	0.3	36.89	24.0	18.0	30.1	29.4	0.62	48.379 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	-134.81	24.0	18.0	31.3	30.3	0.97	32.161			
400.0	399.8	399.8	399.8	0.7	0.7	-140.82	24.0	18.0	35.1	33.8	1.33	26.464			
500.0	499.5	499.5	499.5	0.9	0.8	-148.22	24.0	18.0	42.3	40.6	1.69	25.068			
600.0	598.7	599.6	599.6	1.2	1.0	-153.47	22.8	19.3	52.2	50.2	2.05	25.501			
700.0	697.7	700.0	699.8	1.5	1.2	-155.11	19.2	23.1	62.6	60.1	2.42	25.823			
800.0	796.6	800.1	799.6	1.8	1.4	-154.26	13.5	28.9	71.5	68.7	2.82	25.358			
900.0	895.6	899.7	898.8	2.0	1.6	-153.41	7.7	35.0	80.4	77.1	3.23	24.886			
1,000.0	994.6	999.3	998.1	2.3	1.8	-152.73	1.8	41.1	89.2	85.6	3.65	24.475			
1,100.0	1,093.6	1,098.9	1,097.3	2.6	2.0	-152.17	-4.0	47.2	98.1	94.0	4.07	24.120			
1,200.0	1,192.5	1,198.5	1,196.6	2.9	2.3	-151.70	-9.9	53.2	106.9	102.4	4.49	23.813			
1,300.0	1,291.5	1,298.1	1,295.8	3.2	2.5	-151.31	-15.7	59.3	115.8	110.9	4.92	23.545			
1,400.0	1,390.5	1,397.7	1,395.1	3.5	2.7	-150.97	-21.6	65.4	124.7	119.3	5.35	23.311			
1,500.0	1,489.4	1,497.3	1,494.3	3.8	2.9	-150.67	-27.4	71.5	133.5	127.8	5.78	23.105			
1,600.0	1,588.4	1,596.9	1,593.5	4.2	3.1	-150.41	-33.3	77.5	142.4	136.2	6.21	22.923			
1,700.0	1,687.4	1,696.5	1,692.8	4.5	3.4	-150.19	-39.2	83.6	151.3	144.7	6.65	22.760			
1,800.0	1,786.4	1,796.1	1,792.0	4.8	3.6	-149.99	-45.0	89.7	160.2	153.1	7.08	22.615			
1,900.0	1,885.3	1,895.7	1,891.3	5.1	3.8	-149.80	-50.9	95.7	169.1	161.6	7.52	22.484			
2,000.0	1,984.3	1,995.3	1,990.5	5.4	4.0	-149.64	-56.7	101.8	178.0	170.0	7.96	22.366			
2,100.0	2,083.3	2,094.9	2,089.8	5.7	4.3	-149.49	-62.6	107.9	186.9	178.5	8.39	22.258			
2,200.0	2,182.2	2,194.5	2,189.0	6.0	4.5	-149.36	-68.4	114.0	195.7	186.9	8.83	22.160			
2,300.0	2,281.2	2,294.1	2,288.3	6.3	4.7	-149.24	-74.3	120.0	204.6	195.4	9.27	22.070			
2,400.0	2,380.2	2,393.7	2,387.5	6.6	4.9	-149.13	-80.1	126.1	213.5	203.8	9.71	21.987			
2,500.0	2,479.2	2,493.3	2,486.8	6.9	5.2	-149.02	-86.0	132.2	222.4	212.3	10.15	21.911			
2,600.0	2,578.1	2,592.9	2,586.0	7.2	5.4	-148.93	-91.8	138.3	231.3	220.7	10.59	21.841			
2,700.0	2,677.1	2,692.5	2,685.2	7.5	5.6	-148.84	-97.7	144.3	240.2	229.2	11.03	21.776			
2,800.0	2,776.1	2,792.1	2,784.5	7.8	5.8	-148.76	-103.5	150.4	249.1	237.6	11.47	21.715			
2,900.0	2,875.0	2,891.7	2,883.7	8.1	6.1	-148.68	-109.4	156.5	258.0	246.1	11.91	21.659			
3,000.0	2,974.0	2,991.4	2,983.0	8.4	6.3	-148.61	-115.3	162.5	266.9	254.5	12.35	21.606			
3,100.0	3,073.0	3,091.0	3,082.2	8.7	6.5	-148.54	-121.1	168.6	275.8	263.0	12.79	21.556			
3,200.0	3,171.9	3,190.6	3,181.5	9.0	6.8	-148.48	-127.0	174.7	284.7	271.4	13.23	21.510			
3,300.0	3,270.9	3,290.2	3,280.7	9.3	7.0	-148.42	-132.8	180.8	293.6	279.9	13.68	21.467			
3,400.0	3,369.9	3,389.8	3,380.0	9.6	7.2	-148.37	-138.7	186.8	302.5	288.4	14.12	21.425			
3,500.0	3,468.9	3,489.4	3,479.2	9.9	7.4	-148.32	-144.5	192.9	311.4	296.8	14.56	21.387			
3,600.0	3,567.8	3,589.0	3,578.5	10.2	7.7	-148.27	-150.4	199.0	320.3	305.3	15.00	21.350			
3,700.0	3,666.8	3,688.6	3,677.7	10.5	7.9	-148.22	-156.2	205.1	329.2	313.7	15.44	21.316			
3,800.0	3,765.8	3,788.2	3,776.9	10.8	8.1	-148.18	-162.1	211.1	338.1	322.2	15.88	21.283			
3,900.0	3,864.7	3,887.8	3,876.2	11.1	8.3	-148.13	-167.9	217.2	347.0	330.6	16.33	21.252			
4,000.0	3,963.7	3,987.4	3,975.4	11.4	8.6	-148.09	-173.8	223.3	355.9	339.1	16.77	21.222			
4,100.0	4,062.7	4,087.0	4,074.7	11.8	8.8	-148.06	-179.7	229.4	364.8	347.5	17.21	21.194			
4,200.0	4,161.7	4,186.6	4,173.9	12.1	9.0	-148.02	-185.5	235.4	373.7	356.0	17.65	21.167			
4,300.0	4,260.6	4,286.2	4,273.2	12.4	9.3	-147.99	-191.4	241.5	382.5	364.5	18.09	21.142			
4,400.0	4,359.6	4,385.8	4,372.4	12.7	9.5	-147.95	-197.2	247.6	391.4	372.9	18.54	21.117			
4,500.0	4,458.6	4,485.4	4,471.7	13.0	9.7	-147.92	-203.1	253.6	400.3	381.4	18.98	21.094			
4,600.0	4,557.5	4,585.0	4,570.9	13.3	9.9	-147.89	-208.9	259.7	409.2	389.8	19.42	21.072			
4,700.0	4,656.5	4,684.6	4,670.2	13.6	10.2	-147.86	-214.8	265.8	418.1	398.3	19.86	21.050			
4,800.0	4,755.5	4,784.2	4,769.4	13.9	10.4	-147.84	-220.6	271.9	427.0	406.7	20.31	21.030			
4,900.0	4,854.5	4,883.8	4,868.6	14.2	10.6	-147.81	-226.5	277.9	435.9	415.2	20.75	21.010			
5,000.0	4,953.4	4,983.4	4,967.9	14.5	10.8	-147.78	-232.3	284.0	444.8	423.6	21.19	20.992			
5,100.0	5,052.4	5,082.5	5,066.6	14.8	11.1	-147.76	-238.1	290.0	453.7	432.1	21.63	20.976			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design      Sec 6 T6S R96W (F06 696) - Chevron 6-20D - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program:    0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
5,200.0	5,151.4	5,176.2	5,160.1	15.1	11.2	-147.95	-242.4	294.4	463.4	441.4	22.00	21.062		
5,300.0	5,250.3	5,269.5	5,253.4	15.4	11.4	-148.47	-244.5	296.6	474.3	452.0	22.30	21.272		
5,400.0	5,349.3	5,366.3	5,350.1	15.7	11.5	-149.29	-244.8	296.8	486.4	463.9	22.55	21.573		
5,500.0	5,448.3	5,466.9	5,450.8	16.0	11.7	-150.18	-245.0	296.5	498.5	475.7	22.79	21.876		
5,600.0	5,547.3	5,566.7	5,550.5	16.3	11.8	-151.04	-245.4	295.8	510.4	487.3	23.02	22.166		
5,700.0	5,646.2	5,665.7	5,649.5	16.6	11.9	-151.86	-245.8	295.0	522.3	499.1	23.26	22.452		
5,800.0	5,745.2	5,764.7	5,748.5	16.9	12.1	-152.65	-246.3	294.3	534.4	510.9	23.51	22.732		
5,900.0	5,844.2	5,863.7	5,847.5	17.2	12.2	-153.40	-246.7	293.5	546.5	522.8	23.75	23.008		
6,000.0	5,943.1	5,962.7	5,946.5	17.5	12.4	-154.11	-247.1	292.8	558.8	534.8	24.00	23.278		
6,100.0	6,042.1	6,061.7	6,045.6	17.8	12.5	-154.80	-247.6	292.1	571.1	546.9	24.26	23.543		
6,200.0	6,141.1	6,160.7	6,144.6	18.1	12.7	-155.46	-248.0	291.3	583.5	559.0	24.52	23.803		
6,300.0	6,240.0	6,259.7	6,243.6	18.5	12.8	-156.09	-248.4	290.6	596.0	571.2	24.78	24.057		
6,400.0	6,339.0	6,358.7	6,342.6	18.8	12.9	-156.69	-248.8	289.8	608.6	583.5	25.04	24.306		
6,500.0	6,438.0	6,457.7	6,441.6	19.1	13.1	-157.27	-249.3	289.1	621.2	595.9	25.30	24.549		
6,600.0	6,537.0	6,556.8	6,540.6	19.4	13.2	-157.83	-249.7	288.4	633.9	608.3	25.57	24.787		
6,700.0	6,635.9	6,655.8	6,639.6	19.7	13.4	-158.36	-250.1	287.6	646.6	620.7	25.84	25.019		
6,800.0	6,734.9	6,754.8	6,738.6	20.0	13.5	-158.88	-250.5	286.9	659.4	633.3	26.12	25.246		
6,900.0	6,833.9	6,853.8	6,837.6	20.3	13.7	-159.37	-251.0	286.1	672.2	645.8	26.39	25.468		
7,000.0	6,933.0	6,952.9	6,936.7	20.6	13.8	-159.88	-251.4	285.4	684.1	657.4	26.69	25.635		
7,100.0	7,032.5	7,052.5	7,036.3	20.8	14.0	-160.27	-251.8	284.7	692.8	665.8	26.97	25.684		
7,200.0	7,132.3	7,152.3	7,136.1	20.9	14.1	-160.54	-252.3	283.9	698.2	670.9	27.25	25.619		
7,300.0	7,232.3	7,252.2	7,236.0	21.1	14.3	-160.69	-252.7	283.2	700.3	672.8	27.53	25.443		
7,400.0	7,332.3	7,352.2	7,336.0	21.2	14.4	128.64	-253.1	282.4	700.0	672.2	27.82	25.158		
7,500.0	7,432.2	7,452.2	7,436.0	21.3	14.6	128.61	-253.6	281.7	699.8	671.7	28.14	24.870		
7,529.6	7,461.8	7,481.8	7,465.6	21.3	14.6	128.61	-253.7	281.5	699.8	671.6	28.23	24.788		
7,600.0	7,532.2	7,552.2	7,536.0	21.4	14.7	128.62	-254.0	280.9	699.9	671.4	28.46	24.595		
7,700.0	7,632.2	7,652.2	7,636.0	21.5	14.9	128.65	-254.4	280.2	700.2	671.4	28.77	24.335		
7,800.0	7,732.2	7,752.2	7,736.0	21.6	15.1	128.70	-254.9	279.4	700.6	671.5	29.09	24.084		
7,900.0	7,832.2	7,852.2	7,836.0	21.7	15.2	128.74	-255.3	278.7	701.1	671.7	29.41	23.837		
8,000.0	7,932.2	7,952.2	7,936.0	21.9	15.4	128.78	-255.7	277.9	701.5	671.8	29.73	23.596		
8,100.0	8,032.2	8,052.2	8,036.0	22.0	15.5	128.83	-256.1	277.2	701.9	671.9	30.05	23.359		
8,200.0	8,132.2	8,152.2	8,136.0	22.1	15.7	128.87	-256.6	276.4	702.4	672.0	30.37	23.127		
8,300.0	8,232.2	8,252.2	8,236.0	22.2	15.8	128.92	-257.0	275.7	702.8	672.1	30.69	22.899		
8,400.0	8,332.1	8,352.2	8,336.0	22.3	16.0	128.96	-257.4	274.9	703.2	672.2	31.01	22.675		
8,500.0	8,432.1	8,452.2	8,436.0	22.5	16.2	129.01	-257.9	274.2	703.7	672.3	31.34	22.455		
8,600.0	8,532.1	8,552.2	8,536.0	22.6	16.3	129.05	-258.3	273.5	704.1	672.5	31.66	22.240		
8,700.0	8,632.1	8,652.2	8,635.9	22.7	16.5	129.09	-258.7	272.7	704.6	672.6	31.98	22.029		
8,800.0	8,732.1	8,752.2	8,735.9	22.8	16.6	129.14	-259.2	272.0	705.0	672.7	32.31	21.821		
8,900.0	8,832.1	8,852.2	8,835.9	23.0	16.8	129.18	-259.6	271.2	705.4	672.8	32.63	21.617		
9,000.0	8,932.1	8,952.2	8,935.9	23.1	16.9	129.22	-260.0	270.5	705.9	672.9	32.96	21.417		
9,100.0	9,032.1	9,052.2	9,035.9	23.2	17.1	129.27	-260.5	269.7	706.3	673.0	33.28	21.221		
9,200.0	9,132.1	9,152.2	9,135.9	23.3	17.3	129.31	-260.9	269.0	706.8	673.1	33.61	21.028		
9,300.0	9,232.0	9,252.2	9,235.9	23.5	17.4	129.36	-261.3	268.2	707.2	673.3	33.94	20.838		
9,400.0	9,332.0	9,352.2	9,335.9	23.6	17.6	129.40	-261.8	267.5	707.6	673.4	34.26	20.652		
