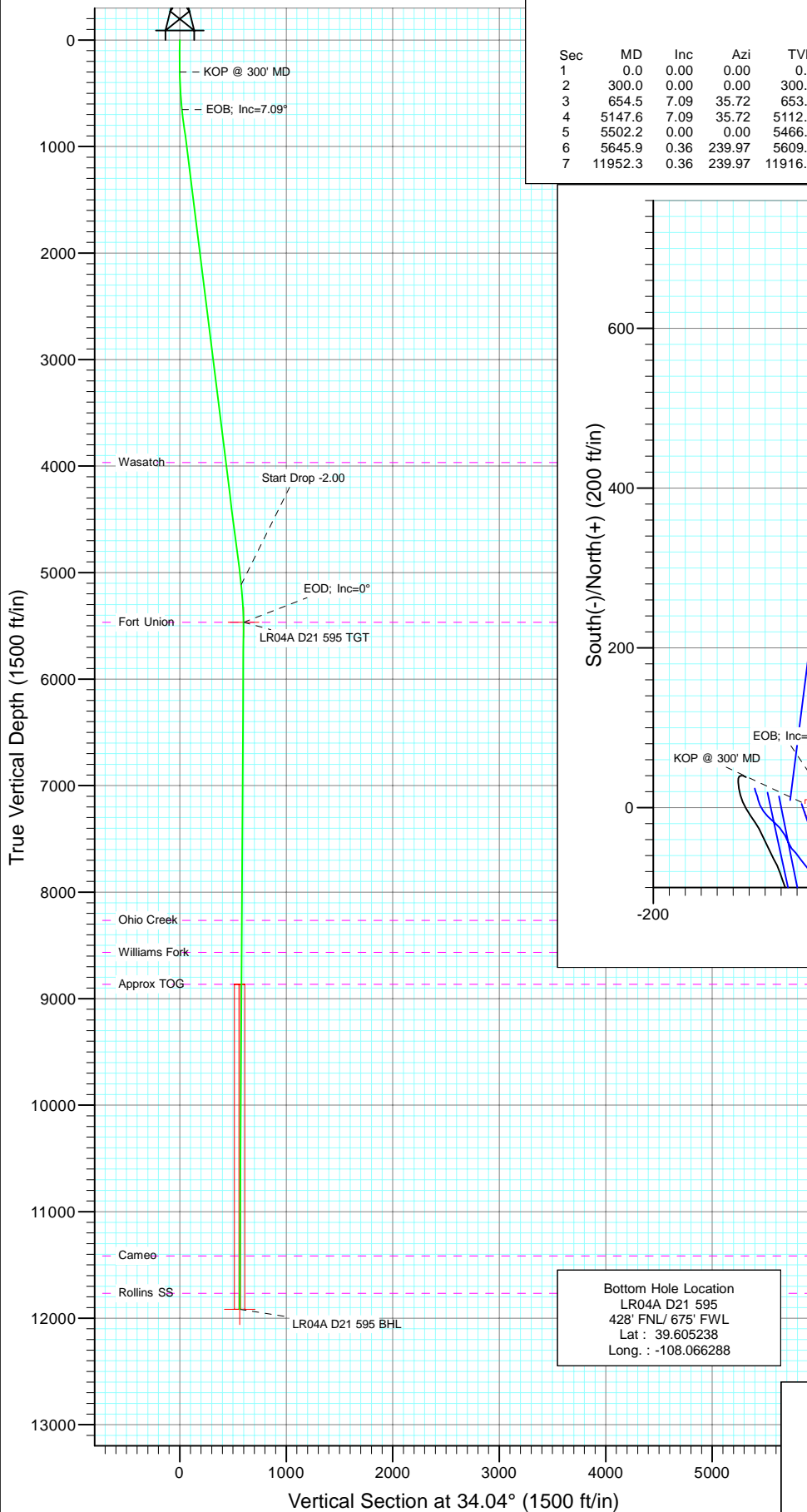
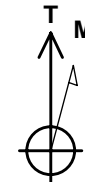
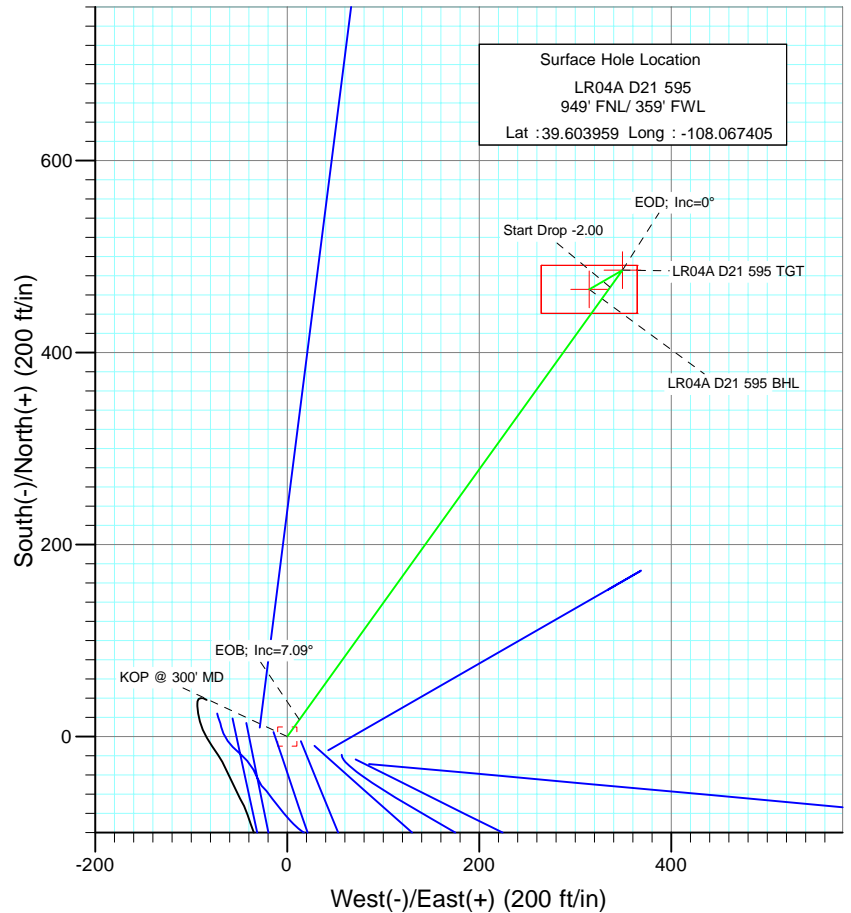


Project: Garfield County
Site: D21 595 Pad
Well: LR04A D21 595
Wellbore: DD
Design: Plan #2



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	654.5	7.09	35.72	653.6	17.8	12.8	2.00	35.72	21.9	
4	5147.6	7.09	35.72	5112.4	468.1	336.6	0.00	0.00	576.3	
5	5502.2	0.00	0.00	5466.0	485.9	349.3	2.00	180.00	598.2	LR04A D21 595 TGT
6	5645.9	0.36	239.97	5609.7	485.7	349.0	0.25	239.97	597.8	
7	11952.3	0.36	239.97	11916.0	465.9	314.7	0.00	0.00	562.2	LR04A D21 595 BHL



Azimuths to True North
Magnetic North: 10.44°

Magnetic Field
Strength: 52368.8snT
Dip Angle: 65.84°
Date: 11/23/2010
Model: IGRF200510

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3966.0	3992.4	Wasatch
5466.0	5502.2	Fort Union
8266.0	8302.2	Ohio Creek
8566.0	8602.2	Williams Fork
8866.0	8902.2	Approx TOG
11416.0	11452.3	Cameo
11766.0	11802.3	Rollins SS

DESIGN DETAILS: Plan #2

1055XX; BH
KBE @ 8278.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
LR04A D21 595 BHL	34.04	Slot	0.0	0.0	0.0

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR04A D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

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

Site		D21 595 Pad			
Site Position:		Northing:	1,655,115.77 ft	Latitude:	39.604011
From:	Lat/Long	Easting:	2,276,632.91 ft	Longitude:	-108.067607
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.62 °

Well	LR04A D21 595					
Well Position	+N/-S	0.0 ft	Northing:	1,655,095.22 ft	Latitude:	39.603959
	+E/-W	0.0 ft	Easting:	2,276,689.27 ft	Longitude:	-108.067405
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,263.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/23/2010	10.44	65.84	52,369

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	34.04

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
654.5	7.09	35.72	653.6	17.8	12.8	2.00	2.00	0.00	35.72	
5,147.6	7.09	35.72	5,112.4	468.1	336.6	0.00	0.00	0.00	0.00	
5,502.2	0.00	0.00	5,466.0	485.9	349.3	2.00	-2.00	0.00	180.00	LR04A D21 595 TGT
5,645.9	0.36	239.97	5,609.7	485.7	349.0	0.25	0.25	-83.54	239.97	
11,952.3	0.36	239.97	11,916.0	465.9	314.7	0.00	0.00	0.00	0.00	LR04A D21 595 BHL

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR04A D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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	
210.0	0.00	0.00	210.0	0.0	0.0	0.0	0.00	0.00	
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	
270.0	0.00	0.00	270.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300' MD
330.0	0.60	35.72	330.0	0.1	0.1	0.2	2.00	2.00	
360.0	1.20	35.72	360.0	0.5	0.4	0.6	2.00	2.00	
390.0	1.80	35.72	390.0	1.1	0.8	1.4	2.00	2.00	
420.0	2.40	35.72	420.0	2.0	1.5	2.5	2.00	2.00	
450.0	3.00	35.72	449.9	3.2	2.3	3.9	2.00	2.00	
480.0	3.60	35.72	479.9	4.6	3.3	5.7	2.00	2.00	
510.0	4.20	35.72	509.8	6.2	4.5	7.7	2.00	2.00	
540.0	4.80	35.72	539.7	8.2	5.9	10.0	2.00	2.00	
570.0	5.40	35.72	569.6	10.3	7.4	12.7	2.00	2.00	
600.0	6.00	35.72	599.5	12.7	9.2	15.7	2.00	2.00	
630.0	6.60	35.72	629.3	15.4	11.1	19.0	2.00	2.00	
654.5	7.09	35.72	653.6	17.8	12.8	21.9	2.00	2.00	EOB; Inc=7.09°
660.0	7.09	35.72	659.1	18.3	13.2	22.6	0.00	0.00	
690.0	7.09	35.72	688.8	21.3	15.3	26.3	0.00	0.00	
720.0	7.09	35.72	718.6	24.4	17.5	30.0	0.00	0.00	
750.0	7.09	35.72	748.4	27.4	19.7	33.7	0.00	0.00	
780.0	7.09	35.72	778.1	30.4	21.8	37.4	0.00	0.00	
810.0	7.09	35.72	807.9	33.4	24.0	41.1	0.00	0.00	
840.0	7.09	35.72	837.7	36.4	26.2	44.8	0.00	0.00	
870.0	7.09	35.72	867.4	39.4	28.3	48.5	0.00	0.00	
900.0	7.09	35.72	897.2	42.4	30.5	52.2	0.00	0.00	
930.0	7.09	35.72	927.0	45.4	32.6	55.9	0.00	0.00	
960.0	7.09	35.72	956.8	48.4	34.8	59.6	0.00	0.00	
990.0	7.09	35.72	986.5	51.4	37.0	63.3	0.00	0.00	
1,020.0	7.09	35.72	1,016.3	54.4	39.1	67.0	0.00	0.00	
1,050.0	7.09	35.72	1,046.1	57.4	41.3	70.7	0.00	0.00	
1,080.0	7.09	35.72	1,075.8	60.4	43.4	74.4	0.00	0.00	
1,110.0	7.09	35.72	1,105.6	63.4	45.6	78.1	0.00	0.00	
1,140.0	7.09	35.72	1,135.4	66.4	47.8	81.8	0.00	0.00	
1,170.0	7.09	35.72	1,165.2	69.5	49.9	85.5	0.00	0.00	
1,200.0	7.09	35.72	1,194.9	72.5	52.1	89.2	0.00	0.00	
1,230.0	7.09	35.72	1,224.7	75.5	54.3	92.9	0.00	0.00	
1,260.0	7.09	35.72	1,254.5	78.5	56.4	96.6	0.00	0.00	
1,290.0	7.09	35.72	1,284.2	81.5	58.6	100.3	0.00	0.00	
1,320.0	7.09	35.72	1,314.0	84.5	60.7	104.0	0.00	0.00	
1,350.0	7.09	35.72	1,343.8	87.5	62.9	107.7	0.00	0.00	
1,380.0	7.09	35.72	1,373.5	90.5	65.1	111.4	0.00	0.00	
1,410.0	7.09	35.72	1,403.3	93.5	67.2	115.1	0.00	0.00	
1,440.0	7.09	35.72	1,433.1	96.5	69.4	118.8	0.00	0.00	
1,470.0	7.09	35.72	1,462.9	99.5	71.6	122.5	0.00	0.00	
1,500.0	7.09	35.72	1,492.6	102.5	73.7	126.2	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR04A D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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
1,530.0	7.09	35.72	1,522.4	105.5	75.9	129.9	0.00	0.00	
1,560.0	7.09	35.72	1,552.2	108.5	78.0	133.6	0.00	0.00	
1,590.0	7.09	35.72	1,581.9	111.5	80.2	137.3	0.00	0.00	
1,620.0	7.09	35.72	1,611.7	114.6	82.4	141.0	0.00	0.00	
1,650.0	7.09	35.72	1,641.5	117.6	84.5	144.7	0.00	0.00	
1,680.0	7.09	35.72	1,671.3	120.6	86.7	148.4	0.00	0.00	
1,710.0	7.09	35.72	1,701.0	123.6	88.8	152.1	0.00	0.00	
1,740.0	7.09	35.72	1,730.8	126.6	91.0	155.8	0.00	0.00	
1,770.0	7.09	35.72	1,760.6	129.6	93.2	159.5	0.00	0.00	
1,800.0	7.09	35.72	1,790.3	132.6	95.3	163.2	0.00	0.00	
1,830.0	7.09	35.72	1,820.1	135.6	97.5	166.9	0.00	0.00	
1,860.0	7.09	35.72	1,849.9	138.6	99.7	170.6	0.00	0.00	
1,890.0	7.09	35.72	1,879.6	141.6	101.8	174.3	0.00	0.00	
1,920.0	7.09	35.72	1,909.4	144.6	104.0	178.0	0.00	0.00	
1,950.0	7.09	35.72	1,939.2	147.6	106.1	181.7	0.00	0.00	
1,980.0	7.09	35.72	1,969.0	150.6	108.3	185.4	0.00	0.00	
2,010.0	7.09	35.72	1,998.7	153.6	110.5	189.1	0.00	0.00	
2,040.0	7.09	35.72	2,028.5	156.6	112.6	192.9	0.00	0.00	
2,070.0	7.09	35.72	2,058.3	159.7	114.8	196.6	0.00	0.00	
2,100.0	7.09	35.72	2,088.0	162.7	116.9	200.3	0.00	0.00	
2,130.0	7.09	35.72	2,117.8	165.7	119.1	204.0	0.00	0.00	
2,160.0	7.09	35.72	2,147.6	168.7	121.3	207.7	0.00	0.00	
2,190.0	7.09	35.72	2,177.4	171.7	123.4	211.4	0.00	0.00	
2,220.0	7.09	35.72	2,207.1	174.7	125.6	215.1	0.00	0.00	
2,250.0	7.09	35.72	2,236.9	177.7	127.8	218.8	0.00	0.00	
2,280.0	7.09	35.72	2,266.7	180.7	129.9	222.5	0.00	0.00	
2,310.0	7.09	35.72	2,296.4	183.7	132.1	226.2	0.00	0.00	
2,340.0	7.09	35.72	2,326.2	186.7	134.2	229.9	0.00	0.00	
2,370.0	7.09	35.72	2,356.0	189.7	136.4	233.6	0.00	0.00	
2,400.0	7.09	35.72	2,385.7	192.7	138.6	237.3	0.00	0.00	
2,430.0	7.09	35.72	2,415.5	195.7	140.7	241.0	0.00	0.00	
2,460.0	7.09	35.72	2,445.3	198.7	142.9	244.7	0.00	0.00	
2,490.0	7.09	35.72	2,475.1	201.7	145.1	248.4	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									
LR04A D21 595 BHL	0.00	0.00	11,916.0	465.9	314.7	1,655,552.03	2,277,017.04	39.605238	-108.066288
- plan misses target center by 9446.2ft at 2490.0ft MD (2475.1 TVD, 201.7 N, 145.1 E)									
- Rectangle (sides W50.0 H100.0 D0.0)									
LR04A D21 595 TGT	0.00	0.00	5,466.0	485.9	349.3	1,655,571.05	2,277,052.21	39.605293	-108.066165
- plan misses target center by 3011.3ft at 2490.0ft MD (2475.1 TVD, 201.7 N, 145.1 E)									
- Point									

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR04A D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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	7.09	35.72	2,485.0	202.8	145.8	249.6	0.00	0.00	
2,600.0	7.09	35.72	2,584.2	212.8	153.0	261.9	0.00	0.00	
2,700.0	7.09	35.72	2,683.5	222.8	160.2	274.3	0.00	0.00	
2,800.0	7.09	35.72	2,782.7	232.8	167.4	286.6	0.00	0.00	
2,900.0	7.09	35.72	2,881.9	242.8	174.6	299.0	0.00	0.00	
3,000.0	7.09	35.72	2,981.2	252.9	181.8	311.3	0.00	0.00	
3,100.0	7.09	35.72	3,080.4	262.9	189.0	323.6	0.00	0.00	
3,200.0	7.09	35.72	3,179.6	272.9	196.2	336.0	0.00	0.00	
3,300.0	7.09	35.72	3,278.9	282.9	203.4	348.3	0.00	0.00	
3,400.0	7.09	35.72	3,378.1	293.0	210.6	360.7	0.00	0.00	
3,500.0	7.09	35.72	3,477.3	303.0	217.8	373.0	0.00	0.00	
3,600.0	7.09	35.72	3,576.6	313.0	225.0	385.3	0.00	0.00	
3,700.0	7.09	35.72	3,675.8	323.0	232.2	397.7	0.00	0.00	
3,800.0	7.09	35.72	3,775.0	333.0	239.5	410.0	0.00	0.00	
3,900.0	7.09	35.72	3,874.3	343.1	246.7	422.4	0.00	0.00	
3,992.4	7.09	35.72	3,966.0	352.3	253.3	433.8	0.00	0.00	Wasatch
4,000.0	7.09	35.72	3,973.5	353.1	253.9	434.7	0.00	0.00	
4,100.0	7.09	35.72	4,072.7	363.1	261.1	447.0	0.00	0.00	
4,200.0	7.09	35.72	4,172.0	373.1	268.3	459.4	0.00	0.00	
4,300.0	7.09	35.72	4,271.2	383.2	275.5	471.7	0.00	0.00	
4,400.0	7.09	35.72	4,370.5	393.2	282.7	484.0	0.00	0.00	
4,500.0	7.09	35.72	4,469.7	403.2	289.9	496.4	0.00	0.00	
4,600.0	7.09	35.72	4,568.9	413.2	297.1	508.7	0.00	0.00	
4,700.0	7.09	35.72	4,668.2	423.2	304.3	521.1	0.00	0.00	
4,800.0	7.09	35.72	4,767.4	433.3	311.5	533.4	0.00	0.00	
4,900.0	7.09	35.72	4,866.6	443.3	318.7	545.7	0.00	0.00	
5,000.0	7.09	35.72	4,965.9	453.3	325.9	558.1	0.00	0.00	
5,100.0	7.09	35.72	5,065.1	463.3	333.1	570.4	0.00	0.00	
5,147.6	7.09	35.72	5,112.4	468.1	336.6	576.3	0.00	0.00	Start Drop -2.00
5,200.0	6.04	35.72	5,164.4	473.0	340.1	582.3	2.00	-2.00	
5,300.0	4.04	35.72	5,264.0	480.1	345.2	591.1	2.00	-2.00	
5,400.0	2.04	35.72	5,363.8	484.4	348.3	596.4	2.00	-2.00	
5,500.0	0.04	35.72	5,463.8	485.9	349.3	598.2	2.00	-2.00	
5,502.2	0.00	0.00	5,466.0	485.9	349.3	598.2	2.00	-2.00	EOD; Inc=0° - Fort Union - LR04A D21 595 TG
5,600.0	0.24	239.97	5,563.8	485.8	349.2	598.0	0.25	0.25	
5,645.9	0.36	239.97	5,609.7	485.7	349.0	597.8	0.25	0.25	
5,700.0	0.36	239.97	5,663.8	485.5	348.7	597.5	0.00	0.00	
5,800.0	0.36	239.97	5,763.8	485.2	348.1	596.9	0.00	0.00	
5,900.0	0.36	239.97	5,863.8	484.9	347.6	596.4	0.00	0.00	
6,000.0	0.36	239.97	5,963.8	484.6	347.0	595.8	0.00	0.00	
6,100.0	0.36	239.97	6,063.8	484.2	346.5	595.2	0.00	0.00	
6,200.0	0.36	239.97	6,163.8	483.9	346.0	594.7	0.00	0.00	
6,300.0	0.36	239.97	6,263.8	483.6	345.4	594.1	0.00	0.00	
6,400.0	0.36	239.97	6,363.8	483.3	344.9	593.5	0.00	0.00	
6,500.0	0.36	239.97	6,463.8	483.0	344.3	593.0	0.00	0.00	
6,600.0	0.36	239.97	6,563.8	482.7	343.8	592.4	0.00	0.00	
6,700.0	0.36	239.97	6,663.8	482.4	343.2	591.8	0.00	0.00	
6,800.0	0.36	239.97	6,763.8	482.1	342.7	591.3	0.00	0.00	
6,900.0	0.36	239.97	6,863.8	481.7	342.2	590.7	0.00	0.00	
7,000.0	0.36	239.97	6,963.8	481.4	341.6	590.2	0.00	0.00	
7,100.0	0.36	239.97	7,063.8	481.1	341.1	589.6	0.00	0.00	
7,200.0	0.36	239.97	7,163.8	480.8	340.5	589.0	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR04A D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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
7,300.0	0.36	239.97	7,263.8	480.5	340.0	588.5	0.00	0.00	
7,400.0	0.36	239.97	7,363.8	480.2	339.4	587.9	0.00	0.00	
7,500.0	0.36	239.97	7,463.8	479.9	338.9	587.3	0.00	0.00	
7,600.0	0.36	239.97	7,563.8	479.5	338.4	586.8	0.00	0.00	
7,700.0	0.36	239.97	7,663.8	479.2	337.8	586.2	0.00	0.00	
7,800.0	0.36	239.97	7,763.8	478.9	337.3	585.6	0.00	0.00	
7,900.0	0.36	239.97	7,863.8	478.6	336.7	585.1	0.00	0.00	
8,000.0	0.36	239.97	7,963.8	478.3	336.2	584.5	0.00	0.00	
8,100.0	0.36	239.97	8,063.8	478.0	335.6	584.0	0.00	0.00	
8,200.0	0.36	239.97	8,163.8	477.7	335.1	583.4	0.00	0.00	
8,300.0	0.36	239.97	8,263.8	477.3	334.6	582.8	0.00	0.00	
8,302.2	0.36	239.97	8,266.0	477.3	334.5	582.8	0.00	0.00	Ohio Creek
8,400.0	0.36	239.97	8,363.8	477.0	334.0	582.3	0.00	0.00	
8,500.0	0.36	239.97	8,463.8	476.7	333.5	581.7	0.00	0.00	
8,600.0	0.36	239.97	8,563.8	476.4	332.9	581.1	0.00	0.00	
8,602.2	0.36	239.97	8,566.0	476.4	332.9	581.1	0.00	0.00	Williams Fork
8,700.0	0.36	239.97	8,663.8	476.1	332.4	580.6	0.00	0.00	
8,800.0	0.36	239.97	8,763.8	475.8	331.8	580.0	0.00	0.00	
8,900.0	0.36	239.97	8,863.8	475.5	331.3	579.4	0.00	0.00	
8,902.2	0.36	239.97	8,866.0	475.5	331.3	579.4	0.00	0.00	Approx TOG
9,000.0	0.36	239.97	8,963.8	475.2	330.8	578.9	0.00	0.00	
9,100.0	0.36	239.97	9,063.8	474.8	330.2	578.3	0.00	0.00	
9,200.0	0.36	239.97	9,163.8	474.5	329.7	577.8	0.00	0.00	
9,300.0	0.36	239.97	9,263.8	474.2	329.1	577.2	0.00	0.00	
9,400.0	0.36	239.97	9,363.8	473.9	328.6	576.6	0.00	0.00	
9,500.0	0.36	239.97	9,463.8	473.6	328.0	576.1	0.00	0.00	
9,600.0	0.36	239.97	9,563.7	473.3	327.5	575.5	0.00	0.00	
9,700.0	0.36	239.97	9,663.7	473.0	327.0	574.9	0.00	0.00	
9,800.0	0.36	239.97	9,763.7	472.6	326.4	574.4	0.00	0.00	
9,900.0	0.36	239.97	9,863.7	472.3	325.9	573.8	0.00	0.00	
10,000.0	0.36	239.97	9,963.7	472.0	325.3	573.2	0.00	0.00	
10,100.0	0.36	239.97	10,063.7	471.7	324.8	572.7	0.00	0.00	
10,200.0	0.36	239.97	10,163.7	471.4	324.2	572.1	0.00	0.00	
10,300.0	0.36	239.97	10,263.7	471.1	323.7	571.6	0.00	0.00	
10,400.0	0.36	239.97	10,363.7	470.8	323.2	571.0	0.00	0.00	
10,500.0	0.36	239.97	10,463.7	470.4	322.6	570.4	0.00	0.00	
10,600.0	0.36	239.97	10,563.7	470.1	322.1	569.9	0.00	0.00	
10,700.0	0.36	239.97	10,663.7	469.8	321.5	569.3	0.00	0.00	
10,800.0	0.36	239.97	10,763.7	469.5	321.0	568.7	0.00	0.00	
10,900.0	0.36	239.97	10,863.7	469.2	320.4	568.2	0.00	0.00	
11,000.0	0.36	239.97	10,963.7	468.9	319.9	567.6	0.00	0.00	
11,100.0	0.36	239.97	11,063.7	468.6	319.4	567.0	0.00	0.00	
11,200.0	0.36	239.97	11,163.7	468.2	318.8	566.5	0.00	0.00	
11,300.0	0.36	239.97	11,263.7	467.9	318.3	565.9	0.00	0.00	
11,400.0	0.36	239.97	11,363.7	467.6	317.7	565.3	0.00	0.00	
11,452.3	0.36	239.97	11,416.0	467.5	317.4	565.1	0.00	0.00	Cameo
11,500.0	0.36	239.97	11,463.7	467.3	317.2	564.8	0.00	0.00	
11,600.0	0.36	239.97	11,563.7	467.0	316.6	564.2	0.00	0.00	
11,700.0	0.36	239.97	11,663.7	466.7	316.1	563.7	0.00	0.00	
11,800.0	0.36	239.97	11,763.7	466.4	315.6	563.1	0.00	0.00	
11,802.3	0.36	239.97	11,766.0	466.4	315.5	563.1	0.00	0.00	Rollins SS
11,900.0	0.36	239.97	11,863.7	466.1	315.0	562.5	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR04A D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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
11,952.3	0.36	239.97	11,916.0	465.9	314.7	562.2	0.00	0.00	LR04A D21 595 BHL

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
LR04A D21 595 BHL - plan hits target center - Rectangle (sides W50.0 H100.0 D0.0)	0.00	0.00	11,916.0	465.9	314.7	1,655,552.03	2,277,017.04	39.605238	-108.066288
LR04A D21 595 TGT - plan hits target center - Point	0.00	0.00	5,466.0	485.9	349.3	1,655,571.05	2,277,052.21	39.605293	-108.066165

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,992.4	3,966.0	Wasatch		0.00	
5,502.2	5,466.0	Fort Union		0.00	
8,302.2	8,266.0	Ohio Creek		0.00	
8,602.2	8,566.0	Williams Fork		0.00	
8,902.2	8,866.0	Approx TOG		0.00	
11,452.3	11,416.0	Cameo		0.00	
11,802.3	11,766.0	Rollins SS		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.0	300.0	0.0	0.0	KOP @ 300' MD
654.5	653.6	17.8	12.8	EOB; Inc=7.09°
5,147.6	5,112.4	468.1	336.6	Start Drop -2.00
5,502.2	5,466.0	485.9	349.3	EOD; Inc=0°
11,952.3	11,916.0	485.7	349.0	TD at 11952.3

Berry Petroleum Company (NAD 83)

Garfield County

D21 595 Pad

LR04A D21 595

DD

Plan #2

Anticollision Report

03 December, 2010

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	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 1,399.5ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	12/3/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,951.6	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						
D21 595 Pad						
LR03C D21 595 - DD - Plan #2	200.0	200.0	90.0	89.3	139.336	CC, ES
LR03C D21 595 - DD - Plan #2	11,952.3	11,995.3	1,256.2	1,210.2	27.313	SF
LR04B D21 595 - DD - Plan #2	300.0	300.0	30.0	29.0	30.149	CC, ES
LR04B D21 595 - DD - Plan #2	11,952.3	11,981.2	423.0	377.1	9.210	SF
LR04C D21 595 (Existing) - DD - DD	399.1	396.1	73.9	72.5	54.587	CC
LR04C D21 595 (Existing) - DD - DD	400.0	397.0	73.9	72.5	54.455	ES
LR04C D21 595 (Existing) - DD - DD	11,952.3	11,910.2	780.6	738.9	18.740	SF
LR04D D21 595 - DD - Plan #2	200.0	200.0	45.1	44.5	69.875	CC, ES
LR04D D21 595 - DD - Plan #2	11,952.3	11,924.8	313.5	270.4	7.272	SF
LR05A D21 595 - DD - Plan #2	300.0	300.0	15.1	14.1	15.209	CC, ES
LR05A D21 595 - DD - Plan #2	400.0	399.6	16.0	14.7	11.888	SF
LR05B D21 595 (Existing) - DD - DD	0.0	0.0	92.4			
LR05B D21 595 (Existing) - DD - DD	100.0	95.2	92.7	92.4	302.358	ES
LR05B D21 595 (Existing) - DD - DD	1,300.0	1,290.2	166.5	161.8	34.999	SF
LR05BDR D21-595 - DD - Plan #2	447.9	449.6	57.1	55.5	35.870	CC, ES
LR05BDR D21-595 - DD - Plan #2	11,952.3	11,915.3	1,039.2	997.0	24.615	SF
LR05C D21 595 - DD - Plan #2	370.5	370.8	13.0	11.7	10.315	CC, ES
LR05C D21 595 - DD - Plan #2	400.0	400.2	13.3	11.9	9.705	SF
LR05D D21 595 - DD - Plan #2	421.9	423.0	42.5	41.0	29.108	CC, ES
LR05D D21 595 - DD - Plan #2	600.0	598.5	52.9	50.7	24.085	SF
LR06B D21 595 - DD - Plan #2	541.9	540.6	73.0	71.2	38.983	CC, ES
LR06B D21 595 - DD - Plan #2	800.0	790.1	87.9	85.0	29.929	SF
LR06C D21 595 - DD - Plan #2	526.2	525.9	28.6	26.8	15.784	CC, ES
LR06C D21 595 - DD - Plan #2	700.0	698.7	34.1	31.7	13.755	SF
LR06D D21 595 - DD - Plan #2	200.0	200.0	60.0	59.3	92.891	CC, ES
LR06D D21 595 - DD - Plan #2	700.0	685.9	95.9	93.4	38.383	SF

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													D21 595 Pad - LR03C D21 595 - 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									
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	108.41	-28.4	85.4	90.0							
100.0	100.0	100.0	100.0	0.1	0.1	108.41	-28.4	85.4	90.0	89.7	0.30	303.260				
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-28.4	85.4	90.0	89.3	0.65	139.336	CC, ES			
300.0	300.0	297.0	297.0	0.5	0.5	108.17	-28.6	87.0	91.6	90.6	0.99	92.541				
400.0	400.0	393.8	393.7	0.7	0.7	72.68	-29.0	91.9	96.0	94.7	1.34	71.844				
500.0	499.8	490.3	489.8	0.9	0.9	74.20	-29.7	100.0	102.8	101.1	1.70	60.479				
600.0	599.5	586.3	585.1	1.1	1.2	76.68	-30.8	111.3	111.9	109.8	2.09	53.465				
700.0	698.7	682.1	679.9	1.3	1.4	79.69	-32.1	125.7	123.8	121.3	2.53	49.005				
800.0	798.0	781.1	777.5	1.6	1.8	82.36	-33.5	141.8	137.1	134.1	2.99	45.862				
900.0	897.2	880.0	875.1	1.8	2.1	84.56	-35.0	157.8	150.7	147.2	3.47	43.425				
1,000.0	996.5	978.9	972.7	2.1	2.4	86.39	-36.5	173.9	164.4	160.5	3.96	41.496				
1,100.0	1,095.7	1,077.8	1,070.2	2.4	2.7	87.94	-37.9	190.0	178.3	173.8	4.46	39.943				
1,200.0	1,194.9	1,176.8	1,167.8	2.7	3.0	89.27	-39.4	206.1	192.3	187.3	4.97	38.672				
1,300.0	1,294.2	1,275.7	1,265.4	2.9	3.4	90.42	-40.9	222.2	206.4	200.9	5.49	37.616				
1,400.0	1,393.4	1,374.6	1,363.0	3.2	3.7	91.41	-42.3	238.3	220.5	214.5	6.00	36.727				
1,500.0	1,492.6	1,473.5	1,460.6	3.5	4.0	92.29	-43.8	254.4	234.7	228.2	6.53	35.970				
1,600.0	1,591.9	1,572.5	1,558.2	3.7	4.4	93.07	-45.3	270.5	249.0	241.9	7.05	35.318				
1,700.0	1,691.1	1,671.4	1,655.8	4.0	4.7	93.77	-46.7	286.6	263.2	255.7	7.57	34.752				
1,800.0	1,790.3	1,770.3	1,753.4	4.3	5.0	94.39	-48.2	302.7	277.6	269.5	8.10	34.257				
1,900.0	1,889.6	1,869.2	1,851.0	4.6	5.4	94.95	-49.7	318.8	291.9	283.3	8.63	33.819				
2,000.0	1,988.8	1,968.2	1,948.6	4.8	5.7	95.46	-51.1	334.9	306.3	297.1	9.16	33.431				
2,100.0	2,088.0	2,067.1	2,046.2	5.1	6.0	95.92	-52.6	350.9	320.7	311.0	9.69	33.084				
2,200.0	2,187.3	2,166.0	2,143.8	5.4	6.4	96.34	-54.1	367.0	335.1	324.9	10.23	32.772				
2,300.0	2,286.5	2,264.9	2,241.4	5.7	6.7	96.73	-55.5	383.1	349.6	338.8	10.76	32.490				
2,400.0	2,385.7	2,363.9	2,339.0	6.0	7.0	97.09	-57.0	399.2	364.0	352.7	11.29	32.234				
2,500.0	2,485.0	2,462.8	2,436.6	6.2	7.4	97.42	-58.5	415.3	378.5	366.6	11.83	32.001				
2,600.0	2,584.2	2,561.7	2,534.2	6.5	7.7	97.73	-59.9	431.4	392.9	380.6	12.36	31.788				
2,700.0	2,683.5	2,660.6	2,631.8	6.8	8.0	98.01	-61.4	447.5	407.4	394.5	12.90	31.592				
2,800.0	2,782.7	2,759.6	2,729.4	7.1	8.4	98.28	-62.9	463.6	421.9	408.5	13.43	31.412				
2,900.0	2,881.9	2,858.5	2,827.0	7.3	8.7	98.52	-64.3	479.7	436.4	422.4	13.97	31.245				
3,000.0	2,981.2	2,957.4	2,924.6	7.6	9.0	98.75	-65.8	495.8	450.9	436.4	14.50	31.090				
3,100.0	3,080.4	3,056.4	3,022.2	7.9	9.4	98.97	-67.3	511.9	465.4	450.4	15.04	30.947				
3,200.0	3,179.6	3,155.3	3,119.8	8.2	9.7	99.17	-68.7	528.0	480.0	464.4	15.58	30.813				
3,300.0	3,278.9	3,254.2	3,217.4	8.4	10.0	99.37	-70.2	544.1	494.5	478.4	16.11	30.688				
3,400.0	3,378.1	3,353.1	3,315.0	8.7	10.4	99.55	-71.7	560.1	509.0	492.4	16.65	30.572				
3,500.0	3,477.3	3,452.1	3,412.6	9.0	10.7	99.72	-73.1	576.2	523.6	506.4	17.19	30.462				
3,600.0	3,576.6	3,551.0	3,510.2	9.3	11.0	99.88	-74.6	592.3	538.1	520.4	17.72	30.359				
3,700.0	3,675.8	3,649.9	3,607.8	9.6	11.4	100.03	-76.1	608.4	552.6	534.4	18.26	30.262				
3,800.0	3,775.0	3,748.8	3,705.4	9.8	11.7	100.18	-77.5	624.5	567.2	548.4	18.80	30.171				
3,900.0	3,874.3	3,847.8	3,803.0	10.1	12.0	100.32	-79.0	640.6	581.7	562.4	19.34	30.085				
4,000.0	3,973.5	3,946.7	3,900.6	10.4	12.4	100.45	-80.5	656.7	596.3	576.4	19.87	30.003				
4,100.0	4,072.7	4,045.6	3,998.2	10.7	12.7	100.57	-81.9	672.8	610.9	590.5	20.41	29.926				
4,200.0	4,172.0	4,144.5	4,095.8	10.9	13.0	100.69	-83.4	688.9	625.4	604.5	20.95	29.852				
4,300.0	4,271.2	4,243.5	4,193.4	11.2	13.4	100.80	-84.9	705.0	640.0	618.5	21.49	29.783				
4,400.0	4,370.5	4,342.4	4,291.0	11.5	13.7	100.91	-86.3	721.1	654.6	632.5	22.03	29.717				
4,500.0	4,469.7	4,441.3	4,388.6	11.8	14.0	101.02	-87.8	737.2	669.1	646.6	22.56	29.653				
4,600.0	4,568.9	4,540.2	4,486.2	12.0	14.4	101.12	-89.3	753.3	683.7	660.6	23.10	29.593				
4,700.0	4,668.2	4,639.2	4,583.8	12.3	14.7	101.21	-90.7	769.3	698.3	674.6	23.64	29.536				
4,800.0	4,767.4	4,738.1	4,681.4	12.6	15.0	101.30	-92.2	785.4	712.8	688.7	24.18	29.481				
4,900.0	4,866.6	4,837.0	4,778.9	12.9	15.4	101.39	-93.7	801.5	727.4	702.7	24.72	29.429				
5,000.0	4,965.9	4,935.9	4,876.5	13.2	15.7	101.48	-95.1	817.6	742.0	716.7	25.26	29.379				
5,100.0	5,065.1	5,034.9	4,974.1	13.4	16.0	101.56	-96.6	833.7	756.6	730.8	25.79	29.330				

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR03C D21 595 - 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						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	5,164.4	5,133.8	5,071.8	13.7	16.4	101.75	-98.1	849.8	771.1	744.7	26.34	29.275		
5,300.0	5,264.0	5,232.8	5,169.4	13.9	16.7	101.84	-99.5	865.9	784.9	758.1	26.82	29.266		
5,400.0	5,363.8	5,331.8	5,267.1	14.1	17.0	101.68	-101.0	882.0	798.1	770.9	27.23	29.309		
5,500.0	5,463.8	5,430.6	5,364.5	14.2	17.4	101.28	-102.5	898.1	810.7	783.1	27.57	29.407		
5,600.0	5,563.8	5,529.2	5,461.8	14.3	17.7	-103.71	-103.9	914.1	823.0	795.2	27.85	29.549		
5,700.0	5,663.8	5,627.8	5,559.1	14.4	18.0	-104.47	-105.4	930.2	835.6	807.5	28.13	29.708		
5,800.0	5,763.8	5,726.3	5,656.3	14.5	18.4	-105.22	-106.9	946.2	848.4	820.0	28.40	29.872		
5,900.0	5,863.8	5,824.9	5,753.6	14.6	18.7	-105.94	-108.3	962.2	861.3	832.6	28.67	30.041		
6,000.0	5,963.8	5,923.5	5,850.8	14.8	19.0	-106.65	-109.8	978.3	874.3	845.4	28.94	30.213		
6,100.0	6,063.8	6,022.0	5,948.1	14.9	19.4	-107.34	-111.2	994.3	887.5	858.3	29.21	30.387		
6,200.0	6,163.8	6,120.6	6,045.3	15.0	19.7	-108.00	-112.7	1,010.3	900.8	871.3	29.47	30.563		
6,300.0	6,263.8	6,219.2	6,142.6	15.1	20.0	-108.65	-114.2	1,026.4	914.2	884.5	29.74	30.742		
6,400.0	6,363.8	6,317.8	6,239.8	15.2	20.4	-109.28	-115.6	1,042.4	927.7	897.7	30.00	30.921		
6,500.0	6,463.8	6,416.3	6,337.0	15.4	20.7	-109.88	-117.1	1,058.4	941.3	911.1	30.27	31.102		
6,600.0	6,563.8	6,514.9	6,434.3	15.5	21.0	-110.48	-118.6	1,074.5	955.1	924.5	30.53	31.283		
6,700.0	6,663.8	6,613.5	6,531.5	15.6	21.4	-111.05	-120.0	1,090.5	968.9	938.1	30.79	31.464		
6,800.0	6,763.8	6,712.0	6,628.8	15.7	21.7	-111.61	-121.5	1,106.5	982.8	951.8	31.06	31.646		
6,900.0	6,863.8	6,810.6	6,726.0	15.8	22.0	-112.16	-122.9	1,122.6	996.8	965.5	31.32	31.827		
7,000.0	6,963.8	6,909.2	6,823.3	16.0	22.3	-112.69	-124.4	1,138.6	1,010.9	979.3	31.58	32.008		
7,100.0	7,063.8	7,007.8	6,920.5	16.1	22.7	-113.20	-125.9	1,154.6	1,025.1	993.3	31.85	32.188		
7,200.0	7,163.8	7,106.3	7,017.8	16.2	23.0	-113.70	-127.3	1,170.7	1,039.4	1,007.3	32.11	32.367		
7,300.0	7,263.8	7,204.9	7,115.0	16.4	23.3	-114.19	-128.8	1,186.7	1,053.7	1,021.3	32.38	32.545		
7,400.0	7,363.8	7,303.5	7,212.3	16.5	23.7	-114.66	-130.2	1,202.7	1,068.1	1,035.5	32.64	32.723		
7,500.0	7,463.8	7,402.0	7,309.5	16.6	24.0	-115.12	-131.7	1,218.8	1,082.6	1,049.7	32.91	32.898		
7,600.0	7,563.8	7,500.6	7,406.8	16.8	24.3	-115.57	-133.2	1,234.8	1,097.1	1,064.0	33.17	33.073		
7,700.0	7,663.8	7,599.2	7,504.0	16.9	24.7	-116.01	-134.6	1,250.8	1,111.7	1,078.3	33.44	33.246		
7,800.0	7,763.8	7,697.8	7,601.3	17.0	25.0	-116.44	-136.1	1,266.9	1,126.4	1,092.7	33.71	33.417		
7,900.0	7,863.8	7,796.3	7,698.5	17.2	25.3	-116.85	-137.6	1,282.9	1,141.2	1,107.2	33.98	33.587		
8,000.0	7,963.8	7,894.9	7,795.8	17.3	25.7	-117.26	-139.0	1,298.9	1,155.9	1,121.7	34.24	33.755		
8,100.0	8,063.8	7,993.5	7,893.0	17.4	26.0	-117.65	-140.5	1,315.0	1,170.8	1,136.3	34.51	33.921		
8,200.0	8,163.8	8,092.0	7,990.3	17.6	26.3	-118.04	-141.9	1,331.0	1,185.7	1,150.9	34.79	34.086		
8,300.0	8,263.8	8,190.6	8,087.5	17.7	26.7	-118.41	-143.4	1,347.1	1,200.6	1,165.6	35.06	34.248		
8,400.0	8,363.8	8,289.2	8,184.8	17.8	27.0	-118.78	-144.9	1,363.1	1,215.6	1,180.3	35.33	34.409		
8,500.0	8,463.8	8,387.8	8,282.0	18.0	27.3	-119.14	-146.3	1,379.1	1,230.7	1,195.1	35.60	34.567		
8,600.0	8,563.8	8,493.7	8,386.5	18.1	27.7	-119.51	-147.9	1,396.3	1,245.8	1,209.9	35.89	34.713		
8,700.0	8,663.8	8,588.0	8,484.4	18.2	28.1	-119.96	-149.8	1,417.3	1,257.7	1,221.5	36.24	34.706		
8,800.0	8,763.8	8,684.3	8,571.3	18.4	28.4	-120.23	-150.9	1,429.1	1,264.5	1,227.9	36.60	34.549		
8,900.0	8,863.8	8,773.6	8,664.6	18.5	28.6	-120.31	-151.1	1,431.6	1,266.2	1,229.3	36.95	34.270		
9,000.0	8,963.8	8,876.5	8,767.4	18.7	28.7	-120.32	-151.3	1,431.3	1,266.4	1,229.1	37.23	34.010		
9,100.0	9,063.8	8,973.3	8,867.4	18.8	28.7	-120.32	-151.7	1,430.6	1,266.3	1,228.7	37.52	33.747		
9,200.0	9,163.8	9,078.6	8,972.6	19.0	28.8	-120.29	-152.3	1,429.5	1,266.0	1,228.1	37.81	33.480		
9,300.0	9,263.8	9,181.6	9,072.6	19.1	28.9	-120.26	-153.0	1,428.3	1,265.6	1,227.5	38.10	33.217		
9,400.0	9,363.8	9,281.6	9,172.6	19.2	29.0	-120.23	-153.7	1,427.1	1,265.2	1,226.8	38.39	32.957		
9,500.0	9,463.8	9,381.6	9,272.5	19.4	29.1	-120.20	-154.4	1,425.9	1,264.8	1,226.1	38.68	32.700		
9,600.0	9,563.8	9,481.6	9,372.5	19.5	29.2	-120.17	-155.1	1,424.7	1,264.4	1,225.5	38.97	32.446		
9,700.0	9,663.8	9,581.6	9,472.5	19.7	29.2	-120.14	-155.8	1,423.5	1,264.1	1,224.8	39.26	32.195		
9,800.0	9,763.7	9,681.6	9,572.5	19.8	29.3	-120.11	-156.5	1,422.3	1,263.7	1,224.1	39.56	31.947		
9,900.0	9,863.7	9,781.6	9,672.5	20.0	29.4	-120.09	-157.2	1,421.1	1,263.3	1,223.5	39.85	31.701		
10,000.0	9,963.7	9,881.6	9,772.5	20.1	29.5	-120.06	-157.9	1,419.9	1,262.9	1,222.8	40.14	31.459		
10,100.0	10,063.7	9,981.6	9,872.5	20.3	29.6	-120.03	-158.6	1,418.7	1,262.6	1,222.1	40.44	31.220		
10,200.0	10,163.7	10,081.6	9,972.5	20.4	29.7	-120.00	-159.3	1,417.5	1,262.2	1,221.4	40.74	30.983		
10,300.0	10,263.7	10,181.6	10,072.4	20.5	29.8	-119.97	-160.0	1,416.3	1,261.8	1,220.8	41.03	30.750		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design												D21 595 Pad - LR03C D21 595 - 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										
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				
10,400.0	10,363.7	10,481.6	10,372.4	20.7	29.9	-119.94	-160.7	1,415.1	1,261.4	1,220.1	41.33	30.519					
10,500.0	10,463.7	10,581.6	10,472.4	20.8	30.0	-119.91	-161.4	1,413.9	1,261.0	1,219.4	41.63	30.291					
10,600.0	10,563.7	10,681.6	10,572.4	21.0	30.0	-119.88	-162.0	1,412.7	1,260.7	1,218.7	41.93	30.065					
10,700.0	10,663.7	10,781.6	10,672.4	21.1	30.1	-119.85	-162.7	1,411.5	1,260.3	1,218.1	42.23	29.842					
10,800.0	10,763.7	10,881.6	10,772.4	21.3	30.2	-119.82	-163.4	1,410.3	1,259.9	1,217.4	42.53	29.622					
10,900.0	10,863.7	10,981.6	10,872.4	21.4	30.3	-119.79	-164.1	1,409.1	1,259.5	1,216.7	42.83	29.405					
11,000.0	10,963.7	11,081.6	10,972.4	21.6	30.4	-119.76	-164.8	1,408.0	1,259.2	1,216.0	43.14	29.190					
11,100.0	11,063.7	11,181.6	11,072.3	21.7	30.5	-119.73	-165.5	1,406.8	1,258.8	1,215.4	43.44	28.977					
11,200.0	11,163.7	11,281.6	11,172.3	21.9	30.6	-119.70	-166.2	1,405.6	1,258.4	1,214.7	43.74	28.767					
11,300.0	11,263.7	11,381.6	11,272.3	22.0	30.7	-119.67	-166.9	1,404.4	1,258.0	1,214.0	44.05	28.560					
11,400.0	11,363.7	11,481.6	11,372.3	22.2	30.8	-119.64	-167.6	1,403.2	1,257.7	1,213.3	44.35	28.355					
11,500.0	11,463.7	11,581.6	11,472.3	22.3	30.9	-119.61	-168.3	1,402.0	1,257.3	1,212.6	44.66	28.152					
11,600.0	11,563.7	11,681.6	11,572.3	22.5	31.0	-119.58	-169.0	1,400.8	1,256.9	1,212.0	44.97	27.952					
11,700.0	11,663.7	11,781.6	11,672.3	22.7	31.1	-119.55	-169.7	1,399.6	1,256.6	1,211.3	45.27	27.754					
11,800.0	11,763.7	11,881.6	11,772.3	22.8	31.2	-119.52	-170.4	1,398.4	1,256.2	1,210.6	45.58	27.558					
11,900.0	11,863.7	11,981.5	11,872.2	23.0	31.3	-119.49	-171.1	1,397.2	1,255.8	1,209.9	45.89	27.365					
11,918.4	11,882.1	11,995.3	11,886.0	23.0	31.3	-119.48	-171.2	1,397.0	1,255.8	1,209.8	45.94	27.334					
11,952.3	11,916.0	11,995.3	11,886.0	23.0	31.3	-119.48	-171.2	1,397.0	1,256.2	1,210.2	45.99	27.313 SF					