9,500.0	9,432.0	9,452.2	9,435.9	23.7	17.7	129.44	-262.2	266.7	708.1	673.5	34.59	20.469		
9,600.0	9,532.0	9,552.2	9,535.9	23.8	17.9	129.49	-262.6	266.0	708.5	673.6	34.92	20.290		
9,700.0	9,632.0	9,652.2	9,635.9	24.0	18.1	129.53	-263.1	265.2	709.0	673.7	35.25	20.113		
9,800.0	9,732.0	9,752.2	9,735.9	24.1	18.2	129.57	-263.5	264.5	709.4	673.8	35.58	19.940		
9,900.0	9,832.0	9,852.2	9,835.9	24.2	18.4	129.62	-263.9	263.7	709.8	673.9	35.91	19.769		
10,000.0	9,932.0	9,952.2	9,935.9	24.4	18.6	129.66	-264.4	263.0	710.3	674.1	36.24	19.601		
10,082.1	10,014.0	10,034.2	10,017.9	24.5	18.7	129.69	-264.7	262.4	710.7	674.1	36.51	19.466 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Sec 6 T6S R96W (F06 696) - Chevron 6-22D - DD - Plan #3														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	36.33	36.4	26.8	45.2						
100.0	100.0	100.0	100.0	0.1	0.1	36.33	36.4	26.8	45.2	44.9	0.27	166.060			
200.0	200.0	200.0	200.0	0.3	0.3	36.33	36.4	26.8	45.2	44.6	0.62	72.768 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	-134.58	36.4	26.8	46.4	45.4	0.97	47.752			
400.0	399.8	399.8	399.8	0.7	0.7	-138.79	36.4	26.8	50.2	48.9	1.33	37.795			
500.0	499.5	499.5	499.5	0.9	0.8	-144.47	36.4	26.8	57.1	55.4	1.69	33.755			
600.0	598.7	598.7	598.7	1.2	1.0	-150.39	36.4	26.8	67.4	65.3	2.05	32.839			
700.0	697.7	697.7	697.7	1.5	1.2	-155.42	36.4	26.8	80.2	77.7	2.41	33.301			
800.0	796.6	796.6	796.6	1.8	1.4	-159.07	36.4	26.8	93.4	90.6	2.76	33.867			
900.0	895.6	895.6	895.6	2.0	1.5	-161.81	36.4	26.8	106.9	103.8	3.10	34.426			
1,000.0	994.6	994.6	994.6	2.3	1.7	-163.93	36.4	26.8	120.6	117.1	3.45	34.941			
1,100.0	1,093.6	1,092.7	1,092.7	2.6	1.9	-164.97	36.6	28.3	134.7	130.9	3.80	35.439			
1,200.0	1,192.5	1,190.6	1,190.5	2.9	2.0	-164.54	37.2	33.1	149.5	145.3	4.17	35.880			
1,300.0	1,291.5	1,288.2	1,287.7	3.2	2.2	-163.04	38.2	41.2	165.0	160.5	4.56	36.217			
1,400.0	1,390.5	1,386.6	1,385.6	3.5	2.4	-161.18	39.5	51.3	181.2	176.2	4.97	36.463			
1,500.0	1,489.4	1,485.1	1,483.6	3.8	2.6	-159.61	40.7	61.4	197.5	192.1	5.39	36.636			
1,600.0	1,588.4	1,583.7	1,581.6	4.2	2.9	-158.29	42.0	71.5	213.9	208.1	5.82	36.760			
1,700.0	1,687.4	1,682.2	1,679.6	4.5	3.1	-157.15	43.3	81.6	230.4	224.1	6.25	36.852			
1,800.0	1,786.4	1,780.7	1,777.6	4.8	3.3	-156.17	44.5	91.8	247.0	240.3	6.69	36.921			
1,900.0	1,885.3	1,879.2	1,875.6	5.1	3.5	-155.31	45.8	101.9	263.7	256.5	7.13	36.975			
2,000.0	1,984.3	1,977.8	1,973.6	5.4	3.8	-154.55	47.0	112.0	280.4	272.8	7.57	37.016			
2,100.0	2,083.3	2,076.3	2,071.6	5.7	4.0	-153.87	48.3	122.2	297.1	289.1	8.02	37.050			
2,200.0	2,182.2	2,174.8	2,169.6	6.0	4.2	-153.27	49.6	132.3	313.9	305.4	8.47	37.077			
2,300.0	2,281.2	2,273.4	2,267.6	6.3	4.5	-152.73	50.8	142.4	330.7	321.8	8.91	37.100			
2,400.0	2,380.2	2,371.9	2,365.6	6.6	4.7	-152.25	52.1	152.5	347.6	338.2	9.36	37.119			
2,500.0	2,479.2	2,470.4	2,463.6	6.9	4.9	-151.80	53.3	162.7	364.4	354.6	9.81	37.135			
2,600.0	2,578.1	2,569.0	2,561.6	7.2	5.2	-151.40	54.6	172.8	381.3	371.0	10.26	37.149			
2,700.0	2,677.1	2,667.5	2,659.6	7.5	5.4	-151.03	55.9	182.9	398.2	387.5	10.72	37.161			
2,800.0	2,776.1	2,766.0	2,757.6	7.8	5.7	-150.69	57.1	193.1	415.1	404.0	11.17	37.171			
2,900.0	2,875.0	2,864.6	2,855.6	8.1	5.9	-150.38	58.4	203.2	432.1	420.4	11.62	37.181			
3,000.0	2,974.0	2,963.1	2,953.6	8.4	6.1	-150.09	59.7	213.3	449.0	436.9	12.07	37.190			
3,100.0	3,073.0	3,061.6	3,051.6	8.7	6.4	-149.82	60.9	223.4	466.0	453.4	12.53	37.197			
3,200.0	3,171.9	3,160.1	3,149.6	9.0	6.6	-149.57	62.2	233.6	482.9	469.9	12.98	37.205			
3,300.0	3,270.9	3,266.7	3,255.8	9.3	6.9	-149.51	63.3	242.7	499.1	485.7	13.42	37.205			
3,400.0	3,369.9	3,374.1	3,363.0	9.6	7.1	-149.86	64.0	247.9	513.7	499.9	13.80	37.219			
3,500.0	3,468.9	3,480.3	3,469.2	9.9	7.2	-150.57	64.1	249.2	526.7	512.5	14.14	37.234			
3,600.0	3,567.8	3,581.0	3,569.9	10.2	7.4	-151.35	64.0	249.0	539.0	524.5	14.47	37.257			
3,700.0	3,666.8	3,680.4	3,669.3	10.5	7.5	-152.10	63.7	248.4	551.2	536.4	14.78	37.280			
3,800.0	3,765.8	3,779.4	3,768.3	10.8	7.6	-152.83	63.4	247.9	563.4	548.3	15.10	37.309			
3,900.0	3,864.7	3,878.4	3,867.3	11.1	7.8	-153.52	63.1	247.4	575.8	560.4	15.42	37.344			
4,000.0	3,963.7	3,977.4	3,966.3	11.4	7.9	-154.18	62.8	246.9	588.2	572.5	15.74	37.383			
4,100.0	4,062.7	4,076.4	4,065.3	11.8	8.1	-154.81	62.5	246.3	600.7	584.7	16.05	37.425			
4,200.0	4,161.7	4,175.4	4,164.3	12.1	8.2	-155.42	62.1	245.8	613.3	597.0	16.37	37.471			
4,300.0	4,260.6	4,274.4	4,263.3	12.4	8.4	-156.01	61.8	245.3	626.0	609.3	16.68	37.518			
4,400.0	4,359.6	4,373.4	4,362.3	12.7	8.5	-156.57	61.5	244.8	638.7	621.7	17.00	37.567			
4,500.0	4,458.6	4,472.4	4,461.2	13.0	8.7	-157.11	61.2	244.2	651.4	634.1	17.32	37.616			
4,600.0	4,557.5	4,571.4	4,560.2	13.3	8.8	-157.62	60.9	243.7	664.3	646.6	17.64	37.667			
4,700.0	4,656.5	4,670.4	4,659.2	13.6	9.0	-158.12	60.6	243.2	677.1	659.2	17.95	37.718			
4,800.0	4,755.5	4,769.4	4,758.2	13.9	9.1	-158.60	60.3	242.7	690.1	671.8	18.27	37.770			
4,900.0	4,854.5	4,868.4	4,857.2	14.2	9.3	-159.07	60.0	242.1	703.0	684.4	18.59	37.821			
5,000.0	4,953.4	4,967.4	4,956.2	14.5	9.4	-159.51	59.7	241.6	716.0	697.1	18.91	37.872			
5,100.0	5,052.4	5,066.4	5,055.2	14.8	9.6	-159.94	59.4	241.1	729.1	709.9	19.23	37.923			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	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		Total		Separation		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)	Uncertainty Axis			
5,200.0	5,151.4	5,165.4	5,154.2	15.1	9.7	-160.36	59.1	240.6	742.2	722.6	19.54	37.973		
5,300.0	5,250.3	5,264.4	5,253.2	15.4	9.9	-160.76	58.8	240.0	755.3	735.4	19.86	38.023		
5,400.0	5,349.3	5,363.4	5,352.2	15.7	10.1	-161.14	58.5	239.5	768.5	748.3	20.18	38.072		
5,500.0	5,448.3	5,462.4	5,451.2	16.0	10.2	-161.52	58.2	239.0	781.7	761.2	20.51	38.120		
5,600.0	5,547.3	5,561.4	5,550.2	16.3	10.4	-161.88	57.9	238.5	794.9	774.1	20.83	38.167		
5,700.0	5,646.2	5,660.4	5,649.2	16.6	10.5	-162.23	57.6	237.9	808.2	787.0	21.15	38.214		
5,800.0	5,745.2	5,759.3	5,748.2	16.9	10.7	-162.57	57.3	237.4	821.4	800.0	21.47	38.259		
5,900.0	5,844.2	5,858.3	5,847.2	17.2	10.8	-162.90	57.0	236.9	834.8	813.0	21.79	38.304		
6,000.0	5,943.1	5,957.3	5,946.2	17.5	11.0	-163.21	56.7	236.4	848.1	826.0	22.12	38.348		
6,100.0	6,042.1	6,056.3	6,045.2	17.8	11.2	-163.52	56.4	235.8	861.5	839.0	22.44	38.391		
6,200.0	6,141.1	6,155.3	6,144.2	18.1	11.3	-163.82	56.1	235.3	874.9	852.1	22.76	38.433		
6,300.0	6,240.0	6,254.3	6,243.2	18.5	11.5	-164.11	55.8	234.8	888.3	865.2	23.09	38.474		
6,400.0	6,339.0	6,353.3	6,342.2	18.8	11.6	-164.39	55.5	234.3	901.7	878.3	23.41	38.514		
6,500.0	6,438.0	6,452.3	6,441.2	19.1	11.8	-164.66	55.2	233.7	915.2	891.4	23.74	38.553		
6,600.0	6,537.0	6,551.3	6,540.2	19.4	12.0	-164.92	54.9	233.2	928.6	904.6	24.06	38.591		
6,700.0	6,635.9	6,650.3	6,639.2	19.7	12.1	-165.18	54.6	232.7	942.1	917.7	24.39	38.628		
6,800.0	6,734.9	6,749.3	6,738.2	20.0	12.3	-165.43	54.2	232.1	955.6	930.9	24.72	38.665		
6,900.0	6,833.9	6,848.3	6,837.2	20.3	12.5	-165.67	53.9	231.6	969.2	944.1	25.04	38.700		
7,000.0	6,933.0	6,947.5	6,936.3	20.6	12.6	-165.94	53.6	231.1	981.6	956.2	25.39	38.656		
7,100.0	7,032.5	7,047.0	7,035.8	20.8	12.8	-166.15	53.3	230.6	990.8	965.1	25.74	38.499		
7,200.0	7,132.3	7,146.8	7,135.6	20.9	12.9	-166.30	53.0	230.0	996.7	970.6	26.06	38.241		
7,300.0	7,232.3	7,246.8	7,235.6	21.1	13.1	-166.38	52.7	229.5	999.1	972.7	26.37	37.886		
7,400.0	7,332.3	7,346.8	7,335.6	21.2	13.3	122.97	52.4	229.0	999.0	972.3	26.69	37.426		
7,472.4	7,404.6	7,419.1	7,407.9	21.2	13.4	122.96	52.2	228.6	998.9	972.0	26.93	37.090		
7,500.0	7,432.2	7,446.8	7,435.6	21.3	13.4	122.97	52.1	228.4	998.9	971.9	27.02	36.964		
7,600.0	7,532.2	7,546.8	7,535.6	21.4	13.6	122.98	51.8	227.9	999.1	971.8	27.36	36.522		
7,700.0	7,632.2	7,646.8	7,635.6	21.5	13.8	123.02	51.5	227.4	999.5	971.9	27.69	36.098		
7,800.0	7,732.2	7,746.8	7,735.6	21.6	13.9	123.06	51.2	226.9	1,000.1	972.0	28.02	35.689		
7,900.0	7,832.2	7,846.8	7,835.6	21.7	14.1	123.11	50.9	226.3	1,000.6	972.2	28.35	35.289		
8,000.0	7,932.2	7,946.7	7,935.6	21.9	14.3	123.15	50.6	225.8	1,001.1	972.4	28.69	34.898		
8,100.0	8,032.2	8,046.7	8,035.6	22.0	14.4	123.20	50.3	225.3	1,001.6	972.6	29.02	34.515		
8,200.0	8,132.2	8,146.7	8,135.5	22.1	14.6	123.24	50.0	224.7	1,002.1	972.8	29.35	34.141		
8,300.0	8,232.2	8,246.7	8,235.5	22.2	14.8	123.29	49.7	224.2	1,002.6	973.0	29.69	33.774		
8,400.0	8,332.1	8,346.7	8,335.5	22.3	14.9	123.33	49.3	223.7	1,003.2	973.1	30.02	33.415		
8,500.0	8,432.1	8,446.7	8,435.5	22.5	15.1	123.38	49.0	223.1	1,003.7	973.3	30.36	33.064		
8,600.0	8,532.1	8,546.7	8,535.5	22.6	15.3	123.42	48.7	222.6	1,004.2	973.5	30.69	32.720		
8,700.0	8,632.1	8,646.7	8,635.5	22.7	15.4	123.47	48.4	222.1	1,004.7	973.7	31.03	32.384		
8,800.0	8,732.1	8,746.7	8,735.5	22.8	15.6	123.51	48.1	221.5	1,005.2	973.9	31.36	32.054		
8,900.0	8,832.1	8,846.7	8,835.5	23.0	15.8	123.56	47.8	221.0	1,005.8	974.1	31.70	31.731		
9,000.0	8,932.1	8,946.7	8,935.5	23.1	15.9	123.60	47.5	220.5	1,006.3	974.3	32.03	31.414		
9,100.0	9,032.1	9,046.7	9,035.5	23.2	16.1	123.65	47.2	220.0	1,006.8	974.4	32.37	31.104		
9,200.0	9,132.1	9,146.7	9,135.5	23.3	16.3	123.69	46.9	219.4	1,007.3	974.6	32.71	30.799		
9,300.0	9,232.0	9,246.7	9,235.5	23.5	16.5	123.74	46.6	218.9	1,007.9	974.8	33.04	30.501		
9,400.0	9,332.0	9,346.7	9,335.5	23.6	16.6	123.78	46.3	218.4	1,008.4	975.0	33.38	30.209		
9,500.0	9,432.0	9,446.7	9,435.5	23.7	16.8	123.83	46.0	217.8	1,008.9	975.2	33.72	29.922		
9,600.0	9,532.0	9,546.7	9,535.5	23.8	17.0	123.87	45.7	217.3	1,009.4	975.4	34.06	29.641		
9,700.0	9,632.0	9,646.7	9,635.4	24.0	17.1	123.92	45.4	216.8	1,010.0	975.6	34.39	29.365		
9,800.0	9,732.0	9,746.7	9,735.4	24.1	17.3	123.96	45.0	216.2	1,010.5	975.8	34.73	29.094		
9,900.0	9,832.0	9,846.7	9,835.4	24.2	17.5	124.01	44.7	215.7	1,011.0	975.9	35.07	28.828		
10,000.0	9,932.0	9,946.7	9,935.4	24.4	17.6	124.05	44.4	215.2	1,011.5	976.1	35.41	28.567		
10,082.1	10,014.0	10,028.7	10,017.5	24.5	17.8	124.09	44.2	214.7	1,012.0	976.3	35.69	28.357 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	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		Total		Separation		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)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	36.71	59.4	44.3	74.1					
100.0	100.0	100.0	100.0	0.1	0.1	36.71	59.4	44.3	74.1	73.8	0.27	271.989		
200.0	200.0	200.0	200.0	0.3	0.3	36.71	59.4	44.3	74.1	73.4	0.62	119.186 CC, ES		
300.0	300.0	297.4	297.4	0.5	0.5	-133.30	60.5	45.5	76.9	75.9	0.97	79.458		
400.0	399.8	394.4	394.2	0.7	0.7	-134.99	63.8	49.1	85.5	84.2	1.32	64.661		
500.0	499.5	493.1	492.7	0.9	0.9	-137.41	68.5	54.3	98.7	97.0	1.69	58.291		
600.0	598.7	591.6	591.0	1.2	1.1	-140.34	73.2	59.6	114.7	112.6	2.08	55.219		
700.0	697.7	689.8	688.9	1.5	1.3	-143.24	77.9	64.7	132.6	130.1	2.46	53.832		
800.0	796.6	788.0	786.9	1.8	1.5	-145.48	82.6	69.9	150.7	147.9	2.85	52.930		
900.0	895.6	886.2	884.8	2.0	1.7	-147.23	87.4	75.1	169.1	165.9	3.23	52.317		
1,000.0	994.6	984.4	982.7	2.3	1.9	-148.64	92.1	80.3	187.6	183.9	3.62	51.882		
1,100.0	1,093.6	1,082.6	1,080.7	2.6	2.1	-149.80	96.8	85.5	206.1	202.1	4.00	51.564		
1,200.0	1,192.5	1,180.7	1,178.6	2.9	2.3	-150.76	101.5	90.7	224.7	220.4	4.38	51.325		
1,300.0	1,291.5	1,278.9	1,276.5	3.2	2.5	-151.58	106.2	95.8	243.4	238.7	4.76	51.140		
1,400.0	1,390.5	1,377.1	1,374.5	3.5	2.8	-152.28	110.9	101.0	262.2	257.0	5.14	50.995		
1,500.0	1,489.4	1,475.3	1,472.4	3.8	3.0	-152.89	115.6	106.2	280.9	275.4	5.52	50.879		
1,600.0	1,588.4	1,573.5	1,570.3	4.2	3.2	-153.42	120.3	111.4	299.7	293.8	5.90	50.784		
1,700.0	1,687.4	1,671.7	1,668.3	4.5	3.4	-153.89	125.0	116.6	318.5	312.2	6.28	50.707		
1,800.0	1,786.4	1,769.9	1,766.2	4.8	3.6	-154.31	129.7	121.8	337.3	330.7	6.66	50.642		
1,900.0	1,885.3	1,868.0	1,864.1	5.1	3.8	-154.68	134.4	127.0	356.2	349.1	7.04	50.587		
2,000.0	1,984.3	1,966.2	1,962.1	5.4	4.0	-155.01	139.1	132.1	375.0	367.6	7.42	50.541		
2,100.0	2,083.3	2,064.4	2,060.0	5.7	4.2	-155.32	143.8	137.3	393.9	386.1	7.80	50.501		
2,200.0	2,182.2	2,162.6	2,157.9	6.0	4.4	-155.59	148.5	142.5	412.7	404.6	8.18	50.467		
2,300.0	2,281.2	2,260.8	2,255.9	6.3	4.6	-155.84	153.2	147.7	431.6	423.1	8.56	50.437		
2,400.0	2,380.2	2,359.0	2,353.8	6.6	4.9	-156.07	157.9	152.9	450.5	441.6	8.94	50.411		
2,500.0	2,479.2	2,457.1	2,451.8	6.9	5.1	-156.28	162.6	158.1	469.4	460.1	9.32	50.388		
2,600.0	2,578.1	2,555.3	2,549.7	7.2	5.3	-156.48	167.3	163.3	488.3	478.6	9.69	50.368		
2,700.0	2,677.1	2,653.5	2,647.6	7.5	5.5	-156.66	172.0	168.4	507.2	497.1	10.07	50.350		
2,800.0	2,776.1	2,751.7	2,745.6	7.8	5.7	-156.83	176.7	173.6	526.1	515.7	10.45	50.333		
2,900.0	2,875.0	2,849.9	2,843.5	8.1	5.9	-156.98	181.4	178.8	545.0	534.2	10.83	50.319		
3,000.0	2,974.0	2,948.1	2,941.4	8.4	6.1	-157.13	186.2	184.0	563.9	552.7	11.21	50.306		
3,100.0	3,073.0	3,046.3	3,039.4	8.7	6.3	-157.27	190.9	189.2	582.9	571.3	11.59	50.294		
3,200.0	3,171.9	3,144.4	3,137.3	9.0	6.5	-157.39	195.6	194.4	601.8	589.8	11.97	50.283		
3,300.0	3,270.9	3,242.6	3,235.2	9.3	6.7	-157.51	200.3	199.6	620.7	608.4	12.35	50.274		
3,400.0	3,369.9	3,340.8	3,333.2	9.6	7.0	-157.63	205.0	204.7	639.6	626.9	12.73	50.265		
3,500.0	3,468.9	3,439.0	3,431.1	9.9	7.2	-157.73	209.7	209.9	658.6	645.5	13.10	50.257		
3,600.0	3,567.8	3,537.2	3,529.0	10.2	7.4	-157.83	214.4	215.1	677.5	664.0	13.48	50.249		
3,700.0	3,666.8	3,635.4	3,627.0	10.5	7.6	-157.93	219.1	220.3	696.4	682.6	13.86	50.242		
3,800.0	3,765.8	3,733.6	3,724.9	10.8	7.8	-158.02	223.8	225.5	715.4	701.1	14.24	50.236		
3,900.0	3,864.7	3,831.7	3,822.8	11.1	8.0	-158.10	228.5	230.7	734.3	719.7	14.62	50.230		
4,000.0	3,963.7	3,929.9	3,920.8	11.4	8.2	-158.18	233.2	235.8	753.3	738.3	15.00	50.225		
4,100.0	4,062.7	4,028.1	4,018.7	11.8	8.4	-158.26	237.9	241.0	772.2	756.8	15.38	50.220		
4,200.0	4,161.7	4,126.3	4,116.6	12.1	8.6	-158.33	242.6	246.2	791.1	775.4	15.76	50.215		
4,300.0	4,260.6	4,224.5	4,214.6	12.4	8.8	-158.40	247.3	251.4	810.1	793.9	16.13	50.211		
4,400.0	4,359.6	4,322.7	4,312.5	12.7	9.1	-158.47	252.0	256.6	829.0	812.5	16.51	50.207		
4,500.0	4,458.6	4,420.8	4,410.4	13.0	9.3	-158.53	256.7	261.8	848.0	831.1	16.89	50.203		
4,600.0	4,557.5	4,519.0	4,508.4	13.3	9.5	-158.60	261.4	267.0	866.9	849.6	17.27	50.199		
4,700.0	4,656.5	4,617.2	4,606.3	13.6	9.7	-158.65	266.1	272.1	885.9	868.2	17.65	50.196		
4,800.0	4,755.5	4,715.4	4,704.2	13.9	9.9	-158.71	270.8	277.3	904.8	886.8	18.03	50.193		
4,900.0	4,854.5	4,813.6	4,802.2	14.2	10.1	-158.76	275.5	282.5	923.8	905.4	18.41	50.190		
5,000.0	4,953.4	4,911.8	4,900.1	14.5	10.3	-158.81	280.2	287.7	942.7	923.9	18.78	50.187		
5,100.0	5,052.4	5,010.0	4,998.1	14.8	10.5	-158.86	285.0	292.9	961.7	942.5	19.16	50.184		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 6 T6S R96W (F06 696) - Chevron 6-23D - DD - Plan #2												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	
5,200.0	5,151.4	5,108.1	5,096.0	15.1	10.7	-158.91	289.7	298.1	980.6	961.1	19.54	50.182	
5,300.0	5,250.3	5,206.3	5,193.9	15.4	11.0	-158.96	294.4	303.3	999.6	979.6	19.92	50.180	
5,400.0	5,349.3	5,304.5	5,291.9	15.7	11.2	-159.00	299.1	308.4	1,018.5	998.2	20.30	50.177	
5,500.0	5,448.3	5,402.7	5,389.8	16.0	11.4	-159.04	303.8	313.6	1,037.5	1,016.8	20.68	50.175	
5,600.0	5,547.3	5,500.9	5,487.7	16.3	11.6	-159.08	308.5	318.8	1,056.4	1,035.4	21.06	50.173	
5,700.0	5,646.2	5,599.1	5,585.7	16.6	11.8	-159.12	313.2	324.0	1,075.4	1,053.9	21.43	50.172	
5,800.0	5,745.2	5,697.2	5,683.6	16.9	12.0	-159.16	317.9	329.2	1,094.3	1,072.5	21.81	50.170	
5,900.0	5,844.2	5,795.4	5,781.5	17.2	12.2	-159.20	322.6	334.4	1,113.3	1,091.1	22.19	50.168	
6,000.0	5,943.1	5,931.6	5,917.5	17.5	12.5	-159.33	327.4	339.6	1,130.8	1,108.2	22.62	50.003	
6,100.0	6,042.1	6,057.6	6,043.5	17.8	12.6	-159.62	328.2	340.5	1,144.9	1,121.9	23.00	49.787	
6,200.0	6,141.1	6,159.9	6,145.7	18.1	12.8	-159.89	327.9	340.1	1,158.1	1,134.7	23.33	49.628	
6,300.0	6,240.0	6,261.6	6,247.5	18.5	12.9	-160.17	327.5	339.4	1,171.0	1,147.3	23.67	49.471	
6,400.0	6,339.0	6,360.6	6,346.5	18.8	13.1	-160.44	327.0	338.5	1,183.8	1,159.8	24.00	49.325	
6,500.0	6,438.0	6,459.6	6,445.5	19.1	13.2	-160.70	326.5	337.6	1,196.7	1,172.4	24.33	49.185	
6,600.0	6,537.0	6,558.7	6,544.5	19.4	13.3	-160.97	326.0	336.8	1,209.6	1,185.0	24.66	49.049 SF	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design      Sec 6 T6S R96W (F06 696) - Chevron 6-25D - DD - DD													Offset Site Error:      0.0 ft	
Survey Program:      139-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 Axis	Separation Factor		
(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	36.67	47.3	35.2	59.0					
100.0	100.0	99.4	99.4	0.1	0.1	36.63	47.8	35.5	59.5	59.2	0.28	210.851		
200.0	200.0	198.5	198.5	0.3	0.3	36.42	49.2	36.3	61.2	60.5	0.62	98.706		
300.0	300.0	297.2	297.1	0.5	0.5	-134.92	52.5	37.4	65.8	64.8	0.97	67.873		
400.0	399.8	394.1	393.9	0.7	0.7	-139.48	58.6	38.5	75.6	74.2	1.32	57.118		
500.0	499.5	489.7	488.9	0.9	0.9	-144.73	68.2	40.2	92.2	90.5	1.68	54.923 SF		
600.0	598.7	585.9	584.4	1.2	1.2	-149.94	80.2	41.5	114.5	112.5	2.03	56.272		
700.0	697.7	680.9	678.4	1.5	1.5	-154.82	93.3	40.9	140.1	137.7	2.38	58.802		
800.0	796.6	776.7	773.3	1.8	1.8	-158.37	107.1	40.2	167.0	164.2	2.72	61.296		
900.0	895.6	872.0	867.5	2.0	2.0	-160.42	120.7	41.0	194.4	191.3	3.06	63.448		