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04B D21 595 - 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	-71.59	9.5	-28.5	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	-71.59	9.5	-28.5	30.0	29.7	0.30	101.087		
200.0	200.0	200.0	200.0	0.3	0.3	-71.59	9.5	-28.5	30.0	29.3	0.65	46.445		
300.0	300.0	300.0	300.0	0.5	0.5	-71.59	9.5	-28.5	30.0	29.0	0.99	30.149 CC, ES		
400.0	400.0	399.8	399.8	0.7	0.7	-107.21	11.2	-28.2	30.9	29.5	1.35	22.875		
500.0	499.8	499.5	499.4	0.9	0.9	-106.96	16.4	-27.6	33.4	31.7	1.73	19.336		
600.0	599.5	599.2	598.7	1.1	1.1	-106.60	25.0	-26.5	37.7	35.5	2.16	17.464		
700.0	698.7	698.7	697.4	1.3	1.3	-105.80	37.0	-25.0	43.6	40.9	2.65	16.445		
800.0	798.0	798.1	795.6	1.6	1.6	-102.02	52.3	-23.0	50.5	47.3	3.19	15.821		
900.0	897.2	897.8	893.8	1.8	1.9	-97.98	68.9	-20.9	57.9	54.2	3.74	15.484		
1,000.0	996.5	997.4	992.1	2.1	2.3	-94.87	85.5	-18.8	65.6	61.3	4.30	15.276		
1,100.0	1,095.7	1,097.1	1,090.3	2.4	2.6	-92.41	102.1	-16.7	73.5	68.6	4.85	15.147		
1,200.0	1,194.9	1,196.7	1,188.5	2.7	2.9	-90.43	118.7	-14.6	81.4	76.0	5.40	15.067		
1,300.0	1,294.2	1,296.3	1,286.8	2.9	3.2	-88.81	135.3	-12.5	89.5	83.5	5.96	15.019		
1,400.0	1,393.4	1,396.0	1,385.0	3.2	3.6	-87.45	151.9	-10.4	97.5	91.0	6.51	14.992		
1,500.0	1,492.6	1,495.6	1,483.2	3.5	3.9	-86.31	168.5	-8.3	105.7	98.6	7.06	14.978		
1,600.0	1,591.9	1,595.3	1,581.5	3.7	4.2	-85.32	185.1	-6.2	113.9	106.2	7.60	14.973		
1,700.0	1,691.1	1,694.9	1,679.7	4.0	4.6	-84.47	201.7	-4.1	122.1	113.9	8.15	14.974		
1,800.0	1,790.3	1,794.6	1,777.9	4.3	4.9	-83.73	218.3	-2.0	130.3	121.6	8.70	14.980		
1,900.0	1,889.6	1,894.2	1,876.2	4.6	5.3	-83.07	234.9	0.1	138.5	129.3	9.24	14.988		
2,000.0	1,988.8	1,993.9	1,974.4	4.8	5.6	-82.49	251.5	2.2	146.8	137.0	9.79	14.997		
2,100.0	2,088.0	2,093.5	2,072.6	5.1	5.9	-81.97	268.1	4.3	155.1	144.7	10.33	15.008		
2,200.0	2,187.3	2,193.2	2,170.9	5.4	6.3	-81.50	284.7	6.4	163.3	152.5	10.88	15.020		
2,300.0	2,286.5	2,292.8	2,269.1	5.7	6.6	-81.08	301.3	8.5	171.6	160.2	11.42	15.031		
2,400.0	2,385.7	2,392.5	2,367.3	6.0	6.9	-80.70	317.9	10.6	179.9	168.0	11.96	15.043		
2,500.0	2,485.0	2,492.1	2,465.6	6.2	7.3	-80.35	334.5	12.7	188.3	175.7	12.50	15.055		
2,600.0	2,584.2	2,591.8	2,563.8	6.5	7.6	-80.03	351.1	14.8	196.6	183.5	13.05	15.067		
2,700.0	2,683.5	2,691.4	2,662.0	6.8	8.0	-79.73	367.7	16.9	204.9	191.3	13.59	15.079		
2,800.0	2,782.7	2,791.1	2,760.3	7.1	8.3	-79.46	384.3	19.0	213.2	199.1	14.13	15.090		
2,900.0	2,881.9	2,890.7	2,858.5	7.3	8.6	-79.21	400.9	21.1	221.6	206.9	14.67	15.101		
3,000.0	2,981.2	2,990.4	2,956.7	7.6	9.0	-78.98	417.5	23.2	229.9	214.7	15.21	15.111		
3,100.0	3,080.4	3,090.0	3,055.0	7.9	9.3	-78.76	434.1	25.3	238.2	222.5	15.75	15.122		
3,200.0	3,179.6	3,189.7	3,153.2	8.2	9.7	-78.56	450.7	27.4	246.6	230.3	16.30	15.131		
3,300.0	3,278.9	3,289.3	3,251.4	8.4	10.0	-78.37	467.3	29.5	254.9	238.1	16.84	15.141		
3,400.0	3,378.1	3,389.0	3,349.7	8.7	10.3	-78.20	483.9	31.6	263.3	245.9	17.38	15.150		
3,500.0	3,477.3	3,488.6	3,447.9	9.0	10.7	-78.03	500.5	33.7	271.6	253.7	17.92	15.159		
3,600.0	3,576.6	3,588.2	3,546.1	9.3	11.0	-77.87	517.1	35.8	280.0	261.5	18.46	15.168		
3,700.0	3,675.8	3,687.9	3,644.4	9.6	11.4	-77.73	533.7	37.9	288.3	269.3	19.00	15.176		
3,800.0	3,775.0	3,787.5	3,742.6	9.8	11.7	-77.59	550.3	40.0	296.7	277.1	19.54	15.184		
3,900.0	3,874.3	3,887.2	3,840.8	10.1	12.0	-77.46	566.9	42.1	305.0	285.0	20.08	15.192		
4,000.0	3,973.5	3,986.8	3,939.1	10.4	12.4	-77.33	583.5	44.3	313.4	292.8	20.62	15.199		
4,100.0	4,072.7	4,086.5	4,037.3	10.7	12.7	-77.22	600.1	46.4	321.8	300.6	21.16	15.207		
4,200.0	4,172.0	4,186.1	4,135.5	10.9	13.0	-77.11	616.7	48.5	330.1	308.4	21.70	15.213		
4,300.0	4,271.2	4,285.8	4,233.8	11.2	13.4	-77.00	633.3	50.6	338.5	316.2	22.24	15.220		
4,400.0	4,370.5	4,385.4	4,332.0	11.5	13.7	-76.90	649.9	52.7	346.8	324.1	22.78	15.227		
4,500.0	4,469.7	4,485.1	4,430.2	11.8	14.1	-76.80	666.5	54.8	355.2	331.9	23.32	15.233		
4,600.0	4,568.9	4,584.7	4,528.5	12.0	14.4	-76.71	683.1	56.9	363.6	339.7	23.86	15.239		
4,700.0	4,668.2	4,684.4	4,626.7	12.3	14.7	-76.62	699.7	59.0	371.9	347.5	24.40	15.245		
4,800.0	4,767.4	4,784.0	4,724.9	12.6	15.1	-76.54	716.3	61.1	380.3	355.4	24.94	15.250		
4,900.0	4,866.6	4,883.7	4,823.2	12.9	15.4	-76.46	732.9	63.2	388.7	363.2	25.48	15.256		
5,000.0	4,965.9	4,983.3	4,921.4	13.2	15.8	-76.38	749.5	65.3	397.0	371.0	26.02	15.261		
5,100.0	5,065.1	5,083.5	5,020.1	13.4	16.1	-76.31	766.2	67.4	405.4	378.9	26.56	15.266		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04B D21 595 - 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						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	5,164.4	5,193.7	5,129.2	13.7	16.4	-76.47	782.3	69.4	412.5	385.4	27.11	15.218		
5,300.0	5,264.0	5,304.3	5,239.0	13.9	16.7	-76.64	794.2	70.9	417.7	390.2	27.56	15.159		
5,400.0	5,363.8	5,415.0	5,349.5	14.1	16.9	-76.69	802.0	71.9	421.2	393.3	27.91	15.093		
5,500.0	5,463.8	5,525.9	5,460.3	14.2	17.0	-76.63	805.5	72.4	422.9	394.7	28.16	15.018		
5,600.0	5,563.8	5,629.2	5,563.6	14.3	17.1	79.15	805.6	72.3	423.0	394.6	28.39	14.900		
5,698.4	5,662.2	5,727.3	5,661.7	14.4	17.2	79.15	805.4	71.9	423.0	394.4	28.61	14.785		
5,700.0	5,663.8	5,728.9	5,663.3	14.4	17.2	79.16	805.4	71.9	423.0	394.4	28.61	14.783		
5,800.0	5,763.8	5,828.9	5,763.3	14.5	17.3	79.16	805.1	71.3	423.0	394.2	28.84	14.666		
5,900.0	5,863.8	5,928.9	5,863.3	14.6	17.4	79.16	804.7	70.8	423.0	393.9	29.07	14.549		
6,000.0	5,963.8	6,028.9	5,963.3	14.8	17.5	79.16	804.4	70.2	423.0	393.7	29.31	14.434		
6,100.0	6,063.8	6,128.9	6,063.3	14.9	17.6	79.16	804.1	69.7	423.0	393.5	29.54	14.319		
6,200.0	6,163.8	6,228.9	6,163.3	15.0	17.7	79.16	803.8	69.2	423.0	393.2	29.78	14.204		
6,300.0	6,263.8	6,328.9	6,263.3	15.1	17.8	79.16	803.5	68.6	423.0	393.0	30.02	14.091		
6,400.0	6,363.8	6,428.9	6,363.3	15.2	17.9	79.16	803.2	68.1	423.0	392.7	30.26	13.978		
6,500.0	6,463.8	6,528.9	6,463.3	15.4	18.0	79.16	802.9	67.5	423.0	392.5	30.51	13.866		
6,600.0	6,563.8	6,628.9	6,563.3	15.5	18.1	79.16	802.6	67.0	423.0	392.3	30.75	13.755		
6,700.0	6,663.8	6,728.9	6,663.3	15.6	18.2	79.16	802.2	66.4	423.0	392.0	31.00	13.645		
6,800.0	6,763.8	6,828.9	6,763.3	15.7	18.3	79.16	801.9	65.9	423.0	391.8	31.25	13.536		
6,900.0	6,863.8	6,928.9	6,863.3	15.8	18.4	79.16	801.6	65.4	423.0	391.5	31.50	13.427		
7,000.0	6,963.8	7,028.9	6,963.3	16.0	18.5	79.16	801.3	64.8	423.0	391.3	31.76	13.320		
7,100.0	7,063.8	7,128.9	7,063.3	16.1	18.7	79.16	801.0	64.3	423.0	391.0	32.01	13.214		
7,200.0	7,163.8	7,228.9	7,163.3	16.2	18.8	79.16	800.7	63.7	423.0	390.7	32.27	13.108		
7,300.0	7,263.8	7,328.9	7,263.3	16.4	18.9	79.16	800.4	63.2	423.0	390.5	32.53	13.004		
7,400.0	7,363.8	7,428.9	7,363.3	16.5	19.0	79.16	800.0	62.6	423.0	390.2	32.79	12.900		
7,500.0	7,463.8	7,528.9	7,463.3	16.6	19.1	79.16	799.7	62.1	423.0	390.0	33.05	12.798		
7,600.0	7,563.8	7,628.9	7,563.3	16.8	19.2	79.16	799.4	61.6	423.0	389.7	33.32	12.697		
7,700.0	7,663.8	7,728.9	7,663.3	16.9	19.3	79.16	799.1	61.0	423.0	389.4	33.58	12.596		
7,800.0	7,763.8	7,828.9	7,763.3	17.0	19.5	79.16	798.8	60.5	423.0	389.2	33.85	12.497		
7,900.0	7,863.8	7,928.9	7,863.3	17.2	19.6	79.16	798.5	59.9	423.0	388.9	34.12	12.398		
8,000.0	7,963.8	8,028.9	7,963.3	17.3	19.7	79.16	798.2	59.4	423.0	388.6	34.39	12.301		
8,100.0	8,063.8	8,128.9	8,063.3	17.4	19.8	79.16	797.9	58.8	423.0	388.4	34.66	12.205		
8,200.0	8,163.8	8,228.9	8,163.3	17.6	19.9	79.16	797.5	58.3	423.0	388.1	34.93	12.109		
8,300.0	8,263.8	8,328.9	8,263.3	17.7	20.1	79.16	797.2	57.8	423.0	387.8	35.21	12.015		
8,400.0	8,363.8	8,428.9	8,363.3	17.8	20.2	79.16	796.9	57.2	423.0	387.5	35.48	11.921		
8,500.0	8,463.8	8,528.9	8,463.3	18.0	20.3	79.16	796.6	56.7	423.0	387.3	35.76	11.829		
8,600.0	8,563.8	8,628.9	8,563.3	18.1	20.4	79.16	796.3	56.1	423.0	387.0	36.04	11.738		
8,700.0	8,663.8	8,728.9	8,663.3	18.2	20.5	79.16	796.0	55.6	423.0	386.7	36.32	11.648		
8,800.0	8,763.8	8,828.9	8,763.3	18.4	20.7	79.16	795.7	55.0	423.0	386.4	36.60	11.558		
8,900.0	8,863.8	8,928.9	8,863.3	18.5	20.8	79.16	795.4	54.5	423.0	386.1	36.88	11.470		
9,000.0	8,963.8	9,028.9	8,963.3	18.7	20.9	79.16	795.0	54.0	423.0	385.9	37.16	11.383		
9,100.0	9,063.8	9,128.9	9,063.3	18.8	21.1	79.16	794.7	53.4	423.0	385.6	37.45	11.296		
9,200.0	9,163.8	9,228.9	9,163.3	19.0	21.2	79.16	794.4	52.9	423.0	385.3	37.73	11.211		
9,300.0	9,263.8	9,328.9	9,263.3	19.1	21.3	79.16	794.1	52.3	423.0	385.0	38.02	11.126		
9,400.0	9,363.8	9,428.9	9,363.3	19.2	21.4	79.16	793.8	51.8	423.0	384.7	38.31	11.043		
9,500.0	9,463.8	9,528.9	9,463.2	19.4	21.6	79.16	793.5	51.2	423.0	384.4	38.60	10.961		
9,600.0	9,563.7	9,628.9	9,563.2	19.5	21.7	79.16	793.2	50.7	423.0	384.1	38.88	10.879		
9,700.0	9,663.7	9,728.9	9,663.2	19.7	21.8	79.16	792.8	50.2	423.0	383.9	39.18	10.798		
9,800.0	9,763.7	9,828.9	9,763.2	19.8	22.0	79.16	792.5	49.6	423.0	383.6	39.47	10.719		
9,900.0	9,863.7	9,928.9	9,863.2	20.0	22.1	79.16	792.2	49.1	423.0	383.3	39.76	10.640		
10,000.0	9,963.7	10,028.9	9,963.2	20.1	22.2	79.16	791.9	48.5	423.0	383.0	40.05	10.562		
10,100.0	10,063.7	10,128.9	10,063.2	20.3	22.4	79.16	791.6	48.0	423.0	382.7	40.35	10.485		
10,200.0	10,163.7	10,228.9	10,163.2	20.4	22.5	79.16	791.3	47.4	423.0	382.4	40.64	10.409		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04B D21 595 - 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		
10,300.0	10,263.7	10,328.9	10,263.2	20.5	22.6	79.16	791.0	46.9	423.0	382.1	40.94	10.334		
10,400.0	10,363.7	10,428.9	10,363.2	20.7	22.8	79.16	790.7	46.4	423.0	381.8	41.23	10.259		
10,500.0	10,463.7	10,528.9	10,463.2	20.8	22.9	79.16	790.3	45.8	423.0	381.5	41.53	10.186		
10,600.0	10,563.7	10,628.9	10,563.2	21.0	23.0	79.16	790.0	45.3	423.0	381.2	41.83	10.113		
10,700.0	10,663.7	10,728.9	10,663.2	21.1	23.2	79.16	789.7	44.7	423.0	380.9	42.13	10.041		
10,800.0	10,763.7	10,828.9	10,763.2	21.3	23.3	79.16	789.4	44.2	423.0	380.6	42.43	9.970		
10,900.0	10,863.7	10,928.9	10,863.2	21.4	23.4	79.16	789.1	43.6	423.0	380.3	42.73	9.900		
11,000.0	10,963.7	11,028.9	10,963.2	21.6	23.6	79.16	788.8	43.1	423.0	380.0	43.03	9.831		
11,100.0	11,063.7	11,128.9	11,063.2	21.7	23.7	79.16	788.5	42.5	423.0	379.7	43.33	9.762		
11,200.0	11,163.7	11,228.9	11,163.2	21.9	23.9	79.16	788.2	42.0	423.0	379.4	43.64	9.695		
11,300.0	11,263.7	11,328.9	11,263.2	22.0	24.0	79.16	787.8	41.5	423.0	379.1	43.94	9.628		
11,400.0	11,363.7	11,428.9	11,363.2	22.2	24.1	79.16	787.5	40.9	423.0	378.8	44.24	9.562		
11,500.0	11,463.7	11,528.9	11,463.2	22.3	24.3	79.16	787.2	40.4	423.0	378.5	44.55	9.496		
11,600.0	11,563.7	11,628.9	11,563.2	22.5	24.4	79.16	786.9	39.8	423.0	378.2	44.85	9.432		
11,700.0	11,663.7	11,728.9	11,663.2	22.7	24.6	79.16	786.6	39.3	423.0	377.9	45.16	9.368		
11,800.0	11,763.7	11,828.9	11,763.2	22.8	24.7	79.16	786.3	38.7	423.0	377.6	45.47	9.304		
11,900.0	11,863.7	11,928.9	11,863.2	23.0	24.9	79.16	786.0	38.2	423.0	377.3	45.77	9.242		
11,952.3	11,916.0	11,981.2	11,915.5	23.0	24.9	79.16	785.8	37.9	423.0	377.1	45.94	9.210 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04C D21 595 (Existing) - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 140-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	-71.77	24.0	-73.0	76.9					
100.0	100.0	96.4	96.4	0.1	0.2	-72.03	23.6	-72.8	76.6	76.3	0.30	251.334		
200.0	200.0	196.8	196.7	0.3	0.3	-72.85	22.4	-72.4	75.8	75.2	0.65	116.563		
300.0	300.0	297.0	297.0	0.5	0.5	-74.19	20.3	-71.9	74.7	73.7	1.00	74.375		
399.1	399.1	396.1	396.0	0.7	0.7	-112.70	18.0	-71.0	73.9	72.5	1.35	54.587 CC		
400.0	400.0	397.0	397.0	0.7	0.7	-112.74	18.0	-71.0	73.9	72.5	1.36	54.455 ES		
500.0	499.8	496.8	496.7	0.9	0.9	-117.75	16.0	-70.2	75.0	73.3	1.72	43.522		
600.0	599.5	596.3	596.2	1.1	1.0	-125.57	12.8	-69.2	78.4	76.3	2.11	37.194		
700.0	698.7	695.5	695.3	1.3	1.2	-134.95	8.4	-68.2	85.4	82.9	2.50	34.156		
800.0	798.0	795.0	794.6	1.6	1.4	-143.84	2.8	-66.1	94.1	91.3	2.88	32.663		
900.0	897.2	894.9	894.2	1.8	1.7	-151.83	-3.5	-62.6	103.8	100.5	3.26	31.857		
1,000.0	996.5	995.3	994.3	2.1	1.9	-158.95	-10.1	-57.4	113.8	110.2	3.63	31.347		
1,100.0	1,095.7	1,095.0	1,093.5	2.4	2.1	-165.24	-16.6	-50.6	124.0	120.0	4.01	30.930		
1,200.0	1,194.9	1,192.7	1,190.8	2.7	2.3	-170.57	-23.0	-43.6	135.1	130.8	4.37	30.895		
1,300.0	1,294.2	1,290.3	1,288.0	2.9	2.5	-174.28	-28.8	-38.7	148.3	143.6	4.73	31.337		
1,400.0	1,393.4	1,388.4	1,385.9	3.2	2.7	-176.95	-34.2	-35.1	162.4	157.3	5.09	31.905		
1,500.0	1,492.6	1,483.9	1,481.2	3.5	2.9	-179.13	-40.2	-32.2	177.8	172.4	5.46	32.595		
1,600.0	1,591.9	1,584.6	1,581.5	3.7	3.1	-178.73	-47.6	-29.0	194.4	188.5	5.83	33.350		
1,700.0	1,691.1	1,687.0	1,683.8	4.0	3.4	-177.03	-53.0	-24.9	208.8	202.6	6.20	33.672		
1,800.0	1,790.3	1,786.8	1,783.4	4.3	3.5	-175.73	-57.2	-20.9	222.6	216.0	6.57	33.882		
1,900.0	1,889.6	1,884.7	1,881.1	4.6	3.7	-174.90	-60.7	-18.0	236.5	229.5	6.92	34.167		
2,000.0	1,988.8	1,983.4	1,979.7	4.8	3.9	-174.26	-64.3	-15.7	250.7	243.4	7.29	34.411		
2,100.0	2,088.0	2,081.9	2,078.2	5.1	4.1	-173.47	-68.5	-12.5	265.1	257.4	7.65	34.632		
2,200.0	2,187.3	2,181.0	2,177.1	5.4	4.3	-172.69	-73.0	-9.1	279.6	271.5	8.02	34.843		
2,300.0	2,286.5	2,280.8	2,276.7	5.7	4.5	-171.99	-77.2	-5.6	293.8	285.4	8.40	35.001		
2,400.0	2,385.7	2,380.6	2,376.4	6.0	4.7	-171.41	-81.1	-2.3	308.0	299.2	8.77	35.133		
2,500.0	2,485.0	2,478.7	2,474.4	6.2	4.9	-170.87	-84.9	1.2	322.0	312.9	9.13	35.254		
2,600.0	2,584.2	2,579.9	2,575.5	6.5	5.1	-170.48	-88.4	4.2	336.0	326.5	9.50	35.351		
2,700.0	2,683.5	2,678.4	2,673.9	6.8	5.3	-170.17	-91.4	7.1	349.5	339.7	9.87	35.422		
2,800.0	2,782.7	2,779.5	2,774.9	7.1	5.5	-169.92	-94.1	9.8	363.0	352.7	10.23	35.476		