1,000.0	994.6	967.2	961.8	2.3	2.3	-161.82	134.6	42.4	222.3	218.9	3.41	65.268		
1,100.0	1,093.6	1,061.0	1,054.5	2.6	2.6	-162.86	148.7	44.0	250.7	247.0	3.74	66.969		
1,200.0	1,192.5	1,154.1	1,146.4	2.9	2.9	-163.66	163.4	45.8	280.1	276.0	4.08	68.607		
1,300.0	1,291.5	1,252.3	1,243.3	3.2	3.2	-164.35	179.1	47.6	309.6	305.2	4.43	69.898		
1,400.0	1,390.5	1,352.5	1,342.3	3.5	3.5	-164.95	193.9	49.3	338.0	333.2	4.78	70.715		
1,500.0	1,489.4	1,449.2	1,438.0	3.8	3.8	-165.45	207.5	50.8	365.7	360.6	5.12	71.362		
1,600.0	1,588.4	1,545.5	1,533.4	4.2	4.1	-165.81	220.9	52.8	393.4	387.9	5.47	71.904		
1,700.0	1,687.4	1,643.0	1,630.0	4.5	4.4	-166.17	234.3	54.4	420.8	415.0	5.82	72.335		
1,800.0	1,786.4	1,742.0	1,728.1	4.8	4.7	-166.56	247.5	55.6	447.8	441.6	6.17	72.618		
1,900.0	1,885.3	1,839.5	1,824.7	5.1	5.0	-166.88	260.0	56.8	474.4	467.9	6.51	72.837		
2,000.0	1,984.3	1,937.5	1,922.0	5.4	5.2	-167.13	272.3	58.3	500.7	493.8	6.86	72.964		
2,100.0	2,083.3	2,034.1	2,017.8	5.7	5.5	-167.26	284.2	60.7	526.8	519.6	7.21	73.054		
2,200.0	2,182.2	2,129.9	2,112.8	6.0	5.8	-167.36	296.1	63.2	553.1	545.6	7.56	73.173		
2,300.0	2,281.2	2,228.4	2,210.6	6.3	6.1	-167.48	308.2	65.4	579.2	571.3	7.91	73.217		
2,400.0	2,380.2	2,324.0	2,305.5	6.6	6.3	-167.63	319.8	67.2	605.1	596.9	8.26	73.288		
2,500.0	2,479.2	2,414.5	2,395.2	6.9	6.6	-167.71	331.3	69.4	631.7	623.1	8.60	73.485		
2,600.0	2,578.1	2,502.1	2,481.9	7.2	6.9	-167.81	343.5	71.3	659.3	650.4	8.93	73.847		
2,700.0	2,677.1	2,588.1	2,566.9	7.5	7.1	-167.91	356.7	73.1	688.4	679.1	9.26	74.355		
2,800.0	2,776.1	2,689.8	2,667.3	7.8	7.5	-168.00	372.4	75.3	717.6	708.0	9.61	74.638		
2,900.0	2,875.0	2,785.6	2,762.0	8.1	7.8	-168.12	386.9	76.9	746.4	736.4	9.96	74.952		
3,000.0	2,974.0	2,878.8	2,854.1	8.4	8.1	-168.29	401.1	77.8	775.4	765.1	10.30	75.314		
3,100.0	3,073.0	2,976.2	2,950.4	8.7	8.4	-168.48	416.2	78.3	804.6	793.9	10.64	75.621		
3,200.0	3,171.9	3,080.9	3,054.0	9.0	8.7	-168.69	431.3	78.5	832.8	821.8	10.99	75.740		
3,300.0	3,270.9	3,167.8	3,140.0	9.3	9.0	-168.81	444.0	79.3	861.1	849.8	11.32	76.041		
3,400.0	3,369.9	3,251.3	3,222.3	9.6	9.3	-168.81	457.3	81.6	890.8	879.2	11.65	76.442		
3,500.0	3,468.9	3,359.6	3,329.2	9.9	9.6	-168.78	474.5	85.2	920.4	908.3	12.02	76.544		
3,600.0	3,567.8	3,457.6	3,426.1	10.2	9.9	-168.86	489.0	86.8	948.9	936.5	12.37	76.695		
3,700.0	3,666.8	3,536.5	3,504.0	10.5	10.2	-168.91	501.5	88.2	978.5	965.8	12.69	77.110		
3,800.0	3,765.8	3,640.9	3,607.0	10.8	10.5	-168.95	518.1	90.5	1,008.1	995.0	13.05	77.238		
3,900.0	3,864.7	3,720.0	3,685.0	11.1	10.8	-168.95	531.4	92.7	1,038.6	1,025.2	13.37	77.671		
4,000.0	3,963.7	3,789.2	3,752.9	11.4	11.1	-168.92	544.4	95.1	1,070.9	1,057.2	13.68	78.303		
4,100.0	4,062.7	3,879.9	3,841.6	11.8	11.4	-168.86	562.7	98.8	1,104.6	1,090.6	14.02	78.797		
4,200.0	4,161.7	3,969.5	3,929.4	12.1	11.8	-168.85	580.6	101.5	1,138.2	1,123.9	14.35	79.297		
4,300.0	4,260.6	4,077.2	4,034.8	12.4	12.2	-168.90	602.4	103.5	1,172.0	1,157.3	14.72	79.626		
4,400.0	4,359.6	4,169.0	4,125.0	12.7	12.5	-168.95	619.9	105.2	1,204.8	1,189.7	15.06	80.017		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Sec 6 T6S R96W (F06 696) - Chevron 6-32D - DD - Plan #2													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	-143.35	-84.1	-62.6	104.9					
100.0	100.0	100.0	100.0	0.1	0.1	-143.35	-84.1	-62.6	104.9	104.6	0.27	385.169		
200.0	200.0	200.0	200.0	0.3	0.3	-143.35	-84.1	-62.6	104.9	104.2	0.62	168.782	CC, ES	
300.0	300.0	296.5	296.4	0.5	0.5	48.01	-85.4	-63.6	105.4	104.4	0.97	109.057		
400.0	399.8	392.8	392.6	0.7	0.7	50.10	-89.1	-66.8	107.0	105.7	1.32	80.971		
500.0	499.5	488.9	488.4	0.9	0.9	53.44	-95.3	-71.9	110.0	108.3	1.70	64.746		
600.0	598.7	584.6	583.5	1.2	1.1	57.75	-103.9	-79.1	114.9	112.7	2.12	54.248		
700.0	697.7	680.0	677.7	1.5	1.4	62.29	-114.9	-88.3	122.6	120.0	2.57	47.723		
800.0	796.6	774.8	771.0	1.8	1.8	65.90	-128.2	-99.5	134.3	131.2	3.05	44.060		
900.0	895.6	869.0	862.9	2.0	2.2	68.53	-143.8	-112.5	149.5	145.9	3.54	42.175		
1,000.0	994.6	967.2	958.4	2.3	2.6	70.55	-161.3	-127.1	166.6	162.5	4.07	40.945		
1,100.0	1,093.6	1,065.5	1,054.1	2.6	3.0	72.21	-178.9	-141.8	183.8	179.2	4.61	39.911		
1,200.0	1,192.5	1,163.9	1,149.8	2.9	3.4	73.57	-196.4	-156.5	201.2	196.1	5.16	39.032		
1,300.0	1,291.5	1,262.3	1,245.4	3.2	3.8	74.72	-214.0	-171.2	218.7	213.0	5.71	38.280		
1,400.0	1,390.5	1,360.7	1,341.1	3.5	4.3	75.70	-231.6	-185.8	236.3	230.0	6.28	37.631		
1,500.0	1,489.4	1,459.0	1,436.8	3.8	4.7	76.55	-249.1	-200.5	253.9	247.1	6.85	37.068		
1,600.0	1,588.4	1,557.4	1,532.4	4.2	5.1	77.28	-266.7	-215.2	271.6	264.2	7.43	36.575		
1,700.0	1,687.4	1,655.8	1,628.1	4.5	5.6	77.92	-284.2	-229.9	289.3	281.3	8.00	36.142		
1,800.0	1,786.4	1,754.1	1,723.8	4.8	6.0	78.49	-301.8	-244.6	307.0	298.5	8.59	35.759		
1,900.0	1,885.3	1,852.5	1,819.5	5.1	6.4	79.00	-319.3	-259.2	324.8	315.6	9.17	35.418		
2,000.0	1,984.3	1,950.9	1,915.1	5.4	6.9	79.46	-336.9	-273.9	342.6	332.8	9.76	35.112		
2,100.0	2,083.3	2,049.2	2,010.8	5.7	7.3	79.87	-354.5	-288.6	360.4	350.1	10.35	34.837		
2,200.0	2,182.2	2,147.6	2,106.5	6.0	7.8	80.24	-372.0	-303.3	378.2	367.3	10.94	34.589		
2,300.0	2,281.2	2,246.0	2,202.1	6.3	8.2	80.58	-389.6	-318.0	396.1	384.5	11.53	34.363		
2,400.0	2,380.2	2,344.4	2,297.8	6.6	8.6	80.89	-407.1	-332.6	413.9	401.8	12.12	34.157		
2,500.0	2,479.2	2,442.7	2,393.5	6.9	9.1	81.17	-424.7	-347.3	431.8	419.1	12.71	33.969		
2,600.0	2,578.1	2,541.1	2,489.2	7.2	9.5	81.43	-442.3	-362.0	449.6	436.3	13.30	33.796		
2,700.0	2,677.1	2,639.5	2,584.8	7.5	9.9	81.67	-459.8	-376.7	467.5	453.6	13.90	33.637		
2,800.0	2,776.1	2,737.8	2,680.5	7.8	10.4	81.90	-477.4	-391.4	485.4	470.9	14.49	33.490		
2,900.0	2,875.0	2,836.2	2,776.2	8.1	10.8	82.10	-494.9	-406.0	503.3	488.2	15.09	33.354		
3,000.0	2,974.0	2,934.6	2,871.8	8.4	11.3	82.30	-512.5	-420.7	521.2	505.5	15.69	33.227		
3,100.0	3,073.0	3,033.0	2,967.5	8.7	11.7	82.48	-530.0	-435.4	539.1	522.8	16.28	33.109		
3,200.0	3,171.9	3,131.3	3,063.2	9.0	12.1	82.65	-547.6	-450.1	557.0	540.1	16.88	32.999		
3,300.0	3,270.9	3,229.7	3,158.9	9.3	12.6	82.80	-565.2	-464.8	574.9	557.4	17.48	32.896		
3,400.0	3,369.9	3,328.1	3,254.5	9.6	13.0	82.95	-582.7	-479.4	592.8	574.8	18.07	32.799		
3,500.0	3,468.9	3,426.4	3,350.2	9.9	13.4	83.09	-600.3	-494.1	610.7	592.1	18.67	32.708		
3,600.0	3,567.8	3,524.8	3,445.9	10.2	13.9	83.23	-617.8	-508.8	628.7	609.4	19.27	32.623		
3,700.0	3,666.8	3,623.2	3,541.5	10.5	14.3	83.35	-635.4	-523.5	646.6	626.7	19.87	32.543		
3,800.0	3,765.8	3,721.6	3,637.2	10.8	14.8	83.47	-653.0	-538.2	664.5	644.1	20.47	32.467		
3,900.0	3,864.7	3,819.9	3,732.9	11.1	15.2	83.58	-670.5	-552.8	682.5	661.4	21.07	32.395		
4,000.0	3,963.7	3,918.3	3,828.6	11.4	15.6	83.69	-688.1	-567.5	700.4	678.7	21.67	32.327		
4,100.0	4,062.7	4,016.7	3,924.2	11.8	16.1	83.79	-705.6	-582.2	718.3	696.1	22.27	32.262		
4,200.0	4,161.7	4,115.0	4,019.9	12.1	16.5	83.88	-723.2	-596.9	736.3	713.4	22.86	32.201		
4,300.0	4,260.6	4,213.4	4,115.6	12.4	17.0	83.97	-740.8	-611.6	754.2	730.7	23.46	32.142		
4,400.0	4,359.6	4,311.8	4,211.2	12.7	17.4	84.06	-758.3	-626.2	772.1	748.1	24.06	32.087		
4,500.0	4,458.6	4,410.1	4,306.9	13.0	17.8	84.14	-775.9	-640.9	790.1	765.4	24.66	32.034		
4,600.0	4,557.5	4,508.5	4,402.6	13.3	18.3	84.22	-793.4	-655.6	808.0	782.8	25.26	31.983		
4,700.0	4,656.5	4,606.9	4,498.3	13.6	18.7	84.30	-811.0	-670.3	826.0	800.1	25.86	31.935		
4,800.0	4,755.5	4,705.3	4,593.9	13.9	19.1	84.37	-828.5	-685.0	843.9	817.5	26.46	31.889		
4,900.0	4,854.5	4,803.6	4,689.6	14.2	19.6	84.44	-846.1	-699.6	861.9	834.8	27.06	31.845		
5,000.0	4,953.4	4,902.0	4,785.3	14.5	20.0	84.51	-863.7	-714.3	879.8	852.2	27.67	31.803		
5,100.0	5,052.4	5,000.4	4,880.9	14.8	20.5	84.57	-881.2	-729.0	897.8	869.5	28.27	31.762		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	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		
5,200.0	5,151.4	5,098.7	4,976.6	15.1	20.9	84.63	-898.8	-743.7	915.7	886.9	28.87	31.723		
5,300.0	5,250.3	5,197.1	5,072.3	15.4	21.3	84.69	-916.3	-758.4	933.7	904.2	29.47	31.686		
5,400.0	5,349.3	5,295.5	5,167.9	15.7	21.8	84.75	-933.9	-773.0	951.6	921.6	30.07	31.650		
5,500.0	5,448.3	5,393.9	5,263.6	16.0	22.2	84.81	-951.5	-787.7	969.6	938.9	30.67	31.615		
5,600.0	5,547.3	5,492.2	5,359.3	16.3	22.7	84.86	-969.0	-802.4	987.5	956.3	31.27	31.582		
5,700.0	5,646.2	5,590.6	5,455.0	16.6	23.1	84.91	-986.6	-817.1	1,005.5	973.6	31.87	31.550		
5,800.0	5,745.2	5,689.0	5,550.6	16.9	23.5	84.96	-1,004.1	-831.8	1,023.5	991.0	32.47	31.519		
5,900.0	5,844.2	5,787.3	5,646.3	17.2	24.0	85.01	-1,021.7	-846.4	1,041.4	1,008.3	33.07	31.489		
6,000.0	5,943.1	5,885.7	5,742.0	17.5	24.4	85.05	-1,039.2	-861.1	1,059.4	1,025.7	33.67	31.461		
6,100.0	6,042.1	5,984.1	5,837.6	17.8	24.8	85.10	-1,056.8	-875.8	1,077.3	1,043.1	34.27	31.433		
6,200.0	6,141.1	6,082.4	5,933.3	18.1	25.3	85.14	-1,074.4	-890.5	1,095.3	1,060.4	34.88	31.406		
6,300.0	6,240.0	6,180.8	6,029.0	18.5	25.7	85.18	-1,091.9	-905.2	1,113.3	1,077.8	35.48	31.380		
6,400.0	6,339.0	6,279.2	6,124.7	18.8	26.2	85.22	-1,109.5	-919.8	1,131.2	1,095.1	36.08	31.355		
6,500.0	6,438.0	6,377.6	6,220.3	19.1	26.6	85.26	-1,127.0	-934.5	1,149.2	1,112.5	36.68	31.331		
6,600.0	6,537.0	6,475.9	6,316.0	19.4	27.0	85.30	-1,144.6	-949.2	1,167.1	1,129.9	37.28	31.307		
6,700.0	6,635.9	6,574.3	6,411.7	19.7	27.5	85.33	-1,162.2	-963.9	1,185.1	1,147.2	37.88	31.284		
6,800.0	6,734.9	6,672.7	6,507.3	20.0	27.9	85.37	-1,179.7	-978.6	1,203.1	1,164.6	38.48	31.262		
6,900.0	6,833.9	6,809.4	6,640.8	20.3	28.5	85.48	-1,202.5	-997.6	1,219.9	1,180.7	39.19	31.131 SF		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Sec 6 T6S R96W (F06 696) - Chevron 6-33D - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		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)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-143.25	-72.1	-53.9	90.0					
100.0	100.0	100.0	100.0	0.1	0.1	-143.25	-72.1	-53.9	90.0	89.7	0.27	330.586		
200.0	200.0	200.0	200.0	0.3	0.3	-143.25	-72.1	-53.9	90.0	89.4	0.62	144.864		
300.0	300.0	300.0	300.0	0.5	0.5	48.24	-72.1	-53.9	88.8	87.9	0.97	91.365		
400.0	399.8	397.0	396.9	0.7	0.7	50.99	-73.2	-55.1	87.1	85.8	1.33	65.555		
459.9	459.6	455.0	454.9	0.8	0.8	53.67	-74.8	-57.1	86.8	85.2	1.56	55.757	CC, ES	
500.0	499.5	493.7	493.6	0.9	0.8	55.86	-76.3	-58.9	86.9	85.2	1.71	50.847		
600.0	598.7	590.2	589.7	1.2	1.1	62.52	-81.6	-65.1	89.2	87.0	2.14	41.759		
700.0	697.7	686.2	685.1	1.5	1.3	69.65	-88.8	-73.8	95.2	92.6	2.59	36.681		
800.0	796.6	781.9	779.6	1.8	1.6	75.39	-98.1	-84.8	105.7	102.7	3.08	34.377		
900.0	895.6	876.9	873.0	2.0	1.9	79.54	-109.3	-98.2	120.3	116.7	3.57	33.663		
1,000.0	994.6	975.2	969.3	2.3	2.3	82.62	-122.0	-113.3	137.0	132.9	4.10	33.438		
1,100.0	1,093.6	1,073.5	1,065.6	2.6	2.6	85.04	-134.7	-128.5	154.0	149.3	4.63	33.235		
1,200.0	1,192.5	1,171.9	1,162.0	2.9	3.0	86.97	-147.4	-143.6	171.1	166.0	5.18	33.048		
1,300.0	1,291.5	1,270.3	1,258.4	3.2	3.4	88.55	-160.0	-158.7	188.5	182.7	5.73	32.875		
1,400.0	1,390.5	1,368.6	1,354.7	3.5	3.8	89.87	-172.7	-173.8	205.9	199.6	6.29	32.718		
1,500.0	1,489.4	1,467.0	1,451.1	3.8	4.1	90.97	-185.4	-189.0	223.5	216.6	6.86	32.576		
1,600.0	1,588.4	1,565.4	1,547.5	4.2	4.5	91.92	-198.1	-204.1	241.1	233.7	7.43	32.448		
1,700.0	1,687.4	1,663.7	1,643.8	4.5	4.9	92.74	-210.8	-219.2	258.8	250.8	8.00	32.332		
1,800.0	1,786.4	1,762.1	1,740.2	4.8	5.3	93.45	-223.5	-234.4	276.5	267.9	8.58	32.228		
1,900.0	1,885.3	1,860.4	1,836.5	5.1	5.7	94.08	-236.2	-249.5	294.2	285.1	9.16	32.134		
2,000.0	1,984.3	1,958.8	1,932.9	5.4	6.1	94.64	-248.8	-264.6	312.0	302.3	9.74	32.048		
2,100.0	2,083.3	2,057.2	2,029.3	5.7	6.4	95.13	-261.5	-279.7	329.8	319.5	10.32	31.970		
2,200.0	2,182.2	2,155.5	2,125.6	6.0	6.8	95.58	-274.2	-294.9	347.6	336.7	10.90	31.899		
2,300.0	2,281.2	2,253.9	2,222.0	6.3	7.2	95.98	-286.9	-310.0	365.5	354.0	11.48	31.834		
2,400.0	2,380.2	2,352.3	2,318.4	6.6	7.6	96.35	-299.6	-325.1	383.3	371.3	12.06	31.775		
2,500.0	2,479.2	2,450.6	2,414.7	6.9	8.0	96.68	-312.3	-340.2	401.2	388.6	12.65	31.720		
2,600.0	2,578.1	2,549.0	2,511.1	7.2	8.4	96.98	-324.9	-355.4	419.1	405.9	13.23	31.669		
2,700.0	2,677.1	2,647.4	2,607.4	7.5	8.8	97.26	-337.6	-370.5	437.0	423.2	13.82	31.622		
2,800.0	2,776.1	2,745.7	2,703.8	7.8	9.1	97.52	-350.3	-385.6	454.9	440.5	14.41	31.579		
2,900.0	2,875.0	2,844.1	2,800.2	8.1	9.5	97.76	-363.0	-400.8	472.8	457.8	14.99	31.539		
3,000.0	2,974.0	2,942.5	2,896.5	8.4	9.9	97.98	-375.7	-415.9	490.7	475.2	15.58	31.501		
3,100.0	3,073.0	3,040.8	2,992.9	8.7	10.3	98.18	-388.4	-431.0	508.7	492.5	16.17	31.466		
3,200.0	3,171.9	3,139.2	3,089.3	9.0	10.7	98.37	-401.1	-446.1	526.6	509.9	16.75	31.433		
3,300.0	3,270.9	3,237.5	3,185.6	9.3	11.1	98.55	-413.7	-461.3	544.5	527.2	17.34	31.403		
3,400.0	3,369.9	3,335.9	3,282.0	9.6	11.5	98.72	-426.4	-476.4	562.5	544.6	17.93	31.374		
3,500.0	3,468.9	3,434.3	3,378.3	9.9	11.9	98.87	-439.1	-491.5	580.4	561.9	18.52	31.346		
3,600.0	3,567.8	3,532.6	3,474.7	10.2	12.2	99.02	-451.8	-506.7	598.4	579.3	19.11	31.321		
3,700.0	3,666.8	3,631.0	3,571.1	10.5	12.6	99.16	-464.5	-521.8	616.3	596.7	19.69	31.297		
3,800.0	3,765.8	3,729.4	3,667.4	10.8	13.0	99.29	-477.2	-536.9	634.3	614.0	20.28	31.274		
3,900.0	3,864.7	3,827.7	3,763.8	11.1	13.4	99.41	-489.8	-552.0	652.3	631.4	20.87	31.252		
4,000.0	3,963.7	3,926.1	3,860.2	11.4	13.8	99.53	-502.5	-567.2	670.2	648.8	21.46	31.232		
4,100.0	4,062.7	4,024.5	3,956.5	11.8	14.2	99.64	-515.2	-582.3	688.2	666.2	22.05	31.212		
4,200.0	4,161.7	4,122.8	4,052.9	12.1	14.6	99.75	-527.9	-597.4	706.2	683.5	22.64	31.194		
4,300.0	4,260.6	4,221.2	4,149.2	12.4	15.0	99.85	-540.6	-612.5	724.1	700.9	23.23	31.176		
4,400.0	4,359.6	4,319.5	4,245.6	12.7	15.3	99.94	-553.3	-627.7	742.1	718.3	23.82	31.159		
4,500.0	4,458.6	4,417.9	4,342.0	13.0	15.7	100.03	-566.0	-642.8	760.1	735.7	24.41	31.143		
4,600.0	4,557.5	4,516.3	4,438.3	13.3	16.1	100.12	-578.6	-657.9	778.1	753.1	25.00	31.128		
4,700.0	4,656.5	4,614.6	4,534.7	13.6	16.5	100.20	-591.3	-673.1	796.1	770.5	25.59	31.113		
4,800.0	4,755.5	4,713.0	4,631.1	13.9	16.9	100.28	-604.0	-688.2	814.0	787.9	26.18	31.099		
4,900.0	4,854.5	4,811.4	4,727.4	14.2	17.3	100.35	-616.7	-703.3	832.0	805.3	26.76	31.086		
5,000.0	4,953.4	4,909.7	4,823.8	14.5	17.7	100.43	-629.4	-718.4	850.0	822.6	27.35	31.073		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	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		
5,100.0	5,052.4	5,008.1	4,920.1	14.8	18.1	100.50	-642.1	-733.6	868.0	840.0	27.94	31.061		
5,200.0	5,151.4	5,106.5	5,016.5	15.1	18.5	100.56	-654.7	-748.7	886.0	857.4	28.53	31.049		
5,300.0	5,250.3	5,204.8	5,112.9	15.4	18.8	100.63	-667.4	-763.8	904.0	874.8	29.12	31.038		
5,400.0	5,349.3	5,303.2	5,209.2	15.7	19.2	100.69	-680.1	-779.0	922.0	892.2	29.71	31.027		
5,500.0	5,448.3	5,401.6	5,305.6	16.0	19.6	100.75	-692.8	-794.1	939.9	909.6	30.30	31.016		
5,600.0	5,547.3	5,499.9	5,402.0	16.3	20.0	100.80	-705.5	-809.2	957.9	927.0	30.89	31.006		
5,700.0	5,646.2	5,598.3	5,498.3	16.6	20.4	100.86	-718.2	-824.3	975.9	944.4	31.48	30.997		
5,800.0	5,745.2	5,696.6	5,594.7	16.9	20.8	100.91	-730.9	-839.5	993.9	961.8	32.07	30.987		
5,900.0	5,844.2	5,795.0	5,691.0	17.2	21.2	100.96	-743.5	-854.6	1,011.9	979.2	32.67	30.978		
6,000.0	5,943.1	5,893.4	5,787.4	17.5	21.6	101.01	-756.2	-869.7	1,029.9	996.6	33.26	30.969		
6,100.0	6,042.1	5,991.7	5,883.8	17.8	21.9	101.06	-768.9	-884.9	1,047.9	1,014.1	33.85	30.961		
6,200.0	6,141.1	6,090.1	5,980.1	18.1	22.3	101.10	-781.6	-900.0	1,065.9	1,031.5	34.44	30.953		
6,300.0	6,240.0	6,188.5	6,076.5	18.5	22.7	101.15	-794.3	-915.1	1,083.9	1,048.9	35.03	30.945		
6,400.0	6,339.0	6,286.8	6,172.9	18.8	23.1	101.19	-807.0	-930.2	1,101.9	1,066.3	35.62	30.937		
6,500.0	6,438.0	6,385.2	6,269.2	19.1	23.5	101.23	-819.6	-945.4	1,119.9	1,083.7	36.21	30.930		
6,600.0	6,537.0	6,483.6	6,365.6	19.4	23.9	101.27	-832.3	-960.5	1,137.9	1,101.1	36.80	30.923		
6,700.0	6,635.9	6,581.9	6,461.9	19.7	24.3	101.31	-845.0	-975.6	1,155.9	1,118.5	37.39	30.916		
6,800.0	6,734.9	6,680.3	6,558.3	20.0	24.7	101.35	-857.7	-990.7	1,173.9	1,135.9	37.98	30.909		
6,900.0	6,833.9	6,788.2	6,664.0	20.3	25.1	101.39	-871.5	-1,007.2	1,191.8	1,153.2	38.59	30.880		
7,000.0	6,933.0	6,932.1	6,806.0	20.6	25.5	101.76	-886.8	-1,025.5	1,206.9	1,167.6	39.29	30.717		
7,100.0	7,032.5	7,077.5	6,950.4	20.8	25.9	102.11	-897.6	-1,038.3	1,217.6	1,177.8	39.87	30.537 SF		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Sec 6 T6S R96W (F06 696) - Chevron 6-34D - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
0.0	0.0	0.0	0.0	0.0	0.0	-143.28	-60.1	-44.8	75.0					
100.0	100.0	100.0	100.0	0.1	0.1	-143.28	-60.1	-44.8	75.0	74.7	0.27	275.385		
200.0	200.0	200.0	200.0	0.3	0.3	-143.28	-60.1	-44.8	75.0	74.4	0.62	120.675		
300.0	300.0	300.0	300.0	0.5	0.5	48.38	-60.1	-44.8	73.8	72.8	0.97	75.908		
400.0	399.8	399.8	399.8	0.7	0.7	51.61	-60.1	-44.8	70.4	69.1	1.33	52.808		
500.0	499.5	499.5	499.5	0.9	0.8	57.68	-60.1	-44.8	65.4	63.7	1.72	37.976		
600.0	598.7	596.7	596.6	1.2	1.0	67.52	-60.9	-46.3	61.4	59.2	2.16	28.466		
632.4	630.8	628.1	628.1	1.3	1.1	71.44	-61.5	-47.4	61.1	58.8	2.31	26.458 CC, ES		
700.0	697.7	693.6	693.5	1.5	1.2	79.75	-63.2	-50.6	62.4	59.8	2.63	23.778		
800.0	796.6	790.5	790.0	1.8	1.4	90.19	-67.1	-57.8	69.5	66.4	3.10	22.434 SF		