2,900.0	2,881.9	2,880.9	2,876.3	7.3	5.6	-169.75	-96.3	12.5	375.9	365.3	10.60	35.479		
3,000.0	2,981.2	2,978.9	2,974.2	7.6	5.8	-169.65	-98.0	14.8	388.6	377.6	10.95	35.490		
3,100.0	3,080.4	3,079.8	3,075.0	7.9	6.0	-169.58	-99.7	17.0	401.3	390.0	11.31	35.492		
3,200.0	3,179.6	3,176.8	3,172.0	8.2	6.2	-169.54	-101.3	19.0	414.1	402.4	11.66	35.523		
3,300.0	3,278.9	3,274.0	3,269.2	8.4	6.3	-169.56	-103.2	20.4	427.3	415.3	12.00	35.600		
3,400.0	3,378.1	3,372.2	3,367.4	8.7	6.5	-169.63	-105.2	21.2	440.9	428.6	12.35	35.705		
3,500.0	3,477.3	3,473.0	3,468.1	9.0	6.7	-169.68	-107.1	22.3	454.4	441.7	12.70	35.772		
3,600.0	3,576.6	3,569.7	3,564.8	9.3	6.9	-169.71	-109.0	23.6	467.7	454.6	13.05	35.843		
3,700.0	3,675.8	3,659.8	3,654.8	9.6	7.0	-169.79	-111.8	23.7	482.5	469.2	13.38	36.073		
3,800.0	3,775.0	3,758.6	3,753.6	9.8	7.2	-169.91	-115.4	23.2	498.2	484.5	13.72	36.315		
3,900.0	3,874.3	3,858.6	3,853.6	10.1	7.4	-170.07	-118.8	22.4	513.7	499.6	14.06	36.534		
4,000.0	3,973.5	3,959.5	3,954.4	10.4	7.5	-170.23	-121.9	21.6	528.9	514.5	14.40	36.721		
4,100.0	4,072.7	4,060.9	4,055.8	10.7	7.7	-170.40	-124.5	20.9	543.7	528.9	14.75	36.866		
4,200.0	4,172.0	4,161.4	4,156.2	10.9	7.9	-170.61	-126.6	20.0	558.1	543.0	15.09	36.992		
4,300.0	4,271.2	4,262.7	4,257.5	11.2	8.1	-170.78	-128.4	19.5	572.2	556.7	15.43	37.083		
4,400.0	4,370.5	4,363.9	4,358.7	11.5	8.2	-170.96	-129.9	19.0	585.8	570.1	15.77	37.146		
4,500.0	4,469.7	4,463.4	4,458.2	11.8	8.4	-171.14	-131.0	18.5	599.3	583.2	16.11	37.200		
4,600.0	4,568.9	4,564.1	4,558.8	12.0	8.6	-171.34	-132.0	17.7	612.7	596.2	16.45	37.252		
4,700.0	4,668.2	4,667.6	4,662.4	12.3	8.7	-171.57	-132.3	16.9	625.5	608.7	16.79	37.259		
4,800.0	4,767.4	4,768.2	4,762.9	12.6	8.9	-171.80	-132.1	16.2	637.9	620.7	17.12	37.251		
4,900.0	4,866.6	4,867.0	4,861.8	12.9	9.0	-172.03	-131.8	15.5	650.2	632.7	17.46	37.245		
5,000.0	4,965.9	4,965.7	4,960.5	13.2	9.2	-172.24	-131.6	14.7	662.6	644.8	17.79	37.244		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04C D21 595 (Existing) - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 140-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		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	Separation Factor		
5,100.0	5,065.1	5,064.9	5,059.6	13.4	9.4	172.46	-131.4	13.8	675.0	656.9	18.12	37.247		
5,200.0	5,164.4	5,164.8	5,159.6	13.7	9.5	172.70	-131.0	12.7	687.0	668.5	18.47	37.191		
5,300.0	5,264.0	5,264.3	5,259.0	13.9	9.7	172.92	-130.5	11.5	695.8	677.0	18.82	36.969		
5,400.0	5,363.8	5,358.8	5,353.5	14.1	9.8	173.09	-130.2	10.2	701.5	682.4	19.15	36.634		
5,500.0	5,463.8	5,453.0	5,447.7	14.2	10.0	173.21	-130.8	8.5	704.7	685.3	19.46	36.210		
5,600.0	5,563.8	5,554.2	5,548.9	14.3	10.1	-30.92	-131.5	6.3	706.2	686.4	19.79	35.680		
5,700.0	5,663.8	5,643.3	5,637.9	14.4	10.3	-30.85	-132.7	4.3	708.0	687.9	20.11	35.205		
5,800.0	5,763.8	5,743.8	5,738.4	14.5	10.5	-30.81	-135.1	2.1	710.6	690.1	20.45	34.745		
5,900.0	5,863.8	5,848.6	5,843.1	14.6	10.6	-30.76	-137.0	-0.1	712.7	691.9	20.80	34.269		
6,000.0	5,963.8	5,949.7	5,944.2	14.8	10.8	-30.71	-138.5	-2.1	714.4	693.3	21.14	33.798		
6,100.0	6,063.8	6,052.1	6,046.6	14.9	11.0	-30.68	-140.1	-3.6	715.9	694.4	21.48	33.325		
6,200.0	6,163.8	6,155.5	6,150.0	15.0	11.2	-30.68	-141.3	-4.8	716.9	695.1	21.83	32.842		
6,300.0	6,263.8	6,258.2	6,252.7	15.1	11.3	-30.68	-142.2	-5.6	717.6	695.4	22.18	32.357		
6,400.0	6,363.8	6,359.4	6,353.9	15.2	11.5	-30.68	-142.8	-6.4	717.9	695.4	22.52	31.877		
6,500.0	6,463.8	6,457.8	6,452.3	15.4	11.7	-30.65	-143.2	-7.4	718.3	695.4	22.86	31.422		
6,600.0	6,563.8	6,555.8	6,550.3	15.5	11.8	-30.58	-143.6	-9.0	718.9	695.7	23.19	30.996		
6,700.0	6,663.8	6,657.3	6,651.8	15.6	12.0	-30.49	-144.1	-11.0	719.7	696.2	23.53	30.580		
6,800.0	6,763.8	6,755.9	6,750.3	15.7	12.2	-30.40	-144.3	-12.8	720.3	696.4	23.87	30.173		
6,900.0	6,863.8	6,855.1	6,849.6	15.8	12.3	-30.31	-144.8	-14.7	721.1	696.9	24.21	29.788		
7,000.0	6,963.8	6,953.4	6,947.8	16.0	12.5	-30.22	-145.5	-16.6	722.1	697.6	24.55	29.419		
7,100.0	7,063.8	7,052.1	7,046.5	16.1	12.7	-30.14	-146.3	-18.7	723.3	698.5	24.88	29.069		
7,200.0	7,163.8	7,151.1	7,145.5	16.2	12.8	-30.03	-147.1	-21.1	724.7	699.5	25.22	28.735		
7,300.0	7,263.8	7,251.5	7,245.8	16.4	13.0	-29.90	-147.8	-23.8	726.1	700.6	25.56	28.409		
7,400.0	7,363.8	7,351.3	7,345.6	16.5	13.2	-29.77	-148.5	-26.5	727.5	701.6	25.90	28.091		
7,500.0	7,463.8	7,450.8	7,445.0	16.6	13.4	-29.64	-149.2	-29.2	729.0	702.7	26.24	27.783		
7,600.0	7,563.8	7,548.4	7,542.6	16.8	13.5	-29.51	-150.1	-31.9	730.6	704.0	26.57	27.494		
7,700.0	7,663.8	7,648.0	7,642.1	16.9	13.7	-29.39	-151.2	-34.7	732.4	705.5	26.91	27.215		
7,800.0	7,763.8	7,747.1	7,741.2	17.0	13.9	-29.30	-152.6	-37.2	734.4	707.1	27.25	26.945		
7,900.0	7,863.8	7,846.7	7,840.7	17.2	14.0	-29.22	-154.0	-39.7	736.4	708.8	27.60	26.684		
8,000.0	7,963.8	7,946.0	7,940.0	17.3	14.2	-29.12	-155.5	-42.4	738.5	710.6	27.94	26.434		
8,100.0	8,063.8	8,045.4	8,039.3	17.4	14.4	-28.99	-156.7	-45.4	740.6	712.3	28.28	26.190		
8,200.0	8,163.8	8,141.2	8,135.0	17.6	14.6	-28.84	-158.1	-48.9	743.1	714.5	28.61	25.972		
8,300.0	8,263.8	8,239.3	8,233.0	17.7	14.7	-28.70	-160.0	-52.4	746.1	717.1	28.95	25.772		
8,400.0	8,363.8	8,347.9	8,341.6	17.8	14.9	-28.56	-161.7	-56.0	748.6	719.3	29.31	25.544		
8,500.0	8,463.8	8,459.3	8,453.0	18.0	15.1	-28.42	-162.1	-58.8	749.7	720.0	29.67	25.266		
8,600.0	8,563.8	8,565.1	8,558.8	18.1	15.3	-28.55	-163.2	-57.9	749.5	719.5	30.03	24.956		
8,700.0	8,663.8	8,664.5	8,658.2	18.2	15.5	-28.76	-164.6	-55.8	749.1	718.7	30.39	24.652		
8,800.0	8,763.8	8,767.8	8,761.4	18.4	15.6	-28.97	-165.9	-53.8	748.7	717.9	30.75	24.351		
8,900.0	8,863.8	8,867.4	8,861.0	18.5	15.8	-29.18	-166.9	-51.6	747.8	716.7	31.10	24.047		
9,000.0	8,963.8	8,968.4	8,961.9	18.7	16.0	-29.39	-168.0	-49.4	747.1	715.7	31.45	23.753		
9,100.0	9,063.8	9,065.9	9,059.4	18.8	16.2	-29.61	-169.2	-47.1	746.4	714.6	31.80	23.469		
9,200.0	9,163.8	9,165.0	9,158.5	19.0	16.3	-29.83	-170.6	-44.9	746.0	713.8	32.16	23.199		
9,240.9	9,204.7	9,203.1	9,196.6	19.0	16.4	-29.92	-171.2	-44.1	745.9	713.6	32.29	23.096		
9,300.0	9,263.8	9,257.0	9,250.5	19.1	16.5	-30.00	-172.1	-43.5	746.1	713.6	32.49	22.962		
9,400.0	9,363.8	9,352.9	9,346.3	19.2	16.7	-30.11	-173.9	-43.3	747.1	714.3	32.83	22.753		
9,500.0	9,463.8	9,456.1	9,449.5	19.4	16.9	-30.22	-175.9	-43.2	748.2	715.0	33.19	22.543		
9,600.0	9,563.7	9,554.0	9,547.4	19.5	17.0	-30.26	-177.4	-43.7	749.2	715.6	33.53	22.341		
9,700.0	9,663.7	9,649.0	9,642.4	19.7	17.2	-30.27	-178.9	-44.9	750.7	716.8	33.87	22.163		
9,800.0	9,763.7	9,751.1	9,744.5	19.8	17.4	-30.27	-180.7	-46.3	752.4	718.1	34.22	21.985		
9,900.0	9,863.7	9,853.9	9,847.3	20.0	17.6	-30.27	-182.2	-47.5	753.7	719.1	34.57	21.800		
10,000.0	9,963.7	9,956.7	9,950.0	20.1	17.7	-30.26	-183.3	-48.7	754.6	719.7	34.92	21.607		
10,100.0	10,063.7	10,059.5	10,052.8	20.3	17.9	-30.25	-184.1	-49.6	755.2	719.9	35.27	21.408		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04C D21 595 (Existing) - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 140-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		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	Separation Factor		
10,200.0	10,163.7	10,158.6	10,151.9	20.4	18.1	-30.24	-184.6	-50.4	755.5	719.9	35.62	21.211		
10,300.0	10,263.7	10,258.5	10,251.8	20.5	18.3	-30.24	-185.4	-51.2	756.1	720.1	35.97	21.021		
10,400.0	10,363.7	10,356.8	10,350.1	20.7	18.4	-30.25	-186.3	-52.0	756.6	720.3	36.31	20.838		
10,500.0	10,463.7	10,454.7	10,448.0	20.8	18.6	-30.25	-187.4	-52.9	757.5	720.9	36.65	20.667		
10,600.0	10,563.7	10,553.1	10,546.4	21.0	18.8	-30.24	-188.6	-54.1	758.6	721.6	37.00	20.505		
10,700.0	10,663.7	10,652.1	10,645.4	21.1	18.9	-30.21	-189.7	-55.6	759.9	722.6	37.34	20.351		
10,800.0	10,763.7	10,750.0	10,743.2	21.3	19.1	-30.13	-190.9	-57.8	761.5	723.8	37.68	20.208		
10,900.0	10,863.7	10,850.6	10,843.8	21.4	19.3	-30.02	-192.0	-60.5	763.2	725.2	38.03	20.069		
11,000.0	10,963.7	10,952.6	10,945.7	21.6	19.5	-29.90	-192.7	-63.1	764.6	726.2	38.37	19.924		
11,100.0	11,063.7	11,052.9	11,046.1	21.7	19.6	-29.76	-193.2	-65.9	765.9	727.1	38.72	19.780		
11,200.0	11,163.7	11,150.0	11,143.1	21.9	19.8	-29.59	-193.6	-69.1	767.3	728.2	39.06	19.645		
11,300.0	11,263.7	11,248.0	11,241.0	22.0	20.0	-29.41	-194.1	-72.7	769.1	729.7	39.40	19.522		
11,400.0	11,363.7	11,348.4	11,341.3	22.2	20.1	-29.20	-194.7	-76.6	771.0	731.3	39.74	19.401		
11,500.0	11,463.7	11,446.0	11,438.8	22.3	20.3	-28.98	-195.1	-80.6	773.0	732.9	40.08	19.287		
11,600.0	11,563.7	11,543.2	11,535.9	22.5	20.5	-28.74	-195.7	-85.2	775.3	734.9	40.42	19.184		
11,700.0	11,663.7	11,646.2	11,638.8	22.7	20.7	-28.46	-196.1	-90.2	777.7	736.9	40.76	19.078		
11,800.0	11,763.7	11,754.7	11,747.2	22.8	20.8	-28.18	-195.8	-94.9	779.2	738.1	41.12	18.949		
11,900.0	11,863.7	11,856.4	11,848.8	23.0	21.0	-27.93	-195.2	-98.9	780.2	738.7	41.47	18.813		
11,952.3	11,916.0	11,910.2	11,902.6	23.0	21.1	-27.81	-194.8	-100.7	780.6	738.9	41.65	18.740 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04D D21 595 - 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	108.35	-14.2	42.8	45.1							
100.0	100.0	100.0	100.0	0.1	0.1	108.35	-14.2	42.8	45.1	44.8	0.30	152.081				
200.0	200.0	200.0	200.0	0.3	0.3	108.35	-14.2	42.8	45.1	44.5	0.65	69.875	CC, ES			
300.0	300.0	298.6	298.6	0.5	0.5	106.40	-13.1	44.7	46.6	45.6	0.99	46.928				
400.0	400.0	397.5	397.3	0.7	0.7	67.37	-10.1	50.0	50.4	49.1	1.36	37.192				
500.0	499.8	497.4	496.9	0.9	0.9	67.11	-6.4	56.4	53.8	52.1	1.73	31.023				
600.0	599.5	597.4	596.6	1.1	1.1	70.18	-2.7	62.8	55.9	53.8	2.15	26.056				
700.0	698.7	697.2	696.1	1.3	1.3	76.03	0.9	69.2	57.3	54.7	2.60	22.060				
800.0	798.0	797.0	795.7	1.6	1.5	82.06	4.6	75.6	59.2	56.2	3.07	19.271				
900.0	897.2	896.8	895.2	1.8	1.8	87.64	8.2	81.9	61.8	58.2	3.56	17.350				
1,000.0	996.5	996.6	994.7	2.1	2.0	92.75	11.9	88.3	64.8	60.8	4.05	16.014				
1,100.0	1,095.7	1,096.4	1,094.2	2.4	2.2	97.36	15.6	94.7	68.4	63.8	4.54	15.077				
1,200.0	1,194.9	1,196.1	1,193.7	2.7	2.4	101.49	19.2	101.0	72.3	67.3	5.02	14.419				
1,300.0	1,294.2	1,295.9	1,293.3	2.9	2.6	105.19	22.9	107.4	76.6	71.1	5.49	13.956				
1,400.0	1,393.4	1,395.7	1,392.8	3.2	2.8	108.48	26.5	113.8	81.2	75.2	5.95	13.631				
1,500.0	1,492.6	1,495.5	1,492.3	3.5	3.0	111.41	30.2	120.1	85.9	79.5	6.41	13.406				
1,600.0	1,591.9	1,595.3	1,591.8	3.7	3.3	114.03	33.9	126.5	90.9	84.1	6.86	13.254				
1,700.0	1,691.1	1,695.1	1,691.4	4.0	3.5	116.37	37.5	132.9	96.1	88.8	7.31	13.154				
1,800.0	1,790.3	1,794.9	1,790.9	4.3	3.7	118.47	41.2	139.3	101.4	93.7	7.75	13.094				
1,900.0	1,889.6	1,894.7	1,890.4	4.6	3.9	120.36	44.8	145.6	106.9	98.7	8.18	13.062				
2,000.0	1,988.8	1,994.5	1,989.9	4.8	4.1	122.06	48.5	152.0	112.4	103.8	8.61	13.051				
2,100.0	2,088.0	2,094.3	2,089.5	5.1	4.3	123.61	52.2	158.4	118.0	109.0	9.04	13.056				
2,200.0	2,187.3	2,194.1	2,189.0	5.4	4.6	125.01	55.8	164.7	123.7	114.3	9.46	13.073				
2,300.0	2,286.5	2,293.9	2,288.5	5.7	4.8	126.29	59.5	171.1	129.5	119.6	9.89	13.099				
2,400.0	2,385.7	2,393.7	2,388.0	6.0	5.0	127.45	63.1	177.5	135.3	125.0	10.31	13.131				
2,500.0	2,485.0	2,493.5	2,487.5	6.2	5.2	128.53	66.8	183.9	141.2	130.5	10.72	13.168				
2,600.0	2,584.2	2,593.3	2,587.1	6.5	5.4	129.51	70.4	190.2	147.1	136.0	11.14	13.207				
2,700.0	2,683.5	2,693.0	2,686.6	6.8	5.6	130.42	74.1	196.6	153.1	141.6	11.56	13.249				
2,800.0	2,782.7	2,792.8	2,786.1	7.1	5.9	131.26	77.8	203.0	159.1	147.2	11.97	13.292				
2,900.0	2,881.9	2,892.6	2,885.6	7.3	6.1	132.04	81.4	209.3	165.2	152.8	12.38	13.337				
3,000.0	2,981.2	2,992.4	2,985.2	7.6	6.3	132.76	85.1	215.7	171.2	158.4	12.80	13.381				
3,100.0	3,080.4	3,092.2	3,084.7	7.9	6.5	133.44	88.7	222.1	177.3	164.1	13.21	13.425				
3,200.0	3,179.6	3,192.0	3,184.2	8.2	6.7	134.07	92.4	228.4	183.4	169.8	13.62	13.469				
3,300.0	3,278.9	3,291.8	3,283.7	8.4	6.9	134.66	96.1	234.8	189.6	175.5	14.03	13.513				
3,400.0	3,378.1	3,391.6	3,383.2	8.7	7.2	135.21	99.7	241.2	195.7	181.3	14.44	13.555				
3,500.0	3,477.3	3,491.4	3,482.8	9.0	7.4	135.73	103.4	247.6	201.9	187.0	14.85	13.597				
3,600.0	3,576.6	3,591.2	3,582.3	9.3	7.6	136.22	107.0	253.9	208.1	192.8	15.26	13.639				
3,700.0	3,675.8	3,691.0	3,681.8	9.6	7.8	136.68	110.7	260.3	214.3	198.6	15.66	13.679				
3,800.0	3,775.0	3,790.8	3,781.3	9.8	8.0	137.11	114.3	266.7	220.5	204.4	16.07	13.718				
3,900.0	3,874.3	3,890.6	3,880.9	10.1	8.2	137.52	118.0	273.0	226.7	210.2	16.48	13.757				
4,000.0	3,973.5	3,990.4	3,980.4	10.4	8.5	137.91	121.7	279.4	232.9	216.0	16.89	13.794				
4,100.0	4,072.7	4,090.2	4,079.9	10.7	8.7	138.27	125.3	285.8	239.2	221.9	17.29	13.830				
4,200.0	4,172.0	4,189.9	4,179.4	10.9	8.9	138.62	129.0	292.2	245.4	227.7	17.70	13.866				
4,300.0	4,271.2	4,289.7	4,278.9	11.2	9.1	138.96	132.6	298.5	251.7	233.6	18.11	13.900				
4,400.0	4,370.5	4,389.5	4,378.5	11.5	9.3	139.27	136.3	304.9	258.0	239.4	18.51	13.934				
4,500.0	4,469.7	4,489.3	4,478.0	11.8	9.5	139.57	140.0	311.3	264.2	245.3	18.92	13.966				
4,600.0	4,568.9	4,589.1	4,577.5	12.0	9.8	139.86	143.6	317.6	270.5	251.2	19.33	13.998				
4,700.0	4,668.2	4,688.9	4,677.0	12.3	10.0	140.13	147.3	324.0	276.8	257.1	19.73	14.029				
4,800.0	4,767.4	4,788.7	4,776.6	12.6	10.2	140.39	150.9	330.4	283.1	263.0	20.14	14.059				
4,900.0	4,866.6	4,888.5	4,876.1	12.9	10.4	140.64	154.6	336.7	289.4	268.9	20.54	14.088				
5,000.0	4,965.9	4,988.3	4,975.6	13.2	10.6	140.88	158.3	343.1	295.7	274.8	20.95	14.116				
5,100.0	5,065.1	5,088.1	5,075.1	13.4	10.8	141.11	161.9	349.5	302.0	280.7	21.35	14.144				

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04D D21 595 - 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		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	Separation Factor		
5,200.0	5,164.4	5,187.9	5,174.7	13.7	11.0	141.31	165.6	355.9	308.0	286.2	21.76	14.152		
5,300.0	5,264.0	5,287.8	5,274.3	13.9	11.3	141.16	169.2	362.2	311.5	289.3	22.18	14.044		
5,400.0	5,363.8	5,383.1	5,369.4	14.1	11.4	140.83	172.1	367.2	313.0	290.4	22.55	13.877		
5,500.0	5,463.8	5,477.5	5,463.8	14.2	11.6	140.73	173.0	368.8	313.5	290.7	22.84	13.727		
5,600.0	5,563.8	5,576.9	5,563.2	14.3	11.7	-63.52	172.9	368.6	313.5	290.4	23.12	13.560		
5,700.0	5,663.8	5,676.7	5,663.0	14.4	11.9	-63.52	172.6	368.1	313.5	290.1	23.40	13.396		
5,800.0	5,763.8	5,776.7	5,762.9	14.5	12.0	-63.52	172.3	367.5	313.5	289.8	23.69	13.234		
5,900.0	5,863.8	5,876.7	5,862.9	14.6	12.1	-63.52	172.0	367.0	313.5	289.5	23.98	13.075		
6,000.0	5,963.8	5,976.7	5,962.9	14.8	12.3	-63.52	171.6	366.4	313.5	289.3	24.27	12.920		
6,100.0	6,063.8	6,076.7	6,062.9	14.9	12.4	-63.52	171.3	365.9	313.5	289.0	24.56	12.767		
6,200.0	6,163.8	6,176.7	6,162.9	15.0	12.6	-63.52	171.0	365.4	313.5	288.7	24.85	12.617		
6,300.0	6,263.8	6,276.7	6,262.9	15.1	12.7	-63.52	170.7	364.8	313.5	288.4	25.14	12.469		
6,400.0	6,363.8	6,376.7	6,362.9	15.2	12.9	-63.52	170.4	364.3	313.5	288.1	25.44	12.324		
6,500.0	6,463.8	6,476.7	6,462.9	15.4	13.0	-63.52	170.1	363.7	313.5	287.8	25.74	12.182		
6,600.0	6,563.8	6,576.7	6,562.9	15.5	13.1	-63.52	169.8	363.2	313.5	287.5	26.03	12.043		
6,700.0	6,663.8	6,676.7	6,662.9	15.6	13.3	-63.52	169.5	362.6	313.5	287.2	26.33	11.906		
6,800.0	6,763.8	6,776.7	6,762.9	15.7	13.4	-63.52	169.1	362.1	313.5	286.9	26.63	11.772		
6,900.0	6,863.8	6,876.7	6,862.9	15.8	13.6	-63.52	168.8	361.6	313.5	286.6	26.93	11.640		
7,000.0	6,963.8	6,976.7	6,962.9	16.0	13.7	-63.52	168.5	361.0	313.5	286.3	27.24	11.511		
7,100.0	7,063.8	7,076.7	7,062.9	16.1	13.9	-63.52	168.2	360.5	313.5	286.0	27.54	11.384		
7,200.0	7,163.8	7,176.7	7,162.9	16.2	14.0	-63.52	167.9	359.9	313.5	285.7	27.85	11.259		
7,300.0	7,263.8	7,276.7	7,262.9	16.4	14.2	-63.52	167.6	359.4	313.5	285.4	28.15	11.137		
7,400.0	7,363.8	7,376.7	7,362.9	16.5	14.3	-63.52	167.3	358.8	313.5	285.1	28.46	11.017		
7,500.0	7,463.8	7,476.7	7,462.9	16.6	14.5	-63.52	166.9	358.3	313.5	284.8	28.77	10.899		
7,600.0	7,563.8	7,576.7	7,562.9	16.8	14.6	-63.52	166.6	357.8	313.5	284.4	29.07	10.783		
7,700.0	7,663.8	7,676.7	7,662.9	16.9	14.8	-63.52	166.3	357.2	313.5	284.1	29.38	10.669		
7,800.0	7,763.8	7,776.7	7,762.9	17.0	15.0	-63.52	166.0	356.7	313.5	283.8	29.70	10.558		
7,900.0	7,863.8	7,876.7	7,862.9	17.2	15.1	-63.52	165.7	356.1	313.5	283.5	30.01	10.448		
8,000.0	7,963.8	7,976.7	7,962.9	17.3	15.3	-63.52	165.4	355.6	313.5	283.2	30.32	10.341		
8,100.0	8,063.8	8,076.7	8,062.9	17.4	15.4	-63.52	165.1	355.1	313.5	282.9	30.63	10.235		
8,200.0	8,163.8	8,176.7	8,162.9	17.6	15.6	-63.52	164.7	354.5	313.5	282.6	30.95	10.131		
8,300.0	8,263.8	8,276.7	8,262.9	17.7	15.7	-63.52	164.4	354.0	313.5	282.3	31.26	10.029		
8,400.0	8,363.8	8,376.7	8,362.9	17.8	15.9	-63.52	164.1	353.4	313.5	281.9	31.58	9.929		
8,500.0	8,463.8	8,476.7	8,462.9	18.0	16.0	-63.52	163.8	352.9	313.5	281.6	31.89	9.831		
8,600.0	8,563.8	8,576.7	8,562.9	18.1	16.2	-63.52	163.5	352.3	313.5	281.3	32.21	9.734		
8,700.0	8,663.8	8,676.7	8,662.9	18.2	16.4	-63.52	163.2	351.8	313.5	281.0	32.53	9.639		
8,800.0	8,763.8	8,776.7	8,762.9	18.4	16.5	-63.52	162.9	351.3	313.5	280.7	32.84	9.545		
8,900.0	8,863.8	8,876.7	8,862.9	18.5	16.7	-63.52	162.6	350.7	313.5	280.4	33.16	9.454		
9,000.0	8,963.8	8,976.7	8,962.9	18.7	16.8	-63.52	162.2	350.2	313.5	280.0	33.48	9.364		
9,100.0	9,063.8	9,076.7	9,062.9	18.8	17.0	-63.52	161.9	349.6	313.5	279.7	33.80	9.275		
9,200.0	9,163.8	9,176.7	9,162.9	19.0	17.1	-63.52	161.6	349.1	313.5	279.4	34.12	9.188		
9,300.0	9,263.8	9,276.7	9,262.9	19.1	17.3	-63.52	161.3	348.5	313.5	279.1	34.44	9.102		
9,400.0	9,363.8	9,376.7	9,362.9	19.2	17.5	-63.52	161.0	348.0	313.5	278.7	34.77	9.018		
9,500.0	9,463.8	9,476.7	9,462.9	19.4	17.6	-63.52	160.7	347.5	313.5	278.4	35.09	8.935		
9,600.0	9,563.7	9,576.7	9,562.9	19.5	17.8	-63.52	160.4	346.9	313.5	278.1	35.41	8.854		
9,700.0	9,663.7	9,676.7	9,662.9	19.7	17.9	-63.52	160.0	346.4	313.5	277.8	35.73	8.774		
9,800.0	9,763.7	9,776.7	9,762.9	19.8	18.1	-63.52	159.7	345.8	313.5	277.5	36.06	8.695		
9,900.0	9,863.7	9,876.7	9,862.9	20.0	18.3	-63.52	159.4	345.3	313.5	277.1	36.38	8.617		
10,000.0	9,963.7	9,976.7	9,962.9	20.1	18.4	-63.52	159.1	344.7	313.5	276.8	36.71	8.541		
10,100.0	10,063.7	10,076.7	10,062.9	20.3	18.6	-63.52	158.8	344.2	313.5	276.5	37.03	8.466		
10,200.0	10,163.7	10,176.7	10,162.9	20.4	18.7	-63.52	158.5	343.7	313.5	276.2	37.36	8.392		
10,300.0	10,263.7	10,276.7	10,262.9	20.5	18.9	-63.52	158.2	343.1	313.5	275.8	37.68	8.320		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04D D21 595 - 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		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	Separation Factor		
10,400.0	10,363.7	10,376.7	10,362.9	20.7	19.1	-63.52	157.9	342.6	313.5	275.5	38.01	8.248		
10,500.0	10,463.7	10,476.7	10,462.9	20.8	19.2	-63.52	157.5	342.0	313.5	275.2	38.34	8.178		
10,600.0	10,563.7	10,576.7	10,562.9	21.0	19.4	-63.52	157.2	341.5	313.5	274.8	38.66	8.109		
10,700.0	10,663.7	10,676.7	10,662.9	21.1	19.6	-63.52	156.9	340.9	313.5	274.5	38.99	8.041		
10,800.0	10,763.7	10,776.7	10,762.8	21.3	19.7	-63.52	156.6	340.4	313.5	274.2	39.32	7.974		
10,900.0	10,863.7	10,876.7	10,862.8	21.4	19.9	-63.52	156.3	339.9	313.5	273.9	39.65	7.908		
11,000.0	10,963.7	10,976.7	10,962.8	21.6	20.0	-63.52	156.0	339.3	313.5	273.5	39.98	7.842		
11,100.0	11,063.7	11,076.7	11,062.8	21.7	20.2	-63.52	155.7	338.8	313.5	273.2	40.31	7.778		
11,200.0	11,163.7	11,176.7	11,162.8	21.9	20.4	-63.52	155.3	338.2	313.5	272.9	40.63	7.715		
11,300.0	11,263.7	11,276.7	11,262.8	22.0	20.5	-63.52	155.0	337.7	313.5	272.5	40.96	7.653		
11,400.0	11,363.7	11,376.7	11,362.8	22.2	20.7	-63.52	154.7	337.1	313.5	272.2	41.29	7.592		
11,500.0	11,463.7	11,476.7	11,462.8	22.3	20.9	-63.52	154.4	336.6	313.5	271.9	41.62	7.532		
11,600.0	11,563.7	11,576.7	11,562.8	22.5	21.0	-63.52	154.1	336.1	313.5	271.6	41.96	7.472		
11,700.0	11,663.7	11,676.7	11,662.8	22.7	21.2	-63.52	153.8	335.5	313.5	271.2	42.29	7.414		
11,800.0	11,763.7	11,776.7	11,762.8	22.8	21.4	-63.52	153.5	335.0	313.5	270.9	42.62	7.356		
11,900.0	11,863.7	11,876.7	11,862.8	23.0	21.5	-63.52	153.1	334.4	313.5	270.6	42.95	7.300		
11,938.4	11,902.1	11,915.0	11,901.2	23.0	21.6	-63.52	153.0	334.2	313.5	270.4	43.08	7.278		
11,952.3	11,916.0	11,924.8	11,911.0	23.0	21.6	-63.52	153.0	334.2	313.5	270.4	43.12	7.272 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05A D21 595 - 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	108.24	-4.7	14.4	15.1					
100.0	100.0	100.0	100.0	0.1	0.1	108.24	-4.7	14.4	15.1	14.8	0.30	50.994		
200.0	200.0	200.0	200.0	0.3	0.3	108.24	-4.7	14.4	15.1	14.5	0.65	23.430		
300.0	300.0	300.0	300.0	0.5	0.5	108.24	-4.7	14.4	15.1	14.1	0.99	15.209	CC, ES	
400.0	400.0	399.6	399.5	0.7	0.7	83.22	-6.3	15.0	16.0	14.7	1.35	11.888	SF	
500.0	499.8	498.6	498.4	0.9	0.9	106.47	-11.1	17.0	21.2	19.5	1.71	12.400		
600.0	599.5	596.5	596.0	1.1	1.1	124.52	-18.9	20.1	33.7	31.6	2.08	16.231		
700.0	698.7	694.1	693.0	1.3	1.3	134.47	-29.0	24.2	52.4	49.9	2.45	21.372		
800.0	798.0	792.0	790.2	1.6	1.5	139.48	-39.3	28.4	72.3	69.4	2.83	25.545		
900.0	897.2	889.8	887.4	1.8	1.8	142.31	-49.6	32.6	92.5	89.3	3.21	28.789		
1,000.0	996.5	987.7	984.7	2.1	2.0	144.13	-59.8	36.7	112.9	109.3	3.60	31.356		
1,100.0	1,095.7	1,085.5	1,081.9	2.4	2.3	145.39	-70.1	40.9	133.3	129.3	3.99	33.428		
1,200.0	1,194.9	1,183.4	1,179.1	2.7	2.5	146.32	-80.3	45.1	153.8	149.4	4.38	35.133		
1,300.0	1,294.2	1,281.2	1,276.3	2.9	2.8	147.02	-90.6	49.2	174.3	169.5	4.77	36.557		
1,400.0	1,393.4	1,379.1	1,373.6	3.2	3.0	147.58	-100.8	53.4	194.8	189.6	5.16	37.764		
1,500.0	1,492.6	1,477.0	1,470.8	3.5	3.3	148.03	-111.1	57.5	215.4	209.8	5.55	38.799		
1,600.0	1,591.9	1,574.8	1,568.0	3.7	3.6	148.41	-121.4	61.7	235.9	230.0	5.94	39.696		
1,700.0	1,691.1	1,672.7	1,665.2	4.0	3.8	148.72	-131.6	65.9	256.5	250.1	6.34	40.481		
1,800.0	1,790.3	1,770.5	1,762.5	4.3	4.1	148.99	-141.9	70.0	277.0	270.3	6.73	41.173		
1,900.0	1,889.6	1,868.4	1,859.7	4.6	4.3	149.22	-152.1	74.2	297.6	290.5	7.12	41.787		
2,000.0	1,988.8	1,966.2	1,956.9	4.8	4.6	149.42	-162.4	78.4	318.2	310.7	7.52	42.337		
2,100.0	2,088.0	2,064.1	2,054.1	5.1	4.8	149.60	-172.6	82.5	338.8	330.9	7.91	42.831		
2,200.0	2,187.3	2,161.9	2,151.4	5.4	5.1	149.75	-182.9	86.7	359.4	351.1	8.30	43.278		
2,300.0	2,286.5	2,259.8	2,248.6	5.7	5.4	149.89	-193.2	90.8	379.9	371.2	8.70	43.684		
2,400.0	2,385.7	2,357.6	2,345.8	6.0	5.6	150.01	-203.4	95.0	400.5	391.4	9.09	44.055		
2,500.0	2,485.0	2,455.5	2,443.0	6.2	5.9	150.13	-213.7	99.2	421.1	411.6	9.49	44.394		
2,600.0	2,584.2	2,553.3	2,540.3	6.5	6.1	150.23	-223.9	103.3	441.7	431.8	9.88	44.706		
2,700.0	2,683.5	2,651.2	2,637.5	6.8	6.4	150.32	-234.2	107.5	462.3	452.0	10.27	44.994		
2,800.0	2,782.7	2,749.1	2,734.7	7.1	6.6	150.41	-244.4	111.7	482.9	472.2	10.67	45.260		
2,900.0	2,881.9	2,846.9	2,831.9	7.3	6.9	150.49	-254.7	115.8	503.5	492.4	11.06	45.507		
3,000.0	2,981.2	2,944.8	2,929.2	7.6	7.2	150.56	-265.0	120.0	524.1	512.6	11.46	45.737		
3,100.0	3,080.4	3,042.6	3,026.4	7.9	7.4	150.62	-275.2	124.2	544.7	532.8	11.85	45.951		
3,200.0	3,179.6	3,140.5	3,123.6	8.2	7.7	150.69	-285.5	128.3	565.3	553.0	12.25	46.152		
3,300.0	3,278.9	3,238.3	3,220.9	8.4	7.9	150.74	-295.7	132.5	585.9	573.2	12.64	46.339		
3,400.0	3,378.1	3,336.2	3,318.1	8.7	8.2	150.80	-306.0	136.6	606.5	593.4	13.04	46.516		
3,500.0	3,477.3	3,434.0	3,415.3	9.0	8.4	150.85	-316.2	140.8	627.1	613.6	13.43	46.682		
3,600.0	3,576.6	3,531.9	3,512.5	9.3	8.7	150.89	-326.5	145.0	647.7	633.8	13.83	46.838		
3,700.0	3,675.8	3,629.7	3,609.8	9.6	9.0	150.94	-336.8	149.1	668.3	654.0	14.22	46.986		
3,800.0	3,775.0	3,727.6	3,707.0	9.8	9.2	150.98	-347.0	153.3	688.9	674.3	14.62	47.125		
3,900.0	3,874.3	3,825.4	3,804.2	10.1	9.5	151.02	-357.3	157.5	709.5	694.5	15.01	47.257		
4,000.0	3,973.5	3,923.3	3,901.4	10.4	9.7	151.05	-367.5	161.6	730.1	714.7	15.41	47.383		
4,100.0	4,072.7	4,021.2	3,998.7	10.7	10.0	151.09	-377.8	165.8	750.7	734.9	15.80	47.502		
4,200.0	4,172.0	4,119.0	4,095.9	10.9	10.2	151.12	-388.1	169.9	771.3	755.1	16.20	47.615		
4,300.0	4,271.2	4,216.9	4,193.1	11.2	10.5	151.15	-398.3	174.1	791.9	775.3	16.59	47.723		
4,400.0	4,370.5	4,314.7	4,290.3	11.5	10.8	151.18	-408.6	178.3	812.5	795.5	16.99	47.825		
4,500.0	4,469.7	4,412.6	4,387.6	11.8	11.0	151.21	-418.8	182.4	833.1	815.7	17.38	47.923		
4,600.0	4,568.9	4,510.4	4,484.8	12.0	11.3	151.24	-429.1	186.6	853.7	835.9	17.78	48.017		
4,700.0	4,668.2	4,608.3	4,582.0	12.3	11.5	151.26	-439.3	190.8	874.3	856.1	18.17	48.106		
4,800.0	4,767.4	4,706.1	4,679.2	12.6	11.8	151.29	-449.6	194.9	894.9	876.3	18.57	48.192		
4,900.0	4,866.6	4,804.0	4,776.5	12.9	12.0	151.31	-459.9	199.1	915.5	896.5	18.96	48.274		
5,000.0	4,965.9	4,901.8	4,873.7	13.2	12.3	151.33	-470.1	203.2	936.1	916.7	19.36	48.353		
5,100.0	5,065.1	4,999.7	4,970.9	13.4	12.6	151.35	-480.4	207.4	956.7	936.9	19.75	48.428		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05A D21 595 - 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)				
5,200.0	5,164.4	5,097.6	5,068.2	13.7	12.8	151.46	-490.6	211.6	976.9	956.7	20.17	48.437		
5,300.0	5,264.0	5,196.1	5,166.0	13.9	13.1	151.55	-501.0	215.8	994.4	973.8	20.58	48.327		
5,400.0	5,363.8	5,295.0	5,264.3	14.1	13.3	151.52	-511.3	220.0	1,008.9	987.9	20.96	48.132		
5,500.0	5,463.8	5,394.2	5,362.9	14.2	13.6	151.36	-521.7	224.2	1,020.4	999.0	21.32	47.859		
5,600.0	5,563.8	5,493.6	5,461.6	14.3	13.9	-53.19	-532.1	228.4	1,030.2	1,008.5	21.67	47.535		
5,700.0	5,663.8	5,592.9	5,560.3	14.4	14.1	-53.51	-542.5	232.7	1,039.7	1,017.7	22.02	47.217		
5,800.0	5,763.8	5,692.3	5,659.1	14.5	14.4	-53.83	-553.0	236.9	1,049.3	1,027.0	22.37	46.910		
5,900.0	5,863.8	5,791.7	5,757.8	14.6	14.6	-54.14	-563.4	241.1	1,059.0	1,036.3	22.72	46.615		
6,000.0	5,963.8	5,891.0	5,856.5	14.8	14.9	-54.45	-573.8	245.3	1,068.6	1,045.6	23.06	46.333		
6,100.0	6,063.8	5,990.4	5,955.2	14.9	15.2	-54.76	-584.2	249.6	1,078.3	1,054.9	23.41	46.061		
6,200.0	6,163.8	6,089.8	6,054.0	15.0	15.4	-55.06	-594.6	253.8	1,088.1	1,064.3	23.76	45.799		
6,300.0	6,263.8	6,189.1	6,152.7	15.1	15.7	-55.35	-605.0	258.0	1,097.8	1,073.7	24.10	45.548		
6,400.0	6,363.8	6,288.5	6,251.4	15.2	16.0	-55.64	-615.5	262.2	1,107.6	1,083.1	24.45	45.306		
6,500.0	6,463.8	6,387.8	6,350.2	15.4	16.2	-55.93	-625.9	266.5	1,117.4	1,092.6	24.79	45.073		
6,600.0	6,563.8	6,487.2	6,448.9	15.5	16.5	-56.21	-636.3	270.7	1,127.2	1,102.1	25.13	44.848		
6,700.0	6,663.8	6,586.6	6,547.6	15.6	16.7	-56.48	-646.7	274.9	1,137.1	1,111.6	25.48	44.631		
6,800.0	6,763.8	6,685.9	6,646.3	15.7	17.0	-56.75	-657.1	279.2	1,147.0	1,121.2	25.82	44.421		
6,900.0	6,863.8	6,785.3	6,745.1	15.8	17.3	-57.01	-667.5	283.4	1,156.9	1,130.7	26.16	44.219		
7,000.0	6,963.8	6,884.7	6,843.8	16.0	17.5	-57.28	-678.0	287.6	1,166.8	1,140.3	26.50	44.024		
7,100.0	7,063.8	6,984.0	6,942.5	16.1	17.8	-57.53	-688.4	291.8	1,176.8	1,149.9	26.85	43.835		
7,200.0	7,163.8	7,083.4	7,041.3	16.2	18.1	-57.78	-698.8	296.1	1,186.8	1,159.6	27.19	43.652		
7,300.0	7,263.8	7,182.8	7,140.0	16.4	18.3	-58.03	-709.2	300.3	1,196.8	1,169.2	27.53	43.475		
7,400.0	7,363.8	7,282.1	7,238.7	16.5	18.6	-58.27	-719.6	304.5	1,206.8	1,178.9	27.87	43.304		
7,500.0	7,463.8	7,381.5	7,337.4	16.6	18.8	-58.51	-730.0	308.7	1,216.8	1,188.6	28.21	43.138		
7,600.0	7,563.8	7,480.9	7,436.2	16.8	19.1	-58.75	-740.4	313.0	1,226.9	1,198.4	28.55	42.978		
7,700.0	7,663.8	7,580.2	7,534.9	16.9	19.4	-58.98	-750.9	317.2	1,237.0	1,208.1	28.89	42.822		
7,800.0	7,763.8	7,679.6	7,633.6	17.0	19.6	-59.21	-761.3	321.4	1,247.1	1,217.9	29.23	42.671		
7,900.0	7,863.8	7,779.0	7,732.4	17.2	19.9	-59.43	-771.7	325.7	1,257.2	1,227.7	29.57	42.524		
8,000.0	7,963.8	7,878.3	7,831.1	17.3	20.1	-59.65	-782.1	329.9	1,267.4	1,237.5	29.90	42.382		
8,100.0	8,063.8	7,977.7	7,929.8	17.4	20.4	-59.87	-792.5	334.1	1,277.5	1,247.3	30.24	42.244		
8,200.0	8,163.8	8,077.1	8,028.5	17.6	20.7	-60.09	-802.9	338.3	1,287.7	1,257.2	30.58	42.109		
8,300.0	8,263.8	8,176.4	8,127.3	17.7	20.9	-60.30	-813.4	342.6	1,297.9	1,267.0	30.92	41.979		
8,400.0	8,363.8	8,275.8	8,226.0	17.8	21.2	-60.50	-823.8	346.8	1,308.1	1,276.9	31.26	41.852		
8,500.0	8,463.8	8,375.2	8,324.7	18.0	21.5	-60.71	-834.2	351.0	1,318.4	1,286.8	31.59	41.728		
8,600.0	8,563.8	8,474.5	8,423.4	18.1	21.7	-60.91	-844.6	355.2	1,328.6	1,296.7	31.93	41.608		
8,700.0	8,663.8	8,573.9	8,522.3	18.2	22.0	-61.16	-855.0	360.7	1,338.0	1,305.7	32.34	41.373		
8,800.0	8,763.8	8,673.3	8,621.7	18.4	22.3	-61.34	-865.9	363.9	1,342.2	1,309.4	32.79	40.928		
8,900.0	8,863.8	8,772.8	8,720.2	18.5	22.5	-61.37	-866.3	363.9	1,342.2	1,309.0	33.15	40.492		
8,975.1	8,938.9	8,906.9	8,864.9	18.6	22.6	-61.37	-866.5	363.6	1,342.1	1,308.7	33.38	40.203		
9,000.0	8,963.8	8,931.1	8,889.1	18.7	22.6	-61.37	-866.5	363.5	1,342.1	1,308.6	33.46	40.109		
9,100.0	9,063.8	9,031.1	8,989.1	18.8	22.7	-61.36	-867.0	362.7	1,342.3	1,308.5	33.78	39.740		
9,200.0	9,163.8	9,131.1	9,089.1	19.0	22.8	-61.33	-867.7	361.6	1,342.6	1,308.5	34.09	39.381		
9,300.0	9,263.8	9,231.1	9,189.1	19.1	23.0	-61.30	-868.3	360.4	1,342.9	1,308.5	34.41	39.026		
9,400.0	9,363.8	9,331.1	9,289.1	19.2	23.1	-61.28	-869.0	359.2	1,343.3	1,308.6	34.73	38.677		
9,500.0	9,463.8	9,431.1	9,389.1	19.4	23.2	-61.25	-869.7	358.0	1,343.7	1,308.6	35.05	38.333		
9,600.0	9,563.8	9,531.1	9,489.1	19.5	23.3	-61.22	-870.4	356.8	1,344.0	1,308.7	35.37	37.996		
9,700.0	9,663.8	9,631.1	9,589.1	19.7	23.5	-61.19	-871.1	355.6	1,344.4	1,308.7	35.70	37.663		
9,800.0	9,763.8	9,731.1	9,689.1	19.8	23.6	-61.16	-871.8	354.4	1,344.8	1,308.7	36.02	37.337		
9,900.0	9,863.8	9,831.1	9,789.1	20.0	23.7	-61.13	-872.5	353.2	1,345.1	1,308.8	36.34	37.015		
10,000.0	9,963.8	9,931.1	9,889.1	20.1	23.9	-61.11	-873.2	352.0	1,345.5	1,308.8	36.66	36.699		
10,100.0	10,063.8	10,031.1	9,989.1	20.3	24.0	-61.08	-873.9	350.8	1,345.9	1,308.9	36.99	36.387		
10,200.0	10,163.8	10,131.1	10,089.1	20.4	24.1	-61.05	-874.6	349.6	1,346.2	1,308.9	37.31	36.081		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05A D21 595 - 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		
10,300.0	10,263.7	10,306.9	10,254.7	20.5	24.3	-61.02	-875.3	348.4	1,346.6	1,308.9	37.64	35.779		
10,400.0	10,363.7	10,406.9	10,354.7	20.7	24.4	-60.99	-875.9	347.2	1,346.9	1,309.0	37.96	35.483		
10,500.0	10,463.7	10,506.9	10,454.7	20.8	24.5	-60.97	-876.6	346.0	1,347.3	1,309.0	38.29	35.190		
10,600.0	10,563.7	10,606.9	10,554.7	21.0	24.7	-60.94	-877.3	344.8	1,347.7	1,309.1	38.61	34.903		
10,700.0	10,663.7	10,706.9	10,654.7	21.1	24.8	-60.91	-878.0	343.6	1,348.0	1,309.1	38.94	34.620		
10,800.0	10,763.7	10,806.9	10,754.7	21.3	24.9	-60.88	-878.7	342.4	1,348.4	1,309.1	39.27	34.341		
10,900.0	10,863.7	10,906.9	10,854.7	21.4	25.1	-60.85	-879.4	341.2	1,348.8	1,309.2	39.59	34.066		
11,000.0	10,963.7	11,006.9	10,954.6	21.6	25.2	-60.83	-880.1	340.0	1,349.1	1,309.2	39.92	33.796		
11,100.0	11,063.7	11,106.9	11,054.6	21.7	25.3	-60.80	-880.8	338.8	1,349.5	1,309.3	40.25	33.530		
11,200.0	11,163.7	11,206.9	11,154.6	21.9	25.5	-60.77	-881.5	337.6	1,349.9	1,309.3	40.58	33.267		
11,300.0	11,263.7	11,306.9	11,254.6	22.0	25.6	-60.74	-882.2	336.4	1,350.3	1,309.3	40.91	33.009		
11,400.0	11,363.7	11,406.9	11,354.6	22.2	25.7	-60.71	-882.9	335.2	1,350.6	1,309.4	41.23	32.754		
11,500.0	11,463.7	11,506.9	11,454.6	22.3	25.9	-60.69	-883.5	334.0	1,351.0	1,309.4	41.56	32.504		
11,600.0	11,563.7	11,606.9	11,554.6	22.5	26.0	-60.66	-884.2	332.8	1,351.4	1,309.5	41.89	32.257		
11,700.0	11,663.7	11,706.9	11,654.6	22.7	26.1	-60.63	-884.9	331.6	1,351.7	1,309.5	42.22	32.013		
11,800.0	11,763.7	11,806.9	11,754.5	22.8	26.3	-60.60	-885.6	330.4	1,352.1	1,309.5	42.55	31.773		
11,900.0	11,863.7	11,894.0	11,841.7	23.0	26.4	-60.58	-886.2	329.4	1,352.5	1,309.7	42.86	31.554		
11,952.3	11,916.0	11,894.0	11,841.7	23.0	26.4	-60.58	-886.2	329.4	1,354.2	1,311.3	42.95	31.530		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05B D21 595 (Existing) - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 202-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	-65.51	38.2	-84.0	92.4					
100.0	100.0	95.2	95.2	0.1	0.2	-65.50	38.4	-84.3	92.7	92.4	0.31	302.358 ES		
200.0	200.0	194.4	194.4	0.3	0.3	-65.46	39.0	-85.4	93.9	93.3	0.65	145.432		
300.0	300.0	294.2	294.1	0.5	0.5	-65.40	39.8	-87.0	95.7	94.7	0.99	96.220		
400.0	400.0	393.6	393.5	0.7	0.7	-102.39	40.2	-89.3	98.3	97.0	1.34	73.243		
500.0	499.8	494.3	494.2	0.9	0.9	-106.21	39.5	-91.9	101.8	100.1	1.71	59.584		
600.0	599.5	596.1	595.9	1.1	1.0	-112.46	36.7	-93.4	105.3	103.2	2.10	50.149		
700.0	698.7	696.0	695.7	1.3	1.2	-121.02	31.1	-93.5	109.9	107.4	2.50	43.930		
800.0	798.0	795.7	795.0	1.6	1.4	-130.12	23.1	-92.5	116.2	113.3	2.90	40.076		
900.0	897.2	895.1	894.1	1.8	1.6	-138.75	14.0	-90.3	124.1	120.8	3.28	37.785		
1,000.0	996.5	994.9	993.3	2.1	1.8	-146.51	4.7	-86.8	133.3	129.6	3.66	36.445		
1,100.0	1,095.7	1,094.9	1,092.8	2.4	2.1	-153.19	-4.0	-82.0	143.2	139.2	4.02	35.622		
1,200.0	1,194.9	1,193.7	1,191.0	2.7	2.3	-159.41	-13.3	-75.8	154.0	149.6	4.39	35.085		
1,300.0	1,294.2	1,290.2	1,286.8	2.9	2.5	-164.98	-23.2	-69.3	166.5	161.8	4.76	34.999 SF		
1,400.0	1,393.4	1,386.4	1,382.2	3.2	2.8	-169.86	-34.3	-63.5	181.8	176.7	5.12	35.501		
1,500.0	1,492.6	1,485.6	1,480.7	3.5	3.0	-173.54	-44.3	-59.0	198.1	192.6	5.49	36.075		
1,600.0	1,591.9	1,583.5	1,578.1	3.7	3.3	-176.52	-53.6	-54.3	214.5	208.6	5.86	36.591		
1,700.0	1,691.1	1,682.6	1,676.7	4.0	3.5	-179.05	-62.9	-49.8	231.4	225.1	6.24	37.106		
1,800.0	1,790.3	1,781.7	1,775.3	4.3	3.7	178.88	-71.4	-45.5	248.1	241.5	6.61	37.541		
1,900.0	1,889.6	1,874.8	1,867.9	4.6	4.0	177.18	-80.0	-41.7	265.8	258.9	6.98	38.097		
2,000.0	1,988.8	1,971.9	1,964.4	4.8	4.2	175.55	-90.3	-38.2	285.1	277.8	7.36	38.753		
2,100.0	2,088.0	2,064.4	2,056.2	5.1	4.5	174.06	-101.0	-34.6	305.3	297.6	7.74	39.463		
2,200.0	2,187.3	2,157.4	2,148.4	5.4	4.7	172.69	-113.2	-31.5	327.4	319.3	8.11	40.380		
2,300.0	2,286.5	2,253.7	2,243.8	5.7	5.0	171.58	-126.3	-29.3	350.4	341.9	8.49	41.274		
2,400.0	2,385.7	2,352.3	2,341.4	6.0	5.3	170.54	-139.7	-26.8	373.5	364.6	8.87	42.081		
2,500.0	2,485.0	2,457.9	2,446.0	6.2	5.6	169.34	-153.5	-22.3	395.4	386.1	9.31	42.495		
2,600.0	2,584.2	2,556.3	2,543.3	6.5	5.9	167.98	-166.2	-15.1	416.2	406.5	9.72	42.810		
2,700.0	2,683.5	2,656.4	2,642.3	6.8	6.2	166.74	-178.8	-7.7	436.9	426.7	10.14	43.067		
2,800.0	2,782.7	2,755.2	2,740.2	7.1	6.5	165.73	-190.5	-1.1	457.2	446.6	10.55	43.326		
2,900.0	2,881.9	2,847.0	2,831.2	7.3	6.7	165.03	-201.6	3.7	478.4	467.5	10.94	43.752		
3,000.0	2,981.2	2,934.6	2,917.9	7.6	7.0	164.55	-213.1	6.6	501.3	490.0	11.31	44.340		
3,100.0	3,080.4	3,013.0	2,995.6	7.9	7.2	164.05	-223.5	10.2	524.5	512.8	11.66	44.982		
3,200.0	3,179.6	3,013.0	2,995.6	8.2	7.2	164.05	-223.5	10.2	559.9	548.0	11.85	47.268		
3,300.0	3,278.9	3,013.0	2,995.6	8.4	7.2	164.05	-223.5	10.2	609.8	597.8	12.03	50.691		
3,400.0	3,378.1	3,013.0	2,995.6	8.7	7.2	164.05	-223.5	10.2	671.0	658.8	12.21	54.935		
3,500.0	3,477.3	3,013.0	2,995.6	9.0	7.2	164.05	-223.5	10.2	740.7	728.3	12.40	59.737		
3,600.0	3,576.6	3,013.0	2,995.6	9.3	7.2	164.05	-223.5	10.2	816.7	804.1	12.58	64.902		
3,700.0	3,675.8	3,013.0	2,995.6	9.6	7.2	164.05	-223.5	10.2	897.4	884.6	12.77	70.286		
3,800.0	3,775.0	3,013.0	2,995.6	9.8	7.2	164.05	-223.5	10.2	981.7	968.7	12.95	75.792		
3,900.0	3,874.3	3,013.0	2,995.6	10.1	7.2	164.05	-223.5	10.2	1,068.7	1,055.5	13.14	81.349		
4,000.0	3,973.5	3,013.0	2,995.6	10.4	7.2	164.05	-223.5	10.2	1,157.8	1,144.4	13.32	86.910		
4,100.0	4,072.7	3,013.0	2,995.6	10.7	7.2	164.05	-223.5	10.2	1,248.5	1,235.0	13.51	92.442		
4,200.0	4,172.0	3,013.0	2,995.6	10.9	7.2	164.05	-223.5	10.2	1,340.6	1,326.9	13.69	97.921		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05BDR D21-595 - 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									
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	-71.59	18.9	-56.9	60.0						
100.0	100.0	100.0	100.0	0.1	0.2	-71.59	18.9	-56.9	60.0	59.7	0.32	185.781			
200.0	200.0	200.0	200.0	0.3	0.3	-71.59	18.9	-56.9	60.0	59.3	0.67	89.271			
300.0	300.0	301.0	301.0	0.5	0.5	-73.08	17.2	-56.5	59.1	58.1	1.03	57.581			
400.0	400.0	401.7	401.6	0.7	0.7	-115.13	12.0	-55.4	57.4	56.0	1.40	41.145			
447.9	447.8	449.6	449.3	0.8	0.8	-120.50	8.3	-54.6	57.1	55.5	1.59	35.870	CC, ES		
500.0	499.8	501.5	500.9	0.9	0.9	-127.90	3.5	-53.6	57.7	55.9	1.81	31.962			
600.0	599.5	599.9	598.7	1.1	1.2	-143.66	-7.1	-51.3	63.6	61.4	2.22	28.614			
700.0	698.7	697.7	696.0	1.3	1.4	-156.94	-17.5	-49.0	76.4	73.8	2.61	29.235			
800.0	798.0	795.4	793.1	1.6	1.7	-166.28	-28.0	-46.8	92.6	89.6	2.98	31.052			
900.0	897.2	893.2	890.3	1.8	1.9	-172.76	-38.5	-44.5	110.5	107.1	3.34	33.051			
1,000.0	996.5	990.9	987.4	2.1	2.2	-177.41	-48.9	-42.2	129.4	125.7	3.70	34.938			
1,100.0	1,095.7	1,088.6	1,084.5	2.4	2.4	179.14	-59.4	-40.0	148.9	144.8	4.06	36.629			
1,200.0	1,194.9	1,186.4	1,181.7	2.7	2.7	176.48	-69.8	-37.7	168.8	164.4	4.43	38.117			
1,300.0	1,294.2	1,284.1	1,278.8	2.9	2.9	174.39	-80.3	-35.4	189.0	184.2	4.79	39.420			
1,400.0	1,393.4	1,381.8	1,376.0	3.2	3.2	172.70	-90.8	-33.2	209.4	204.2	5.16	40.561			
1,500.0	1,492.6	1,479.6	1,473.1	3.5	3.4	171.31	-101.2	-30.9	229.9	224.3	5.53	41.566			
1,600.0	1,591.9	1,577.3	1,570.3	3.7	3.7	170.15	-111.7	-28.7	250.5	244.6	5.90	42.453			
1,700.0	1,691.1	1,675.0	1,667.4	4.0	3.9	169.17	-122.1	-26.4	271.2	265.0	6.27	43.242			
1,800.0	1,790.3	1,772.8	1,764.6	4.3	4.2	168.32	-132.6	-24.1	292.0	285.4	6.64	43.946			
1,900.0	1,889.6	1,870.5	1,861.7	4.6	4.4	167.59	-143.1	-21.9	312.8	305.8	7.02	44.578			
2,000.0	1,988.8	1,968.2	1,958.8	4.8	4.7	166.95	-153.5	-19.6	333.7	326.3	7.39	45.148			
2,100.0	2,088.0	2,066.0	2,056.0	5.1	4.9	166.38	-164.0	-17.3	354.6	346.9	7.77	45.665			
2,200.0	2,187.3	2,163.7	2,153.1	5.4	5.2	165.88	-174.5	-15.1	375.6	367.4	8.14	46.135			
2,300.0	2,286.5	2,261.4	2,250.3	5.7	5.4	165.43	-184.9	-12.8	396.5	388.0	8.52	46.564			
2,400.0	2,385.7	2,359.2	2,347.4	6.0	5.7	165.02	-195.4	-10.6	417.5	408.6	8.89	46.957			
2,500.0	2,485.0	2,456.9	2,444.6	6.2	5.9	164.66	-205.8	-8.3	438.5	429.3	9.27	47.319			
2,600.0	2,584.2	2,554.6	2,541.7	6.5	6.2	164.33	-216.3	-6.0	459.6	449.9	9.64	47.653			
2,700.0	2,683.5	2,652.3	2,638.9	6.8	6.4	164.02	-226.8	-3.8	480.6	470.6	10.02	47.962			
2,800.0	2,782.7	2,750.1	2,736.0	7.1	6.7	163.75	-237.2	-1.5	501.6	491.2	10.40	48.248			
2,900.0	2,881.9	2,847.8	2,833.1	7.3	6.9	163.49	-247.7	0.8	522.7	511.9	10.77	48.515			
3,000.0	2,981.2	2,945.5	2,930.3	7.6	7.2	163.25	-258.2	3.0	543.8	532.6	11.15	48.764			
3,100.0	3,080.4	3,043.3	3,027.4	7.9	7.5	163.04	-268.6	5.3	564.8	553.3	11.53	48.996			
3,200.0	3,179.6	3,141.0	3,124.6	8.2	7.7	162.83	-279.1	7.6	585.9	574.0	11.91	49.214			
3,300.0	3,278.9	3,238.7	3,221.7	8.4	8.0	162.65	-289.5	9.8	607.0	594.7	12.28	49.419			
3,400.0	3,378.1	3,336.5	3,318.9	8.7	8.2	162.47	-300.0	12.1	628.1	615.5	12.66	49.611			
3,500.0	3,477.3	3,434.2	3,416.0	9.0	8.5	162.31	-310.5	14.3	649.2	636.2	13.04	49.792			
3,600.0	3,576.6	3,531.9	3,513.2	9.3	8.7	162.15	-320.9	16.6	670.3	656.9	13.42	49.963			
3,700.0	3,675.8	3,629.7	3,610.3	9.6	9.0	162.01	-331.4	18.9	691.4	677.6	13.79	50.125			
3,800.0	3,775.0	3,727.4	3,707.4	9.8	9.2	161.87	-341.8	21.1	712.5	698.4	14.17	50.277			
3,900.0	3,874.3	3,825.1	3,804.6	10.1	9.5	161.74	-352.3	23.4	733.7	719.1	14.55	50.422			
4,000.0	3,973.5	3,922.9	3,901.7	10.4	9.7	161.62	-362.8	25.7	754.8	739.8	14.93	50.560			
4,100.0	4,072.7	4,020.6	3,998.9	10.7	10.0	161.51	-373.2	27.9	775.9	760.6	15.31	50.691			
4,200.0	4,172.0	4,118.3	4,096.0	10.9	10.2	161.40	-383.7	30.2	797.0	781.3	15.68	50.816			
4,300.0	4,271.2	4,216.1	4,193.2	11.2	10.5	161.30	-394.2	32.4	818.2	802.1	16.06	50.934			
4,400.0	4,370.5	4,313.8	4,290.3	11.5	10.7	161.20	-404.6	34.7	839.3	822.8	16.44	51.047			
4,500.0	4,469.7	4,411.5	4,387.5	11.8	11.0	161.11	-415.1	37.0	860.4	843.6	16.82	51.155			
4,600.0	4,568.9	4,509.3	4,484.6	12.0	11.2	161.02	-425.5	39.2	881.6	864.4	17.20	51.259			
4,700.0	4,668.2	4,607.0	4,581.7	12.3	11.5	160.93	-436.0	41.5	902.7	885.1	17.58	51.358			
4,800.0	4,767.4	4,704.7	4,678.9	12.6	11.8	160.85	-446.5	43.8	923.8	905.9	17.96	51.452			
4,900.0	4,866.6	4,802.5	4,776.0	12.9	12.0	160.78	-456.9	46.0	945.0	926.6	18.33	51.543			
5,000.0	4,965.9	4,900.2	4,873.2	13.2	12.3	160.70	-467.4	48.3	966.1	947.4	18.71	51.630			