900.0	895.6	886.9	885.8	2.0	1.6	97.47	-72.5	-67.8	81.5	77.9	3.57	22.837		
1,000.0	994.6	982.8	980.5	2.3	1.9	101.84	-79.4	-80.5	97.4	93.3	4.05	24.037		
1,100.0	1,093.6	1,078.9	1,075.0	2.6	2.2	104.15	-87.8	-96.0	116.2	111.7	4.55	25.555		
1,200.0	1,192.5	1,176.8	1,171.1	2.9	2.5	105.67	-96.7	-112.4	135.9	130.9	5.06	26.838		
1,300.0	1,291.5	1,274.8	1,267.3	3.2	2.9	106.80	-105.6	-128.8	155.7	150.1	5.59	27.851		
1,400.0	1,390.5	1,372.8	1,363.5	3.5	3.2	107.67	-114.5	-145.2	175.5	169.3	6.12	28.664		
1,500.0	1,489.4	1,470.8	1,459.7	3.8	3.6	108.37	-123.4	-161.6	195.3	188.6	6.66	29.327		
1,600.0	1,588.4	1,568.8	1,555.9	4.2	3.9	108.94	-132.3	-178.1	215.1	207.9	7.20	29.876		
1,700.0	1,687.4	1,666.8	1,652.1	4.5	4.3	109.41	-141.2	-194.5	235.0	227.3	7.75	30.338		
1,800.0	1,786.4	1,764.8	1,748.3	4.8	4.6	109.81	-150.1	-210.9	254.9	246.6	8.29	30.730		
1,900.0	1,885.3	1,862.8	1,844.5	5.1	5.0	110.16	-159.0	-227.3	274.8	265.9	8.84	31.066		
2,000.0	1,984.3	1,960.8	1,940.7	5.4	5.4	110.45	-167.9	-243.8	294.7	285.3	9.40	31.358		
2,100.0	2,083.3	2,058.8	2,036.9	5.7	5.7	110.71	-176.7	-260.2	314.6	304.6	9.95	31.614		
2,200.0	2,182.2	2,156.7	2,133.1	6.0	6.1	110.94	-185.6	-276.6	334.5	324.0	10.51	31.839		
2,300.0	2,281.2	2,254.7	2,229.3	6.3	6.5	111.14	-194.5	-293.0	354.4	343.3	11.06	32.039		
2,400.0	2,380.2	2,352.7	2,325.5	6.6	6.8	111.32	-203.4	-309.5	374.3	362.7	11.62	32.218		
2,500.0	2,479.2	2,450.7	2,421.7	6.9	7.2	111.48	-212.3	-325.9	394.2	382.1	12.18	32.378		
2,600.0	2,578.1	2,548.7	2,517.9	7.2	7.6	111.63	-221.2	-342.3	414.2	401.4	12.73	32.523		
2,700.0	2,677.1	2,646.7	2,614.0	7.5	7.9	111.76	-230.1	-358.7	434.1	420.8	13.29	32.655		
2,800.0	2,776.1	2,744.7	2,710.2	7.8	8.3	111.88	-239.0	-375.2	454.0	440.2	13.85	32.775		
2,900.0	2,875.0	2,842.7	2,806.4	8.1	8.7	111.99	-247.9	-391.6	474.0	459.5	14.41	32.884		
3,000.0	2,974.0	2,940.7	2,902.6	8.4	9.0	112.10	-256.8	-408.0	493.9	478.9	14.97	32.985		
3,100.0	3,073.0	3,038.7	2,998.8	8.7	9.4	112.19	-265.7	-424.4	513.8	498.3	15.53	33.078		
3,200.0	3,171.9	3,136.6	3,095.0	9.0	9.8	112.28	-274.6	-440.9	533.8	517.7	16.09	33.163		
3,300.0	3,270.9	3,234.6	3,191.2	9.3	10.1	112.36	-283.5	-457.3	553.7	537.0	16.66	33.243		
3,400.0	3,369.9	3,332.6	3,287.4	9.6	10.5	112.43	-292.4	-473.7	573.6	556.4	17.22	33.316		
3,500.0	3,468.9	3,430.6	3,383.6	9.9	10.9	112.50	-301.3	-490.1	593.6	575.8	17.78	33.385		
3,600.0	3,567.8	3,528.6	3,479.8	10.2	11.3	112.57	-310.2	-506.6	613.5	595.2	18.34	33.449		
3,700.0	3,666.8	3,626.6	3,576.0	10.5	11.6	112.63	-319.1	-523.0	633.4	614.5	18.90	33.509		
3,800.0	3,765.8	3,724.6	3,672.2	10.8	12.0	112.69	-328.0	-539.4	653.4	633.9	19.47	33.566		
3,900.0	3,864.7	3,822.6	3,768.4	11.1	12.4	112.74	-336.9	-555.8	673.3	653.3	20.03	33.619		
4,000.0	3,963.7	3,920.6	3,864.6	11.4	12.7	112.79	-345.8	-572.3	693.3	672.7	20.59	33.668		
4,100.0	4,062.7	4,018.6	3,960.7	11.8	13.1	112.84	-354.7	-588.7	713.2	692.1	21.15	33.715		
4,200.0	4,161.7	4,116.5	4,056.9	12.1	13.5	112.89	-363.6	-605.1	733.2	711.4	21.72	33.760		
4,300.0	4,260.6	4,214.5	4,153.1	12.4	13.9	112.93	-372.5	-621.5	753.1	730.8	22.28	33.802		
4,400.0	4,359.6	4,312.5	4,249.3	12.7	14.2	112.97	-381.4	-638.0	773.0	750.2	22.84	33.842		
4,500.0	4,458.6	4,410.5	4,345.5	13.0	14.6	113.01	-390.2	-654.4	793.0	769.6	23.41	33.879		
4,600.0	4,557.5	4,508.5	4,441.7	13.3	15.0	113.05	-399.1	-670.8	812.9	789.0	23.97	33.915		
4,700.0	4,656.5	4,606.5	4,537.9	13.6	15.3	113.08	-408.0	-687.2	832.9	808.3	24.53	33.949		
4,800.0	4,755.5	4,704.5	4,634.1	13.9	15.7	113.12	-416.9	-703.7	852.8	827.7	25.10	33.982		
4,900.0	4,854.5	4,802.5	4,730.3	14.2	16.1	113.15	-425.8	-720.1	872.8	847.1	25.66	34.013		
5,000.0	4,953.4	4,900.5	4,826.5	14.5	16.4	113.18	-434.7	-736.5	892.7	866.5	26.22	34.042		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 6 T6S R96W (F06 696) - Chevron 6-34D - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	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)	Uncertainty Axis	Factor		
5,100.0	5,052.4	4,998.4	4,922.7	14.8	16.8	113.21	-443.6	-752.9	912.6	885.9	26.79	34.070		
5,200.0	5,151.4	5,096.4	5,018.9	15.1	17.2	113.24	-452.5	-769.4	932.6	905.2	27.35	34.097		
5,300.0	5,250.3	5,194.4	5,115.1	15.4	17.6	113.27	-461.4	-785.8	952.5	924.6	27.91	34.123		
5,400.0	5,349.3	5,292.4	5,211.3	15.7	17.9	113.29	-470.3	-802.2	972.5	944.0	28.48	34.148		
5,500.0	5,448.3	5,390.4	5,307.4	16.0	18.3	113.32	-479.2	-818.6	992.4	963.4	29.04	34.172		
5,600.0	5,547.3	5,488.4	5,403.6	16.3	18.7	113.34	-488.1	-835.1	1,012.4	982.8	29.61	34.195		
5,700.0	5,646.2	5,586.4	5,499.8	16.6	19.0	113.36	-497.0	-851.5	1,032.3	1,002.1	30.17	34.217		
5,800.0	5,745.2	5,684.4	5,596.0	16.9	19.4	113.38	-505.9	-867.9	1,052.3	1,021.5	30.73	34.238		
5,900.0	5,844.2	5,782.4	5,692.2	17.2	19.8	113.41	-514.8	-884.3	1,072.2	1,040.9	31.30	34.258		
6,000.0	5,943.1	5,880.4	5,788.4	17.5	20.2	113.43	-523.7	-900.8	1,092.2	1,060.3	31.86	34.277		
6,100.0	6,042.1	5,978.3	5,884.6	17.8	20.5	113.45	-532.6	-917.2	1,112.1	1,079.7	32.43	34.296		
6,200.0	6,141.1	6,076.3	5,980.8	18.1	20.9	113.46	-541.5	-933.6	1,132.1	1,099.1	32.99	34.314		
6,300.0	6,240.0	6,174.3	6,077.0	18.5	21.3	113.48	-550.4	-950.0	1,152.0	1,118.4	33.55	34.332		
6,400.0	6,339.0	6,272.3	6,173.2	18.8	21.7	113.50	-559.3	-966.5	1,171.9	1,137.8	34.12	34.349		
6,500.0	6,438.0	6,370.3	6,269.4	19.1	22.0	113.52	-568.2	-982.9	1,191.9	1,157.2	34.68	34.365		
6,600.0	6,537.0	6,468.3	6,365.6	19.4	22.4	113.53	-577.1	-999.3	1,211.8	1,176.6	35.25	34.381		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Sec 6 T6S R96W (F06 696) - Chevron 6-35D - DD - Plan #2													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	-143.32	-48.1	-35.8	60.0					
100.0	100.0	100.0	100.0	0.1	0.1	-143.32	-48.1	-35.8	60.0	59.7	0.27	220.185		
200.0	200.0	200.0	200.0	0.3	0.3	-143.32	-48.1	-35.8	60.0	59.3	0.62	96.485		
300.0	300.0	300.0	300.0	0.5	0.5	48.59	-48.1	-35.8	58.8	57.8	0.97	60.452		
400.0	399.8	398.3	398.3	0.7	0.7	53.63	-48.4	-37.5	56.8	55.5	1.33	42.636		
457.7	457.4	454.8	454.7	0.8	0.8	58.81	-48.9	-39.9	56.4	54.8	1.56	36.192 CC, ES		
500.0	499.5	496.1	496.0	0.9	0.8	63.58	-49.4	-42.4	56.7	55.0	1.73	32.846		
600.0	598.7	593.1	592.6	1.2	1.1	77.02	-51.0	-50.5	60.8	58.6	2.17	28.000		
700.0	697.7	689.2	688.0	1.5	1.3	89.92	-53.2	-61.7	71.1	68.5	2.63	27.090 SF		
800.0	796.6	784.8	782.5	1.8	1.6	98.88	-56.0	-76.0	87.5	84.5	3.08	28.413		
900.0	895.6	882.0	878.3	2.0	1.9	104.84	-59.2	-92.0	107.0	103.5	3.55	30.187		
1,000.0	994.6	979.6	974.5	2.3	2.2	108.96	-62.4	-108.1	127.3	123.3	4.02	31.676		
1,100.0	1,093.6	1,077.2	1,070.7	2.6	2.5	111.95	-65.5	-124.3	148.0	143.5	4.50	32.900		
1,200.0	1,192.5	1,174.8	1,166.9	2.9	2.9	114.20	-68.7	-140.4	169.0	164.0	4.98	33.908		
1,300.0	1,291.5	1,272.4	1,263.1	3.2	3.2	115.95	-71.9	-156.5	190.2	184.7	5.47	34.743		
1,400.0	1,390.5	1,369.9	1,359.3	3.5	3.5	117.35	-75.1	-172.6	211.5	205.6	5.97	35.444		
1,500.0	1,489.4	1,467.5	1,455.5	3.8	3.8	118.50	-78.3	-188.8	233.0	226.5	6.46	36.038		
1,600.0	1,588.4	1,565.1	1,551.6	4.2	4.2	119.45	-81.4	-204.9	254.5	247.5	6.96	36.547		
1,700.0	1,687.4	1,662.7	1,647.8	4.5	4.5	120.25	-84.6	-221.0	276.0	268.6	7.46	36.987		
1,800.0	1,786.4	1,760.3	1,744.0	4.8	4.8	120.94	-87.8	-237.1	297.7	289.7	7.96	37.371		
1,900.0	1,885.3	1,857.8	1,840.2	5.1	5.2	121.53	-91.0	-253.2	319.3	310.8	8.47	37.709		
2,000.0	1,984.3	1,955.4	1,936.4	5.4	5.5	122.05	-94.2	-269.4	341.0	332.0	8.97	38.009		
2,100.0	2,083.3	2,053.0	2,032.6	5.7	5.8	122.51	-97.3	-285.5	362.7	353.2	9.48	38.276		
2,200.0	2,182.2	2,150.6	2,128.8	6.0	6.2	122.91	-100.5	-301.6	384.4	374.4	9.98	38.515		
2,300.0	2,281.2	2,248.2	2,224.9	6.3	6.5	123.27	-103.7	-317.7	406.1	395.6	10.49	38.732		
2,400.0	2,380.2	2,345.7	2,321.1	6.6	6.8	123.60	-106.9	-333.9	427.9	416.9	10.99	38.928		
2,500.0	2,479.2	2,443.3	2,417.3	6.9	7.2	123.89	-110.1	-350.0	449.6	438.1	11.50	39.106		
2,600.0	2,578.1	2,540.9	2,513.5	7.2	7.5	124.16	-113.2	-366.1	471.4	459.4	12.00	39.269		
2,700.0	2,677.1	2,638.5	2,609.7	7.5	7.9	124.40	-116.4	-382.2	493.2	480.7	12.51	39.419		
2,800.0	2,776.1	2,736.0	2,705.9	7.8	8.2	124.62	-119.6	-398.3	515.0	502.0	13.02	39.556		
2,900.0	2,875.0	2,833.6	2,802.1	8.1	8.5	124.83	-122.8	-414.5	536.8	523.2	13.53	39.684		
3,000.0	2,974.0	2,931.2	2,898.2	8.4	8.9	125.02	-126.0	-430.6	558.6	544.5	14.03	39.801		
3,100.0	3,073.0	3,028.8	2,994.4	8.7	9.2	125.19	-129.1	-446.7	580.4	565.8	14.54	39.911		
3,200.0	3,171.9	3,126.4	3,090.6	9.0	9.5	125.35	-132.3	-462.8	602.2	587.1	15.05	40.013		
3,300.0	3,270.9	3,223.9	3,186.8	9.3	9.9	125.50	-135.5	-479.0	624.0	608.4	15.56	40.108		
3,400.0	3,369.9	3,321.5	3,283.0	9.6	10.2	125.64	-138.7	-495.1	645.8	629.8	16.07	40.197		