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05BDR D21-595 - 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						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	5,065.1	4,997.9	4,970.3	13.4	12.5	160.63	-477.9	50.5	987.3	968.2	19.09	51.714		
5,200.0	5,164.4	5,095.7	5,067.6	13.7	12.8	160.63	-488.3	52.8	1,008.0	988.5	19.49	51.712		
5,300.0	5,264.0	5,214.0	5,185.2	13.9	13.0	160.60	-500.3	55.4	1,025.4	1,005.4	19.93	51.450		
5,400.0	5,363.8	5,359.4	5,330.3	14.1	13.3	160.57	-509.2	57.3	1,035.8	1,015.5	20.37	50.850		
5,500.0	5,463.8	5,492.1	5,462.9	14.2	13.5	160.59	-511.1	57.7	1,038.7	1,018.0	20.75	50.057		
5,600.0	5,563.8	5,588.9	5,559.8	14.3	13.6	-43.66	-511.2	57.4	1,038.8	1,017.8	21.06	49.318		
5,700.0	5,663.8	5,688.3	5,659.1	14.4	13.7	-43.66	-511.5	56.9	1,038.9	1,017.5	21.38	48.589		
5,800.0	5,763.8	5,788.3	5,759.1	14.5	13.9	-43.66	-511.8	56.4	1,038.9	1,017.2	21.70	47.875		
5,900.0	5,863.8	5,888.3	5,859.1	14.6	14.0	-43.66	-512.2	55.8	1,038.9	1,016.8	22.02	47.179		
6,000.0	5,963.8	5,988.3	5,959.1	14.8	14.1	-43.66	-512.5	55.3	1,038.9	1,016.5	22.34	46.501		
6,100.0	6,063.8	6,088.3	6,059.1	14.9	14.3	-43.66	-512.8	54.7	1,038.9	1,016.2	22.66	45.841		
6,200.0	6,163.8	6,188.3	6,159.1	15.0	14.4	-43.66	-513.1	54.2	1,038.9	1,015.9	22.98	45.198		
6,300.0	6,263.8	6,288.3	6,259.1	15.1	14.5	-43.66	-513.4	53.7	1,038.9	1,015.6	23.31	44.571		
6,400.0	6,363.8	6,388.3	6,359.1	15.2	14.7	-43.66	-513.7	53.1	1,038.9	1,015.2	23.63	43.960		
6,500.0	6,463.8	6,488.3	6,459.1	15.4	14.8	-43.66	-514.0	52.6	1,038.9	1,014.9	23.96	43.364		
6,600.0	6,563.8	6,588.3	6,559.1	15.5	14.9	-43.66	-514.4	52.0	1,038.9	1,014.6	24.28	42.783		
6,700.0	6,663.8	6,688.3	6,659.1	15.6	15.1	-43.66	-514.7	51.5	1,038.9	1,014.3	24.61	42.216		
6,800.0	6,763.8	6,788.3	6,759.1	15.7	15.2	-43.66	-515.0	50.9	1,038.9	1,013.9	24.93	41.663		
6,900.0	6,863.8	6,888.3	6,859.1	15.8	15.3	-43.66	-515.3	50.4	1,038.9	1,013.6	25.26	41.124		
7,000.0	6,963.8	6,988.3	6,959.1	16.0	15.5	-43.66	-515.6	49.9	1,038.9	1,013.3	25.59	40.597		
7,100.0	7,063.8	7,088.3	7,059.1	16.1	15.6	-43.66	-515.9	49.3	1,038.9	1,012.9	25.92	40.082		
7,200.0	7,163.8	7,188.3	7,159.1	16.2	15.8	-43.66	-516.2	48.8	1,038.9	1,012.6	26.25	39.580		
7,300.0	7,263.8	7,288.3	7,259.1	16.4	15.9	-43.66	-516.6	48.2	1,038.9	1,012.3	26.58	39.089		
7,400.0	7,363.8	7,388.3	7,359.1	16.5	16.0	-43.66	-516.9	47.7	1,038.9	1,012.0	26.91	38.610		
7,500.0	7,463.8	7,488.3	7,459.1	16.6	16.2	-43.66	-517.2	47.1	1,038.9	1,011.6	27.24	38.141		
7,600.0	7,563.8	7,588.3	7,559.1	16.8	16.3	-43.66	-517.5	46.6	1,038.9	1,011.3	27.57	37.684		
7,700.0	7,663.8	7,688.3	7,659.1	16.9	16.5	-43.66	-517.8	46.1	1,038.9	1,011.0	27.90	37.236		
7,800.0	7,763.8	7,788.3	7,759.1	17.0	16.6	-43.66	-518.1	45.5	1,038.9	1,010.6	28.23	36.798		
7,900.0	7,863.8	7,888.3	7,859.1	17.2	16.8	-43.66	-518.4	45.0	1,038.9	1,010.3	28.56	36.370		
8,000.0	7,963.8	7,988.3	7,959.1	17.3	16.9	-43.66	-518.7	44.4	1,038.9	1,010.0	28.90	35.952		
8,100.0	8,063.8	8,088.3	8,059.1	17.4	17.1	-43.66	-519.1	43.9	1,038.9	1,009.6	29.23	35.542		
8,200.0	8,163.8	8,188.3	8,159.1	17.6	17.2	-43.66	-519.4	43.3	1,038.9	1,009.3	29.56	35.141		
8,300.0	8,263.8	8,288.3	8,259.1	17.7	17.3	-43.66	-519.7	42.8	1,038.9	1,009.0	29.90	34.749		
8,400.0	8,363.8	8,388.3	8,359.1	17.8	17.5	-43.66	-520.0	42.3	1,038.9	1,008.6	30.23	34.365		
8,500.0	8,463.8	8,488.3	8,459.1	18.0	17.6	-43.66	-520.3	41.7	1,038.9	1,008.3	30.56	33.989		
8,600.0	8,563.8	8,588.3	8,559.1	18.1	17.8	-43.66	-520.6	41.2	1,038.9	1,008.0	30.90	33.621		
8,700.0	8,663.8	8,688.3	8,659.1	18.2	17.9	-43.66	-520.9	40.6	1,038.9	1,007.6	31.23	33.260		
8,800.0	8,763.8	8,788.3	8,759.1	18.4	18.1	-43.66	-521.3	40.1	1,038.9	1,007.3	31.57	32.907		
8,900.0	8,863.8	8,888.3	8,859.1	18.5	18.2	-43.66	-521.6	39.5	1,038.9	1,007.0	31.91	32.560		
9,000.0	8,963.8	8,988.3	8,959.0	18.7	18.4	-43.66	-521.9	39.0	1,038.9	1,006.6	32.24	32.221		
9,100.0	9,063.8	9,088.3	9,059.0	18.8	18.5	-43.66	-522.2	38.5	1,038.9	1,006.3	32.58	31.888		
9,200.0	9,163.8	9,188.3	9,159.0	19.0	18.7	-43.66	-522.5	37.9	1,038.9	1,005.9	32.91	31.562		
9,300.0	9,263.8	9,288.3	9,259.0	19.1	18.8	-43.66	-522.8	37.4	1,038.9	1,005.6	33.25	31.243		
9,400.0	9,363.8	9,388.3	9,359.0	19.2	19.0	-43.66	-523.1	36.8	1,038.9	1,005.3	33.59	30.929		
9,500.0	9,463.8	9,488.3	9,459.0	19.4	19.2	-43.66	-523.5	36.3	1,038.9	1,004.9	33.93	30.622		
9,600.0	9,563.7	9,588.3	9,559.0	19.5	19.3	-43.66	-523.8	35.7	1,038.9	1,004.6	34.26	30.320		
9,700.0	9,663.7	9,688.3	9,659.0	19.7	19.5	-43.66	-524.1	35.2	1,038.9	1,004.3	34.60	30.024		
9,800.0	9,763.7	9,788.3	9,759.0	19.8	19.6	-43.66	-524.4	34.7	1,038.9	1,003.9	34.94	29.733		
9,900.0	9,863.7	9,888.3	9,859.0	20.0	19.8	-43.66	-524.7	34.1	1,038.9	1,003.6	35.28	29.448		
10,000.0	9,963.7	9,988.3	9,959.0	20.1	19.9	-43.66	-525.0	33.6	1,038.9	1,003.2	35.62	29.168		
10,100.0	10,063.7	10,088.3	10,059.0	20.3	20.1	-43.66	-525.3	33.0	1,038.9	1,002.9	35.95	28.894		
10,200.0	10,163.7	10,188.3	10,159.0	20.4	20.2	-43.66	-525.7	32.5	1,038.9	1,002.6	36.29	28.624		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05BDR D21-595 - 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		
10,300.0	10,263.7	10,288.3	10,259.0	20.5	20.4	-43.66	-526.0	31.9	1,038.9	1,002.2	36.63	28.359		
10,400.0	10,363.7	10,388.3	10,359.0	20.7	20.5	-43.66	-526.3	31.4	1,038.9	1,001.9	36.97	28.099		
10,500.0	10,463.7	10,488.3	10,459.0	20.8	20.7	-43.66	-526.6	30.9	1,038.9	1,001.6	37.31	27.843		
10,600.0	10,563.7	10,588.3	10,559.0	21.0	20.9	-43.66	-526.9	30.3	1,038.9	1,001.2	37.65	27.592		
10,700.0	10,663.7	10,688.3	10,659.0	21.1	21.0	-43.66	-527.2	29.8	1,038.9	1,000.9	37.99	27.345		
10,800.0	10,763.7	10,788.3	10,759.0	21.3	21.2	-43.66	-527.5	29.2	1,038.9	1,000.5	38.33	27.103		
10,900.0	10,863.7	10,888.3	10,859.0	21.4	21.3	-43.66	-527.8	28.7	1,038.9	1,000.2	38.67	26.864		
11,000.0	10,963.7	10,988.3	10,959.0	21.6	21.5	-43.66	-528.2	28.1	1,038.9	999.9	39.01	26.630		
11,100.0	11,063.7	11,088.3	11,059.0	21.7	21.6	-43.66	-528.5	27.6	1,038.9	999.5	39.35	26.399		
11,200.0	11,163.7	11,188.3	11,159.0	21.9	21.8	-43.66	-528.8	27.1	1,038.9	999.2	39.69	26.173		
11,300.0	11,263.7	11,288.3	11,259.0	22.0	22.0	-43.66	-529.1	26.5	1,038.9	998.8	40.03	25.950		
11,400.0	11,363.7	11,388.3	11,359.0	22.2	22.1	-43.66	-529.4	26.0	1,038.9	998.5	40.37	25.731		
11,500.0	11,463.7	11,488.3	11,459.0	22.3	22.3	-43.66	-529.7	25.4	1,038.9	998.1	40.71	25.515		
11,600.0	11,563.7	11,588.3	11,559.0	22.5	22.4	-43.66	-530.0	24.9	1,038.9	997.8	41.06	25.303		
11,700.0	11,663.7	11,688.3	11,659.0	22.7	22.6	-43.66	-530.4	24.3	1,038.9	997.5	41.40	25.095		
11,800.0	11,763.7	11,788.3	11,759.0	22.8	22.8	-43.66	-530.7	23.8	1,038.9	997.1	41.74	24.889		
11,900.0	11,863.7	11,888.3	11,859.0	23.0	22.9	-43.66	-531.0	23.3	1,038.9	996.8	42.08	24.687		
11,913.0	11,876.7	11,901.3	11,872.0	23.0	22.9	-43.66	-531.0	23.2	1,038.9	996.7	42.12	24.661		
11,952.3	11,916.0	11,915.3	11,886.0	23.0	23.0	-43.66	-531.1	23.1	1,039.2	997.0	42.22	24.615 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05C D21 595 - 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	-71.42	4.7	-14.1	14.9					
100.0	100.0	100.0	100.0	0.1	0.1	-71.42	4.7	-14.1	14.9	14.6	0.30	50.093		
200.0	200.0	200.0	200.0	0.3	0.3	-71.42	4.7	-14.1	14.9	14.2	0.65	23.016		
300.0	300.0	300.3	300.3	0.5	0.5	-77.20	3.1	-13.5	13.9	12.9	1.00	13.888		
370.5	370.5	370.8	370.7	0.6	0.6	-129.23	-0.1	-12.5	13.0	11.7	1.26	10.315 CC, ES		
400.0	400.0	400.2	400.0	0.7	0.7	-140.12	-1.9	-11.9	13.3	11.9	1.37	9.705 SF		
500.0	499.8	499.3	498.7	0.9	0.9	-175.74	-10.1	-9.1	20.5	18.8	1.74	11.781		
600.0	599.5	596.9	595.6	1.1	1.2	167.14	-21.3	-5.3	37.2	35.1	2.11	17.643		
700.0	698.7	693.3	691.0	1.3	1.5	160.05	-35.1	-0.6	60.4	57.9	2.48	24.347		
800.0	798.0	790.2	786.6	1.6	1.8	156.86	-49.5	4.2	84.8	82.0	2.86	29.625		
900.0	897.2	887.1	882.3	1.8	2.1	155.10	-63.9	9.1	109.5	106.2	3.25	33.643		
1,000.0	996.5	984.0	978.0	2.1	2.4	153.99	-78.3	13.9	134.1	130.5	3.65	36.787		
1,100.0	1,095.7	1,080.9	1,073.7	2.4	2.7	153.22	-92.7	18.8	158.8	154.8	4.04	39.307		
1,200.0	1,194.9	1,177.7	1,169.4	2.7	3.0	152.66	-107.1	23.6	183.6	179.1	4.44	41.368		
1,300.0	1,294.2	1,274.6	1,265.0	2.9	3.3	152.23	-121.5	28.5	208.3	203.5	4.84	43.084		
1,400.0	1,393.4	1,371.5	1,360.7	3.2	3.6	151.90	-135.9	33.3	233.1	227.8	5.23	44.534		
1,500.0	1,492.6	1,468.4	1,456.4	3.5	3.9	151.63	-150.3	38.2	257.8	252.2	5.63	45.774		
1,600.0	1,591.9	1,565.3	1,552.1	3.7	4.2	151.40	-164.7	43.0	282.6	276.6	6.03	46.847		
1,700.0	1,691.1	1,662.1	1,647.8	4.0	4.5	151.21	-179.0	47.9	307.4	300.9	6.43	47.783		
1,800.0	1,790.3	1,759.0	1,743.5	4.3	4.9	151.05	-193.4	52.7	332.1	325.3	6.83	48.608		
1,900.0	1,889.6	1,855.9	1,839.1	4.6	5.2	150.92	-207.8	57.6	356.9	349.7	7.23	49.340		
2,000.0	1,988.8	1,952.8	1,934.8	4.8	5.5	150.80	-222.2	62.4	381.7	374.0	7.63	49.994		
2,100.0	2,088.0	2,049.7	2,030.5	5.1	5.8	150.69	-236.6	67.3	406.4	398.4	8.04	50.581		
2,200.0	2,187.3	2,146.5	2,126.2	5.4	6.1	150.60	-251.0	72.1	431.2	422.8	8.44	51.111		
2,300.0	2,286.5	2,243.4	2,221.9	5.7	6.4	150.51	-265.4	77.0	456.0	447.2	8.84	51.593		
2,400.0	2,385.7	2,340.3	2,317.5	6.0	6.7	150.44	-279.8	81.8	480.8	471.5	9.24	52.032		
2,500.0	2,485.0	2,437.2	2,413.2	6.2	7.0	150.37	-294.2	86.7	505.5	495.9	9.64	52.434		
2,600.0	2,584.2	2,534.1	2,508.9	6.5	7.4	150.31	-308.6	91.6	530.3	520.3	10.04	52.803		
2,700.0	2,683.5	2,630.9	2,604.6	6.8	7.7	150.26	-323.0	96.4	555.1	544.7	10.45	53.144		
2,800.0	2,782.7	2,727.8	2,700.3	7.1	8.0	150.21	-337.4	101.3	579.9	569.0	10.85	53.459		
2,900.0	2,881.9	2,824.7	2,796.0	7.3	8.3	150.16	-351.8	106.1	604.7	593.4	11.25	53.751		
3,000.0	2,981.2	2,921.6	2,891.6	7.6	8.6	150.12	-366.1	111.0	629.4	617.8	11.65	54.022		
3,100.0	3,080.4	3,018.5	2,987.3	7.9	8.9	150.08	-380.5	115.8	654.2	642.2	12.05	54.276		
3,200.0	3,179.6	3,115.3	3,083.0	8.2	9.2	150.04	-394.9	120.7	679.0	666.5	12.46	54.512		
3,300.0	3,278.9	3,212.2	3,178.7	8.4	9.6	150.01	-409.3	125.5	703.8	690.9	12.86	54.734		
3,400.0	3,378.1	3,309.1	3,274.4	8.7	9.9	149.97	-423.7	130.4	728.6	715.3	13.26	54.942		
3,500.0	3,477.3	3,406.0	3,370.1	9.0	10.2	149.94	-438.1	135.2	753.3	739.7	13.66	55.138		
3,600.0	3,576.6	3,502.9	3,465.7	9.3	10.5	149.92	-452.5	140.1	778.1	764.1	14.07	55.322		
3,700.0	3,675.8	3,599.7	3,561.4	9.6	10.8	149.89	-466.9	144.9	802.9	788.4	14.47	55.496		
3,800.0	3,775.0	3,696.6	3,657.1	9.8	11.1	149.87	-481.3	149.8	827.7	812.8	14.87	55.661		
3,900.0	3,874.3	3,793.5	3,752.8	10.1	11.4	149.84	-495.7	154.6	852.5	837.2	15.27	55.817		
4,000.0	3,973.5	3,890.4	3,848.5	10.4	11.8	149.82	-510.1	159.5	877.3	861.6	15.68	55.964		
4,100.0	4,072.7	3,987.3	3,944.1	10.7	12.1	149.80	-524.5	164.3	902.0	886.0	16.08	56.105		
4,200.0	4,172.0	4,084.1	4,039.8	10.9	12.4	149.78	-538.8	169.2	926.8	910.3	16.48	56.238		
4,300.0	4,271.2	4,181.0	4,135.5	11.2	12.7	149.76	-553.2	174.1	951.6	934.7	16.88	56.365		
4,400.0	4,370.5	4,277.9	4,231.2	11.5	13.0	149.74	-567.6	178.9	976.4	959.1	17.29	56.486		
4,500.0	4,469.7	4,374.8	4,326.9	11.8	13.3	149.73	-582.0	183.8	1,001.2	983.5	17.69	56.601		
4,600.0	4,568.9	4,471.7	4,422.6	12.0	13.6	149.71	-596.4	188.6	1,025.9	1,007.9	18.09	56.711		
4,700.0	4,668.2	4,568.5	4,518.2	12.3	14.0	149.70	-610.8	193.5	1,050.7	1,032.2	18.49	56.817		
4,800.0	4,767.4	4,665.4	4,613.9	12.6	14.3	149.68	-625.2	198.3	1,075.5	1,056.6	18.90	56.917		
4,900.0	4,866.6	4,762.3	4,709.6	12.9	14.6	149.67	-639.6	203.2	1,100.3	1,081.0	19.30	57.014		
5,000.0	4,965.9	4,859.2	4,805.3	13.2	14.9	149.65	-654.0	208.0	1,125.1	1,105.4	19.70	57.107		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05C D21 595 - 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		
5,100.0	5,065.1	4,956.1	4,901.0	13.4	15.2	149.64	-668.4	212.9	1,149.9	1,129.8	20.10	57.195		
5,200.0	5,164.4	5,053.0	4,996.7	13.7	15.5	149.75	-682.8	217.7	1,174.2	1,153.7	20.53	57.186		
5,300.0	5,264.0	5,150.6	5,093.1	13.9	15.9	149.87	-697.3	222.6	1,196.0	1,175.1	20.96	57.056		
5,400.0	5,363.8	5,248.7	5,190.0	14.1	16.2	149.88	-711.9	227.5	1,214.9	1,193.5	21.36	56.874		
5,500.0	5,463.8	5,347.3	5,287.4	14.2	16.5	149.79	-726.5	232.5	1,230.7	1,209.0	21.73	56.646		
5,600.0	5,563.8	5,446.1	5,384.9	14.3	16.8	-54.74	-741.2	237.4	1,245.0	1,222.9	22.07	56.406		
5,700.0	5,663.8	5,544.9	5,482.5	14.4	17.1	-55.04	-755.8	242.4	1,259.0	1,236.6	22.41	56.174		
5,800.0	5,763.8	5,643.7	5,580.1	14.5	17.5	-55.34	-770.5	247.3	1,273.1	1,250.3	22.75	55.954		
5,900.0	5,863.8	5,742.4	5,677.6	14.6	17.8	-55.64	-785.2	252.3	1,287.2	1,264.1	23.09	55.743		
6,000.0	5,963.8	5,841.2	5,775.2	14.8	18.1	-55.93	-799.9	257.2	1,301.3	1,277.9	23.43	55.542		
6,100.0	6,063.8	5,940.0	5,872.7	14.9	18.4	-56.21	-814.5	262.2	1,315.5	1,291.7	23.77	55.349		
6,200.0	6,163.8	6,038.8	5,970.3	15.0	18.7	-56.49	-829.2	267.1	1,329.7	1,305.6	24.10	55.165		
6,300.0	6,263.8	6,137.6	6,067.9	15.1	19.1	-56.77	-843.9	272.1	1,343.9	1,319.5	24.44	54.988		
6,400.0	6,363.8	6,236.3	6,165.4	15.2	19.4	-57.03	-858.6	277.0	1,358.2	1,333.4	24.78	54.818		
6,500.0	6,463.8	6,335.1	6,263.0	15.4	19.7	-57.30	-873.2	282.0	1,372.4	1,347.3	25.11	54.655		
6,600.0	6,563.8	6,433.9	6,360.5	15.5	20.0	-57.55	-887.9	286.9	1,386.8	1,361.3	25.45	54.498		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05D D21 595 - 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	-71.54	14.2	-42.5	44.9					
100.0	100.0	100.0	100.0	0.1	0.1	-71.54	14.2	-42.5	44.9	44.6	0.30	151.179		
200.0	200.0	200.0	200.0	0.3	0.3	-71.54	14.2	-42.5	44.9	44.2	0.65	69.461		
300.0	300.0	300.7	300.7	0.5	0.5	-73.54	12.5	-42.2	44.0	43.0	1.00	44.009		
400.0	400.0	401.1	401.0	0.7	0.7	-117.82	7.3	-41.2	42.6	41.2	1.37	31.080		
421.9	421.9	423.0	422.8	0.7	0.7	-120.89	5.7	-40.8	42.5	41.0	1.46	29.108 CC, ES		
500.0	499.8	500.6	500.0	0.9	0.9	-134.67	-1.2	-39.4	44.0	42.3	1.78	24.767		
600.0	599.5	598.5	597.2	1.1	1.2	-154.51	-12.9	-37.1	52.9	50.7	2.20	24.085 SF		
700.0	698.7	694.4	692.0	1.3	1.5	-170.34	-27.5	-34.1	71.1	68.5	2.59	27.450		
800.0	798.0	789.8	785.7	1.6	1.8	179.29	-44.6	-30.7	94.8	91.8	2.96	31.998		
900.0	897.2	885.7	880.0	1.8	2.1	172.99	-62.1	-27.1	120.5	117.2	3.34	36.140		
1,000.0	996.5	981.7	974.3	2.1	2.5	168.91	-79.6	-23.6	147.2	143.5	3.71	39.656		
1,100.0	1,095.7	1,077.6	1,068.6	2.4	2.8	166.08	-97.0	-20.1	174.3	170.2	4.09	42.610		
1,200.0	1,194.9	1,173.6	1,162.8	2.7	3.2	164.02	-114.5	-16.6	201.8	197.3	4.47	45.101		
1,300.0	1,294.2	1,269.5	1,257.1	2.9	3.5	162.45	-132.0	-13.0	229.4	224.5	4.86	47.219		
1,400.0	1,393.4	1,365.5	1,351.4	3.2	3.9	161.21	-149.5	-9.5	257.1	251.9	5.24	49.036		
1,500.0	1,492.6	1,461.4	1,445.6	3.5	4.2	160.22	-167.0	-6.0	284.9	279.3	5.63	50.610		
1,600.0	1,591.9	1,557.4	1,539.9	3.7	4.6	159.40	-184.4	-2.4	312.8	306.8	6.02	51.984		
1,700.0	1,691.1	1,653.3	1,634.2	4.0	4.9	158.72	-201.9	1.1	340.8	334.3	6.41	53.193		
1,800.0	1,790.3	1,749.2	1,728.5	4.3	5.3	158.14	-219.4	4.6	368.7	361.9	6.79	54.265		
1,900.0	1,889.6	1,845.2	1,822.7	4.6	5.6	157.64	-236.9	8.1	396.7	389.5	7.18	55.221		
2,000.0	1,988.8	1,941.1	1,917.0	4.8	6.0	157.21	-254.4	11.7	424.8	417.2	7.57	56.079		
2,100.0	2,088.0	2,037.1	2,011.3	5.1	6.3	156.83	-271.8	15.2	452.8	444.8	7.96	56.852		
2,200.0	2,187.3	2,133.0	2,105.6	5.4	6.7	156.49	-289.3	18.7	480.9	472.5	8.36	57.554		
2,300.0	2,286.5	2,229.0	2,199.8	5.7	7.0	156.19	-306.8	22.3	509.0	500.2	8.75	58.192		
2,400.0	2,385.7	2,324.9	2,294.1	6.0	7.4	155.93	-324.3	25.8	537.0	527.9	9.14	58.776		
2,500.0	2,485.0	2,420.9	2,388.4	6.2	7.7	155.69	-341.8	29.3	565.1	555.6	9.53	59.312		
2,600.0	2,584.2	2,516.8	2,482.7	6.5	8.1	155.47	-359.2	32.8	593.3	583.3	9.92	59.805		
2,700.0	2,683.5	2,612.7	2,576.9	6.8	8.4	155.27	-376.7	36.4	621.4	611.1	10.31	60.261		
2,800.0	2,782.7	2,708.7	2,671.2	7.1	8.8	155.09	-394.2	39.9	649.5	638.8	10.70	60.683		
2,900.0	2,881.9	2,804.6	2,765.5	7.3	9.1	154.93	-411.7	43.4	677.6	666.5	11.09	61.075		
3,000.0	2,981.2	2,900.6	2,859.7	7.6	9.5	154.77	-429.2	46.9	705.7	694.3	11.49	61.440		
3,100.0	3,080.4	2,996.5	2,954.0	7.9	9.9	154.63	-446.6	50.5	733.9	722.0	11.88	61.782		
3,200.0	3,179.6	3,092.5	3,048.3	8.2	10.2	154.50	-464.1	54.0	762.0	749.8	12.27	62.101		
3,300.0	3,278.9	3,188.4	3,142.6	8.4	10.6	154.38	-481.6	57.5	790.2	777.5	12.66	62.400		
3,400.0	3,378.1	3,284.4	3,236.8	8.7	10.9	154.27	-499.1	61.1	818.3	805.3	13.06	62.682		
3,500.0	3,477.3	3,380.3	3,331.1	9.0	11.3	154.16	-516.6	64.6	846.5	833.0	13.45	62.946		
3,600.0	3,576.6	3,476.3	3,425.4	9.3	11.6	154.06	-534.0	68.1	874.6	860.8	13.84	63.196		
3,700.0	3,675.8	3,572.2	3,519.7	9.6	12.0	153.97	-551.5	71.6	902.8	888.5	14.23	63.432		
3,800.0	3,775.0	3,668.1	3,613.9	9.8	12.3	153.88	-569.0	75.2	930.9	916.3	14.62	63.655		
3,900.0	3,874.3	3,764.1	3,708.2	10.1	12.7	153.80	-586.5	78.7	959.1	944.1	15.02	63.867		
4,000.0	3,973.5	3,860.0	3,802.5	10.4	13.0	153.73	-604.0	82.2	987.2	971.8	15.41	64.067		
4,100.0	4,072.7	3,956.0	3,896.8	10.7	13.4	153.65	-621.4	85.8	1,015.4	999.6	15.80	64.258		
4,200.0	4,172.0	4,051.9	3,991.0	10.9	13.7	153.58	-638.9	89.3	1,043.6	1,027.4	16.19	64.439		
4,300.0	4,271.2	4,147.9	4,085.3	11.2	14.1	153.52	-656.4	92.8	1,071.7	1,055.1	16.59	64.612		
4,400.0	4,370.5	4,243.8	4,179.6	11.5	14.4	153.46	-673.9	96.3	1,099.9	1,082.9	16.98	64.777		
4,500.0	4,469.7	4,339.8	4,273.8	11.8	14.8	153.40	-691.4	99.9	1,128.1	1,110.7	17.37	64.934		
4,600.0	4,568.9	4,435.7	4,368.1	12.0	15.1	153.34	-708.8	103.4	1,156.2	1,138.5	17.77	65.084		
4,700.0	4,668.2	4,531.7	4,462.4	12.3	15.5	153.29	-726.3	106.9	1,184.4	1,166.2	18.16	65.228		
4,800.0	4,767.4	4,627.6	4,556.7	12.6	15.9	153.24	-743.8	110.5	1,212.6	1,194.0	18.55	65.366		
4,900.0	4,866.6	4,723.5	4,650.9	12.9	16.2	153.19	-761.3	114.0	1,240.7	1,221.8	18.94	65.498		
5,000.0	4,965.9	4,819.5	4,745.2	13.2	16.6	153.14	-778.8	117.5	1,268.9	1,249.6	19.34	65.624		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													D21 595 Pad - LR05D D21 595 - 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	5,065.1	4,915.4	4,839.5	13.4	16.9	153.10	-796.2	121.0	1,297.1	1,277.3	19.73	65.746						
5,200.0	5,164.4	5,011.5	4,933.9	13.7	17.3	153.18	-813.7	124.6	1,324.8	1,304.7	20.16	65.728						
5,300.0	5,264.0	5,108.3	5,028.9	13.9	17.6	153.30	-831.4	128.1	1,349.9	1,329.3	20.59	65.561						
5,400.0	5,363.8	5,205.7	5,124.7	14.1	18.0	153.33	-849.1	131.7	1,372.0	1,351.0	20.99	65.351						
5,500.0	5,463.8	5,303.7	5,221.0	14.2	18.3	153.27	-867.0	135.3	1,391.1	1,369.7	21.37	65.102						

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06B D21 595 - 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			
0.0	0.0	0.0	0.0	0.0	0.0	108.37	-23.7	71.3	75.1					
100.0	100.0	100.0	100.0	0.1	0.1	108.37	-23.7	71.3	75.1	74.8	0.30	253.167		
200.0	200.0	200.0	200.0	0.3	0.3	108.37	-23.7	71.3	75.1	74.5	0.65	116.320		
300.0	300.0	300.0	300.0	0.5	0.5	108.37	-23.7	71.3	75.1	74.1	0.99	75.506		
400.0	400.0	400.0	400.0	0.7	0.7	73.95	-23.7	71.3	74.6	73.3	1.35	55.419		
500.0	499.8	499.8	499.8	0.9	0.8	77.90	-23.7	71.3	73.3	71.6	1.71	42.857		
541.9	541.6	540.6	540.6	1.0	0.9	80.33	-23.8	71.5	73.0	71.2	1.87	38.983 CC, ES		
600.0	599.5	597.0	597.0	1.1	1.0	84.41	-24.4	72.8	73.7	71.6	2.10	35.098		
700.0	698.7	693.7	693.6	1.3	1.2	92.50	-26.6	77.1	78.4	75.9	2.51	31.197		
800.0	798.0	790.1	789.6	1.6	1.4	99.21	-30.2	84.4	87.9	85.0	2.94	29.929 SF		
900.0	897.2	885.9	884.8	1.8	1.6	103.81	-35.3	94.5	101.4	98.1	3.37	30.117		
1,000.0	996.5	981.0	978.8	2.1	1.9	106.61	-41.7	107.3	118.4	114.6	3.81	31.075		
1,100.0	1,095.7	1,076.4	1,072.5	2.4	2.2	108.12	-49.4	122.9	138.3	134.0	4.26	32.427		
1,200.0	1,194.9	1,174.2	1,168.5	2.7	2.5	109.13	-57.7	139.5	159.0	154.3	4.74	33.568		
1,300.0	1,294.2	1,272.0	1,264.6	2.9	2.9	109.91	-66.0	156.1	179.7	174.5	5.21	34.464		
1,400.0	1,393.4	1,369.8	1,360.6	3.2	3.2	110.53	-74.3	172.8	200.5	194.8	5.70	35.178		
1,500.0	1,492.6	1,467.6	1,456.6	3.5	3.6	111.03	-82.6	189.4	221.3	215.1	6.19	35.756		
1,600.0	1,591.9	1,565.4	1,552.6	3.7	3.9	111.45	-90.9	206.0	242.0	235.4	6.68	36.231		
1,700.0	1,691.1	1,663.2	1,648.6	4.0	4.3	111.80	-99.2	222.7	262.8	255.7	7.18	36.628		
1,800.0	1,790.3	1,761.0	1,744.6	4.3	4.6	112.10	-107.5	239.3	283.6	276.0	7.67	36.963		
1,900.0	1,889.6	1,858.8	1,840.7	4.6	5.0	112.36	-115.8	256.0	304.5	296.3	8.17	37.249		
2,000.0	1,988.8	1,956.6	1,936.7	4.8	5.3	112.58	-124.1	272.6	325.3	316.6	8.67	37.495		
2,100.0	2,088.0	2,054.4	2,032.7	5.1	5.7	112.78	-132.4	289.2	346.1	336.9	9.18	37.710		
2,200.0	2,187.3	2,152.2	2,128.7	5.4	6.1	112.96	-140.7	305.9	366.9	357.2	9.68	37.898		
2,300.0	2,286.5	2,250.0	2,224.7	5.7	6.4	113.11	-149.0	322.5	387.7	377.6	10.19	38.063		
2,400.0	2,385.7	2,347.8	2,320.8	6.0	6.8	113.26	-157.3	339.1	408.6	397.9	10.69	38.211		
2,500.0	2,485.0	2,445.6	2,416.8	6.2	7.2	113.38	-165.5	355.8	429.4	418.2	11.20	38.343		
2,600.0	2,584.2	2,543.4	2,512.8	6.5	7.5	113.50	-173.8	372.4	450.2	438.5	11.71	38.461		
2,700.0	2,683.5	2,641.2	2,608.8	6.8	7.9	113.60	-182.1	389.0	471.1	458.9	12.21	38.568		
2,800.0	2,782.7	2,739.0	2,704.8	7.1	8.3	113.70	-190.4	405.7	491.9	479.2	12.72	38.665		
2,900.0	2,881.9	2,836.8	2,800.9	7.3	8.6	113.79	-198.7	422.3	512.8	499.5	13.23	38.753		
3,000.0	2,981.2	2,934.6	2,896.9	7.6	9.0	113.87	-207.0	438.9	533.6	519.9	13.74	38.834		
3,100.0	3,080.4	3,032.4	2,992.9	7.9	9.4	113.95	-215.3	455.6	554.4	540.2	14.25	38.908		
3,200.0	3,179.6	3,130.2	3,088.9	8.2	9.7	114.02	-223.6	472.2	575.3	560.5	14.76	38.977		
3,300.0	3,278.9	3,228.0	3,184.9	8.4	10.1	114.08	-231.9	488.8	596.1	580.8	15.27	39.040		
3,400.0	3,378.1	3,325.8	3,281.0	8.7	10.5	114.14	-240.2	505.5	617.0	601.2	15.78	39.098		
3,500.0	3,477.3	3,423.6	3,377.0	9.0	10.8	114.20	-248.5	522.1	637.8	621.5	16.29	39.152		
3,600.0	3,576.6	3,521.4	3,473.0	9.3	11.2	114.25	-256.8	538.7	658.6	641.8	16.80	39.203		
3,700.0	3,675.8	3,619.2	3,569.0	9.6	11.6	114.30	-265.1	555.4	679.5	662.2	17.31	39.250		
3,800.0	3,775.0	3,717.0	3,665.0	9.8	12.0	114.35	-273.4	572.0	700.3	682.5	17.82	39.294		
3,900.0	3,874.3	3,814.8	3,761.0	10.1	12.3	114.39	-281.7	588.7	721.2	702.9	18.33	39.335		
4,000.0	3,973.5	3,912.6	3,857.1	10.4	12.7	114.43	-290.0	605.3	742.0	723.2	18.85	39.374		
4,100.0	4,072.7	4,010.4	3,953.1	10.7	13.1	114.47	-298.3	621.9	762.9	743.5	19.36	39.410		
4,200.0	4,172.0	4,108.2	4,049.1	10.9	13.4	114.51	-306.6	638.6	783.7	763.9	19.87	39.445		
4,300.0	4,271.2	4,206.0	4,145.1	11.2	13.8	114.55	-314.9	655.2	804.6	784.2	20.38	39.477		
4,400.0	4,370.5	4,303.8	4,241.1	11.5	14.2	114.58	-323.2	671.8	825.4	804.5	20.89	39.508		
4,500.0	4,469.7	4,401.6	4,337.2	11.8	14.5	114.61	-331.5	688.5	846.3	824.9	21.40	39.537		
4,600.0	4,568.9	4,499.4	4,433.2	12.0	14.9	114.64	-339.8	705.1	867.1	845.2	21.92	39.564		
4,700.0	4,668.2	4,597.2	4,529.2	12.3	15.3	114.67	-348.1	721.7	888.0	865.5	22.43	39.590		
4,800.0	4,767.4	4,695.0	4,625.2	12.6	15.6	114.70	-356.4	738.4	908.8	885.9	22.94	39.615		
4,900.0	4,866.6	4,792.8	4,721.2	12.9	16.0	114.72	-364.7	755.0	929.7	906.2	23.45	39.639		
5,000.0	4,965.9	4,890.6	4,817.3	13.2	16.4	114.75	-373.0	771.6	950.5	926.5	23.97	39.661		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06B D21 595 - 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	5,065.1	4,988.4	4,913.3	13.4	16.8	114.77	-381.2	788.3	971.4	946.9	24.48	39.683		
5,200.0	5,164.4	5,086.3	5,009.3	13.7	17.1	114.97	-389.5	804.9	992.0	967.0	25.01	39.665		
5,300.0	5,264.0	5,184.3	5,105.6	13.9	17.5	115.16	-397.9	821.6	1,011.4	985.9	25.50	39.658		
5,400.0	5,363.8	5,282.5	5,202.0	14.1	17.9	115.16	-406.2	838.3	1,029.3	1,003.4	25.93	39.691		
5,500.0	5,463.8	5,380.7	5,298.4	14.2	18.2	114.96	-414.5	855.0	1,045.9	1,019.6	26.30	39.768		
5,600.0	5,563.8	5,478.9	5,394.8	14.3	18.6	-89.83	-422.9	871.7	1,061.7	1,035.1	26.61	39.896		
5,700.0	5,663.8	5,577.0	5,491.1	14.4	19.0	-90.40	-431.2	888.4	1,077.7	1,050.8	26.92	40.038		
5,800.0	5,763.8	5,675.1	5,587.4	14.5	19.4	-90.97	-439.5	905.1	1,093.8	1,066.6	27.22	40.187		
5,900.0	5,863.8	5,773.2	5,683.8	14.6	19.7	-91.53	-447.8	921.8	1,110.0	1,082.4	27.52	40.340		
6,000.0	5,963.8	5,871.3	5,780.1	14.8	20.1	-92.07	-456.1	938.4	1,126.3	1,098.4	27.81	40.495		
6,100.0	6,063.8	5,969.5	5,876.4	14.9	20.5	-92.59	-464.5	955.1	1,142.6	1,114.5	28.11	40.653		
6,200.0	6,163.8	6,067.6	5,972.7	15.0	20.8	-93.10	-472.8	971.8	1,159.1	1,130.7	28.40	40.812		
6,300.0	6,263.8	6,165.7	6,069.0	15.1	21.2	-93.60	-481.1	988.5	1,175.7	1,147.0	28.69	40.972		
6,400.0	6,363.8	6,263.8	6,165.4	15.2	21.6	-94.08	-489.4	1,005.2	1,192.3	1,163.3	28.99	41.134		
6,500.0	6,463.8	6,361.9	6,261.7	15.4	22.0	-94.55	-497.8	1,021.9	1,209.0	1,179.8	29.28	41.296		
6,600.0	6,563.8	6,460.0	6,358.0	15.5	22.3	-95.01	-506.1	1,038.6	1,225.9	1,196.3	29.57	41.459		
6,700.0	6,663.8	6,558.1	6,454.3	15.6	22.7	-95.45	-514.4	1,055.3	1,242.7	1,212.9	29.86	41.621		
6,800.0	6,763.8	6,656.2	6,550.7	15.7	23.1	-95.88	-522.7	1,071.9	1,259.7	1,229.5	30.15	41.784		
6,900.0	6,863.8	6,754.3	6,647.0	15.8	23.4	-96.30	-531.0	1,088.6	1,276.7	1,246.3	30.44	41.947		
7,000.0	6,963.8	6,852.4	6,743.3	16.0	23.8	-96.71	-539.4	1,105.3	1,293.8	1,263.1	30.72	42.109		
7,100.0	7,063.8	6,950.5	6,839.6	16.1	24.2	-97.11	-547.7	1,122.0	1,310.9	1,279.9	31.01	42.270		
7,200.0	7,163.8	7,048.7	6,935.9	16.2	24.6	-97.50	-556.0	1,138.7	1,328.1	1,296.8	31.30	42.430		
7,300.0	7,263.8	7,146.8	7,032.3	16.4	24.9	-97.88	-564.3	1,155.4	1,345.4	1,313.8	31.59	42.590		
7,400.0	7,363.8	7,244.9	7,128.6	16.5	25.3	-98.25	-572.7	1,172.1	1,362.7	1,330.9	31.88	42.748		
7,500.0	7,463.8	7,343.0	7,224.9	16.6	25.7	-98.61	-581.0	1,188.8	1,380.1	1,347.9	32.17	42.906		
7,600.0	7,563.8	7,441.1	7,321.2	16.8	26.0	-98.96	-589.3	1,205.4	1,397.5	1,365.1	32.45	43.062		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06C D21 595 - 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			
0.0	0.0	0.0	0.0	0.0	0.0	108.41	-9.5	28.5	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	108.41	-9.5	28.5	30.0	29.7	0.30	101.087		
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-9.5	28.5	30.0	29.3	0.65	46.445		
300.0	300.0	300.0	300.0	0.5	0.5	108.41	-9.5	28.5	30.0	29.0	0.99	30.149		
400.0	400.0	400.0	400.0	0.7	0.7	75.94	-9.5	28.5	29.5	28.2	1.35	21.925		
500.0	499.8	499.8	499.8	0.9	0.8	86.12	-9.5	28.5	28.7	27.0	1.71	16.764		
526.2	525.9	525.9	525.9	0.9	0.9	90.00	-9.5	28.5	28.6	26.8	1.81	15.784 CC, ES		
600.0	599.5	599.5	599.5	1.1	1.0	103.23	-9.5	28.5	29.4	27.3	2.10	14.005		
700.0	698.7	698.7	698.7	1.3	1.2	122.80	-9.5	28.5	34.1	31.7	2.48	13.755 SF		
800.0	798.0	798.0	798.0	1.6	1.4	137.00	-9.5	28.5	42.2	39.3	2.84	14.866		
900.0	897.2	897.2	897.2	1.8	1.5	146.31	-9.5	28.5	51.9	48.7	3.18	16.336		
1,000.0	996.5	996.5	996.5	2.1	1.7	152.58	-9.5	28.5	62.6	59.1	3.52	17.799		
1,100.0	1,095.7	1,094.5	1,094.5	2.4	1.9	155.90	-10.5	29.6	74.5	70.7	3.86	19.311		
1,200.0	1,194.9	1,192.2	1,192.0	2.7	2.1	156.35	-13.8	33.3	88.3	84.1	4.22	20.904		
1,300.0	1,294.2	1,289.3	1,288.8	2.9	2.3	155.06	-19.2	39.4	103.7	99.1	4.61	22.492		
1,400.0	1,393.4	1,385.7	1,384.5	3.2	2.5	152.78	-26.7	47.8	121.0	116.0	5.03	24.059		
1,500.0	1,492.6	1,481.1	1,478.9	3.5	2.7	149.98	-36.3	58.6	140.3	134.8	5.48	25.618		
1,600.0	1,591.9	1,575.4	1,571.6	3.7	3.0	146.97	-47.8	71.5	161.9	155.9	5.95	27.195		
1,700.0	1,691.1	1,668.4	1,662.4	4.0	3.3	143.96	-61.1	86.4	185.9	179.5	6.45	28.813		
1,800.0	1,790.3	1,759.9	1,751.0	4.3	3.6	141.06	-76.1	103.3	212.5	205.6	6.97	30.494		
1,900.0	1,889.6	1,849.7	1,837.3	4.6	4.0	138.33	-92.7	121.9	241.8	234.3	7.49	32.267		
2,000.0	1,988.8	1,942.5	1,925.9	4.8	4.5	135.80	-111.2	142.6	273.2	265.2	8.03	34.013		
2,100.0	2,088.0	2,036.8	2,015.8	5.1	4.9	133.74	-130.0	163.7	305.0	296.5	8.57	35.612		
2,200.0	2,187.3	2,131.1	2,105.7	5.4	5.4	132.07	-148.8	184.8	337.2	328.1	9.09	37.080		
2,300.0	2,286.5	2,225.4	2,195.7	5.7	5.9	130.68	-167.6	205.9	369.5	359.9	9.62	38.429		
2,400.0	2,385.7	2,319.6	2,285.6	6.0	6.4	129.52	-186.5	227.1	402.0	391.9	10.13	39.670		
2,500.0	2,485.0	2,413.9	2,375.5	6.2	6.9	128.54	-205.3	248.2	434.7	424.0	10.65	40.814		
2,600.0	2,584.2	2,508.2	2,465.5	6.5	7.4	127.69	-224.1	269.3	467.4	456.3	11.16	41.870		
2,700.0	2,683.5	2,602.5	2,555.4	6.8	7.9	126.95	-242.9	290.4	500.2	488.6	11.67	42.848		
2,800.0	2,782.7	2,696.7	2,645.3	7.1	8.4	126.30	-261.7	311.5	533.1	520.9	12.18	43.755		
2,900.0	2,881.9	2,791.0	2,735.3	7.3	8.9	125.72	-280.6	332.7	566.1	553.4	12.69	44.597		
3,000.0	2,981.2	2,885.3	2,825.2	7.6	9.5	125.21	-299.4	353.8	599.1	585.9	13.20	45.383		
3,100.0	3,080.4	2,979.6	2,915.1	7.9	10.0	124.76	-318.2	374.9	632.1	618.4	13.71	46.117		
3,200.0	3,179.6	3,073.8	3,005.1	8.2	10.5	124.35	-337.0	396.0	665.1	650.9	14.21	46.803		
3,300.0	3,278.9	3,168.1	3,095.0	8.4	11.0	123.97	-355.8	417.1	698.2	683.5	14.72	47.447		
3,400.0	3,378.1	3,262.4	3,184.9	8.7	11.5	123.63	-374.7	438.3	731.3	716.1	15.22	48.051		
3,500.0	3,477.3	3,356.7	3,274.9	9.0	12.1	123.32	-393.5	459.4	764.5	748.7	15.72	48.620		
3,600.0	3,576.6	3,451.0	3,364.8	9.3	12.6	123.04	-412.3	480.5	797.6	781.4	16.23	49.156		
3,700.0	3,675.8	3,545.2	3,454.7	9.6	13.1	122.78	-431.1	501.6	830.8	814.0	16.73	49.663		
3,800.0	3,775.0	3,639.5	3,544.7	9.8	13.6	122.54	-449.9	522.7	863.9	846.7	17.23	50.141		
3,900.0	3,874.3	3,733.8	3,634.6	10.1	14.2	122.31	-468.8	543.8	897.1	879.4	17.73	50.594		
4,000.0	3,973.5	3,828.1	3,724.5	10.4	14.7	122.10	-487.6	565.0	930.3	912.1	18.23	51.024		
4,100.0	4,072.7	3,922.3	3,814.4	10.7	15.2	121.91	-506.4	586.1	963.5	944.8	18.73	51.431		
4,200.0	4,172.0	4,016.6	3,904.4	10.9	15.7	121.73	-525.2	607.2	996.8	977.5	19.24	51.819		
4,300.0	4,271.2	4,110.9	3,994.3	11.2	16.3	121.56	-544.0	628.3	1,030.0	1,010.3	19.74	52.188		
4,400.0	4,370.5	4,205.2	4,084.2	11.5	16.8	121.40	-562.9	649.4	1,063.2	1,043.0	20.24	52.540		
4,500.0	4,469.7	4,299.4	4,174.2	11.8	17.3	121.26	-581.7	670.6	1,096.5	1,075.7	20.74	52.875		
4,600.0	4,568.9	4,393.7	4,264.1	12.0	17.8	121.12	-600.5	691.7	1,129.7	1,108.5	21.24	53.195		
4,700.0	4,668.2	4,488.0	4,354.0	12.3	18.4	120.98	-619.3	712.8	1,163.0	1,141.2	21.74	53.501		
4,800.0	4,767.4	4,582.3	4,444.0	12.6	18.9	120.86	-638.1	733.9	1,196.2	1,174.0	22.24	53.794		
4,900.0	4,866.6	4,676.5	4,533.9	12.9	19.4	120.74	-657.0	755.0	1,229.5	1,206.8	22.74	54.075		
5,000.0	4,965.9	4,770.8	4,623.8	13.2	19.9	120.63	-675.8	776.2	1,262.8	1,239.5	23.24	54.343		

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													D21 595 Pad - LR06C D21 595 - 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 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	5,065.1	4,865.1	4,713.8	13.4	20.5	120.52	-694.6	797.3	1,296.0	1,272.3	23.74	54.601					
5,200.0	5,164.4	4,959.4	4,803.8	13.7	21.0	120.72	-713.4	818.4	1,329.1	1,304.8	24.29	54.714					
5,300.0	5,264.0	5,054.2	4,894.1	13.9	21.5	121.06	-732.4	839.6	1,360.6	1,335.8	24.84	54.774					
5,400.0	5,363.8	5,149.3	4,984.8	14.1	22.1	121.24	-751.3	860.9	1,390.5	1,365.2	25.33	54.902					

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06D D21 595 - 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									
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	108.41	-18.9	56.9	60.0						
100.0	100.0	100.0	100.0	0.1	0.1	108.41	-18.9	56.9	60.0	59.7	0.30	202.173			
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-18.9	56.9	60.0	59.3	0.65	92.891 CC, ES			
300.0	300.0	299.0	299.0	0.5	0.5	109.82	-20.6	57.2	60.8	59.8	1.00	61.029			
400.0	400.0	396.7	396.6	0.7	0.7	78.28	-24.6	59.3	63.9	62.6	1.35	47.418			
500.0	499.8	493.9	493.5	0.9	0.9	84.52	-30.0	64.4	70.3	68.6	1.71	41.135			
600.0	599.5	590.4	589.4	1.1	1.1	91.48	-36.6	72.4	80.8	78.8	2.09	38.638			
700.0	698.7	685.9	684.0	1.3	1.4	97.94	-44.4	83.3	95.9	93.4	2.50	38.383 SF			
800.0	798.0	780.6	777.2	1.6	1.7	102.30	-53.4	96.9	114.9	112.0	2.92	39.350			
900.0	897.2	874.2	868.9	1.8	2.1	104.78	-63.6	113.1	137.3	133.9	3.36	40.843			
1,000.0	996.5	966.6	958.7	2.1	2.5	106.03	-74.7	131.8	162.6	158.8	3.82	42.610			
1,100.0	1,095.7	1,062.8	1,051.7	2.4	2.9	106.73	-87.0	152.7	189.4	185.1	4.29	44.131			
1,200.0	1,194.9	1,159.1	1,144.9	2.7	3.4	107.25	-99.3	173.7	216.3	211.5	4.78	45.277			
1,300.0	1,294.2	1,255.4	1,238.1	2.9	3.8	107.66	-111.6	194.6	243.1	237.9	5.27	46.157			
1,400.0	1,393.4	1,351.7	1,331.3	3.2	4.3	107.98	-123.9	215.6	270.0	264.2	5.76	46.848			
1,500.0	1,492.6	1,448.0	1,424.5	3.5	4.7	108.25	-136.1	236.6	296.9	290.6	6.26	47.402			
1,600.0	1,591.9	1,544.3	1,517.7	3.7	5.2	108.47	-148.4	257.6	323.8	317.0	6.77	47.854			
1,700.0	1,691.1	1,640.6	1,610.9	4.0	5.7	108.66	-160.7	278.5	350.6	343.4	7.27	48.228			
1,800.0	1,790.3	1,737.0	1,704.1	4.3	6.1	108.82	-173.0	299.5	377.5	369.7	7.78	48.542			
1,900.0	1,889.6	1,833.3	1,797.3	4.6	6.6	108.96	-185.3	320.5	404.4	396.1	8.29	48.809			
2,000.0	1,988.8	1,929.6	1,890.5	4.8	7.0	109.09	-197.6	341.4	431.3	422.5	8.80	49.038			
2,100.0	2,088.0	2,025.9	1,983.7	5.1	7.5	109.19	-209.9	362.4	458.2	448.9	9.31	49.237			
2,200.0	2,187.3	2,122.2	2,076.9	5.4	8.0	109.29	-222.2	383.4	485.1	475.3	9.82	49.410			
2,300.0	2,286.5	2,218.5	2,170.1	5.7	8.4	109.38	-234.5	404.4	512.0	501.7	10.33	49.563			
2,400.0	2,385.7	2,314.8	2,263.3	6.0	8.9	109.45	-246.8	425.3	538.9	528.0	10.84	49.699			
2,500.0	2,485.0	2,411.1	2,356.5	6.2	9.4	109.52	-259.0	446.3	565.8	554.4	11.36	49.819			
2,600.0	2,584.2	2,507.5	2,449.6	6.5	9.8	109.59	-271.3	467.3	592.7	580.8	11.87	49.928			
2,700.0	2,683.5	2,603.8	2,542.8	6.8	10.3	109.65	-283.6	488.3	619.6	607.2	12.39	50.025			
2,800.0	2,782.7	2,700.1	2,636.0	7.1	10.7	109.70	-295.9	509.2	646.5	633.6	12.90	50.114			
2,900.0	2,881.9	2,796.4	2,729.2	7.3	11.2	109.75	-308.2	530.2	673.4	660.0	13.42	50.194			
3,000.0	2,981.2	2,892.7	2,822.4	7.6	11.7	109.79	-320.5	551.2	700.3	686.3	13.93	50.268			
3,100.0	3,080.4	2,989.0	2,915.6	7.9	12.1	109.84	-332.8	572.1	727.2	712.7	14.45	50.335			
3,200.0	3,179.6	3,085.3	3,008.8	8.2	12.6	109.88	-345.1	593.1	754.1	739.1	14.96	50.397			
3,300.0	3,278.9	3,181.6	3,102.0	8.4	13.1	109.91	-357.4	614.1	781.0	765.5	15.48	50.454			
3,400.0	3,378.1	3,278.0	3,195.2	8.7	13.5	109.95	-369.7	635.1	807.9	791.9	16.00	50.507			
3,500.0	3,477.3	3,374.3	3,288.4	9.0	14.0	109.98	-382.0	656.0	834.8	818.3	16.51	50.556			
3,600.0	3,576.6	3,470.6	3,381.6	9.3	14.5	110.01	-394.2	677.0	861.7	844.6	17.03	50.601			
3,700.0	3,675.8	3,566.9	3,474.8	9.6	14.9	110.04	-406.5	698.0	888.6	871.0	17.55	50.644			
3,800.0	3,775.0	3,663.2	3,568.0	9.8	15.4	110.06	-418.8	718.9	915.5	897.4	18.06	50.683			
3,900.0	3,874.3	3,759.5	3,661.2	10.1	15.9	110.09	-431.1	739.9	942.4	923.8	18.58	50.720			
4,000.0	3,973.5	3,855.8	3,754.4	10.4	16.3	110.11	-443.4	760.9	969.3	950.2	19.10	50.755			
4,100.0	4,072.7	3,952.1	3,847.6	10.7	16.8	110.13	-455.7	781.9	996.2	976.6	19.61	50.788			
4,200.0	4,172.0	4,048.5	3,940.8	10.9	17.2	110.15	-468.0	802.8	1,023.1	1,002.9	20.13	50.819			
4,300.0	4,271.2	4,144.8	4,034.0	11.2	17.7	110.17	-480.3	823.8	1,050.0	1,029.3	20.65	50.848			
4,400.0	4,370.5	4,241.1	4,127.2	11.5	18.2	110.19	-492.6	844.8	1,076.9	1,055.7	21.17	50.875			
4,500.0	4,469.7	4,337.4	4,220.3	11.8	18.6	110.21	-504.9	865.7	1,103.8	1,082.1	21.68	50.901			
4,600.0	4,568.9	4,433.7	4,313.5	12.0	19.1	110.23	-517.1	886.7	1,130.7	1,108.5	22.20	50.926			
4,700.0	4,668.2	4,530.0	4,406.7	12.3	19.6	110.24	-529.4	907.7	1,157.6	1,134.9	22.72	50.949			
4,800.0	4,767.4	4,626.3	4,499.9	12.6	20.0	110.26	-541.7	928.7	1,184.5	1,161.3	23.24	50.971			
4,900.0	4,866.6	4,722.6	4,593.1	12.9	20.5	110.27	-554.0	949.6	1,211.4	1,187.6	23.76	50.993			
5,000.0	4,965.9	4,819.0	4,686.3	13.2	21.0	110.29	-566.3	970.6	1,238.3	1,214.0	24.27	51.013			
5,100.0	5,065.1	4,915.3	4,779.5	13.4	21.4	110.30	-578.6	991.6	1,265.2	1,240.4	24.79	51.032			

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													D21 595 Pad - LR06D D21 595 - 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							
5,200.0	5,164.4	5,011.6	4,872.8	13.7	21.9	110.57	-590.9	1,012.6	1,291.9	1,266.6	25.36	50.945						
5,300.0	5,264.0	5,108.2	4,966.2	13.9	22.4	110.93	-603.2	1,033.6	1,317.6	1,291.7	25.91	50.860						
5,400.0	5,363.8	5,205.0	5,059.8	14.1	22.8	111.12	-615.6	1,054.7	1,342.1	1,315.8	26.38	50.876						
5,500.0	5,463.8	5,301.8	5,153.5	14.2	23.3	111.16	-627.9	1,075.7	1,365.5	1,338.7	26.78	50.990						
5,600.0	5,563.8	5,398.5	5,247.1	14.3	23.8	-93.50	-640.3	1,096.8	1,388.3	1,361.2	27.07	51.280						

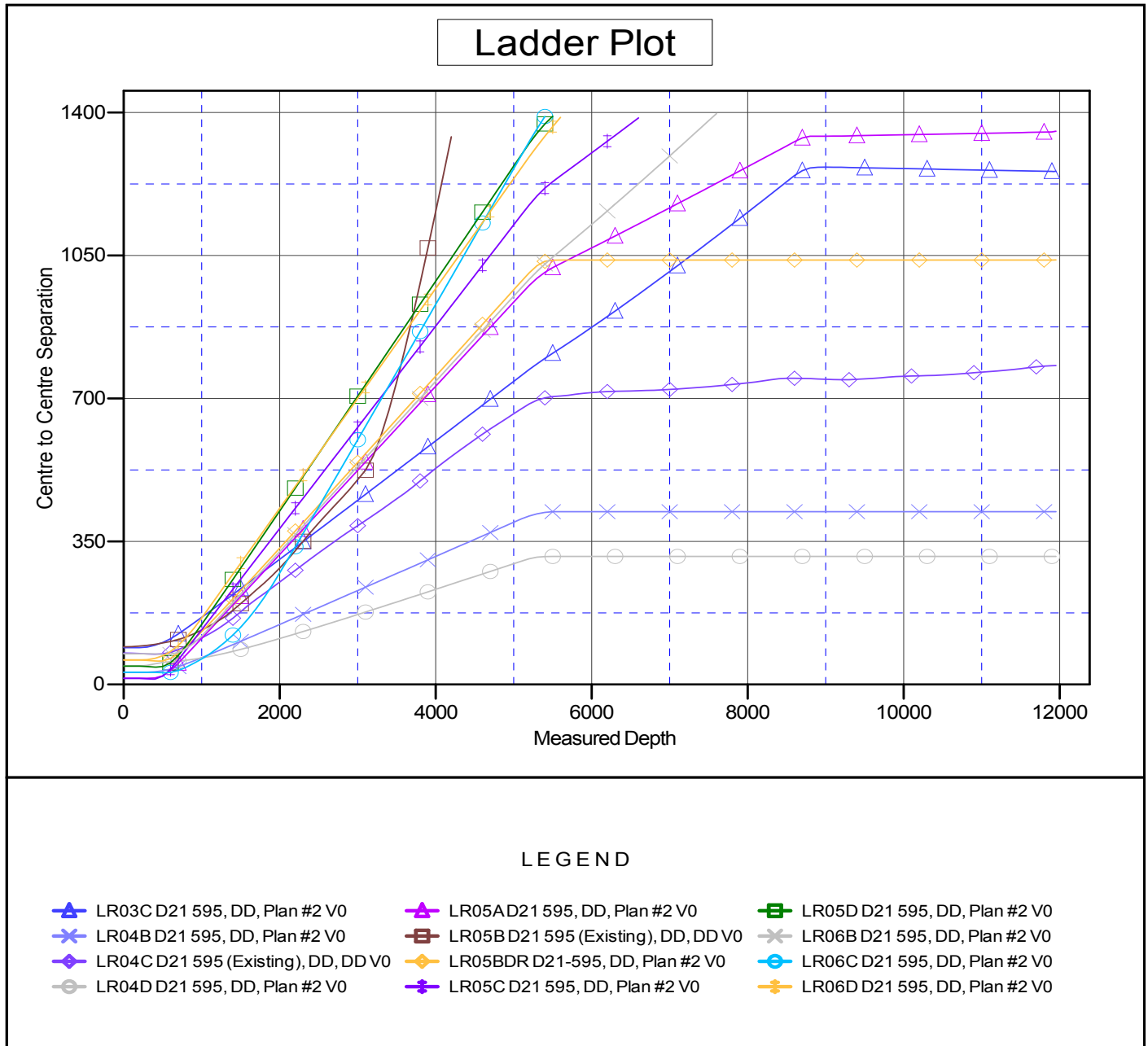
Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR04A D21 595
Project:	Garfield County	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR04A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 8278.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: LR04A D21 595
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.62°



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