3,500.0	3,468.9	3,419.1	3,379.2	9.9	10.5	125.77	-141.9	-511.2	667.6	651.1	16.57	40.281		
3,600.0	3,567.8	3,516.7	3,475.3	10.2	10.9	125.90	-145.1	-527.3	689.5	672.4	17.08	40.360		
3,700.0	3,666.8	3,614.3	3,571.5	10.5	11.2	126.01	-148.2	-543.5	711.3	693.7	17.59	40.433		
3,800.0	3,765.8	3,711.8	3,667.7	10.8	11.5	126.12	-151.4	-559.6	733.1	715.0	18.10	40.503		
3,900.0	3,864.7	3,809.4	3,763.9	11.1	11.9	126.22	-154.6	-575.7	755.0	736.3	18.61	40.569		
4,000.0	3,963.7	3,907.0	3,860.1	11.4	12.2	126.32	-157.8	-591.8	776.8	757.7	19.12	40.631		
4,100.0	4,062.7	4,004.6	3,956.3	11.8	12.6	126.41	-161.0	-607.9	798.6	779.0	19.63	40.690		
4,200.0	4,161.7	4,102.2	4,052.5	12.1	12.9	126.50	-164.1	-624.1	820.5	800.3	20.14	40.746		
4,300.0	4,260.6	4,199.7	4,148.6	12.4	13.2	126.58	-167.3	-640.2	842.3	821.7	20.64	40.800		
4,400.0	4,359.6	4,297.3	4,244.8	12.7	13.6	126.66	-170.5	-656.3	864.1	843.0	21.15	40.850		
4,500.0	4,458.6	4,394.9	4,341.0	13.0	13.9	126.73	-173.7	-672.4	886.0	864.3	21.66	40.898		
4,600.0	4,557.5	4,492.5	4,437.2	13.3	14.2	126.80	-176.9	-688.6	907.8	885.7	22.17	40.944		
4,700.0	4,656.5	4,590.0	4,533.4	13.6	14.6	126.87	-180.0	-704.7	929.7	907.0	22.68	40.988		
4,800.0	4,755.5	4,687.6	4,629.6	13.9	14.9	126.93	-183.2	-720.8	951.5	928.3	23.19	41.030		
4,900.0	4,854.5	4,785.2	4,725.8	14.2	15.2	126.99	-186.4	-736.9	973.4	949.7	23.70	41.070		
5,000.0	4,953.4	4,882.8	4,821.9	14.5	15.6	127.05	-189.6	-753.0	995.2	971.0	24.21	41.109		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 6 T6S R96W (F06 696) - Chevron 6-35D - DD - Plan #2													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD													<b>Offset Well Error:</b>	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		
5,100.0	5,052.4	4,980.4	4,918.1	14.8	15.9	127.11	-192.8	-769.2	1,017.1	992.4	24.72	41.146		
5,200.0	5,151.4	5,077.9	5,014.3	15.1	16.3	127.16	-195.9	-785.3	1,038.9	1,013.7	25.23	41.181		
5,300.0	5,250.3	5,175.5	5,110.5	15.4	16.6	127.21	-199.1	-801.4	1,060.8	1,035.0	25.74	41.215		
5,400.0	5,349.3	5,273.1	5,206.7	15.7	16.9	127.26	-202.3	-817.5	1,082.6	1,056.4	26.25	41.247		
5,500.0	5,448.3	5,370.7	5,302.9	16.0	17.3	127.31	-205.5	-833.7	1,104.5	1,077.7	26.76	41.279		
5,600.0	5,547.3	5,468.3	5,399.1	16.3	17.6	127.35	-208.7	-849.8	1,126.3	1,099.1	27.27	41.309		
5,700.0	5,646.2	5,565.8	5,495.2	16.6	17.9	127.40	-211.9	-865.9	1,148.2	1,120.4	27.78	41.338		
5,800.0	5,745.2	5,663.4	5,591.4	16.9	18.3	127.44	-215.0	-882.0	1,170.0	1,141.8	28.29	41.366		
5,900.0	5,844.2	5,761.0	5,687.6	17.2	18.6	127.48	-218.2	-898.1	1,191.9	1,163.1	28.79	41.393		
6,000.0	5,943.1	5,858.6	5,783.8	17.5	18.9	127.52	-221.4	-914.3	1,213.8	1,184.5	29.30	41.419		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	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)				
0.0	0.0	0.0	0.0	0.0	0.0	-143.39	-36.1	-26.8	44.9					
100.0	100.0	100.0	100.0	0.1	0.1	-143.39	-36.1	-26.8	44.9	44.6	0.27	164.984		
200.0	200.0	200.0	200.0	0.3	0.3	-143.39	-36.1	-26.8	44.9	44.3	0.62	72.296		
300.0	300.0	299.1	299.1	0.5	0.5	50.74	-35.9	-28.5	44.7	43.8	0.97	45.962		
324.8	324.8	323.7	323.6	0.5	0.5	52.68	-35.9	-29.4	44.7	43.7	1.07	41.956 CC, ES		
400.0	399.8	397.7	397.6	0.7	0.7	61.09	-35.5	-33.6	45.2	43.9	1.35	33.586		
500.0	499.5	495.5	495.0	0.9	0.9	76.71	-34.9	-42.0	49.1	47.4	1.75	28.059		
600.0	598.7	591.9	590.7	1.2	1.2	93.08	-34.0	-53.5	59.5	57.4	2.18	27.319 SF		
700.0	697.7	687.7	685.4	1.5	1.4	105.62	-32.9	-67.9	77.2	74.6	2.60	29.664		
800.0	796.6	784.8	781.2	1.8	1.7	113.43	-31.7	-83.4	98.0	95.0	3.03	32.335		
900.0	895.6	881.9	877.1	2.0	2.1	118.47	-30.6	-98.9	120.0	116.5	3.47	34.595		
1,000.0	994.6	979.0	972.9	2.3	2.4	121.94	-29.4	-114.3	142.6	138.6	3.91	36.447		
1,100.0	1,093.6	1,076.1	1,068.8	2.6	2.7	124.46	-28.2	-129.8	165.5	161.1	4.36	37.963		
1,200.0	1,192.5	1,173.2	1,164.7	2.9	3.0	126.37	-27.0	-145.2	188.7	183.8	4.81	39.216		
1,300.0	1,291.5	1,270.3	1,260.5	3.2	3.3	127.86	-25.9	-160.7	212.0	206.7	5.26	40.264		
1,400.0	1,390.5	1,367.5	1,356.4	3.5	3.6	129.06	-24.7	-176.2	235.4	229.7	5.72	41.151		
1,500.0	1,489.4	1,464.6	1,452.3	3.8	4.0	130.04	-23.5	-191.6	258.9	252.8	6.18	41.909		
1,600.0	1,588.4	1,561.7	1,548.1	4.2	4.3	130.85	-22.3	-207.1	282.5	275.9	6.64	42.565		
1,700.0	1,687.4	1,658.8	1,644.0	4.5	4.6	131.54	-21.1	-222.6	306.1	299.0	7.10	43.137		
1,800.0	1,786.4	1,755.9	1,739.9	4.8	4.9	132.13	-20.0	-238.0	329.8	322.2	7.56	43.640		
1,900.0	1,885.3	1,853.0	1,835.7	5.1	5.2	132.65	-18.8	-253.5	353.5	345.4	8.02	44.086		
2,000.0	1,984.3	1,950.1	1,931.6	5.4	5.6	133.09	-17.6	-268.9	377.2	368.7	8.48	44.484		
2,100.0	2,083.3	2,047.2	2,027.5	5.7	5.9	133.49	-16.4	-284.4	400.9	392.0	8.94	44.840		
2,200.0	2,182.2	2,144.3	2,123.3	6.0	6.2	133.84	-15.3	-299.9	424.6	415.2	9.40	45.162		
2,300.0	2,281.2	2,241.4	2,219.2	6.3	6.5	134.15	-14.1	-315.3	448.4	438.5	9.86	45.454		
2,400.0	2,380.2	2,338.6	2,315.0	6.6	6.8	134.44	-12.9	-330.8	472.2	461.8	10.33	45.719		
2,500.0	2,479.2	2,435.7	2,410.9	6.9	7.2	134.69	-11.7	-346.2	495.9	485.1	10.79	45.962		
2,600.0	2,578.1	2,532.8	2,506.8	7.2	7.5	134.92	-10.5	-361.7	519.7	508.5	11.25	46.185		
2,700.0	2,677.1	2,629.9	2,602.6	7.5	7.8	135.13	-9.4	-377.2	543.5	531.8	11.72	46.390		
2,800.0	2,776.1	2,727.0	2,698.5	7.8	8.1	135.33	-8.2	-392.6	567.3	555.1	12.18	46.579		
2,900.0	2,875.0	2,824.1	2,794.4	8.1	8.4	135.51	-7.0	-408.1	591.1	578.5	12.64	46.755		
3,000.0	2,974.0	2,921.2	2,890.2	8.4	8.8	135.67	-5.8	-423.5	614.9	601.8	13.11	46.918		
3,100.0	3,073.0	3,018.3	2,986.1	8.7	9.1	135.82	-4.7	-439.0	638.7	625.2	13.57	47.070		
3,200.0	3,171.9	3,115.4	3,082.0	9.0	9.4	135.96	-3.5	-454.5	662.6	648.5	14.03	47.212		
3,300.0	3,270.9	3,212.5	3,177.8	9.3	9.7	136.10	-2.3	-469.9	686.4	671.9	14.50	47.345		
3,400.0	3,369.9	3,309.6	3,273.7	9.6	10.1	136.22	-1.1	-485.4	710.2	695.2	14.96	47.470		
3,500.0	3,468.9	3,406.8	3,369.5	9.9	10.4	136.33	0.1	-500.9	734.0	718.6	15.43	47.587		
3,600.0	3,567.8	3,503.9	3,465.4	10.2	10.7	136.44	1.2	-516.3	757.9	742.0	15.89	47.697		
3,700.0	3,666.8	3,601.0	3,561.3	10.5	11.0	136.54	2.4	-531.8	781.7	765.3	16.35	47.801		
3,800.0	3,765.8	3,698.1	3,657.1	10.8	11.3	136.64	3.6	-547.2	805.5	788.7	16.82	47.899		
3,900.0	3,864.7	3,795.2	3,753.0	11.1	11.7	136.73	4.8	-562.7	829.4	812.1	17.28	47.992		
4,000.0	3,963.7	3,892.3	3,848.9	11.4	12.0	136.81	5.9	-578.2	853.2	835.5	17.75	48.080		
4,100.0	4,062.7	3,989.4	3,944.7	11.8	12.3	136.89	7.1	-593.6	877.0	858.8	18.21	48.164		
4,200.0	4,161.7	4,086.5	4,040.6	12.1	12.6	136.97	8.3	-609.1	900.9	882.2	18.67	48.243		
4,300.0	4,260.6	4,183.6	4,136.5	12.4	13.0	137.04	9.5	-624.5	924.7	905.6	19.14	48.319		
4,400.0	4,359.6	4,280.7	4,232.3	12.7	13.3	137.11	10.7	-640.0	948.6	929.0	19.60	48.391		
4,500.0	4,458.6	4,377.9	4,328.2	13.0	13.6	137.17	11.8	-655.5	972.4	952.3	20.07	48.459		
4,600.0	4,557.5	4,475.0	4,424.0	13.3	13.9	137.23	13.0	-670.9	996.3	975.7	20.53	48.525		
4,700.0	4,656.5	4,572.1	4,519.9	13.6	14.2	137.29	14.2	-686.4	1,020.1	999.1	21.00	48.588		
4,800.0	4,755.5	4,669.2	4,615.8	13.9	14.6	137.35	15.4	-701.8	1,044.0	1,022.5	21.46	48.648		
4,900.0	4,854.5	4,766.3	4,711.6	14.2	14.9	137.40	16.5	-717.3	1,067.8	1,045.9	21.92	48.705		
5,000.0	4,953.4	4,863.4	4,807.5	14.5	15.2	137.45	17.7	-732.8	1,091.7	1,069.3	22.39	48.760		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Sec 6 T6S R96W (F06 696) - Chevron 6-36D - DD - Plan #2		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 Factor						
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis							
5,100.0	5,052.4	4,960.5	4,903.4	14.8	15.5	137.50	18.9	-748.2	1,115.5	1,092.7	22.85	48.813						
5,200.0	5,151.4	5,057.6	4,999.2	15.1	15.8	137.55	20.1	-763.7	1,139.4	1,116.0	23.32	48.863						
5,300.0	5,250.3	5,154.7	5,095.1	15.4	16.2	137.59	21.3	-779.1	1,163.2	1,139.4	23.78	48.912						
5,400.0	5,349.3	5,251.8	5,191.0	15.7	16.5	137.64	22.4	-794.6	1,187.1	1,162.8	24.25	48.959						
5,500.0	5,448.3	5,349.0	5,286.8	16.0	16.8	137.68	23.6	-810.1	1,210.9	1,186.2	24.71	49.004						



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	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	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	-143.54	-24.0	-17.8	29.9					
100.0	100.0	100.0	100.0	0.1	0.1	-143.54	-24.0	-17.8	29.9	29.6	0.27	109.784		
200.0	200.0	200.0	200.0	0.3	0.3	-143.54	-24.0	-17.8	29.9	29.3	0.62	48.108		
300.0	300.0	300.0	300.0	0.5	0.5	49.67	-24.0	-17.8	28.7	27.8	0.97	29.546		
400.0	399.8	399.4	399.4	0.7	0.7	61.88	-23.5	-19.4	26.5	25.2	1.34	19.797		
433.3	433.1	432.3	432.3	0.8	0.7	69.17	-23.0	-20.6	26.2	24.8	1.48	17.795 CC, ES		
500.0	499.5	498.0	497.8	0.9	0.9	87.22	-21.7	-24.2	27.9	26.1	1.75	15.950 SF		
600.0	598.7	595.3	594.8	1.2	1.1	112.56	-18.9	-32.1	38.4	36.2	2.15	17.816		
700.0	697.7	691.1	689.9	1.5	1.3	127.03	-15.0	-42.8	57.6	55.1	2.53	22.774		
800.0	796.6	785.6	783.3	1.8	1.6	133.53	-10.1	-56.4	81.9	79.0	2.92	28.078		
900.0	895.6	881.0	877.2	2.0	1.9	136.75	-4.4	-72.2	108.9	105.5	3.31	32.847		
1,000.0	994.6	977.2	971.8	2.3	2.2	138.69	1.3	-88.2	136.1	132.4	3.72	36.578		
1,100.0	1,093.6	1,073.3	1,066.4	2.6	2.6	139.98	7.1	-104.2	163.5	159.4	4.14	39.545		
1,200.0	1,192.5	1,169.4	1,161.0	2.9	2.9	140.90	12.8	-120.2	191.0	186.4	4.55	41.950		
1,300.0	1,291.5	1,265.5	1,255.6	3.2	3.2	141.60	18.6	-136.3	218.4	213.5	4.97	43.934		
1,400.0	1,390.5	1,361.6	1,350.2	3.5	3.6	142.13	24.4	-152.3	245.9	240.5	5.39	45.596		
1,500.0	1,489.4	1,457.8	1,444.8	3.8	3.9	142.56	30.1	-168.3	273.4	267.6	5.82	47.007		
1,600.0	1,588.4	1,553.9	1,539.4	4.2	4.2	142.91	35.9	-184.3	301.0	294.7	6.24	48.219		
1,700.0	1,687.4	1,650.0	1,634.1	4.5	4.6	143.20	41.7	-200.3	328.5	321.8	6.67	49.271		
1,800.0	1,786.4	1,746.1	1,728.7	4.8	4.9	143.45	47.4	-216.3	356.0	348.9	7.09	50.191		
1,900.0	1,885.3	1,842.3	1,823.3	5.1	5.3	143.66	53.2	-232.3	383.6	376.1	7.52	51.004		
2,000.0	1,984.3	1,938.4	1,917.9	5.4	5.6	143.84	59.0	-248.4	411.1	403.2	7.95	51.726		
2,100.0	2,083.3	2,034.5	2,012.5	5.7	5.9	144.00	64.7	-264.4	438.7	430.3	8.38	52.372		
2,200.0	2,182.2	2,130.6	2,107.1	6.0	6.3	144.14	70.5	-280.4	466.2	457.4	8.80	52.953		
2,300.0	2,281.2	2,226.8	2,201.7	6.3	6.6	144.27	76.3	-296.4	493.8	484.5	9.23	53.479		
2,400.0	2,380.2	2,322.9	2,296.3	6.6	7.0	144.38	82.0	-312.4	521.3	511.7	9.66	53.957		
2,500.0	2,479.2	2,419.0	2,390.9	6.9	7.3	144.48	87.8	-328.4	548.9	538.8	10.09	54.392		
2,600.0	2,578.1	2,515.1	2,485.5	7.2	7.7	144.57	93.5	-344.4	576.5	565.9	10.52	54.791		
2,700.0	2,677.1	2,611.2	2,580.1	7.5	8.0	144.65	99.3	-360.4	604.0	593.1	10.95	55.158		
2,800.0	2,776.1	2,707.4	2,674.7	7.8	8.3	144.73	105.1	-376.5	631.6	620.2	11.38	55.497		
2,900.0	2,875.0	2,803.5	2,769.3	8.1	8.7	144.80	110.8	-392.5	659.1	647.3	11.81	55.810		
3,000.0	2,974.0	2,899.6	2,863.9	8.4	9.0	144.86	116.6	-408.5	686.7	674.5	12.24	56.101		
3,100.0	3,073.0	2,995.7	2,958.5	8.7	9.4	144.92	122.4	-424.5	714.3	701.6	12.67	56.371		
3,200.0	3,171.9	3,091.9	3,053.1	9.0	9.7	144.97	128.1	-440.5	741.8	728.7	13.10	56.624		
3,300.0	3,270.9	3,188.0	3,147.7	9.3	10.1	145.03	133.9	-456.5	769.4	755.9	13.53	56.860		
3,400.0	3,369.9	3,284.1	3,242.3	9.6	10.4	145.07	139.7	-472.5	797.0	783.0	13.96	57.081		
3,500.0	3,468.9	3,380.2	3,336.9	9.9	10.7	145.12	145.4	-488.6	824.5	810.1	14.39	57.288		
3,600.0	3,567.8	3,476.4	3,431.5	10.2	11.1	145.16	151.2	-504.6	852.1	837.3	14.82	57.483		
3,700.0	3,666.8	3,572.5	3,526.1	10.5	11.4	145.20	157.0	-520.6	879.7	864.4	15.25	57.667		
3,800.0	3,765.8	3,668.6	3,620.7	10.8	11.8	145.23	162.7	-536.6	907.2	891.6	15.69	57.841		
3,900.0	3,864.7	3,764.7	3,715.4	11.1	12.1	145.27	168.5	-552.6	934.8	918.7	16.12	58.005		
4,000.0	3,963.7	3,860.9	3,810.0	11.4	12.5	145.30	174.2	-568.6	962.4	945.8	16.55	58.161		
4,100.0	4,062.7	3,957.0	3,904.6	11.8	12.8	145.33	180.0	-584.6	989.9	973.0	16.98	58.308		
4,200.0	4,161.7	4,053.1	3,999.2	12.1	13.2	145.36	185.8	-600.7	1,017.5	1,000.1	17.41	58.448		
4,300.0	4,260.6	4,149.2	4,093.8	12.4	13.5	145.38	191.5	-616.7	1,045.1	1,027.2	17.84	58.581		
4,400.0	4,359.6	4,245.3	4,188.4	12.7	13.8	145.41	197.3	-632.7	1,072.6	1,054.4	18.27	58.708		
4,500.0	4,458.6	4,341.5	4,283.0	13.0	14.2	145.43	203.1	-648.7	1,100.2	1,081.5	18.70	58.829		
4,600.0	4,557.5	4,437.6	4,377.6	13.3	14.5	145.46	208.8	-664.7	1,127.8	1,108.7	19.13	58.944		
4,700.0	4,656.5	4,533.7	4,472.2	13.6	14.9	145.48	214.6	-680.7	1,155.4	1,135.8	19.56	59.054		
4,800.0	4,755.5	4,629.8	4,566.8	13.9	15.2	145.50	220.4	-696.7	1,182.9	1,162.9	20.00	59.159		
4,900.0	4,854.5	4,726.0	4,661.4	14.2	15.6	145.52	226.1	-712.8	1,210.5	1,190.1	20.43	59.260		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	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	-143.11	-12.0	-9.0	15.0					
100.0	100.0	100.0	100.0	0.1	0.1	-143.11	-12.0	-9.0	15.0	14.8	0.27	55.201		
200.0	200.0	200.0	200.0	0.3	0.3	-143.11	-12.0	-9.0	15.0	14.4	0.62	24.189		
300.0	300.0	299.9	299.9	0.5	0.5	59.83	-11.0	-10.4	14.2	13.2	0.98	14.563		
327.7	327.6	327.4	327.4	0.5	0.5	68.03	-10.4	-11.3	14.1	13.0	1.08	13.004 CC, ES		
400.0	399.8	399.1	399.0	0.7	0.7	96.30	-8.0	-14.7	16.0	14.7	1.35	11.837 SF		
500.0	499.5	497.2	496.6	0.9	0.9	126.75	-3.1	-21.6	27.5	25.8	1.71	16.078		
600.0	598.7	593.4	592.1	1.2	1.2	140.31	3.6	-31.0	48.1	46.0	2.07	23.215		
700.0	697.7	687.6	685.3	1.5	1.5	146.20	12.0	-42.7	74.6	72.1	2.44	30.624		
800.0	796.6	782.0	778.1	1.8	1.8	148.70	21.9	-56.6	104.0	101.2	2.81	37.028		
900.0	895.6	877.4	871.9	2.0	2.1	150.09	32.0	-70.8	133.8	130.6	3.19	41.954		
1,000.0	994.6	972.9	965.7	2.3	2.4	150.97	42.1	-85.0	163.7	160.1	3.57	45.806		
1,100.0	1,093.6	1,068.3	1,059.5	2.6	2.8	151.58	52.2	-99.3	193.6	189.6	3.96	48.892		
1,200.0	1,192.5	1,163.7	1,153.3	2.9	3.1	152.03	62.4	-113.5	223.5	219.1	4.35	51.416		
1,300.0	1,291.5	1,259.1	1,247.1	3.2	3.5	152.37	72.5	-127.7	253.4	248.7	4.73	53.516		
1,400.0	1,390.5	1,354.5	1,340.9	3.5	3.8	152.64	82.6	-141.9	283.3	278.2	5.12	55.291		
1,500.0	1,489.4	1,449.9	1,434.7	3.8	4.2	152.86	92.7	-156.2	313.2	307.7	5.51	56.809		
1,600.0	1,588.4	1,545.3	1,528.5	4.2	4.5	153.04	102.9	-170.4	343.1	337.2	5.90	58.122		
1,700.0	1,687.4	1,640.7	1,622.4	4.5	4.9	153.19	113.0	-184.6	373.1	366.8	6.29	59.269		
1,800.0	1,786.4	1,736.2	1,716.2	4.8	5.2	153.32	123.1	-198.8	403.0	396.3	6.69	60.279		
1,900.0	1,885.3	1,831.6	1,810.0	5.1	5.6	153.43	133.3	-213.0	432.9	425.8	7.08	61.175		
2,000.0	1,984.3	1,927.0	1,903.8	5.4	5.9	153.53	143.4	-227.3	462.9	455.4	7.47	61.975		
2,100.0	2,083.3	2,022.4	1,997.6	5.7	6.3	153.61	153.5	-241.5	492.8	484.9	7.86	62.695		
2,200.0	2,182.2	2,117.8	2,091.4	6.0	6.6	153.69	163.6	-255.7	522.7	514.5	8.25	63.344		
2,300.0	2,281.2	2,213.2	2,185.2	6.3	6.9	153.75	173.8	-269.9	552.6	544.0	8.64	63.934		
2,400.0	2,380.2	2,308.6	2,279.0	6.6	7.3	153.81	183.9	-284.2	582.6	573.5	9.04	64.472		
2,500.0	2,479.2	2,404.1	2,372.8	6.9	7.6	153.87	194.0	-298.4	612.5	603.1	9.43	64.964		
2,600.0	2,578.1	2,499.5	2,466.6	7.2	8.0	153.92	204.1	-312.6	642.4	632.6	9.82	65.416		
2,700.0	2,677.1	2,594.9	2,560.4	7.5	8.3	153.96	214.3	-326.8	672.4	662.2	10.21	65.833		
2,800.0	2,776.1	2,690.3	2,654.2	7.8	8.7	154.00	224.4	-341.0	702.3	691.7	10.61	66.219		
2,900.0	2,875.0	2,785.7	2,748.0	8.1	9.0	154.04	234.5	-355.3	732.3	721.3	11.00	66.577		
3,000.0	2,974.0	2,881.1	2,841.8	8.4	9.4	154.07	244.6	-369.5	762.2	750.8	11.39	66.910		
3,100.0	3,073.0	2,976.5	2,935.6	8.7	9.7	154.11	254.8	-383.7	792.1	780.3	11.78	67.220		
3,200.0	3,171.9	3,071.9	3,029.4	9.0	10.1	154.14	264.9	-397.9	822.1	809.9	12.18	67.510		
3,300.0	3,270.9	3,167.4	3,123.2	9.3	10.4	154.16	275.0	-412.2	852.0	839.4	12.57	67.782		
3,400.0	3,369.9	3,262.8	3,217.0	9.6	10.8	154.19	285.2	-426.4	881.9	869.0	12.96	68.037		
3,500.0	3,468.9	3,358.2	3,310.8	9.9	11.1	154.21	295.3	-440.6	911.9	898.5	13.36	68.277		
3,600.0	3,567.8	3,453.6	3,404.6	10.2	11.5	154.24	305.4	-454.8	941.8	928.1	13.75	68.503		
3,700.0	3,666.8	3,549.0	3,498.4	10.5	11.8	154.26	315.5	-469.0	971.7	957.6	14.14	68.716		
3,800.0	3,765.8	3,644.4	3,592.2	10.8	12.2	154.28	325.7	-483.3	1,001.7	987.1	14.53	68.918		
3,900.0	3,864.7	3,739.8	3,686.0	11.1	12.5	154.30	335.8	-497.5	1,031.6	1,016.7	14.93	69.109		
4,000.0	3,963.7	3,835.3	3,779.8	11.4	12.9	154.31	345.9	-511.7	1,061.6	1,046.2	15.32	69.289		
4,100.0	4,062.7	3,930.7	3,873.6	11.8	13.2	154.33	356.0	-525.9	1,091.5	1,075.8	15.71	69.461		
4,200.0	4,161.7	4,026.1	3,967.4	12.1	13.6	154.35	366.2	-540.2	1,121.4	1,105.3	16.11	69.625		
4,300.0	4,260.6	4,121.5	4,061.2	12.4	13.9	154.36	376.3	-554.4	1,151.4	1,134.9	16.50	69.780		
4,400.0	4,359.6	4,216.9	4,155.0	12.7	14.3	154.38	386.4	-568.6	1,181.3	1,164.4	16.89	69.928		
4,500.0	4,458.6	4,312.3	4,248.8	13.0	14.6	154.39	396.5	-582.8	1,211.2	1,194.0	17.29	70.070		

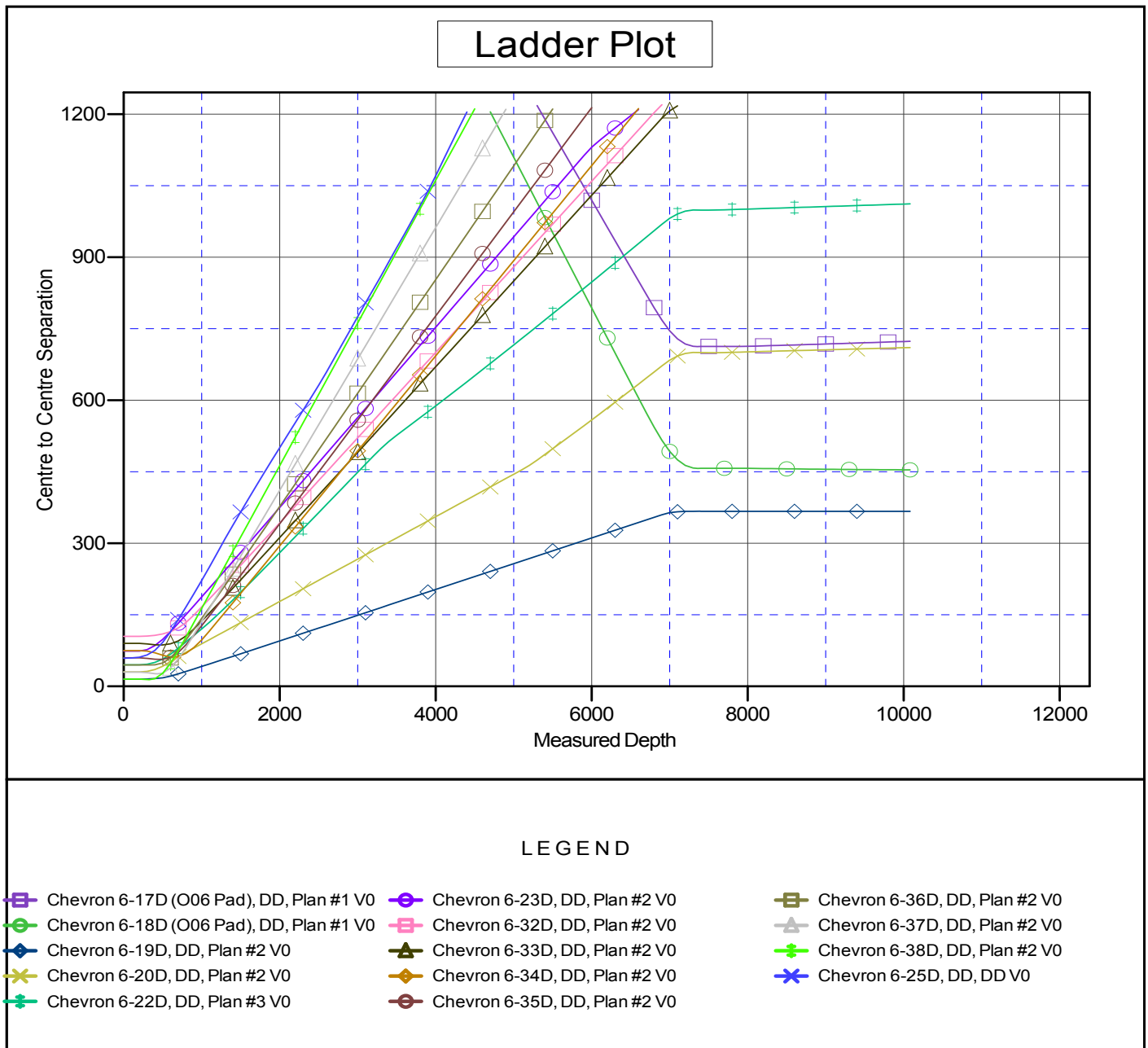
# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 6-21D
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Reference Site:</b>	Sec 6 T6S R96W (F06 696)	<b>MD Reference:</b>	KBE @ 8244.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 6-21D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB
<b>Reference Design:</b>	Plan #2	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KBE @ 8244.0ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Chevron 6-21D  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.67°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation