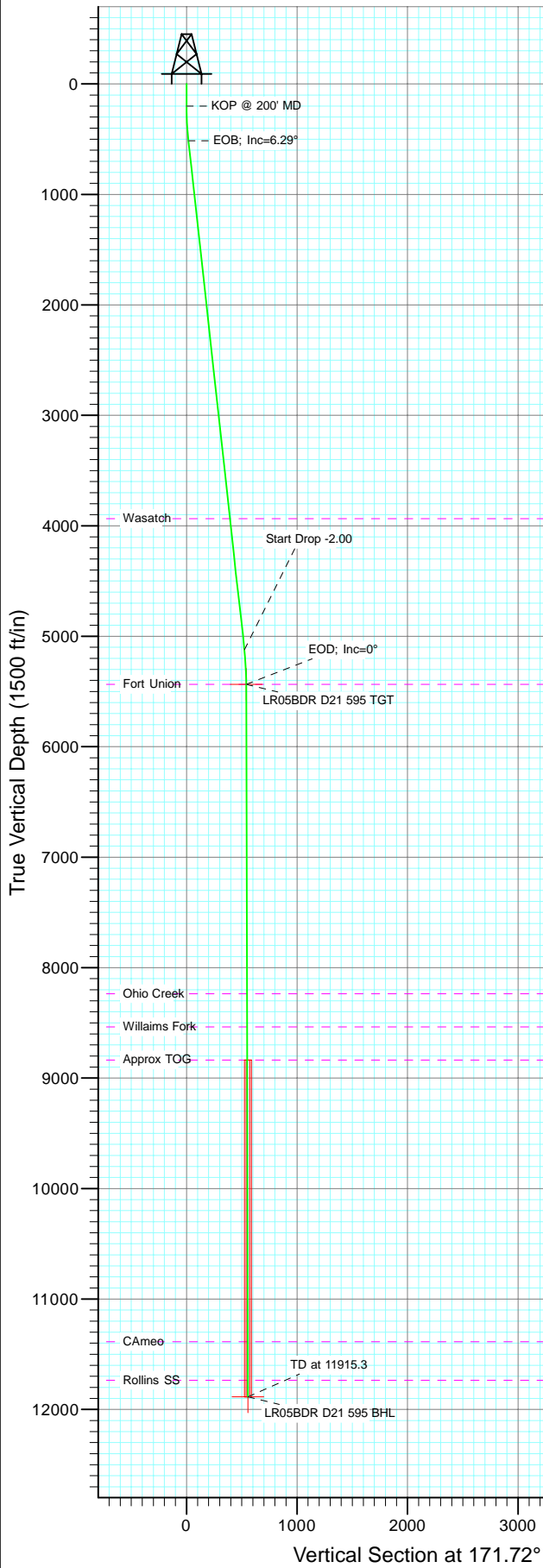
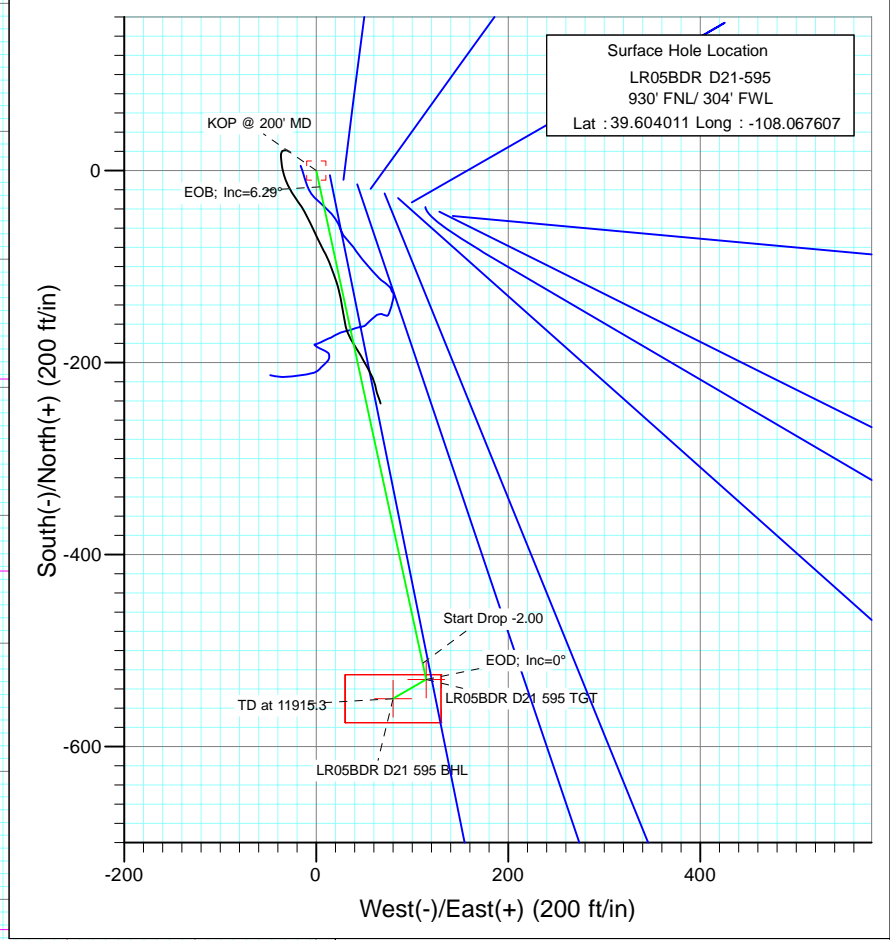




Project: Garfield County
 Site: D21 595 Pad
 Well: LR05BDR D21-595
 Wellbore: DD
 Design: Plan #2



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	514.4	6.29	167.79	513.8	-16.8	3.6	2.00	167.79	17.2	
4	5150.8	6.29	167.79	5122.2	-513.2	111.0	0.00	0.00	523.8	
5	5465.2	0.00	0.00	5436.0	-530.0	114.7	2.00	180.00	541.0	LR05BDR D21 595 TGT
6	5608.9	0.36	239.97	5579.7	-530.2	114.3	0.25	239.97	541.2	
7	11915.3	0.36	239.97	11886.0	-550.0	80.0	0.00	0.00	555.8	LR05BDR D21 595 BHL



Azimuths to True North
 Magnetic North: 10.45°

Magnetic Field
 Strength: 52369.1snT
 Dip Angle: 65.84°
 Date: 11/22/2010
 Model: IGRF200510

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3936.0	3957.3	Wasatch
5436.0	5465.2	Fort Union
8236.0	8265.2	Ohio Creek
8536.0	8565.2	Willaims Fork
8836.0	8865.2	Approx TOG
11386.0	11415.3	CAmeo
11736.0	11765.3	Rollins SS

Bottom Hole Location
 LR05BDR D21-595
 1479' FNL/ 382' FWL
 Lat : 39.602501
 Long. : -108.067323

DESIGN DETAILS: Plan #2

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

Target	Azimuth	Origin	N/S	E/W	From TVD
LR05BDR D21 595 BHL	171.72	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 LR05BDR 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: LR05BDR 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 LR05BDR D21-595						
Well Position	+N/-S	0.0 ft	Northing:	1,655,115.76 ft	Latitude:	39.604011
	+E/-W	0.0 ft	Easting:	2,276,632.91 ft	Longitude:	-108.067607
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	0.0 ft

Wellbore DD					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	11/22/2010	(°)	(°)	(nT)
			10.44	65.84	52,369

Design Plan #2					
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	171.72	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
514.4	6.29	167.79	513.8	-16.8	3.6	2.00	2.00	0.00	167.79	
5,150.8	6.29	167.79	5,122.2	-513.2	111.0	0.00	0.00	0.00	0.00	
5,465.2	0.00	0.00	5,436.0	-530.0	114.7	2.00	-2.00	0.00	180.00	LR05BDR D21 595 T
5,608.9	0.36	239.97	5,579.7	-530.2	114.3	0.25	0.25	-83.52	239.97	
11,915.3	0.36	239.97	11,886.0	-550.0	80.0	0.00	0.00	0.00	0.00	LR05BDR D21 595 B

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR05BDR 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:	LR05BDR 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	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP @ 200' MD
210.0	0.20	167.79	210.0	0.0	0.0	0.0	2.00	2.00	
240.0	0.80	167.79	240.0	-0.3	0.1	0.3	2.00	2.00	
270.0	1.40	167.79	270.0	-0.8	0.2	0.9	2.00	2.00	
300.0	2.00	167.79	300.0	-1.7	0.4	1.7	2.00	2.00	
330.0	2.60	167.79	330.0	-2.9	0.6	2.9	2.00	2.00	
360.0	3.20	167.79	359.9	-4.4	0.9	4.5	2.00	2.00	
390.0	3.80	167.79	389.9	-6.2	1.3	6.3	2.00	2.00	
420.0	4.40	167.79	419.8	-8.3	1.8	8.4	2.00	2.00	
450.0	5.00	167.79	449.7	-10.7	2.3	10.9	2.00	2.00	
480.0	5.60	167.79	479.6	-13.4	2.9	13.6	2.00	2.00	
510.0	6.20	167.79	509.4	-16.4	3.5	16.7	2.00	2.00	
514.4	6.29	167.79	513.8	-16.8	3.6	17.2	2.00	2.00	EOB; Inc=6.29°
540.0	6.29	167.79	539.2	-19.6	4.2	20.0	0.00	0.00	
570.0	6.29	167.79	569.0	-22.8	4.9	23.3	0.00	0.00	
600.0	6.29	167.79	598.9	-26.0	5.6	26.5	0.00	0.00	
630.0	6.29	167.79	628.7	-29.2	6.3	29.8	0.00	0.00	
660.0	6.29	167.79	658.5	-32.4	7.0	33.1	0.00	0.00	
690.0	6.29	167.79	688.3	-35.6	7.7	36.4	0.00	0.00	
720.0	6.29	167.79	718.1	-38.9	8.4	39.7	0.00	0.00	
750.0	6.29	167.79	748.0	-42.1	9.1	42.9	0.00	0.00	
780.0	6.29	167.79	777.8	-45.3	9.8	46.2	0.00	0.00	
810.0	6.29	167.79	807.6	-48.5	10.5	49.5	0.00	0.00	
840.0	6.29	167.79	837.4	-51.7	11.2	52.8	0.00	0.00	
870.0	6.29	167.79	867.2	-54.9	11.9	56.0	0.00	0.00	
900.0	6.29	167.79	897.0	-58.1	12.6	59.3	0.00	0.00	
930.0	6.29	167.79	926.9	-61.3	13.3	62.6	0.00	0.00	
960.0	6.29	167.79	956.7	-64.5	14.0	65.9	0.00	0.00	
990.0	6.29	167.79	986.5	-67.8	14.7	69.2	0.00	0.00	
1,020.0	6.29	167.79	1,016.3	-71.0	15.4	72.4	0.00	0.00	
1,050.0	6.29	167.79	1,046.1	-74.2	16.0	75.7	0.00	0.00	
1,080.0	6.29	167.79	1,076.0	-77.4	16.7	79.0	0.00	0.00	
1,110.0	6.29	167.79	1,105.8	-80.6	17.4	82.3	0.00	0.00	
1,140.0	6.29	167.79	1,135.6	-83.8	18.1	85.6	0.00	0.00	
1,170.0	6.29	167.79	1,165.4	-87.0	18.8	88.8	0.00	0.00	
1,200.0	6.29	167.79	1,195.2	-90.2	19.5	92.1	0.00	0.00	
1,230.0	6.29	167.79	1,225.1	-93.4	20.2	95.4	0.00	0.00	
1,260.0	6.29	167.79	1,254.9	-96.7	20.9	98.7	0.00	0.00	
1,290.0	6.29	167.79	1,284.7	-99.9	21.6	101.9	0.00	0.00	
1,320.0	6.29	167.79	1,314.5	-103.1	22.3	105.2	0.00	0.00	
1,350.0	6.29	167.79	1,344.3	-106.3	23.0	108.5	0.00	0.00	
1,380.0	6.29	167.79	1,374.2	-109.5	23.7	111.8	0.00	0.00	
1,410.0	6.29	167.79	1,404.0	-112.7	24.4	115.1	0.00	0.00	
1,440.0	6.29	167.79	1,433.8	-115.9	25.1	118.3	0.00	0.00	
1,470.0	6.29	167.79	1,463.6	-119.1	25.8	121.6	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR05BDR 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:	LR05BDR 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
1,500.0	6.29	167.79	1,493.4	-122.4	26.5	124.9	0.00	0.00	
1,530.0	6.29	167.79	1,523.3	-125.6	27.2	128.2	0.00	0.00	
1,560.0	6.29	167.79	1,553.1	-128.8	27.9	131.4	0.00	0.00	
1,590.0	6.29	167.79	1,582.9	-132.0	28.6	134.7	0.00	0.00	
1,620.0	6.29	167.79	1,612.7	-135.2	29.2	138.0	0.00	0.00	
1,650.0	6.29	167.79	1,642.5	-138.4	29.9	141.3	0.00	0.00	
1,680.0	6.29	167.79	1,672.4	-141.6	30.6	144.6	0.00	0.00	
1,710.0	6.29	167.79	1,702.2	-144.8	31.3	147.8	0.00	0.00	
1,740.0	6.29	167.79	1,732.0	-148.0	32.0	151.1	0.00	0.00	
1,770.0	6.29	167.79	1,761.8	-151.3	32.7	154.4	0.00	0.00	
1,800.0	6.29	167.79	1,791.6	-154.5	33.4	157.7	0.00	0.00	
1,830.0	6.29	167.79	1,821.5	-157.7	34.1	160.9	0.00	0.00	
1,860.0	6.29	167.79	1,851.3	-160.9	34.8	164.2	0.00	0.00	
1,890.0	6.29	167.79	1,881.1	-164.1	35.5	167.5	0.00	0.00	
1,920.0	6.29	167.79	1,910.9	-167.3	36.2	170.8	0.00	0.00	
1,950.0	6.29	167.79	1,940.7	-170.5	36.9	174.1	0.00	0.00	
1,980.0	6.29	167.79	1,970.6	-173.7	37.6	177.3	0.00	0.00	
2,010.0	6.29	167.79	2,000.4	-176.9	38.3	180.6	0.00	0.00	
2,040.0	6.29	167.79	2,030.2	-180.2	39.0	183.9	0.00	0.00	
2,070.0	6.29	167.79	2,060.0	-183.4	39.7	187.2	0.00	0.00	
2,100.0	6.29	167.79	2,089.8	-186.6	40.4	190.4	0.00	0.00	
2,130.0	6.29	167.79	2,119.7	-189.8	41.1	193.7	0.00	0.00	
2,160.0	6.29	167.79	2,149.5	-193.0	41.8	197.0	0.00	0.00	
2,190.0	6.29	167.79	2,179.3	-196.2	42.4	200.3	0.00	0.00	
2,220.0	6.29	167.79	2,209.1	-199.4	43.1	203.6	0.00	0.00	
2,250.0	6.29	167.79	2,238.9	-202.6	43.8	206.8	0.00	0.00	
2,280.0	6.29	167.79	2,268.7	-205.8	44.5	210.1	0.00	0.00	
2,310.0	6.29	167.79	2,298.6	-209.1	45.2	213.4	0.00	0.00	
2,340.0	6.29	167.79	2,328.4	-212.3	45.9	216.7	0.00	0.00	
2,370.0	6.29	167.79	2,358.2	-215.5	46.6	219.9	0.00	0.00	
2,400.0	6.29	167.79	2,388.0	-218.7	47.3	223.2	0.00	0.00	
2,430.0	6.29	167.79	2,417.8	-221.9	48.0	226.5	0.00	0.00	
2,460.0	6.29	167.79	2,447.7	-225.1	48.7	229.8	0.00	0.00	
2,490.0	6.29	167.79	2,477.5	-228.3	49.4	233.1	0.00	0.00	

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
LR05BDR D21 595 BHL - hit/miss target - Shape	0.00	0.00	11,886.0	-550.0	80.0	1,654,563.71	2,276,697.36	39.602501	-108.067323
- plan misses target center by 9414.1ft at 2490.0ft MD (2477.5 TVD, -228.3 N, 49.4 E) - Rectangle (sides W50.0 H100.0 D0.0)									
LR05BDR D21 595 TGT - hit/miss target - Shape	0.00	0.00	5,436.0	-530.0	114.7	1,654,582.73	2,276,732.54	39.602556	-108.067200
- plan misses target center by 2974.6ft at 2490.0ft MD (2477.5 TVD, -228.3 N, 49.4 E) - Point									

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR05BDR 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:	LR05BDR 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	6.29	167.79	2,487.4	-229.4	49.6	234.2	0.00	0.00	
2,600.0	6.29	167.79	2,586.8	-240.1	51.9	245.1	0.00	0.00	
2,700.0	6.29	167.79	2,686.2	-250.8	54.3	256.0	0.00	0.00	
2,800.0	6.29	167.79	2,785.6	-261.5	56.6	266.9	0.00	0.00	
2,900.0	6.29	167.79	2,885.0	-272.2	58.9	277.9	0.00	0.00	
3,000.0	6.29	167.79	2,984.4	-282.9	61.2	288.8	0.00	0.00	
3,100.0	6.29	167.79	3,083.8	-293.6	63.5	299.7	0.00	0.00	
3,200.0	6.29	167.79	3,183.2	-304.3	65.8	310.6	0.00	0.00	
3,300.0	6.29	167.79	3,282.6	-315.0	68.1	321.6	0.00	0.00	
3,400.0	6.29	167.79	3,382.0	-325.7	70.5	332.5	0.00	0.00	
3,500.0	6.29	167.79	3,481.4	-336.4	72.8	343.4	0.00	0.00	
3,600.0	6.29	167.79	3,580.8	-347.2	75.1	354.3	0.00	0.00	
3,700.0	6.29	167.79	3,680.2	-357.9	77.4	365.3	0.00	0.00	
3,800.0	6.29	167.79	3,779.6	-368.6	79.7	376.2	0.00	0.00	
3,900.0	6.29	167.79	3,879.0	-379.3	82.0	387.1	0.00	0.00	
3,957.3	6.29	167.79	3,936.0	-385.4	83.4	393.4	0.00	0.00	Wasatch
4,000.0	6.29	167.79	3,978.4	-390.0	84.4	398.1	0.00	0.00	
4,100.0	6.29	167.79	4,077.8	-400.7	86.7	409.0	0.00	0.00	
4,200.0	6.29	167.79	4,177.2	-411.4	89.0	419.9	0.00	0.00	
4,300.0	6.29	167.79	4,276.6	-422.1	91.3	430.8	0.00	0.00	
4,400.0	6.29	167.79	4,376.0	-432.8	93.6	441.8	0.00	0.00	
4,500.0	6.29	167.79	4,475.4	-443.5	95.9	452.7	0.00	0.00	
4,600.0	6.29	167.79	4,574.8	-454.2	98.3	463.6	0.00	0.00	
4,700.0	6.29	167.79	4,674.2	-464.9	100.6	474.5	0.00	0.00	
4,800.0	6.29	167.79	4,773.6	-475.6	102.9	485.5	0.00	0.00	
4,900.0	6.29	167.79	4,873.0	-486.3	105.2	496.4	0.00	0.00	
5,000.0	6.29	167.79	4,972.4	-497.0	107.5	507.3	0.00	0.00	
5,100.0	6.29	167.79	5,071.8	-507.7	109.8	518.2	0.00	0.00	
5,150.8	6.29	167.79	5,122.2	-513.2	111.0	523.8	0.00	0.00	Start Drop -2.00
5,200.0	5.30	167.79	5,171.2	-518.0	112.1	528.8	2.00	-2.00	
5,300.0	3.30	167.79	5,270.9	-525.3	113.6	536.2	2.00	-2.00	
5,400.0	1.30	167.79	5,370.9	-529.3	114.5	540.2	2.00	-2.00	
5,465.2	0.00	0.00	5,436.0	-530.0	114.7	541.0	2.00	-2.00	EOD; Inc=0° - Fort Union - LR05BDR D21 595
5,500.0	0.09	239.97	5,470.8	-530.0	114.6	541.0	0.25	0.25	
5,600.0	0.34	239.97	5,570.8	-530.2	114.3	541.1	0.25	0.25	
5,608.9	0.36	239.97	5,579.7	-530.2	114.3	541.2	0.25	0.25	
5,700.0	0.36	239.97	5,670.8	-530.5	113.8	541.4	0.00	0.00	
5,800.0	0.36	239.97	5,770.8	-530.8	113.2	541.6	0.00	0.00	
5,900.0	0.36	239.97	5,870.8	-531.1	112.7	541.8	0.00	0.00	
6,000.0	0.36	239.97	5,970.8	-531.5	112.1	542.1	0.00	0.00	
6,100.0	0.36	239.97	6,070.8	-531.8	111.6	542.3	0.00	0.00	
6,200.0	0.36	239.97	6,170.8	-532.1	111.1	542.5	0.00	0.00	
6,300.0	0.36	239.97	6,270.8	-532.4	110.5	542.8	0.00	0.00	
6,400.0	0.36	239.97	6,370.8	-532.7	110.0	543.0	0.00	0.00	
6,500.0	0.36	239.97	6,470.8	-533.0	109.4	543.2	0.00	0.00	
6,600.0	0.36	239.97	6,570.8	-533.3	108.9	543.5	0.00	0.00	
6,700.0	0.36	239.97	6,670.8	-533.6	108.3	543.7	0.00	0.00	
6,800.0	0.36	239.97	6,770.8	-534.0	107.8	543.9	0.00	0.00	
6,900.0	0.36	239.97	6,870.8	-534.3	107.3	544.2	0.00	0.00	
7,000.0	0.36	239.97	6,970.8	-534.6	106.7	544.4	0.00	0.00	
7,100.0	0.36	239.97	7,070.8	-534.9	106.2	544.6	0.00	0.00	
7,200.0	0.36	239.97	7,170.8	-535.2	105.6	544.8	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR05BDR 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:	LR05BDR 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	7,270.8	-535.5	105.1	545.1	0.00	0.00	
7,400.0	0.36	239.97	7,370.8	-535.8	104.5	545.3	0.00	0.00	
7,500.0	0.36	239.97	7,470.8	-536.2	104.0	545.5	0.00	0.00	
7,600.0	0.36	239.97	7,570.8	-536.5	103.5	545.8	0.00	0.00	
7,700.0	0.36	239.97	7,670.8	-536.8	102.9	546.0	0.00	0.00	
7,800.0	0.36	239.97	7,770.8	-537.1	102.4	546.2	0.00	0.00	
7,900.0	0.36	239.97	7,870.8	-537.4	101.8	546.5	0.00	0.00	
8,000.0	0.36	239.97	7,970.8	-537.7	101.3	546.7	0.00	0.00	
8,100.0	0.36	239.97	8,070.8	-538.0	100.7	546.9	0.00	0.00	
8,200.0	0.36	239.97	8,170.8	-538.4	100.2	547.2	0.00	0.00	
8,265.2	0.36	239.97	8,236.0	-538.6	99.8	547.3	0.00	0.00	Ohio Creek
8,300.0	0.36	239.97	8,270.8	-538.7	99.7	547.4	0.00	0.00	
8,400.0	0.36	239.97	8,370.8	-539.0	99.1	547.6	0.00	0.00	
8,500.0	0.36	239.97	8,470.8	-539.3	98.6	547.9	0.00	0.00	
8,565.2	0.36	239.97	8,536.0	-539.5	98.2	548.0	0.00	0.00	Willaims Fork
8,600.0	0.36	239.97	8,570.8	-539.6	98.0	548.1	0.00	0.00	
8,700.0	0.36	239.97	8,670.8	-539.9	97.5	548.3	0.00	0.00	
8,800.0	0.36	239.97	8,770.8	-540.2	96.9	548.6	0.00	0.00	
8,865.2	0.36	239.97	8,836.0	-540.4	96.6	548.7	0.00	0.00	Approx TOG
8,900.0	0.36	239.97	8,870.8	-540.6	96.4	548.8	0.00	0.00	
9,000.0	0.36	239.97	8,970.8	-540.9	95.9	549.0	0.00	0.00	
9,100.0	0.36	239.97	9,070.8	-541.2	95.3	549.3	0.00	0.00	
9,200.0	0.36	239.97	9,170.8	-541.5	94.8	549.5	0.00	0.00	
9,300.0	0.36	239.97	9,270.8	-541.8	94.2	549.7	0.00	0.00	
9,400.0	0.36	239.97	9,370.8	-542.1	93.7	550.0	0.00	0.00	
9,500.0	0.36	239.97	9,470.8	-542.4	93.1	550.2	0.00	0.00	
9,600.0	0.36	239.97	9,570.8	-542.7	92.6	550.4	0.00	0.00	
9,700.0	0.36	239.97	9,670.8	-543.1	92.1	550.7	0.00	0.00	
9,800.0	0.36	239.97	9,770.8	-543.4	91.5	550.9	0.00	0.00	
9,900.0	0.36	239.97	9,870.8	-543.7	91.0	551.1	0.00	0.00	
10,000.0	0.36	239.97	9,970.8	-544.0	90.4	551.4	0.00	0.00	
10,100.0	0.36	239.97	10,070.8	-544.3	89.9	551.6	0.00	0.00	
10,200.0	0.36	239.97	10,170.8	-544.6	89.3	551.8	0.00	0.00	
10,300.0	0.36	239.97	10,270.8	-544.9	88.8	552.1	0.00	0.00	
10,400.0	0.36	239.97	10,370.8	-545.3	88.2	552.3	0.00	0.00	
10,500.0	0.36	239.97	10,470.8	-545.6	87.7	552.5	0.00	0.00	
10,600.0	0.36	239.97	10,570.7	-545.9	87.2	552.7	0.00	0.00	
10,700.0	0.36	239.97	10,670.7	-546.2	86.6	553.0	0.00	0.00	
10,800.0	0.36	239.97	10,770.7	-546.5	86.1	553.2	0.00	0.00	
10,900.0	0.36	239.97	10,870.7	-546.8	85.5	553.4	0.00	0.00	
11,000.0	0.36	239.97	10,970.7	-547.1	85.0	553.7	0.00	0.00	
11,100.0	0.36	239.97	11,070.7	-547.5	84.4	553.9	0.00	0.00	
11,200.0	0.36	239.97	11,170.7	-547.8	83.9	554.1	0.00	0.00	
11,300.0	0.36	239.97	11,270.7	-548.1	83.4	554.4	0.00	0.00	
11,400.0	0.36	239.97	11,370.7	-548.4	82.8	554.6	0.00	0.00	
11,415.3	0.36	239.97	11,386.0	-548.4	82.7	554.6	0.00	0.00	Cameo
11,500.0	0.36	239.97	11,470.7	-548.7	82.3	554.8	0.00	0.00	
11,600.0	0.36	239.97	11,570.7	-549.0	81.7	555.1	0.00	0.00	
11,700.0	0.36	239.97	11,670.7	-549.3	81.2	555.3	0.00	0.00	
11,765.3	0.36	239.97	11,736.0	-549.5	80.8	555.5	0.00	0.00	Rollins SS
11,800.0	0.36	239.97	11,770.7	-549.7	80.6	555.5	0.00	0.00	
11,900.0	0.36	239.97	11,870.7	-550.0	80.1	555.8	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR05BDR 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:	LR05BDR 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
11,915.3	0.36	239.97	11,886.0	-550.0	80.0	555.8	0.00	0.00	LR05BDR D21 595 BHL

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
LR05BDR D21 595 BHL - hit/miss target - Shape	0.00	0.00	11,886.0	-550.0	80.0	1,654,563.71	2,276,697.36	39.602501	-108.067323
- plan hits target center - Rectangle (sides W50.0 H100.0 D0.0)									
LR05BDR D21 595 TGT - hit/miss target - Shape	0.00	0.00	5,436.0	-530.0	114.7	1,654,582.73	2,276,732.54	39.602556	-108.067200
- plan hits target center - Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,957.3	3,936.0	Wasatch		0.00		
5,465.2	5,436.0	Fort Union		0.00		
8,265.2	8,236.0	Ohio Creek		0.00		
8,565.2	8,536.0	Willaims Fork		0.00		
8,865.2	8,836.0	Approx TOG		0.00		
11,415.3	11,386.0	CAmeo		0.00		
11,765.3	11,736.0	Rollins SS		0.00		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP @ 200' MD
514.4	513.8	-16.8	3.6	EOB; Inc=6.29°
5,150.8	5,122.2	-513.2	111.0	Start Drop -2.00
5,465.2	5,436.0	-530.0	114.7	EOD; Inc=0°
11,915.3	11,886.0	-530.2	114.3	TD at 11915.3

Berry Petroleum Company (NAD 83)

Garfield County

D21 595 Pad

LR05BDR 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 LR05BDR 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:	LR05BDR 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	11,915.3	Plan #2 (DD)	MWD	Geolink MWD

Summary	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Site Name						
Offset Well - Wellbore - Design						
D21 595 Pad						
LR03C D21 595 - DD - Plan #2	200.0	200.0	150.0	149.3	223.179	CC, ES
LR03C D21 595 - DD - Plan #2	5,300.0	5,207.4	911.0	886.4	37.028	SF
LR04A D21 595 - DD - Plan #2	449.6	447.9	57.1	55.5	35.870	CC, ES
LR04A D21 595 - DD - Plan #2	11,915.3	11,927.0	1,038.9	996.7	24.633	SF
LR04B D21 595 - DD - Plan #2	430.0	429.6	27.0	25.5	17.764	CC, ES
LR04B D21 595 - DD - Plan #2	500.0	498.5	29.0	27.2	16.093	SF
LR04C D21 595 (Existing) - DD - DD	272.8	269.0	15.6	14.7	16.705	CC
LR04C D21 595 (Existing) - DD - DD	300.0	296.2	15.6	14.6	15.178	ES
LR04C D21 595 (Existing) - DD - DD	11,915.3	11,883.3	357.9	316.2	8.588	SF
LR04D D21 595 - DD - Plan #2	200.0	200.0	105.1	104.4	156.424	CC, ES
LR04D D21 595 - DD - Plan #2	11,915.3	11,903.7	751.6	709.1	17.696	SF
LR05A D21 595 - DD - Plan #2	522.9	519.4	72.0	70.1	38.158	CC, ES
LR05A D21 595 - DD - Plan #2	5,200.0	5,194.2	160.7	135.3	6.327	SF
LR05B D21 595 (Existing) - DD - DD	0.0	0.0	33.5	33.5	10,000.000	CC
LR05B D21 595 (Existing) - DD - DD	3,006.1	3,008.7	42.3	31.0	3.761	ES, SF
LR05C D21 595 - DD - Plan #2	200.0	200.0	45.1	44.5	67.152	CC
LR05C D21 595 - DD - Plan #2	300.0	299.1	45.3	44.3	44.202	ES
LR05C D21 595 - DD - Plan #2	5,100.0	5,090.1	262.8	242.9	13.230	SF
LR05D D21 595 - DD - Plan #2	510.7	509.9	14.9	13.0	7.940	CC, ES
LR05D D21 595 - DD - Plan #2	600.0	598.9	15.5	13.2	6.788	SF
LR06B D21 595 - DD - Plan #2	617.0	611.2	125.2	122.9	55.585	CC, ES
LR06B D21 595 - DD - Plan #2	11,915.3	12,002.0	1,370.7	1,325.2	30.119	SF
LR06C D21 595 - DD - Plan #2	775.4	773.2	77.4	74.5	26.302	CC
LR06C D21 595 - DD - Plan #2	800.0	797.7	77.5	74.4	25.420	ES
LR06C D21 595 - DD - Plan #2	1,700.0	1,687.6	131.0	123.8	18.133	SF
LR06D D21 595 - DD - Plan #2	311.8	309.4	119.9	118.8	112.466	CC, ES
LR06D D21 595 - DD - Plan #2	5,200.0	5,080.2	1,004.7	980.0	40.634	SF

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	108.41	-47.4	142.3	150.0	150.0	0.00	N/A			
100.0	100.0	100.0	100.0	0.2	0.1	108.41	-47.4	142.3	150.0	149.6	0.32	464.452			
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-47.4	142.3	150.0	149.3	0.67	223.179 CC, ES			
300.0	300.0	295.1	295.1	0.5	0.5	-60.05	-47.5	143.9	150.7	149.7	1.02	148.440			
400.0	399.8	390.0	389.9	0.7	0.7	-62.01	-47.9	148.6	153.1	151.7	1.37	111.583			
500.0	499.5	484.4	484.0	0.9	0.9	-65.10	-48.6	156.3	157.4	155.6	1.75	89.733			
600.0	598.9	578.3	577.2	1.2	1.1	-68.81	-49.6	167.1	164.7	162.5	2.15	76.484			
700.0	698.3	671.7	669.5	1.4	1.4	-72.22	-50.9	180.9	175.9	173.3	2.56	68.683			
800.0	797.7	770.3	766.8	1.7	1.7	-75.36	-52.3	196.9	189.2	186.3	2.99	63.391			
900.0	897.0	868.9	864.1	1.9	2.0	-78.09	-53.8	212.9	203.1	199.7	3.42	59.439			
1,000.0	996.4	967.5	961.4	2.2	2.4	-80.46	-55.3	229.0	217.4	213.5	3.86	56.379			
1,100.0	1,095.8	1,066.1	1,058.6	2.4	2.7	-82.54	-56.7	245.0	232.0	227.7	4.30	53.941			
1,200.0	1,195.2	1,164.6	1,155.9	2.7	3.0	-84.37	-58.2	261.1	246.8	242.1	4.75	51.954			
1,300.0	1,294.6	1,263.2	1,253.2	3.0	3.3	-86.00	-59.6	277.1	261.9	256.7	5.21	50.303			
1,400.0	1,394.0	1,361.8	1,350.4	3.2	3.7	-87.45	-61.1	293.1	277.1	271.5	5.67	48.912			
1,500.0	1,493.4	1,460.4	1,447.7	3.5	4.0	-88.74	-62.6	309.2	292.6	286.4	6.13	47.724			
1,600.0	1,592.8	1,559.0	1,545.0	3.7	4.3	-89.91	-64.0	325.2	308.1	301.5	6.60	46.699			
1,700.0	1,692.2	1,657.6	1,642.3	4.0	4.7	-90.97	-65.5	341.3	323.8	316.7	7.07	45.806			
1,800.0	1,791.6	1,756.2	1,739.5	4.2	5.0	-91.92	-66.9	357.3	339.5	332.0	7.54	45.022			
1,900.0	1,891.0	1,854.8	1,836.8	4.5	5.3	-92.80	-68.4	373.3	355.4	347.3	8.02	44.328			
2,000.0	1,990.4	1,953.4	1,934.1	4.8	5.6	-93.59	-69.9	389.4	371.3	362.8	8.49	43.711			
2,100.0	2,089.8	2,052.0	2,031.4	5.0	6.0	-94.33	-71.3	405.4	387.3	378.3	8.97	43.158			
2,200.0	2,189.2	2,150.6	2,128.6	5.3	6.3	-95.00	-72.8	421.5	403.3	393.8	9.45	42.660			
2,300.0	2,288.6	2,249.2	2,225.9	5.5	6.6	-95.62	-74.3	437.5	419.4	409.4	9.94	42.210			
2,400.0	2,388.0	2,347.8	2,323.2	5.8	7.0	-96.20	-75.7	453.5	435.5	425.1	10.42	41.801			
2,500.0	2,487.4	2,446.4	2,420.5	6.0	7.3	-96.74	-77.2	469.6	451.7	440.8	10.90	41.428			
2,600.0	2,586.8	2,545.0	2,517.7	6.3	7.6	-97.24	-78.6	485.6	467.9	456.5	11.39	41.087			
2,700.0	2,686.2	2,643.6	2,615.0	6.6	8.0	-97.70	-80.1	501.6	484.1	472.2	11.87	40.773			
2,800.0	2,785.6	2,742.2	2,712.3	6.8	8.3	-98.14	-81.6	517.7	500.4	488.0	12.36	40.484			
2,900.0	2,885.0	2,840.8	2,809.6	7.1	8.6	-98.55	-83.0	533.7	516.7	503.8	12.85	40.218			
3,000.0	2,984.4	2,939.4	2,906.8	7.3	9.0	-98.93	-84.5	549.8	533.0	519.7	13.33	39.970			
3,100.0	3,083.8	3,038.0	3,004.1	7.6	9.3	-99.29	-86.0	565.8	549.3	535.5	13.82	39.740			
3,200.0	3,183.2	3,136.6	3,101.4	7.9	9.6	-99.63	-87.4	581.8	565.7	551.4	14.31	39.526			
3,300.0	3,282.6	3,235.2	3,198.7	8.1	10.0	-99.95	-88.9	597.9	582.1	567.3	14.80	39.326			
3,400.0	3,382.0	3,333.8	3,295.9	8.4	10.3	-100.25	-90.3	613.9	598.5	583.2	15.29	39.139			
3,500.0	3,481.4	3,432.4	3,393.2	8.6	10.6	-100.54	-91.8	630.0	614.9	599.1	15.78	38.964			
3,600.0	3,580.8	3,531.0	3,490.5	8.9	11.0	-100.81	-93.3	646.0	631.3	615.0	16.27	38.800			
3,700.0	3,680.2	3,629.6	3,587.8	9.2	11.3	-101.07	-94.7	662.0	647.7	631.0	16.76	38.645			
3,800.0	3,779.6	3,728.2	3,685.0	9.4	11.6	-101.31	-96.2	678.1	664.2	646.9	17.25	38.499			
3,900.0	3,879.0	3,826.8	3,782.3	9.7	12.0	-101.55	-97.6	694.1	680.7	662.9	17.74	38.361			
4,000.0	3,978.4	3,925.4	3,879.6	9.9	12.3	-101.77	-99.1	710.2	697.1	678.9	18.23	38.231			
4,100.0	4,077.8	4,024.0	3,976.9	10.2	12.6	-101.98	-100.6	726.2	713.6	694.9	18.73	38.108			
4,200.0	4,177.2	4,122.6	4,074.1	10.4	13.0	-102.18	-102.0	742.2	730.1	710.9	19.22	37.991			
4,300.0	4,276.6	4,221.2	4,171.4	10.7	13.3	-102.38	-103.5	758.3	746.6	726.9	19.71	37.880			
4,400.0	4,376.0	4,319.8	4,268.7	11.0	13.6	-102.56	-105.0	774.3	763.1	742.9	20.20	37.774			
4,500.0	4,475.4	4,418.4	4,366.0	11.2	13.9	-102.74	-106.4	790.3	779.6	758.9	20.69	37.674			
4,600.0	4,574.8	4,517.0	4,463.2	11.5	14.3	-102.91	-107.9	806.4	796.1	775.0	21.19	37.579			
4,700.0	4,674.2	4,615.6	4,560.5	11.7	14.6	-103.07	-109.3	822.4	812.7	791.0	21.68	37.487			
4,800.0	4,773.6	4,714.2	4,657.8	12.0	14.9	-103.23	-110.8	838.5	829.2	807.0	22.17	37.400			
4,900.0	4,873.0	4,812.8	4,755.1	12.3	15.3	-103.38	-112.3	854.5	845.7	823.1	22.66	37.317			
5,000.0	4,972.4	4,911.4	4,852.3	12.5	15.6	-103.52	-113.7	870.5	862.3	839.1	23.16	37.237			
5,100.0	5,071.8	5,010.0	4,949.6	12.8	15.9	-103.66	-115.2	886.6	878.8	855.2	23.65	37.161			

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,200.0	5,171.2	5,108.6	5,046.9	13.0	16.3	-103.93	-116.6	902.6	895.3	871.1	24.15	37.070			
5,300.0	5,270.9	5,207.4	5,144.3	13.2	16.6	-104.15	-118.1	918.7	911.0	886.4	24.60	37.028 SF			
5,400.0	5,370.9	5,306.1	5,241.8	13.4	16.9	-104.15	-119.6	934.8	925.9	900.9	24.99	37.051			
5,500.0	5,470.8	5,404.8	5,339.1	13.5	17.3	-176.04	-121.0	950.8	940.1	914.8	25.31	37.138			
5,600.0	5,570.8	5,503.4	5,436.4	13.6	17.6	-175.53	-122.5	966.8	954.5	928.9	25.61	37.275			
5,700.0	5,670.8	5,602.0	5,533.7	13.7	17.9	-175.04	-124.0	982.9	969.3	943.4	25.90	37.418			
5,800.0	5,770.8	5,700.6	5,630.9	13.9	18.3	-174.56	-125.4	998.9	984.1	957.9	26.20	37.560			
5,900.0	5,870.8	5,799.1	5,728.1	14.0	18.6	-174.10	-126.9	1,015.0	998.9	972.4	26.50	37.701			
6,000.0	5,970.8	5,897.7	5,825.4	14.1	18.9	-173.66	-128.3	1,031.0	1,013.9	987.1	26.79	37.842			
6,100.0	6,070.8	5,996.3	5,922.6	14.3	19.3	-173.22	-129.8	1,047.0	1,028.9	1,001.8	27.09	37.981			
6,200.0	6,170.8	6,094.9	6,019.9	14.4	19.6	-172.80	-131.3	1,063.1	1,043.9	1,016.5	27.38	38.120			
6,300.0	6,270.8	6,193.4	6,117.1	14.5	19.9	-172.39	-132.7	1,079.1	1,059.0	1,031.3	27.68	38.258			
6,400.0	6,370.8	6,292.0	6,214.4	14.7	20.3	-171.99	-134.2	1,095.1	1,074.2	1,046.2	27.98	38.394			
6,500.0	6,470.8	6,390.6	6,311.6	14.8	20.6	-171.60	-135.7	1,111.2	1,089.4	1,061.1	28.27	38.529			
6,600.0	6,570.8	6,489.1	6,408.9	14.9	20.9	-171.23	-137.1	1,127.2	1,104.6	1,076.0	28.57	38.662			
6,700.0	6,670.8	6,587.7	6,506.1	15.1	21.3	-170.86	-138.6	1,143.2	1,119.9	1,091.0	28.87	38.794			
6,800.0	6,770.8	6,686.3	6,603.4	15.2	21.6	-170.50	-140.0	1,159.3	1,135.3	1,106.1	29.17	38.924			
6,900.0	6,870.8	6,784.9	6,700.6	15.4	21.9	-170.16	-141.5	1,175.3	1,150.6	1,121.2	29.46	39.052			
7,000.0	6,970.8	6,883.4	6,797.9	15.5	22.3	-169.82	-143.0	1,191.3	1,166.1	1,136.3	29.76	39.179			
7,100.0	7,070.8	6,982.0	6,895.1	15.6	22.6	-169.49	-144.4	1,207.4	1,181.5	1,151.5	30.06	39.304			
7,200.0	7,170.8	7,080.6	6,992.4	15.8	22.9	-169.17	-145.9	1,223.4	1,197.0	1,166.7	30.36	39.427			
7,300.0	7,270.8	7,179.1	7,089.6	15.9	23.3	-168.85	-147.3	1,239.4	1,212.6	1,181.9	30.66	39.548			
7,400.0	7,370.8	7,277.7	7,186.9	16.1	23.6	-168.55	-148.8	1,255.5	1,228.1	1,197.2	30.96	39.667			
7,500.0	7,470.8	7,376.3	7,284.1	16.2	23.9	-168.25	-150.3	1,271.5	1,243.7	1,212.5	31.26	39.785			
7,600.0	7,570.8	7,474.9	7,381.4	16.3	24.3	-167.96	-151.7	1,287.5	1,259.4	1,227.8	31.56	39.900			
7,700.0	7,670.8	7,573.4	7,478.6	16.5	24.6	-167.68	-153.2	1,303.6	1,275.0	1,243.2	31.86	40.014			
7,800.0	7,770.8	7,672.0	7,575.8	16.6	24.9	-167.40	-154.7	1,319.6	1,290.7	1,258.5	32.17	40.126			
7,900.0	7,870.8	7,770.6	7,673.1	16.8	25.3	-167.13	-156.1	1,335.6	1,306.4	1,274.0	32.47	40.237			
8,000.0	7,970.8	7,869.1	7,770.3	16.9	25.6	-166.87	-157.6	1,351.7	1,322.2	1,289.4	32.77	40.345			
8,100.0	8,070.8	7,967.7	7,867.6	17.1	25.9	-166.62	-159.0	1,367.7	1,338.0	1,304.9	33.08	40.451			
8,200.0	8,170.8	8,066.3	7,964.8	17.2	26.3	-166.36	-160.5	1,383.7	1,353.8	1,320.4	33.38	40.556			
8,300.0	8,270.8	8,164.9	8,062.1	17.4	26.6	-166.12	-162.0	1,399.8	1,369.6	1,335.9	33.68	40.659			
8,400.0	8,370.8	8,263.4	8,159.3	17.5	26.9	-165.88	-163.4	1,415.8	1,385.4	1,351.5	33.99	40.760			

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	108.41	-18.9	56.9	60.0	60.0	0.00	N/A			
100.0	100.0	100.0	100.0	0.2	0.1	108.41	-18.9	56.9	60.0	59.7	0.32	185.781			
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-18.9	56.9	60.0	59.3	0.67	89.271			
300.0	300.0	300.0	300.0	0.5	0.5	-60.86	-18.9	56.9	59.1	58.1	1.02	57.754			
400.0	399.8	399.0	399.0	0.7	0.7	-67.03	-17.6	57.9	57.5	56.1	1.39	41.327			
449.6	449.3	447.9	447.8	0.8	0.8	-72.49	-15.8	59.1	57.1	55.5	1.59	35.870	CC, ES		
500.0	499.5	497.2	497.0	0.9	0.9	-79.50	-13.4	60.9	57.6	55.8	1.80	32.073			
600.0	598.9	594.1	593.6	1.2	1.1	-95.06	-6.7	65.7	63.3	61.1	2.22	28.558			
700.0	698.3	690.8	689.6	1.4	1.3	-108.34	2.5	72.3	75.9	73.3	2.61	29.038			
800.0	797.7	788.5	786.6	1.7	1.6	-117.80	12.3	79.4	92.0	89.0	2.98	30.818			
900.0	897.0	886.3	883.6	1.9	1.8	-124.36	22.1	86.4	109.8	106.5	3.35	32.810			
1,000.0	996.4	984.0	980.6	2.2	2.1	-129.06	31.9	93.4	128.7	125.0	3.71	34.702			
1,100.0	1,095.8	1,081.7	1,077.6	2.4	2.3	-132.55	41.7	100.5	148.2	144.1	4.07	36.403			
1,200.0	1,195.2	1,179.5	1,174.5	2.7	2.6	-135.22	51.5	107.5	168.1	163.7	4.43	37.903			
1,300.0	1,294.6	1,277.2	1,271.5	3.0	2.9	-137.33	61.3	114.6	188.3	183.5	4.80	39.217			
1,400.0	1,394.0	1,374.9	1,368.5	3.2	3.1	-139.03	71.0	121.6	208.6	203.5	5.17	40.371			
1,500.0	1,493.4	1,472.7	1,465.5	3.5	3.4	-140.43	80.8	128.7	229.2	223.6	5.54	41.386			
1,600.0	1,592.8	1,570.4	1,562.5	3.7	3.7	-141.60	90.6	135.7	249.8	243.9	5.91	42.284			
1,700.0	1,692.2	1,668.1	1,659.5	4.0	3.9	-142.59	100.4	142.7	270.5	264.2	6.28	43.081			
1,800.0	1,791.6	1,765.9	1,756.5	4.2	4.2	-143.44	110.2	149.8	291.3	284.6	6.65	43.794			
1,900.0	1,891.0	1,863.6	1,853.4	4.5	4.5	-144.18	120.0	156.8	312.1	305.1	7.02	44.434			
2,000.0	1,990.4	1,961.3	1,950.4	4.8	4.7	-144.82	129.8	163.9	333.0	325.6	7.40	45.011			
2,100.0	2,089.8	2,059.1	2,047.4	5.0	5.0	-145.39	139.6	170.9	353.9	346.1	7.77	45.534			
2,200.0	2,189.2	2,156.8	2,144.4	5.3	5.3	-145.89	149.4	178.0	374.8	366.7	8.15	46.010			
2,300.0	2,288.6	2,254.5	2,241.4	5.5	5.5	-146.34	159.2	185.0	395.8	387.3	8.52	46.445			
2,400.0	2,388.0	2,352.2	2,338.4	5.8	5.8	-146.75	169.0	192.0	416.8	407.9	8.90	46.843			
2,500.0	2,487.4	2,450.0	2,435.3	6.0	6.1	-147.12	178.8	199.1	437.8	428.5	9.27	47.209			
2,600.0	2,586.8	2,547.7	2,532.3	6.3	6.4	-147.45	188.6	206.1	458.8	449.2	9.65	47.548			
2,700.0	2,686.2	2,645.4	2,629.3	6.6	6.6	-147.75	198.4	213.2	479.9	469.8	10.03	47.860			
2,800.0	2,785.6	2,743.2	2,726.3	6.8	6.9	-148.03	208.2	220.2	500.9	490.5	10.40	48.151			
2,900.0	2,885.0	2,840.9	2,823.3	7.1	7.2	-148.29	218.0	227.3	522.0	511.2	10.78	48.421			
3,000.0	2,984.4	2,938.6	2,920.3	7.3	7.4	-148.53	227.8	234.3	543.0	531.9	11.16	48.673			
3,100.0	3,083.8	3,036.4	3,017.3	7.6	7.7	-148.74	237.6	241.3	564.1	552.6	11.53	48.909			
3,200.0	3,183.2	3,134.1	3,114.2	7.9	8.0	-148.95	247.4	248.4	585.2	573.3	11.91	49.129			
3,300.0	3,282.6	3,231.8	3,211.2	8.1	8.3	-149.14	257.2	255.4	606.3	594.0	12.29	49.336			
3,400.0	3,382.0	3,329.6	3,308.2	8.4	8.5	-149.31	267.0	262.5	627.4	614.7	12.67	49.531			
3,500.0	3,481.4	3,427.3	3,405.2	8.6	8.8	-149.48	276.7	269.5	648.5	635.4	13.04	49.715			
3,600.0	3,580.8	3,525.0	3,502.2	8.9	9.1	-149.63	286.5	276.6	669.6	656.2	13.42	49.888			
3,700.0	3,680.2	3,622.8	3,599.2	9.2	9.3	-149.78	296.3	283.6	690.7	676.9	13.80	50.052			
3,800.0	3,779.6	3,720.5	3,696.1	9.4	9.6	-149.91	306.1	290.6	711.8	697.6	14.18	50.207			
3,900.0	3,879.0	3,818.2	3,793.1	9.7	9.9	-150.04	315.9	297.7	732.9	718.4	14.56	50.353			
4,000.0	3,978.4	3,916.0	3,890.1	9.9	10.2	-150.16	325.7	304.7	754.0	739.1	14.93	50.493			
4,100.0	4,077.8	4,013.7	3,987.1	10.2	10.4	-150.28	335.5	311.8	775.2	759.8	15.31	50.626			
4,200.0	4,177.2	4,111.4	4,084.1	10.4	10.7	-150.39	345.3	318.8	796.3	780.6	15.69	50.752			
4,300.0	4,276.6	4,209.2	4,181.1	10.7	11.0	-150.49	355.1	325.9	817.4	801.3	16.07	50.872			
4,400.0	4,376.0	4,306.9	4,278.1	11.0	11.2	-150.59	364.9	332.9	838.5	822.1	16.45	50.987			
4,500.0	4,475.4	4,404.6	4,375.0	11.2	11.5	-150.68	374.7	339.9	859.7	842.9	16.82	51.096			
4,600.0	4,574.8	4,502.4	4,472.0	11.5	11.8	-150.77	384.5	347.0	880.8	863.6	17.20	51.201			
4,700.0	4,674.2	4,600.1	4,569.0	11.7	12.0	-150.85	394.3	354.0	902.0	884.4	17.58	51.301			
4,800.0	4,773.6	4,697.8	4,666.0	12.0	12.3	-150.93	404.1	361.1	923.1	905.1	17.96	51.397			
4,900.0	4,873.0	4,795.6	4,763.0	12.3	12.6	-151.01	413.9	368.1	944.2	925.9	18.34	51.489			
5,000.0	4,972.4	4,893.3	4,860.0	12.5	12.9	-151.08	423.7	375.1	965.4	946.7	18.72	51.577			

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
5,100.0	5,071.8	4,991.0	4,956.9	12.8	13.1	-151.15	433.5	382.2	986.5	967.4	19.10	51.662			
5,200.0	5,171.2	5,088.8	5,054.0	13.0	13.4	-151.31	443.3	389.2	1,007.3	987.8	19.49	51.681			
5,300.0	5,270.9	5,207.3	5,171.6	13.2	13.7	-151.45	454.6	397.4	1,025.1	1,005.2	19.92	51.464			
5,400.0	5,370.9	5,357.7	5,321.6	13.4	14.0	-151.50	464.0	404.1	1,035.8	1,015.5	20.36	50.863			
5,500.0	5,470.8	5,507.2	5,471.0	13.5	14.2	136.33	467.0	406.3	1,038.8	1,018.0	20.77	50.000			
5,600.0	5,570.8	5,610.6	5,574.4	13.6	14.3	136.34	466.8	406.0	1,038.8	1,017.7	21.10	49.239			
5,700.0	5,670.8	5,711.7	5,675.6	13.7	14.4	136.34	466.5	405.5	1,038.9	1,017.4	21.42	48.504			
5,800.0	5,770.8	5,811.7	5,775.6	13.9	14.5	136.34	466.2	405.0	1,038.9	1,017.1	21.74	47.792			
5,900.0	5,870.8	5,911.7	5,875.6	14.0	14.7	136.34	465.9	404.4	1,038.9	1,016.8	22.06	47.098			
6,000.0	5,970.8	6,011.7	5,975.6	14.1	14.8	136.34	465.6	403.9	1,038.9	1,016.5	22.38	46.423			
6,100.0	6,070.8	6,111.7	6,075.5	14.3	14.9	136.34	465.3	403.3	1,038.9	1,016.2	22.70	45.765			
6,200.0	6,170.8	6,211.7	6,175.5	14.4	15.0	136.34	465.0	402.8	1,038.9	1,015.8	23.02	45.124			
6,300.0	6,270.8	6,311.7	6,275.5	14.5	15.1	136.34	464.6	402.3	1,038.9	1,015.5	23.35	44.499			
6,400.0	6,370.8	6,411.7	6,375.5	14.7	15.2	136.34	464.3	401.7	1,038.9	1,015.2	23.67	43.889			
6,500.0	6,470.8	6,511.7	6,475.5	14.8	15.4	136.34	464.0	401.2	1,038.9	1,014.9	23.99	43.295			
6,600.0	6,570.8	6,611.7	6,575.5	14.9	15.5	136.34	463.7	400.6	1,038.9	1,014.5	24.32	42.716			
6,700.0	6,670.8	6,711.7	6,675.5	15.1	15.6	136.34	463.4	400.1	1,038.9	1,014.2	24.65	42.151			
6,800.0	6,770.8	6,811.7	6,775.5	15.2	15.7	136.34	463.1	399.5	1,038.9	1,013.9	24.97	41.599			
6,900.0	6,870.8	6,911.7	6,875.5	15.4	15.9	136.34	462.8	399.0	1,038.9	1,013.6	25.30	41.061			
7,000.0	6,970.8	7,011.7	6,975.5	15.5	16.0	136.34	462.4	398.5	1,038.9	1,013.2	25.63	40.536			
7,100.0	7,070.8	7,111.7	7,075.5	15.6	16.1	136.34	462.1	397.9	1,038.9	1,012.9	25.96	40.023			
7,200.0	7,170.8	7,211.7	7,175.5	15.8	16.2	136.34	461.8	397.4	1,038.9	1,012.6	26.29	39.522			
7,300.0	7,270.8	7,311.7	7,275.5	15.9	16.4	136.34	461.5	396.8	1,038.9	1,012.2	26.62	39.032			
7,400.0	7,370.8	7,411.7	7,375.5	16.1	16.5	136.34	461.2	396.3	1,038.9	1,011.9	26.95	38.554			
7,500.0	7,470.8	7,511.7	7,475.5	16.2	16.6	136.34	460.9	395.7	1,038.9	1,011.6	27.28	38.087			
7,600.0	7,570.8	7,611.7	7,575.5	16.3	16.8	136.34	460.6	395.2	1,038.9	1,011.3	27.61	37.631			
7,700.0	7,670.8	7,711.7	7,675.5	16.5	16.9	136.34	460.3	394.7	1,038.9	1,010.9	27.94	37.184			
7,800.0	7,770.8	7,811.7	7,775.5	16.6	17.0	136.34	459.9	394.1	1,038.9	1,010.6	28.27	36.748			
7,900.0	7,870.8	7,911.7	7,875.5	16.8	17.2	136.34	459.6	393.6	1,038.9	1,010.3	28.60	36.321			
8,000.0	7,970.8	8,011.7	7,975.5	16.9	17.3	136.34	459.3	393.0	1,038.9	1,009.9	28.94	35.903			
8,100.0	8,070.8	8,111.7	8,075.5	17.1	17.4	136.34	459.0	392.5	1,038.9	1,009.6	29.27	35.495			
8,200.0	8,170.8	8,211.7	8,175.5	17.2	17.6	136.34	458.7	391.9	1,038.9	1,009.3	29.60	35.095			
8,300.0	8,270.8	8,311.7	8,275.5	17.4	17.7	136.34	458.4	391.4	1,038.9	1,008.9	29.94	34.703			
8,400.0	8,370.8	8,411.7	8,375.5	17.5	17.8	136.34	458.1	390.9	1,038.9	1,008.6	30.27	34.320			
8,500.0	8,470.8	8,511.7	8,475.5	17.7	18.0	136.34	457.7	390.3	1,038.9	1,008.3	30.60	33.945			
8,600.0	8,570.8	8,611.7	8,575.5	17.8	18.1	136.34	457.4	389.8	1,038.9	1,007.9	30.94	33.578			
8,700.0	8,670.8	8,711.7	8,675.5	18.0	18.3	136.34	457.1	389.2	1,038.9	1,007.6	31.27	33.218			
8,800.0	8,770.8	8,811.7	8,775.5	18.1	18.4	136.34	456.8	388.7	1,038.9	1,007.3	31.61	32.866			
8,900.0	8,870.8	8,911.7	8,875.5	18.3	18.5	136.34	456.5	388.2	1,038.9	1,006.9	31.95	32.520			
9,000.0	8,970.8	9,011.7	8,975.5	18.4	18.7	136.34	456.2	387.6	1,038.9	1,006.6	32.28	32.182			
9,100.0	9,070.8	9,111.7	9,075.5	18.6	18.8	136.34	455.9	387.1	1,038.9	1,006.2	32.62	31.850			
9,200.0	9,170.8	9,211.7	9,175.5	18.7	19.0	136.34	455.5	386.5	1,038.9	1,005.9	32.95	31.524			
9,300.0	9,270.8	9,311.7	9,275.5	18.9	19.1	136.34	455.2	386.0	1,038.9	1,005.6	33.29	31.205			
9,400.0	9,370.8	9,411.7	9,375.5	19.0	19.3	136.34	454.9	385.4	1,038.9	1,005.2	33.63	30.893			
9,500.0	9,470.8	9,511.7	9,475.5	19.2	19.4	136.34	454.6	384.9	1,038.9	1,004.9	33.97	30.586			
9,600.0	9,570.8	9,611.7	9,575.5	19.3	19.5	136.34	454.3	384.4	1,038.9	1,004.6	34.30	30.285			
9,700.0	9,670.8	9,711.7	9,675.5	19.5	19.7	136.34	454.0	383.8	1,038.9	1,004.2	34.64	29.990			
9,800.0	9,770.8	9,811.7	9,775.5	19.6	19.8	136.34	453.7	383.3	1,038.9	1,003.9	34.98	29.700			
9,900.0	9,870.8	9,911.7	9,875.5	19.8	20.0	136.34	453.4	382.7	1,038.9	1,003.5	35.32	29.415			
10,000.0	9,970.8	10,011.7	9,975.5	19.9	20.1	136.34	453.0	382.2	1,038.9	1,003.2	35.66	29.136			
10,100.0	10,070.8	10,111.7	10,075.5	20.1	20.3	136.34	452.7	381.6	1,038.9	1,002.9	35.99	28.862			
10,200.0	10,170.8	10,211.7	10,175.5	20.2	20.4	136.34	452.4	381.1	1,038.9	1,002.5	36.33	28.593			

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 LR05BDR 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:	LR05BDR 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													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		
10,300.0	10,270.8	10,311.7	10,275.5	20.4	20.6	136.34	452.1	380.6	1,038.9	1,002.2	36.67	28.328			
10,400.0	10,370.8	10,411.7	10,375.5	20.6	20.7	136.34	451.8	380.0	1,038.9	1,001.9	37.01	28.069			
10,500.0	10,470.8	10,511.7	10,475.5	20.7	20.9	136.34	451.5	379.5	1,038.9	1,001.5	37.35	27.813			
10,600.0	10,570.7	10,611.7	10,575.5	20.9	21.0	136.34	451.2	378.9	1,038.9	1,001.2	37.69	27.563			
10,700.0	10,670.7	10,711.7	10,675.5	21.0	21.2	136.34	450.8	378.4	1,038.9	1,000.8	38.03	27.317			
10,800.0	10,770.7	10,811.7	10,775.5	21.2	21.3	136.34	450.5	377.8	1,038.9	1,000.5	38.37	27.074			
10,900.0	10,870.7	10,911.7	10,875.5	21.3	21.5	136.34	450.2	377.3	1,038.9	1,000.2	38.71	26.837			
11,000.0	10,970.7	11,011.7	10,975.5	21.5	21.6	136.34	449.9	376.8	1,038.9	999.8	39.05	26.603			
11,100.0	11,070.7	11,111.7	11,075.5	21.7	21.8	136.34	449.6	376.2	1,038.9	999.5	39.39	26.373			
11,200.0	11,170.7	11,211.7	11,175.4	21.8	21.9	136.34	449.3	375.7	1,038.9	999.1	39.73	26.147			
11,300.0	11,270.7	11,311.7	11,275.4	22.0	22.1	136.34	449.0	375.1	1,038.9	998.8	40.07	25.924			
11,400.0	11,370.7	11,411.7	11,375.4	22.1	22.2	136.34	448.6	374.6	1,038.9	998.4	40.41	25.706			
11,500.0	11,470.7	11,511.7	11,475.4	22.3	22.4	136.34	448.3	374.0	1,038.9	998.1	40.75	25.490			
11,600.0	11,570.7	11,611.7	11,575.4	22.5	22.5	136.34	448.0	373.5	1,038.9	997.8	41.10	25.279			
11,700.0	11,670.7	11,711.7	11,675.4	22.6	22.7	136.34	447.7	373.0	1,038.9	997.4	41.44	25.071			
11,800.0	11,770.7	11,811.7	11,775.4	22.8	22.8	136.34	447.4	372.4	1,038.9	997.1	41.78	24.866			
11,900.0	11,870.7	11,911.7	11,875.4	22.9	23.0	136.34	447.1	371.9	1,038.9	996.7	42.12	24.664			
11,915.3	11,886.0	11,927.0	11,890.7	23.0	23.0	136.34	447.0	371.8	1,038.9	996.7	42.17	24.633 SF			

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 LR05BDR 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:	LR05BDR 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				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	108.41	-9.5	28.5	30.0	30.0	0.00	N/A				
100.0	100.0	100.0	100.0	0.2	0.1	108.41	-9.5	28.5	30.0	29.7	0.32	92.890				
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-9.5	28.5	30.0	29.3	0.67	44.636				
300.0	300.0	300.0	300.0	0.5	0.5	-62.36	-9.5	28.5	29.1	28.1	1.02	28.469				
400.0	399.8	399.8	399.8	0.7	0.7	-75.86	-7.7	28.7	27.2	25.8	1.39	19.519				
430.0	429.8	429.6	429.5	0.8	0.7	-82.99	-6.6	28.8	27.0	25.5	1.52	17.764 CC, ES				
500.0	499.5	498.5	498.4	0.9	0.9	-103.51	-2.7	29.3	29.0	27.2	1.80	16.093 SF				
600.0	598.9	595.8	595.3	1.2	1.1	-129.19	5.7	30.4	40.4	38.2	2.16	18.680				
700.0	698.3	691.7	690.5	1.4	1.3	-143.19	17.1	31.8	59.3	56.9	2.49	23.834				
800.0	797.7	786.2	783.8	1.7	1.6	-150.60	31.4	33.6	83.3	80.5	2.82	29.590				
900.0	897.0	882.4	878.7	1.9	1.9	-154.87	47.4	35.7	109.6	106.4	3.15	34.791				
1,000.0	996.4	978.7	973.6	2.2	2.2	-157.48	63.4	37.7	136.1	132.6	3.49	39.053				
1,100.0	1,095.8	1,074.9	1,068.5	2.4	2.5	-159.24	79.5	39.7	162.9	159.1	3.83	42.582				
1,200.0	1,195.2	1,171.2	1,163.4	2.7	2.8	-160.50	95.5	41.8	189.8	185.6	4.17	45.541				
1,300.0	1,294.6	1,267.4	1,258.3	3.0	3.2	-161.45	111.5	43.8	216.7	212.2	4.51	48.054				
1,400.0	1,394.0	1,363.7	1,353.2	3.2	3.5	-162.19	127.6	45.8	243.6	238.8	4.85	50.213				
1,500.0	1,493.4	1,459.9	1,448.0	3.5	3.8	-162.78	143.6	47.8	270.6	265.4	5.20	52.085				
1,600.0	1,592.8	1,556.2	1,542.9	3.7	4.1	-163.27	159.6	49.9	297.7	292.1	5.54	53.724				
1,700.0	1,692.2	1,652.4	1,637.8	4.0	4.4	-163.67	175.7	51.9	324.7	318.8	5.89	55.170				
1,800.0	1,791.6	1,748.7	1,732.7	4.2	4.8	-164.02	191.7	53.9	351.8	345.5	6.23	56.455				
1,900.0	1,891.0	1,844.9	1,827.6	4.5	5.1	-164.31	207.7	56.0	378.8	372.2	6.58	57.604				
2,000.0	1,990.4	1,941.2	1,922.5	4.8	5.4	-164.56	223.8	58.0	405.9	399.0	6.92	58.638				
2,100.0	2,089.8	2,037.5	2,017.4	5.0	5.7	-164.79	239.8	60.0	433.0	425.7	7.27	59.572				
2,200.0	2,189.2	2,133.7	2,112.2	5.3	6.1	-164.98	255.8	62.1	460.0	452.4	7.61	60.422				
2,300.0	2,288.6	2,230.0	2,207.1	5.5	6.4	-165.16	271.9	64.1	487.1	479.2	7.96	61.196				
2,400.0	2,388.0	2,326.2	2,302.0	5.8	6.7	-165.31	287.9	66.1	514.2	505.9	8.31	61.906				
2,500.0	2,487.4	2,422.5	2,396.9	6.0	7.0	-165.45	303.9	68.2	541.3	532.6	8.65	62.559				
2,600.0	2,586.8	2,518.7	2,491.8	6.3	7.4	-165.58	320.0	70.2	568.4	559.4	9.00	63.161				
2,700.0	2,686.2	2,615.0	2,586.7	6.6	7.7	-165.69	336.0	72.2	595.5	586.1	9.35	63.718				
2,800.0	2,785.6	2,711.2	2,681.6	6.8	8.0	-165.80	352.1	74.3	622.6	612.9	9.69	64.235				
2,900.0	2,885.0	2,807.5	2,776.4	7.1	8.4	-165.90	368.1	76.3	649.7	639.6	10.04	64.716				
3,000.0	2,984.4	2,903.7	2,871.3	7.3	8.7	-165.99	384.1	78.3	676.8	666.4	10.39	65.165				
3,100.0	3,083.8	3,000.0	2,966.2	7.6	9.0	-166.07	400.2	80.3	703.9	693.1	10.73	65.584				
3,200.0	3,183.2	3,096.2	3,061.1	7.9	9.3	-166.14	416.2	82.4	731.0	719.9	11.08	65.978				
3,300.0	3,282.6	3,192.5	3,156.0	8.1	9.7	-166.21	432.2	84.4	758.1	746.7	11.43	66.347				
3,400.0	3,382.0	3,288.7	3,250.9	8.4	10.0	-166.28	448.3	86.4	785.2	773.4	11.77	66.694				
3,500.0	3,481.4	3,385.0	3,345.8	8.6	10.3	-166.34	464.3	88.5	812.3	800.2	12.12	67.021				
3,600.0	3,580.8	3,481.2	3,440.6	8.9	10.6	-166.40	480.3	90.5	839.4	826.9	12.47	67.330				
3,700.0	3,680.2	3,577.5	3,535.5	9.2	11.0	-166.45	496.4	92.5	866.5	853.7	12.81	67.622				
3,800.0	3,779.6	3,673.7	3,630.4	9.4	11.3	-166.50	512.4	94.6	893.6	880.5	13.16	67.899				
3,900.0	3,879.0	3,770.0	3,725.3	9.7	11.6	-166.55	528.4	96.6	920.7	907.2	13.51	68.161				
4,000.0	3,978.4	3,866.2	3,820.2	9.9	12.0	-166.60	544.5	98.6	947.8	934.0	13.86	68.410				
4,100.0	4,077.8	3,962.5	3,915.1	10.2	12.3	-166.64	560.5	100.7	975.0	960.8	14.20	68.647				
4,200.0	4,177.2	4,058.8	4,010.0	10.4	12.6	-166.68	576.5	102.7	1,002.1	987.5	14.55	68.873				
4,300.0	4,276.6	4,155.0	4,104.8	10.7	12.9	-166.72	592.6	104.7	1,029.2	1,014.3	14.90	69.088				
4,400.0	4,376.0	4,251.3	4,199.7	11.0	13.3	-166.75	608.6	106.7	1,056.3	1,041.0	15.24	69.293				
4,500.0	4,475.4	4,347.5	4,294.6	11.2	13.6	-166.79	624.6	108.8	1,083.4	1,067.8	15.59	69.489				
4,600.0	4,574.8	4,443.8	4,389.5	11.5	13.9	-166.82	640.7	110.8	1,110.5	1,094.6	15.94	69.676				
4,700.0	4,674.2	4,540.0	4,484.4	11.7	14.3	-166.85	656.7	112.8	1,137.6	1,121.3	16.29	69.855				
4,800.0	4,773.6	4,636.3	4,579.3	12.0	14.6	-166.88	672.7	114.9	1,164.7	1,148.1	16.63	70.022				
4,900.0	4,873.0	4,732.5	4,674.2	12.3	14.9	-166.91	688.8	116.9	1,191.9	1,174.9	16.98	70.192				
5,000.0	4,972.4	4,828.8	4,769.0	12.5	15.2	-166.93	704.8	118.9	1,219.0	1,201.6	17.33	70.350				

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 LR05BDR 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:	LR05BDR 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				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)						
5,100.0	5,071.8	4,925.0	4,863.9	12.8	15.6	-166.96	720.9	121.0	1,246.1	1,228.4	17.67	70.502				
5,200.0	5,171.2	5,021.4	4,958.9	13.0	15.9	-167.04	736.9	123.0	1,272.8	1,254.8	18.05	70.530				
5,300.0	5,270.9	5,151.4	5,087.2	13.2	16.3	-167.13	757.6	125.6	1,296.1	1,277.6	18.49	70.104				
5,400.0	5,370.9	5,331.8	5,266.5	13.4	16.7	-167.17	777.6	128.2	1,311.1	1,292.1	19.00	68.998				
5,500.0	5,470.8	5,515.3	5,449.7	13.5	17.0	120.66	786.4	129.3	1,316.6	1,297.1	19.50	67.520				
5,600.0	5,570.8	5,638.7	5,573.1	13.6	17.1	120.67	786.7	129.2	1,316.9	1,297.1	19.88	66.244				
5,700.0	5,670.8	5,740.6	5,675.0	13.7	17.2	120.68	786.4	128.7	1,317.0	1,296.8	20.22	65.120				
5,800.0	5,770.8	5,840.6	5,775.0	13.9	17.3	120.68	786.1	128.2	1,317.0	1,296.4	20.57	64.040				
5,900.0	5,870.8	5,940.6	5,875.0	14.0	17.4	120.68	785.8	127.6	1,317.0	1,296.1	20.91	62.995				
6,000.0	5,970.8	6,040.6	5,975.0	14.1	17.5	120.68	785.5	127.1	1,317.0	1,295.8	21.25	61.983				
6,100.0	6,070.8	6,140.6	6,075.0	14.3	17.6	120.68	785.1	126.6	1,317.0	1,295.4	21.59	61.002				
6,200.0	6,170.8	6,240.6	6,175.0	14.4	17.7	120.68	784.8	126.0	1,317.0	1,295.1	21.93	60.051				
6,300.0	6,270.8	6,340.6	6,275.0	14.5	17.8	120.68	784.5	125.5	1,317.0	1,294.7	22.27	59.128				
6,400.0	6,370.8	6,440.6	6,375.0	14.7	17.9	120.68	784.2	124.9	1,317.0	1,294.4	22.62	58.233				
6,500.0	6,470.8	6,540.6	6,475.0	14.8	18.0	120.68	783.9	124.4	1,317.0	1,294.0	22.96	57.364				
6,600.0	6,570.8	6,640.6	6,575.0	14.9	18.1	120.68	783.6	123.8	1,317.0	1,293.7	23.30	56.520				
6,700.0	6,670.8	6,740.6	6,675.0	15.1	18.2	120.68	783.3	123.3	1,317.0	1,293.4	23.64	55.700				
6,800.0	6,770.8	6,840.6	6,775.0	15.2	18.3	120.68	782.9	122.8	1,317.0	1,293.0	23.99	54.903				
6,900.0	6,870.8	6,940.6	6,875.0	15.4	18.4	120.68	782.6	122.2	1,317.0	1,292.7	24.33	54.128				
7,000.0	6,970.8	7,040.6	6,975.0	15.5	18.6	120.68	782.3	121.7	1,317.0	1,292.3	24.67	53.374				
7,100.0	7,070.8	7,140.6	7,075.0	15.6	18.7	120.68	782.0	121.1	1,317.0	1,292.0	25.02	52.641				
7,200.0	7,170.8	7,240.6	7,175.0	15.8	18.8	120.68	781.7	120.6	1,317.0	1,291.6	25.36	51.927				
7,300.0	7,270.8	7,340.6	7,275.0	15.9	18.9	120.68	781.4	120.0	1,317.0	1,291.3	25.71	51.232				
7,400.0	7,370.8	7,440.6	7,375.0	16.1	19.0	120.68	781.1	119.5	1,317.0	1,291.0	26.05	50.555				
7,500.0	7,470.8	7,540.6	7,475.0	16.2	19.1	120.68	780.8	119.0	1,317.0	1,290.6	26.40	49.896				
7,600.0	7,570.8	7,640.6	7,575.0	16.3	19.2	120.68	780.4	118.4	1,317.0	1,290.3	26.74	49.253				
7,700.0	7,670.8	7,740.6	7,675.0	16.5	19.3	120.68	780.1	117.9	1,317.0	1,289.9	27.08	48.626				
7,800.0	7,770.8	7,840.6	7,775.0	16.6	19.5	120.68	779.8	117.3	1,317.0	1,289.6	27.43	48.015				
7,900.0	7,870.8	7,940.6	7,875.0	16.8	19.6	120.68	779.5	116.8	1,317.0	1,289.2	27.77	47.419				
8,000.0	7,970.8	8,040.6	7,975.0	16.9	19.7	120.68	779.2	116.2	1,317.0	1,288.9	28.12	46.837				
8,100.0	8,070.8	8,140.6	8,075.0	17.1	19.8	120.68	778.9	115.7	1,317.0	1,288.5	28.46	46.269				
8,200.0	8,170.8	8,240.6	8,175.0	17.2	19.9	120.68	778.6	115.2	1,317.0	1,288.2	28.81	45.715				
8,300.0	8,270.8	8,340.6	8,275.0	17.4	20.1	120.68	778.3	114.6	1,317.0	1,287.9	29.15	45.173				
8,400.0	8,370.8	8,440.6	8,375.0	17.5	20.2	120.68	777.9	114.1	1,317.0	1,287.5	29.50	44.645				
8,500.0	8,470.8	8,540.6	8,475.0	17.7	20.3	120.68	777.6	113.5	1,317.0	1,287.2	29.85	44.128				
8,600.0	8,570.8	8,640.6	8,575.0	17.8	20.4	120.68	777.3	113.0	1,317.0	1,286.8	30.19	43.623				
8,700.0	8,670.8	8,740.6	8,675.0	18.0	20.6	120.68	777.0	112.4	1,317.0	1,286.5	30.54	43.129				
8,800.0	8,770.8	8,840.6	8,775.0	18.1	20.7	120.68	776.7	111.9	1,317.0	1,286.1	30.88	42.646				
8,900.0	8,870.8	8,940.6	8,875.0	18.3	20.8	120.68	776.4	111.3	1,317.0	1,285.8	31.23	42.174				
9,000.0	8,970.8	9,040.6	8,975.0	18.4	20.9	120.68	776.1	110.8	1,317.0	1,285.4	31.57	41.712				
9,100.0	9,070.8	9,140.6	9,075.0	18.6	21.1	120.68	775.7	110.3	1,317.0	1,285.1	31.92	41.260				
9,200.0	9,170.8	9,240.6	9,175.0	18.7	21.2	120.68	775.4	109.7	1,317.0	1,284.8	32.27	40.817				
9,300.0	9,270.8	9,340.6	9,275.0	18.9	21.3	120.68	775.1	109.2	1,317.0	1,284.4	32.61	40.384				
9,400.0	9,370.8	9,440.6	9,375.0	19.0	21.5	120.68	774.8	108.6	1,317.0	1,284.1	32.96	39.960				
9,500.0	9,470.8	9,540.6	9,475.0	19.2	21.6	120.68	774.5	108.1	1,317.0	1,283.7	33.31	39.544				
9,600.0	9,570.8	9,640.6	9,575.0	19.3	21.7	120.68	774.2	107.5	1,317.0	1,283.4	33.65	39.137				
9,700.0	9,670.8	9,740.6	9,675.0	19.5	21.8	120.68	773.9	107.0	1,317.0	1,283.0	34.00	38.738				
9,800.0	9,770.8	9,840.6	9,775.0	19.6	22.0	120.68	773.6	106.5	1,317.0	1,282.7	34.34	38.347				
9,900.0	9,870.8	9,940.6	9,875.0	19.8	22.1	120.68	773.2	105.9	1,317.0	1,282.3	34.69	37.964				
10,000.0	9,970.8	10,040.6	9,975.0	19.9	22.2	120.68	772.9	105.4	1,317.0	1,282.0	35.04	37.589				
10,100.0	10,070.8	10,140.6	10,075.0	20.1	22.4	120.68	772.6	104.8	1,317.0	1,281.6	35.38	37.220				
10,200.0	10,170.8	10,240.6	10,175.0	20.2	22.5	120.68	772.3	104.3	1,317.0	1,281.3	35.73	36.859				

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft
D21 595 Pad - LR04B D21 595 - DD - Plan #2													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
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		
10,300.0	10,270.8	10,340.6	10,275.0	20.4	22.6	120.68	772.0	103.7	1,317.0	1,281.0	36.08	36.505		
10,400.0	10,370.8	10,440.6	10,375.0	20.6	22.8	120.68	771.7	103.2	1,317.0	1,280.6	36.42	36.157		
10,500.0	10,470.8	10,540.6	10,475.0	20.7	22.9	120.68	771.4	102.7	1,317.0	1,280.3	36.77	35.816		
10,600.0	10,570.7	10,640.6	10,575.0	20.9	23.1	120.68	771.1	102.1	1,317.0	1,279.9	37.12	35.482		
10,700.0	10,670.7	10,740.6	10,675.0	21.0	23.2	120.68	770.7	101.6	1,317.0	1,279.6	37.47	35.153		
10,800.0	10,770.7	10,840.6	10,774.9	21.2	23.3	120.68	770.4	101.0	1,317.0	1,279.2	37.81	34.830		
10,900.0	10,870.7	10,940.6	10,874.9	21.3	23.5	120.68	770.1	100.5	1,317.0	1,278.9	38.16	34.514		
11,000.0	10,970.7	11,040.6	10,974.9	21.5	23.6	120.68	769.8	99.9	1,317.0	1,278.5	38.51	34.202		
11,100.0	11,070.7	11,140.6	11,074.9	21.7	23.7	120.68	769.5	99.4	1,317.0	1,278.2	38.85	33.897		
11,200.0	11,170.7	11,240.6	11,174.9	21.8	23.9	120.68	769.2	98.9	1,317.0	1,277.8	39.20	33.597		
11,300.0	11,270.7	11,340.6	11,274.9	22.0	24.0	120.68	768.9	98.3	1,317.0	1,277.5	39.55	33.302		
11,400.0	11,370.7	11,440.6	11,374.9	22.1	24.2	120.68	768.5	97.8	1,317.0	1,277.1	39.90	33.012		
11,500.0	11,470.7	11,540.6	11,474.9	22.3	24.3	120.68	768.2	97.2	1,317.0	1,276.8	40.24	32.727		
11,600.0	11,570.7	11,640.6	11,574.9	22.5	24.4	120.68	767.9	96.7	1,317.0	1,276.4	40.59	32.447		
11,700.0	11,670.7	11,740.6	11,674.9	22.6	24.6	120.68	767.6	96.1	1,317.0	1,276.1	40.94	32.171		
11,800.0	11,770.7	11,840.6	11,774.9	22.8	24.7	120.68	767.3	95.6	1,317.0	1,275.8	41.29	31.901		
11,900.0	11,870.7	11,940.6	11,874.9	22.9	24.9	120.68	767.0	95.1	1,317.0	1,275.4	41.63	31.634		
11,915.3	11,886.0	11,955.9	11,890.2	23.0	24.9	120.68	766.9	95.0	1,317.0	1,275.4	41.69	31.594		

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft		
Survey Program: 140-MWD													Offset Well Error:		0.0 ft	
D21 595 Pad - LR04C D21 595 (Existing) - DD - DD																
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	-72.40	5.1	-16.1	17.3	17.3	0.00	N/A				
100.0	100.0	96.1	96.1	0.2	0.2	-73.62	4.7	-15.9	16.6	16.3	0.33	50.368				
200.0	200.0	196.1	196.1	0.3	0.3	-77.58	3.4	-15.5	15.9	15.2	0.67	23.592				
272.8	272.8	269.0	268.9	0.5	0.5	113.13	2.0	-15.1	15.6	14.7	0.93	16.705 CC				
300.0	300.0	296.2	296.2	0.5	0.5	113.77	1.4	-14.9	15.6	14.6	1.03	15.178 ES				
400.0	399.8	396.2	396.1	0.7	0.7	123.04	-0.9	-14.1	16.6	15.2	1.39	11.930				
500.0	499.5	496.0	495.9	0.9	0.9	139.01	-2.9	-13.3	20.8	19.0	1.76	11.841				
600.0	598.9	595.9	595.8	1.2	1.0	150.07	-6.1	-12.3	26.8	24.7	2.11	12.729				
700.0	698.3	696.1	695.9	1.4	1.2	155.92	-10.6	-11.2	32.4	30.0	2.46	13.200				
800.0	797.7	796.5	796.1	1.7	1.4	160.35	-16.2	-9.1	36.8	34.0	2.80	13.129				
900.0	897.0	896.9	896.2	1.9	1.7	165.15	-22.6	-5.6	40.0	36.9	3.14	12.736				
1,000.0	996.4	997.0	995.9	2.2	1.9	171.20	-29.2	-0.4	42.6	39.2	3.48	12.261				
1,100.0	1,095.8	1,097.1	1,095.6	2.4	2.1	178.45	-35.7	6.5	45.3	41.5	3.83	11.821				
1,200.0	1,195.2	1,196.6	1,194.6	2.7	2.3	-174.86	-42.2	13.6	48.5	44.3	4.22	11.510				
1,300.0	1,294.6	1,296.1	1,293.8	3.0	2.5	-171.46	-48.0	18.5	53.1	48.5	4.60	11.544				
1,400.0	1,394.0	1,395.7	1,393.2	3.2	2.7	-169.84	-53.5	22.1	58.3	53.3	4.97	11.721				
1,500.0	1,493.4	1,497.0	1,494.3	3.5	3.0	-169.05	-60.1	25.1	62.5	57.1	5.34	11.691				
1,600.0	1,592.8	1,595.9	1,592.9	3.7	3.2	-168.20	-67.3	28.3	65.9	60.2	5.72	11.528				
1,700.0	1,692.2	1,694.7	1,691.4	4.0	3.4	-166.79	-72.3	32.3	71.5	65.4	6.10	11.723				
1,800.0	1,791.6	1,793.9	1,790.5	4.2	3.6	-165.67	-76.4	36.3	78.2	71.7	6.49	12.055				
1,900.0	1,891.0	1,893.4	1,889.9	4.5	3.7	-165.53	-80.0	39.0	85.3	78.5	6.85	12.463				
2,000.0	1,990.4	1,993.7	1,990.1	4.8	3.9	-165.62	-83.7	41.5	92.3	85.1	7.21	12.804				
2,100.0	2,089.8	2,093.9	2,090.1	5.0	4.1	-165.21	-88.0	44.8	98.8	91.2	7.58	13.022				
2,200.0	2,189.2	2,193.6	2,189.6	5.3	4.3	-164.73	-92.5	48.2	105.0	97.1	7.96	13.191				
2,300.0	2,288.6	2,293.0	2,288.9	5.5	4.5	-164.31	-96.6	51.7	111.7	103.3	8.34	13.390				
2,400.0	2,388.0	2,392.5	2,388.3	5.8	4.7	-163.99	-100.5	55.1	118.5	109.8	8.71	13.596				
2,500.0	2,487.4	2,492.3	2,488.0	6.0	4.9	-163.68	-104.4	58.5	125.4	116.3	9.09	13.797				
2,600.0	2,586.8	2,590.9	2,586.5	6.3	5.1	-163.63	-107.7	61.5	132.8	123.4	9.45	14.047				
2,700.0	2,686.2	2,691.0	2,686.4	6.6	5.3	-163.61	-110.7	64.4	140.5	130.7	9.82	14.308				
2,800.0	2,785.6	2,789.5	2,784.8	6.8	5.5	-163.71	-113.3	67.0	148.6	138.4	10.18	14.600				
2,900.0	2,885.0	2,888.2	2,883.5	7.1	5.7	-163.82	-115.4	69.6	157.2	146.7	10.53	14.923				
3,000.0	2,984.4	2,988.0	2,983.3	7.3	5.8	-164.04	-117.1	71.9	166.2	155.3	10.89	15.265				
3,100.0	3,083.8	3,086.9	3,082.2	7.6	6.0	-164.27	-118.7	74.1	175.2	164.0	11.24	15.591				
3,200.0	3,183.2	3,187.2	3,182.4	7.9	6.2	-164.56	-120.4	76.0	184.2	172.6	11.59	15.901				
3,300.0	3,282.6	3,287.2	3,282.4	8.1	6.4	-164.98	-122.4	77.4	192.9	181.0	11.93	16.179				
3,400.0	3,382.0	3,386.9	3,382.0	8.4	6.5	-165.52	-124.4	78.3	201.5	189.3	12.26	16.440				
3,500.0	3,481.4	3,486.1	3,481.3	8.6	6.7	-165.93	-126.3	79.4	210.3	197.7	12.60	16.691				
3,600.0	3,580.8	3,587.4	3,582.5	8.9	6.9	-166.30	-128.4	80.6	218.9	206.0	12.94	16.922				
3,700.0	3,680.2	3,689.5	3,684.5	9.2	7.1	-166.99	-131.8	80.5	226.2	212.9	13.26	17.054				
3,800.0	3,779.6	3,788.7	3,783.7	9.4	7.2	-167.74	-135.4	79.9	233.3	219.7	13.58	17.176				
3,900.0	3,879.0	3,887.7	3,882.6	9.7	7.4	-168.47	-138.7	79.1	240.7	226.8	13.90	17.319				
4,000.0	3,978.4	3,986.1	3,981.0	9.9	7.6	-169.14	-141.6	78.4	248.5	234.3	14.22	17.477				
4,100.0	4,077.8	4,084.4	4,079.3	10.2	7.8	-169.77	-143.9	77.7	257.0	242.4	14.54	17.669				
4,200.0	4,177.2	4,183.4	4,178.3	10.4	7.9	-170.39	-145.9	76.8	265.8	250.9	14.87	17.876				
4,300.0	4,276.6	4,282.0	4,276.8	10.7	8.1	-170.89	-147.7	76.3	274.8	259.6	15.20	18.086				
4,400.0	4,376.0	4,380.5	4,375.3	11.0	8.2	-171.34	-149.0	75.8	284.3	268.8	15.53	18.313				
4,500.0	4,475.4	4,479.6	4,474.4	11.2	8.4	-171.78	-150.1	75.3	294.1	278.2	15.86	18.547				
4,600.0	4,574.8	4,577.6	4,572.4	11.5	8.6	-172.23	-151.0	74.5	304.1	287.9	16.19	18.786				
4,700.0	4,674.2	4,674.9	4,669.7	11.7	8.7	-172.63	-151.2	73.8	314.8	298.3	16.52	19.060				
4,800.0	4,773.6	4,773.6	4,768.4	12.0	8.9	-173.00	-151.0	73.0	325.9	309.1	16.85	19.342				
4,900.0	4,873.0	4,873.2	4,868.0	12.3	9.0	-173.35	-150.8	72.3	337.2	320.0	17.19	19.615				
5,000.0	4,972.4	4,972.6	4,967.4	12.5	9.2	-173.68	-150.6	71.6	348.3	330.8	17.53	19.875				

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft
Survey Program: 140-MWD													Offset Well Error:	0.0 ft
Reference														
Offset				Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
5,100.0	5,071.8	5,071.5	5,066.3	12.8	9.4	-174.01	-150.3	70.6	359.5	341.7	17.86	20.130		
5,200.0	5,171.2	5,170.1	5,164.8	13.0	9.5	-174.36	-149.9	69.5	370.6	352.4	18.20	20.357		
5,300.0	5,270.9	5,269.8	5,264.5	13.2	9.7	-174.66	-149.4	68.3	378.7	360.1	18.54	20.420		
5,400.0	5,370.9	5,372.4	5,367.2	13.4	9.8	-174.93	-149.2	66.9	383.0	364.1	18.88	20.292		
5,500.0	5,470.8	5,474.4	5,469.1	13.5	10.0	112.58	-149.9	65.0	383.3	364.1	19.20	19.962		
5,600.0	5,570.8	5,574.4	5,569.1	13.6	10.2	112.29	-150.5	62.7	383.1	363.6	19.54	19.608		
5,700.0	5,670.8	5,679.9	5,674.6	13.7	10.4	112.00	-152.5	60.4	381.8	361.9	19.89	19.196		
5,800.0	5,770.8	5,778.4	5,773.0	13.9	10.5	111.72	-154.7	58.3	380.1	359.9	20.23	18.794		
5,900.0	5,870.8	5,876.8	5,871.4	14.0	10.7	111.46	-156.4	56.2	379.0	358.5	20.56	18.432		
6,000.0	5,970.8	5,977.0	5,971.6	14.1	10.9	111.24	-157.9	54.4	378.0	357.1	20.91	18.082		
6,100.0	6,070.8	6,076.5	6,071.0	14.3	11.0	111.09	-159.3	53.0	377.1	355.8	21.25	17.743		
6,200.0	6,170.8	6,175.5	6,170.0	14.4	11.2	111.00	-160.4	52.0	376.3	354.7	21.60	17.426		
6,300.0	6,270.8	6,274.3	6,268.8	14.5	11.4	110.95	-161.3	51.2	375.8	353.9	21.94	17.130		
6,400.0	6,370.8	6,373.4	6,367.9	14.7	11.5	110.91	-161.8	50.4	375.7	353.4	22.29	16.858		
6,473.9	6,444.8	6,447.1	6,441.6	14.8	11.7	110.84	-162.1	49.6	375.7	353.1	22.54	16.666		
6,500.0	6,470.8	6,473.2	6,467.6	14.8	11.7	110.81	-162.2	49.3	375.7	353.0	22.63	16.600		
6,600.0	6,570.8	6,573.0	6,567.5	14.9	11.9	110.63	-162.7	47.6	375.7	352.7	22.98	16.352		
6,700.0	6,670.8	6,672.0	6,666.4	15.1	12.0	110.43	-163.0	45.7	375.9	352.6	23.32	16.118		
6,800.0	6,770.8	6,772.9	6,767.4	15.2	12.2	110.23	-163.3	43.8	376.1	352.4	23.67	15.891		
6,900.0	6,870.8	6,873.2	6,867.6	15.4	12.4	110.01	-163.9	41.8	376.1	352.1	24.01	15.663		
7,000.0	6,970.8	6,974.1	6,968.5	15.5	12.5	109.79	-164.6	39.9	376.0	351.7	24.36	15.434		
7,100.0	7,070.8	7,073.9	7,068.2	15.6	12.7	109.53	-165.4	37.7	375.8	351.1	24.71	15.209		
7,200.0	7,170.8	7,173.5	7,167.8	15.8	12.9	109.23	-166.2	35.2	375.7	350.6	25.06	14.994		
7,226.8	7,197.7	7,200.1	7,194.4	15.8	12.9	109.14	-166.4	34.5	375.7	350.5	25.15	14.938		
7,300.0	7,270.8	7,272.8	7,267.1	15.9	13.1	108.89	-166.9	32.5	375.7	350.3	25.40	14.792		
7,400.0	7,370.8	7,373.3	7,367.5	16.1	13.2	108.56	-167.6	29.8	375.8	350.0	25.75	14.593		
7,500.0	7,470.8	7,473.5	7,467.7	16.2	13.4	108.22	-168.3	27.1	375.8	349.7	26.10	14.398		
7,600.0	7,570.8	7,574.4	7,568.6	16.3	13.6	107.86	-169.3	24.3	375.6	349.2	26.45	14.201		
7,700.0	7,670.8	7,675.4	7,669.5	16.5	13.7	107.50	-170.5	21.5	375.3	348.4	26.80	13.999		
7,800.0	7,770.8	7,776.0	7,770.1	16.6	13.9	107.17	-171.9	19.0	374.6	347.4	27.16	13.793		
7,900.0	7,870.8	7,875.9	7,869.9	16.8	14.1	106.83	-173.4	16.5	373.9	346.4	27.51	13.593		
8,000.0	7,970.8	7,975.0	7,969.0	16.9	14.3	106.46	-174.8	13.7	373.3	345.5	27.86	13.401		
8,100.0	8,070.8	8,074.5	8,068.4	17.1	14.4	106.04	-176.1	10.5	373.0	344.8	28.21	13.223		
8,200.0	8,170.8	8,176.3	8,170.1	17.2	14.6	105.50	-177.6	6.7	372.7	344.1	28.57	13.043		
8,300.0	8,270.8	8,276.3	8,270.0	17.4	14.8	105.00	-179.7	3.2	371.7	342.8	28.93	12.850		
8,371.0	8,341.8	8,344.7	8,338.4	17.5	14.9	104.70	-180.6	1.1	371.5	342.3	29.18	12.731		
8,400.0	8,370.8	8,372.2	8,365.9	17.5	15.0	104.59	-180.9	0.2	371.5	342.2	29.28	12.689		
8,500.0	8,470.8	8,475.4	8,469.1	17.7	15.1	104.35	-181.2	-1.9	372.0	342.3	29.64	12.551		
8,600.0	8,570.8	8,579.7	8,573.4	17.8	15.3	104.59	-182.3	-0.7	370.7	340.7	29.99	12.362		
8,700.0	8,670.8	8,680.1	8,673.7	18.0	15.5	104.94	-183.7	1.4	369.0	338.7	30.33	12.164		
8,800.0	8,770.8	8,778.8	8,772.4	18.1	15.7	105.27	-185.0	3.3	367.4	336.8	30.68	11.977		
8,900.0	8,870.8	8,878.9	8,872.5	18.3	15.8	105.66	-186.0	5.6	366.1	335.1	31.02	11.801		
9,000.0	8,970.8	8,979.2	8,972.8	18.4	16.0	106.05	-187.1	7.8	364.7	333.3	31.37	11.626		
9,100.0	9,070.8	9,080.2	9,073.7	18.6	16.2	106.46	-188.3	10.2	363.1	331.4	31.71	11.448		
9,200.0	9,170.8	9,180.4	9,173.9	18.7	16.4	106.85	-189.8	12.4	361.3	329.2	32.06	11.269		
9,300.0	9,270.8	9,279.8	9,273.2	18.9	16.5	107.05	-191.4	13.5	359.6	327.2	32.41	11.097		
9,400.0	9,370.8	9,380.7	9,374.1	19.0	16.7	107.10	-193.4	13.6	357.8	325.1	32.76	10.923		
9,500.0	9,470.8	9,478.7	9,472.1	19.2	16.9	107.14	-195.2	13.7	356.2	323.1	33.10	10.761		
9,600.0	9,570.8	9,577.6	9,571.0	19.3	17.1	107.07	-196.6	12.9	355.2	321.7	33.45	10.617		
9,700.0	9,670.8	9,678.6	9,672.0	19.5	17.3	106.89	-198.4	11.6	353.9	320.1	33.81	10.470		
9,800.0	9,770.8	9,777.6	9,770.9	19.6	17.4	106.72	-200.1	10.3	352.8	318.6	34.15	10.329		
9,900.0	9,870.8	9,876.5	9,869.9	19.8	17.6	106.58	-201.4	9.1	351.9	317.4	34.50	10.200		

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 140-MWD													Offset Well Error:		0.0 ft
D21 595 Pad - LR04C D21 595 (Existing) - DD - DD															
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			
10,000.0	9,970.8	9,975.5	9,968.8	19.9	17.8	106.47	-202.4	8.1	351.4	316.5	34.85	10.082			
10,100.0	10,070.8	10,074.4	10,067.7	20.1	17.9	106.40	-203.1	7.1	351.1	315.9	35.20	9.975			
10,200.0	10,170.8	10,175.7	10,169.0	20.2	18.1	106.35	-203.7	6.3	350.9	315.3	35.55	9.869			
10,300.0	10,270.8	10,275.3	10,268.6	20.4	18.3	106.29	-204.5	5.6	350.5	314.6	35.90	9.761			
10,400.0	10,370.8	10,376.4	10,369.7	20.6	18.5	106.23	-205.4	4.8	349.9	313.7	36.26	9.652			
10,500.0	10,470.8	10,476.5	10,469.8	20.7	18.6	106.13	-206.6	3.8	349.3	312.7	36.61	9.541			
10,600.0	10,570.7	10,576.5	10,569.8	20.9	18.8	105.97	-207.8	2.5	348.5	311.6	36.96	9.431			
10,700.0	10,670.7	10,675.6	10,668.8	21.0	19.0	105.75	-208.9	0.8	348.0	310.7	37.31	9.327			
10,800.0	10,770.7	10,775.2	10,768.4	21.2	19.2	105.43	-210.1	-1.5	347.6	309.9	37.66	9.229			
10,865.6	10,836.3	10,839.7	10,832.9	21.3	19.3	105.19	-210.8	-3.2	347.5	309.6	37.89	9.170			
10,900.0	10,870.7	10,873.7	10,866.9	21.3	19.3	105.07	-211.1	-4.2	347.5	309.5	38.02	9.141			
11,000.0	10,970.7	10,973.1	10,966.3	21.5	19.5	104.72	-211.8	-6.8	347.7	309.3	38.37	9.062			
11,100.0	11,070.7	11,071.8	11,064.9	21.7	19.7	104.35	-212.2	-9.6	348.2	309.5	38.73	8.992			
11,200.0	11,170.7	11,172.0	11,165.1	21.8	19.8	103.91	-212.6	-12.9	348.9	309.8	39.08	8.926			
11,300.0	11,270.7	11,271.9	11,264.9	22.0	20.0	103.39	-213.2	-16.7	349.5	310.1	39.44	8.861			
11,400.0	11,370.7	11,371.3	11,364.2	22.1	20.2	102.86	-213.7	-20.6	350.3	310.5	39.80	8.801			
11,500.0	11,470.7	11,470.9	11,463.7	22.3	20.4	102.27	-214.2	-24.8	351.2	311.1	40.17	8.744			
11,600.0	11,570.7	11,570.2	11,562.9	22.5	20.5	101.60	-214.8	-29.6	352.3	311.8	40.53	8.693			
11,700.0	11,670.7	11,669.0	11,661.6	22.6	20.7	100.96	-215.1	-34.3	353.7	312.8	40.90	8.648			
11,800.0	11,770.7	11,767.3	11,759.8	22.8	20.9	100.44	-214.7	-38.5	355.6	314.3	41.26	8.618			
11,900.0	11,870.7	11,867.8	11,860.2	22.9	21.0	99.99	-214.0	-42.4	357.6	316.0	41.62	8.592			
11,915.3	11,886.0	11,883.3	11,875.7	23.0	21.1	99.92	-213.9	-42.9	357.9	316.2	41.68	8.588 SF			

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05BDR 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:	LR05BDR 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														Offset Site Error:	0.0 ft	
Survey Program: 0-MWD														Offset Well Error:		0.0 ft
Reference				Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	108.38	-33.1	99.7	105.1	105.1	0.00	N/A				
100.0	100.0	100.0	100.0	0.2	0.1	108.38	-33.1	99.7	105.1	104.8	0.32	325.531				
200.0	200.0	200.0	200.0	0.3	0.3	108.38	-33.1	99.7	105.1	104.4	0.67	156.424 CC, ES				
300.0	300.0	296.9	296.9	0.5	0.5	-61.02	-32.1	101.5	105.7	104.7	1.02	103.474				
400.0	399.8	394.1	393.9	0.7	0.7	-65.68	-29.1	106.8	107.8	106.4	1.39	77.407				
500.0	499.5	493.3	492.8	0.9	0.9	-72.26	-25.5	113.1	110.4	108.6	1.80	61.521				
600.0	598.9	592.2	591.4	1.2	1.1	-79.54	-21.9	119.4	114.1	111.9	2.21	51.594				
700.0	698.3	691.1	690.0	1.4	1.3	-86.30	-18.2	125.7	119.5	116.9	2.63	45.432				
800.0	797.7	789.9	788.7	1.7	1.5	-92.41	-14.6	132.0	126.4	123.4	3.05	41.496				
900.0	897.0	888.8	887.3	1.9	1.7	-97.84	-11.0	138.3	134.7	131.2	3.46	38.928				
1,000.0	996.4	987.7	985.9	2.2	2.0	-102.61	-7.4	144.6	144.0	140.1	3.87	37.227				
1,100.0	1,095.8	1,086.6	1,084.5	2.4	2.2	-106.79	-3.7	151.0	154.2	149.9	4.27	36.091				
1,200.0	1,195.2	1,185.5	1,183.1	2.7	2.4	-110.44	-0.1	157.3	165.1	160.4	4.67	35.329				
1,300.0	1,294.6	1,284.4	1,281.7	3.0	2.6	-113.63	3.5	163.6	176.6	171.5	5.07	34.821				
1,400.0	1,394.0	1,383.3	1,380.3	3.2	2.8	-116.43	7.1	169.9	188.5	183.1	5.47	34.488				
1,500.0	1,493.4	1,482.1	1,479.0	3.5	3.0	-118.89	10.8	176.2	200.9	195.0	5.86	34.275				
1,600.0	1,592.8	1,581.0	1,577.6	3.7	3.2	-121.06	14.4	182.5	213.6	207.3	6.25	34.148				
1,700.0	1,692.2	1,679.9	1,676.2	4.0	3.4	-122.99	18.0	188.8	226.5	219.9	6.65	34.081				
1,800.0	1,791.6	1,778.8	1,774.8	4.2	3.7	-124.70	21.6	195.1	239.7	232.7	7.04	34.057				
1,900.0	1,891.0	1,877.7	1,873.4	4.5	3.9	-126.24	25.3	201.5	253.1	245.6	7.43	34.064				
2,000.0	1,990.4	1,976.6	1,972.0	4.8	4.1	-127.63	28.9	207.8	266.6	258.8	7.82	34.093				
2,100.0	2,089.8	2,075.4	2,070.7	5.0	4.3	-128.88	32.5	214.1	280.3	272.1	8.21	34.137				
2,200.0	2,189.2	2,174.3	2,169.3	5.3	4.5	-130.01	36.1	220.4	294.1	285.5	8.60	34.192				
2,300.0	2,288.6	2,273.2	2,267.9	5.5	4.7	-131.04	39.8	226.7	308.0	299.0	8.99	34.255				
2,400.0	2,388.0	2,372.1	2,366.5	5.8	4.9	-131.99	43.4	233.0	321.9	312.6	9.38	34.323				
2,500.0	2,487.4	2,471.0	2,465.1	6.0	5.2	-132.85	47.0	239.3	336.0	326.2	9.77	34.394				
2,600.0	2,586.8	2,569.9	2,563.7	6.3	5.4	-133.65	50.6	245.6	350.1	340.0	10.16	34.467				
2,700.0	2,686.2	2,668.7	2,662.4	6.6	5.6	-134.38	54.3	252.0	364.3	353.8	10.55	34.540				
2,800.0	2,785.6	2,767.6	2,761.0	6.8	5.8	-135.06	57.9	258.3	378.6	367.6	10.94	34.613				
2,900.0	2,885.0	2,866.5	2,859.6	7.1	6.0	-135.69	61.5	264.6	392.9	381.5	11.33	34.686				
3,000.0	2,984.4	2,965.4	2,958.2	7.3	6.2	-136.27	65.1	270.9	407.2	395.5	11.72	34.758				
3,100.0	3,083.8	3,064.3	3,056.8	7.6	6.4	-136.82	68.8	277.2	421.6	409.5	12.10	34.828				
3,200.0	3,183.2	3,163.2	3,155.4	7.9	6.7	-137.33	72.4	283.5	436.0	423.5	12.49	34.897				
3,300.0	3,282.6	3,262.0	3,254.0	8.1	6.9	-137.81	76.0	289.8	450.4	437.5	12.88	34.965				
3,400.0	3,382.0	3,360.9	3,352.7	8.4	7.1	-138.25	79.6	296.1	464.9	451.6	13.27	35.030				
3,500.0	3,481.4	3,459.8	3,451.3	8.6	7.3	-138.67	83.3	302.5	479.4	465.7	13.66	35.094				
3,600.0	3,580.8	3,558.7	3,549.9	8.9	7.5	-139.07	86.9	308.8	493.9	479.9	14.05	35.156				
3,700.0	3,680.2	3,657.6	3,648.5	9.2	7.7	-139.44	90.5	315.1	508.5	494.0	14.44	35.216				
3,800.0	3,779.6	3,756.5	3,747.1	9.4	7.9	-139.79	94.2	321.4	523.0	508.2	14.83	35.274				
3,900.0	3,879.0	3,855.4	3,845.7	9.7	8.2	-140.13	97.8	327.7	537.6	522.4	15.22	35.331				
4,000.0	3,978.4	3,954.2	3,944.4	9.9	8.4	-140.44	101.4	334.0	552.2	536.6	15.61	35.386				
4,100.0	4,077.8	4,053.1	4,043.0	10.2	8.6	-140.74	105.0	340.3	566.8	550.8	15.99	35.439				
4,200.0	4,177.2	4,152.0	4,141.6	10.4	8.8	-141.03	108.7	346.6	581.5	565.1	16.38	35.490				
4,300.0	4,276.6	4,250.9	4,240.2	10.7	9.0	-141.30	112.3	353.0	596.1	579.3	16.77	35.540				
4,400.0	4,376.0	4,349.8	4,338.8	11.0	9.2	-141.55	115.9	359.3	610.7	593.6	17.16	35.588				
4,500.0	4,475.4	4,448.7	4,437.4	11.2	9.4	-141.80	119.5	365.6	625.4	607.9	17.55	35.635				
4,600.0	4,574.8	4,547.5	4,536.0	11.5	9.7	-142.03	123.2	371.9	640.1	622.2	17.94	35.681				
4,700.0	4,674.2	4,646.4	4,634.7	11.7	9.9	-142.26	126.8	378.2	654.8	636.5	18.33	35.725				
4,800.0	4,773.6	4,745.3	4,733.3	12.0	10.1	-142.47	130.4	384.5	669.5	650.8	18.72	35.767				
4,900.0	4,873.0	4,844.2	4,831.9	12.3	10.3	-142.67	134.0	390.8	684.2	665.1	19.11	35.809				
5,000.0	4,972.4	4,943.1	4,930.5	12.5	10.5	-142.87	137.7	397.1	698.9	679.4	19.50	35.849				
5,100.0	5,071.8	5,042.0	5,029.1	12.8	10.7	-143.06	141.3	403.5	713.6	693.7	19.88	35.888				

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,200.0	5,171.2	5,140.9	5,127.8	13.0	10.9	-143.30	144.9	409.8	728.0	707.7	20.28	35.897			
5,300.0	5,270.9	5,240.2	5,226.8	13.2	11.2	-143.46	148.5	416.1	740.0	719.3	20.66	35.812			
5,400.0	5,370.9	5,352.0	5,338.3	13.4	11.4	-143.41	152.4	422.8	748.9	727.9	21.04	35.593			
5,500.0	5,470.8	5,484.8	5,471.1	13.5	11.6	144.48	154.1	425.7	751.5	730.1	21.41	35.093			
5,600.0	5,570.8	5,587.6	5,573.9	13.6	11.7	144.48	153.9	425.5	751.6	729.8	21.73	34.591			
5,700.0	5,670.8	5,688.4	5,674.7	13.7	11.9	144.48	153.6	424.9	751.6	729.5	22.04	34.105			
5,800.0	5,770.8	5,788.4	5,774.7	13.9	12.0	144.48	153.3	424.4	751.6	729.2	22.35	33.632			
5,900.0	5,870.8	5,888.4	5,874.7	14.0	12.2	144.48	153.0	423.8	751.6	728.9	22.66	33.170			
6,000.0	5,970.8	5,988.4	5,974.7	14.1	12.3	144.48	152.7	423.3	751.6	728.6	22.97	32.719			
6,100.0	6,070.8	6,088.4	6,074.7	14.3	12.4	144.48	152.4	422.8	751.6	728.3	23.28	32.279			
6,200.0	6,170.8	6,188.4	6,174.7	14.4	12.6	144.48	152.0	422.2	751.6	728.0	23.60	31.849			
6,300.0	6,270.8	6,288.4	6,274.7	14.5	12.7	144.48	151.7	421.7	751.6	727.7	23.91	31.429			
6,400.0	6,370.8	6,388.4	6,374.7	14.7	12.9	144.48	151.4	421.1	751.6	727.3	24.23	31.019			
6,500.0	6,470.8	6,488.4	6,474.7	14.8	13.0	144.48	151.1	420.6	751.6	727.0	24.55	30.619			
6,600.0	6,570.8	6,588.4	6,574.7	14.9	13.2	144.48	150.8	420.0	751.6	726.7	24.86	30.227			
6,700.0	6,670.8	6,688.4	6,674.7	15.1	13.3	144.48	150.5	419.5	751.6	726.4	25.18	29.845			
6,800.0	6,770.8	6,788.4	6,774.7	15.2	13.5	144.48	150.2	419.0	751.6	726.1	25.50	29.471			
6,900.0	6,870.8	6,888.4	6,874.7	15.4	13.6	144.48	149.8	418.4	751.6	725.8	25.82	29.105			
7,000.0	6,970.8	6,988.4	6,974.7	15.5	13.8	144.48	149.5	417.9	751.6	725.4	26.14	28.748			
7,100.0	7,070.8	7,088.4	7,074.7	15.6	13.9	144.48	149.2	417.3	751.6	725.1	26.47	28.399			
7,200.0	7,170.8	7,188.4	7,174.6	15.8	14.1	144.48	148.9	416.8	751.6	724.8	26.79	28.057			
7,300.0	7,270.8	7,288.4	7,274.6	15.9	14.2	144.48	148.6	416.2	751.6	724.5	27.11	27.723			
7,400.0	7,370.8	7,388.4	7,374.6	16.1	14.4	144.48	148.3	415.7	751.6	724.1	27.43	27.396			
7,500.0	7,470.8	7,488.4	7,474.6	16.2	14.5	144.48	148.0	415.2	751.6	723.8	27.76	27.075			
7,600.0	7,570.8	7,588.4	7,574.6	16.3	14.7	144.48	147.7	414.6	751.6	723.5	28.08	26.762			
7,700.0	7,670.8	7,688.4	7,674.6	16.5	14.8	144.48	147.3	414.1	751.6	723.2	28.41	26.456			
7,800.0	7,770.8	7,788.4	7,774.6	16.6	15.0	144.48	147.0	413.5	751.6	722.8	28.73	26.156			
7,900.0	7,870.8	7,888.4	7,874.6	16.8	15.1	144.48	146.7	413.0	751.6	722.5	29.06	25.862			
8,000.0	7,970.8	7,988.4	7,974.6	16.9	15.3	144.48	146.4	412.4	751.6	722.2	29.39	25.574			
8,100.0	8,070.8	8,088.4	8,074.6	17.1	15.4	144.48	146.1	411.9	751.6	721.9	29.72	25.292			
8,200.0	8,170.8	8,188.4	8,174.6	17.2	15.6	144.48	145.8	411.4	751.6	721.5	30.04	25.016			
8,300.0	8,270.8	8,288.4	8,274.6	17.4	15.7	144.48	145.5	410.8	751.6	721.2	30.37	24.745			
8,400.0	8,370.8	8,388.4	8,374.6	17.5	15.9	144.48	145.1	410.3	751.6	720.9	30.70	24.480			
8,500.0	8,470.8	8,488.4	8,474.6	17.7	16.1	144.48	144.8	409.7	751.6	720.5	31.03	24.220			
8,600.0	8,570.8	8,588.4	8,574.6	17.8	16.2	144.48	144.5	409.2	751.6	720.2	31.36	23.966			
8,700.0	8,670.8	8,688.4	8,674.6	18.0	16.4	144.48	144.2	408.7	751.6	719.9	31.69	23.716			
8,800.0	8,770.8	8,788.4	8,774.6	18.1	16.5	144.48	143.9	408.1	751.6	719.6	32.02	23.471			
8,900.0	8,870.8	8,888.4	8,874.6	18.3	16.7	144.48	143.6	407.6	751.6	719.2	32.35	23.231			
9,000.0	8,970.8	8,988.4	8,974.6	18.4	16.8	144.48	143.3	407.0	751.6	718.9	32.68	22.995			
9,100.0	9,070.8	9,088.4	9,074.6	18.6	17.0	144.48	142.9	406.5	751.6	718.6	33.02	22.764			
9,200.0	9,170.8	9,188.4	9,174.6	18.7	17.2	144.48	142.6	405.9	751.6	718.2	33.35	22.537			
9,300.0	9,270.8	9,288.4	9,274.6	18.9	17.3	144.48	142.3	405.4	751.6	717.9	33.68	22.315			
9,400.0	9,370.8	9,388.4	9,374.6	19.0	17.5	144.48	142.0	404.9	751.6	717.6	34.01	22.097			
9,500.0	9,470.8	9,488.4	9,474.6	19.2	17.6	144.48	141.7	404.3	751.6	717.2	34.35	21.882			
9,600.0	9,570.8	9,588.4	9,574.6	19.3	17.8	144.48	141.4	403.8	751.6	716.9	34.68	21.672			
9,700.0	9,670.8	9,688.4	9,674.6	19.5	18.0	144.48	141.1	403.2	751.6	716.6	35.01	21.465			
9,800.0	9,770.8	9,788.4	9,774.6	19.6	18.1	144.48	140.8	402.7	751.6	716.2	35.35	21.262			
9,900.0	9,870.8	9,888.4	9,874.6	19.8	18.3	144.48	140.4	402.1	751.6	715.9	35.68	21.063			
10,000.0	9,970.8	9,988.4	9,974.6	19.9	18.4	144.49	140.1	401.6	751.6	715.6	36.02	20.868			
10,100.0	10,070.8	10,088.4	10,074.6	20.1	18.6	144.49	139.8	401.1	751.6	715.2	36.35	20.675			
10,200.0	10,170.8	10,188.4	10,174.6	20.2	18.8	144.49	139.5	400.5	751.6	714.9	36.69	20.486			
10,300.0	10,270.8	10,288.4	10,274.6	20.4	18.9	144.49	139.2	400.0	751.6	714.6	37.02	20.301			

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 LR05BDR 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:	LR05BDR 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			
10,400.0	10,370.8	10,388.4	10,374.6	20.6	19.1	144.49	138.9	399.4	751.6	714.2	37.36	20.118			
10,500.0	10,470.8	10,488.4	10,474.6	20.7	19.2	144.49	138.6	398.9	751.6	713.9	37.69	19.939			
10,600.0	10,570.7	10,588.4	10,574.6	20.9	19.4	144.49	138.2	398.3	751.6	713.6	38.03	19.763			
10,700.0	10,670.7	10,688.4	10,674.6	21.0	19.6	144.49	137.9	397.8	751.6	713.2	38.37	19.590			
10,800.0	10,770.7	10,788.4	10,774.6	21.2	19.7	144.49	137.6	397.3	751.6	712.9	38.70	19.419			
10,900.0	10,870.7	10,888.4	10,874.6	21.3	19.9	144.49	137.3	396.7	751.6	712.5	39.04	19.252			
11,000.0	10,970.7	10,988.4	10,974.6	21.5	20.1	144.49	137.0	396.2	751.6	712.2	39.38	19.087			
11,100.0	11,070.7	11,088.4	11,074.6	21.7	20.2	144.49	136.7	395.6	751.6	711.9	39.71	18.925			
11,200.0	11,170.7	11,188.4	11,174.6	21.8	20.4	144.49	136.4	395.1	751.6	711.5	40.05	18.765			
11,300.0	11,270.7	11,288.4	11,274.6	22.0	20.6	144.49	136.1	394.5	751.6	711.2	40.39	18.608			
11,400.0	11,370.7	11,388.4	11,374.6	22.1	20.7	144.49	135.7	394.0	751.6	710.9	40.73	18.454			
11,500.0	11,470.7	11,488.4	11,474.6	22.3	20.9	144.49	135.4	393.5	751.6	710.5	41.07	18.302			
11,600.0	11,570.7	11,588.4	11,574.6	22.5	21.0	144.49	135.1	392.9	751.6	710.2	41.40	18.153			
11,700.0	11,670.7	11,688.4	11,674.6	22.6	21.2	144.49	134.8	392.4	751.6	709.8	41.74	18.005			
11,800.0	11,770.7	11,788.4	11,774.6	22.8	21.4	144.49	134.5	391.8	751.6	709.5	42.08	17.861			
11,900.0	11,870.7	11,888.4	11,874.6	22.9	21.5	144.49	134.2	391.3	751.6	709.2	42.42	17.718			
11,915.3	11,886.0	11,903.7	11,889.8	23.0	21.6	144.49	134.1	391.2	751.6	709.1	42.47	17.696 SF			

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 LR05BDR 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:	LR05BDR 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													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	108.37	-23.7	71.3	75.1	75.1	0.00	N/A			
100.0	100.0	100.0	100.0	0.2	0.1	108.37	-23.7	71.3	75.1	74.8	0.32	232.640			
200.0	200.0	200.0	200.0	0.3	0.3	108.37	-23.7	71.3	75.1	74.4	0.67	111.788			
300.0	300.0	300.0	300.0	0.5	0.5	-60.60	-23.7	71.3	74.2	73.2	1.02	72.534			
400.0	399.8	398.4	398.3	0.7	0.7	-63.12	-25.2	71.9	72.8	71.4	1.39	52.494			
500.0	499.5	496.9	496.7	0.9	0.9	-66.00	-29.9	73.8	72.1	70.3	1.79	40.307			
522.9	522.2	519.4	519.2	1.0	0.9	-66.64	-31.5	74.4	72.0	70.1	1.89	38.158 CC, ES			
600.0	598.9	595.5	594.9	1.2	1.1	-68.23	-37.8	77.0	72.5	70.2	2.23	32.559			
700.0	698.3	695.1	693.9	1.4	1.3	-68.74	-48.1	81.2	74.3	71.6	2.68	27.663			
800.0	797.7	795.0	793.3	1.7	1.6	-69.14	-58.6	85.4	76.1	73.0	3.16	24.127			
900.0	897.0	895.0	892.6	1.9	1.8	-69.51	-69.0	89.7	78.0	74.4	3.63	21.466			
1,000.0	996.4	995.0	991.9	2.2	2.1	-69.87	-79.5	94.0	79.9	75.8	4.12	19.401			
1,100.0	1,095.8	1,095.0	1,091.3	2.4	2.3	-70.20	-90.0	98.2	81.8	77.2	4.61	17.755			
1,200.0	1,195.2	1,195.0	1,190.6	2.7	2.6	-70.53	-100.5	102.5	83.7	78.6	5.10	16.416			
1,300.0	1,294.6	1,294.9	1,290.0	3.0	2.8	-70.84	-111.0	106.7	85.6	80.0	5.59	15.305			
1,400.0	1,394.0	1,394.9	1,389.3	3.2	3.1	-71.14	-121.4	111.0	87.5	81.4	6.09	14.371			
1,500.0	1,493.4	1,494.9	1,488.6	3.5	3.4	-71.42	-131.9	115.2	89.4	82.8	6.59	13.574			
1,600.0	1,592.8	1,594.9	1,588.0	3.7	3.6	-71.69	-142.4	119.5	91.3	84.2	7.09	12.886			
1,700.0	1,692.2	1,694.9	1,687.3	4.0	3.9	-71.95	-152.9	123.7	93.2	85.6	7.59	12.287			
1,800.0	1,791.6	1,794.9	1,786.6	4.2	4.1	-72.20	-163.4	128.0	95.1	87.0	8.09	11.761			
1,900.0	1,891.0	1,894.8	1,886.0	4.5	4.4	-72.44	-173.8	132.2	97.0	88.4	8.59	11.295			
2,000.0	1,990.4	1,994.8	1,985.3	4.8	4.7	-72.67	-184.3	136.5	98.9	89.8	9.09	10.880			
2,100.0	2,089.8	2,094.8	2,084.7	5.0	4.9	-72.90	-194.8	140.7	100.9	91.3	9.60	10.508			
2,200.0	2,189.2	2,194.8	2,184.0	5.3	5.2	-73.11	-205.3	145.0	102.8	92.7	10.10	10.172			
2,300.0	2,288.6	2,294.8	2,283.3	5.5	5.4	-73.32	-215.8	149.3	104.7	94.1	10.61	9.868			
2,400.0	2,388.0	2,394.7	2,382.7	5.8	5.7	-73.52	-226.2	153.5	106.6	95.5	11.11	9.591			
2,500.0	2,487.4	2,494.7	2,482.0	6.0	6.0	-73.71	-236.7	157.8	108.5	96.9	11.62	9.338			
2,600.0	2,586.8	2,594.7	2,581.4	6.3	6.2	-73.89	-247.2	162.0	110.4	98.3	12.13	9.105			
2,700.0	2,686.2	2,694.7	2,680.7	6.6	6.5	-74.07	-257.7	166.3	112.4	99.7	12.64	8.891			
2,800.0	2,785.6	2,794.7	2,780.0	6.8	6.8	-74.24	-268.2	170.5	114.3	101.1	13.14	8.694			
2,900.0	2,885.0	2,894.6	2,879.4	7.1	7.0	-74.41	-278.6	174.8	116.2	102.5	13.65	8.511			
3,000.0	2,984.4	2,994.6	2,978.7	7.3	7.3	-74.57	-289.1	179.0	118.1	104.0	14.16	8.341			
3,100.0	3,083.8	3,094.6	3,078.1	7.6	7.5	-74.73	-299.6	183.3	120.0	105.4	14.67	8.182			
3,200.0	3,183.2	3,194.6	3,177.4	7.9	7.8	-74.88	-310.1	187.5	122.0	106.8	15.18	8.034			
3,300.0	3,282.6	3,294.6	3,276.7	8.1	8.1	-75.03	-320.6	191.8	123.9	108.2	15.69	7.896			
3,400.0	3,382.0	3,394.5	3,376.1	8.4	8.3	-75.17	-331.1	196.0	125.8	109.6	16.20	7.766			
3,500.0	3,481.4	3,494.5	3,475.4	8.6	8.6	-75.31	-341.5	200.3	127.8	111.0	16.71	7.644			
3,600.0	3,580.8	3,594.5	3,574.8	8.9	8.9	-75.44	-352.0	204.5	129.7	112.5	17.22	7.530			
3,700.0	3,680.2	3,694.5	3,674.1	9.2	9.1	-75.57	-362.5	208.8	131.6	113.9	17.73	7.421			
3,800.0	3,779.6	3,794.5	3,773.4	9.4	9.4	-75.70	-373.0	213.1	133.5	115.3	18.25	7.319			
3,900.0	3,879.0	3,894.5	3,872.8	9.7	9.7	-75.82	-383.5	217.3	135.5	116.7	18.76	7.223			
4,000.0	3,978.4	3,994.4	3,972.1	9.9	9.9	-75.94	-393.9	221.6	137.4	118.1	19.27	7.131			
4,100.0	4,077.8	4,094.4	4,071.4	10.2	10.2	-76.06	-404.4	225.8	139.3	119.6	19.78	7.044			
4,200.0	4,177.2	4,194.4	4,170.8	10.4	10.4	-76.17	-414.9	230.1	141.3	121.0	20.29	6.962			
4,300.0	4,276.6	4,294.4	4,270.1	10.7	10.7	-76.28	-425.4	234.3	143.2	122.4	20.80	6.883			
4,400.0	4,376.0	4,394.4	4,369.5	11.0	11.0	-76.39	-435.9	238.6	145.1	123.8	21.32	6.808			
4,500.0	4,475.4	4,494.3	4,468.8	11.2	11.2	-76.49	-446.3	242.8	147.1	125.2	21.83	6.737			
4,600.0	4,574.8	4,594.3	4,568.1	11.5	11.5	-76.59	-456.8	247.1	149.0	126.7	22.34	6.669			
4,700.0	4,674.2	4,694.3	4,667.5	11.7	11.8	-76.69	-467.3	251.3	150.9	128.1	22.85	6.604			
4,800.0	4,773.6	4,794.3	4,766.8	12.0	12.0	-76.79	-477.8	255.6	152.9	129.5	23.37	6.542			
4,900.0	4,873.0	4,894.3	4,866.2	12.3	12.3	-76.88	-488.3	259.8	154.8	130.9	23.88	6.482			
5,000.0	4,972.4	4,994.2	4,965.5	12.5	12.5	-76.97	-498.7	264.1	156.7	132.3	24.39	6.425			

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 LR05BDR 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:	LR05BDR 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														Offset Site Error:	0.0 ft	
Survey Program: 0-MWD														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Total	Separation	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor				
5,100.0	5,071.8	5,094.2	5,064.8	12.8	12.8	-77.06	-509.2	268.4	158.7	133.8	24.91	6.371				
5,200.0	5,171.2	5,194.2	5,164.2	13.0	13.1	-77.02	-519.7	272.6	160.7	135.3	25.40	6.327 SF				
5,300.0	5,270.9	5,294.1	5,263.4	13.2	13.3	-75.98	-530.2	276.9	163.5	137.7	25.77	6.343				
5,400.0	5,370.9	5,393.8	5,362.5	13.4	13.6	-73.84	-540.6	281.1	167.2	141.2	26.00	6.432				
5,500.0	5,470.8	5,493.3	5,461.3	13.5	13.9	-142.95	-551.0	285.3	172.3	146.2	26.09	6.602				
5,600.0	5,570.8	5,592.6	5,560.0	13.6	14.1	-139.85	-561.5	289.6	178.3	152.2	26.15	6.819				
5,700.0	5,670.8	5,692.0	5,658.8	13.7	14.4	-137.02	-571.9	293.8	185.1	158.9	26.21	7.061				
5,800.0	5,770.8	5,791.4	5,757.5	13.9	14.6	-134.39	-582.3	298.0	192.3	166.0	26.28	7.318				
5,900.0	5,870.8	5,890.7	5,856.2	14.0	14.9	-131.96	-592.7	302.2	199.8	173.5	26.34	7.586				
6,000.0	5,970.8	5,990.1	5,955.0	14.1	15.2	-129.71	-603.1	306.5	207.7	181.3	26.42	7.864				
6,100.0	6,070.8	6,089.5	6,053.7	14.3	15.4	-127.62	-613.5	310.7	215.9	189.4	26.50	8.148				
6,200.0	6,170.8	6,188.8	6,152.4	14.4	15.7	-125.69	-624.0	314.9	224.4	197.8	26.60	8.436				
6,300.0	6,270.8	6,288.2	6,251.1	14.5	16.0	-123.90	-634.4	319.1	233.1	206.4	26.71	8.727				
6,400.0	6,370.8	6,387.6	6,349.9	14.7	16.2	-122.24	-644.8	323.4	242.0	215.1	26.83	9.018				
6,500.0	6,470.8	6,486.9	6,448.6	14.8	16.5	-120.70	-655.2	327.6	251.0	224.1	26.97	9.310				
6,600.0	6,570.8	6,586.3	6,547.3	14.9	16.7	-119.26	-665.6	331.8	260.3	233.2	27.11	9.600				
6,700.0	6,670.8	6,685.7	6,646.1	15.1	17.0	-117.93	-676.0	336.1	269.7	242.4	27.28	9.888				
6,800.0	6,770.8	6,785.0	6,744.8	15.2	17.3	-116.68	-686.4	340.3	279.3	251.8	27.45	10.173				
6,900.0	6,870.8	6,884.4	6,843.5	15.4	17.5	-115.52	-696.9	344.5	288.9	261.3	27.63	10.455				
7,000.0	6,970.8	6,983.8	6,942.2	15.5	17.8	-114.43	-707.3	348.7	298.7	270.9	27.83	10.733				
7,100.0	7,070.8	7,083.1	7,041.0	15.6	18.1	-113.42	-717.7	353.0	308.6	280.5	28.04	11.006				
7,200.0	7,170.8	7,182.5	7,139.7	15.8	18.3	-112.46	-728.1	357.2	318.5	290.3	28.25	11.276				
7,300.0	7,270.8	7,281.9	7,238.4	15.9	18.6	-111.56	-738.5	361.4	328.6	300.1	28.47	11.540				
7,400.0	7,370.8	7,381.2	7,337.1	16.1	18.8	-110.72	-748.9	365.6	338.7	310.0	28.70	11.800				
7,500.0	7,470.8	7,480.6	7,435.9	16.2	19.1	-109.93	-759.4	369.9	348.9	320.0	28.94	12.055				
7,600.0	7,570.8	7,579.9	7,534.6	16.3	19.4	-109.18	-769.8	374.1	359.2	330.0	29.19	12.305				
7,700.0	7,670.8	7,679.3	7,633.3	16.5	19.6	-108.47	-780.2	378.3	369.5	340.0	29.44	12.550				
7,800.0	7,770.8	7,778.7	7,732.1	16.6	19.9	-107.80	-790.6	382.6	379.8	350.1	29.70	12.790				
7,900.0	7,870.8	7,878.0	7,830.8	16.8	20.1	-107.17	-801.0	386.8	390.3	360.3	29.96	13.025				
8,000.0	7,970.8	7,977.4	7,929.5	16.9	20.4	-106.57	-811.4	391.0	400.7	370.5	30.23	13.255				
8,100.0	8,070.8	8,076.8	8,028.2	17.1	20.7	-106.00	-821.9	395.2	411.2	380.7	30.50	13.481				
8,200.0	8,170.8	8,176.1	8,127.0	17.2	20.9	-105.46	-832.3	399.5	421.7	391.0	30.78	13.702				
8,300.0	8,270.8	8,275.5	8,225.7	17.4	21.2	-104.94	-842.7	403.7	432.3	401.3	31.06	13.918				
8,400.0	8,370.8	8,374.9	8,324.4	17.5	21.5	-104.45	-853.1	407.9	442.9	411.6	31.35	14.130				
8,500.0	8,470.8	8,474.2	8,423.2	17.7	21.7	-103.98	-863.5	412.1	453.6	421.9	31.64	14.337				
8,600.0	8,570.8	8,583.4	8,531.7	17.8	22.0	-103.53	-874.3	416.5	463.6	431.7	31.94	14.516				
8,700.0	8,670.8	8,701.1	8,649.1	18.0	22.2	-103.25	-881.9	419.6	470.3	438.0	32.27	14.573				
8,800.0	8,770.8	8,819.2	8,767.1	18.1	22.4	-103.18	-885.1	420.9	473.2	440.5	32.63	14.501				
8,900.0	8,870.8	8,923.2	8,871.2	18.3	22.5	-103.24	-885.2	420.8	473.4	440.4	32.98	14.354				
9,000.0	8,970.8	9,023.7	8,971.6	18.4	22.6	-103.25	-885.5	420.3	473.4	440.1	33.32	14.208				
9,100.0	9,070.8	9,124.2	9,072.1	18.6	22.7	-103.20	-886.0	419.4	473.3	439.6	33.65	14.064				
9,200.0	9,170.8	9,224.3	9,172.3	18.7	22.9	-103.11	-886.7	418.3	473.1	439.1	33.98	13.923				
9,300.0	9,270.8	9,324.3	9,272.3	18.9	23.0	-103.03	-887.4	417.1	472.9	438.6	34.31	13.784				
9,400.0	9,370.8	9,424.3	9,372.2	19.0	23.1	-102.94	-888.1	415.9	472.8	438.1	34.64	13.648				
9,500.0	9,470.8	9,524.3	9,472.2	19.2	23.2	-102.85	-888.8	414.7	472.6	437.6	34.97	13.514				
9,600.0	9,570.8	9,624.3	9,572.2	19.3	23.4	-102.76	-889.5	413.5	472.4	437.1	35.30	13.383				
9,700.0	9,670.8	9,724.3	9,672.2	19.5	23.5	-102.67	-890.2	412.3	472.3	436.6	35.63	13.254				
9,800.0	9,770.8	9,824.3	9,772.2	19.6	23.6	-102.58	-890.9	411.1	472.1	436.1	35.96	13.127				
9,900.0	9,870.8	9,924.3	9,872.2	19.8	23.8	-102.49	-891.6	409.9	471.9	435.6	36.30	13.002				
10,000.0	9,970.8	10,024.3	9,972.2	19.9	23.9	-102.40	-892.2	408.7	471.8	435.1	36.63	12.880				
10,100.0	10,070.8	10,124.3	10,072.2	20.1	24.0	-102.31	-892.9	407.5	471.6	434.6	36.96	12.760				
10,200.0	10,170.8	10,224.3	10,172.1	20.2	24.1	-102.22	-893.6	406.3	471.4	434.2	37.29	12.642				

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
10,300.0	10,270.8	10,324.3	10,272.1	20.4	24.3	-102.13	-894.3	405.1	471.3	433.7	37.63	12.526			
10,400.0	10,370.8	10,424.3	10,372.1	20.6	24.4	-102.04	-895.0	403.9	471.1	433.2	37.96	12.411			
10,500.0	10,470.8	10,524.3	10,472.1	20.7	24.5	-101.95	-895.7	402.7	471.0	432.7	38.29	12.299			
10,600.0	10,570.7	10,624.3	10,572.1	20.9	24.7	-101.86	-896.4	401.5	470.8	432.2	38.63	12.189			
10,700.0	10,670.7	10,724.3	10,672.1	21.0	24.8	-101.77	-897.1	400.3	470.7	431.7	38.96	12.080			
10,800.0	10,770.7	10,824.3	10,772.1	21.2	24.9	-101.68	-897.8	399.1	470.5	431.2	39.29	11.974			
10,900.0	10,870.7	10,924.3	10,872.1	21.3	25.1	-101.59	-898.5	397.9	470.4	430.7	39.63	11.869			
11,000.0	10,970.7	11,024.3	10,972.0	21.5	25.2	-101.50	-899.2	396.7	470.2	430.2	39.96	11.766			
11,100.0	11,070.7	11,124.3	11,072.0	21.7	25.3	-101.41	-899.8	395.5	470.0	429.8	40.30	11.664			
11,200.0	11,170.7	11,224.3	11,172.0	21.8	25.5	-101.32	-900.5	394.3	469.9	429.3	40.63	11.564			
11,300.0	11,270.7	11,324.3	11,272.0	22.0	25.6	-101.23	-901.2	393.1	469.8	428.8	40.97	11.466			
11,400.0	11,370.7	11,424.3	11,372.0	22.1	25.8	-101.14	-901.9	391.9	469.6	428.3	41.31	11.369			
11,500.0	11,470.7	11,524.3	11,472.0	22.3	25.9	-101.05	-902.6	390.7	469.5	427.8	41.64	11.274			
11,600.0	11,570.7	11,624.3	11,572.0	22.5	26.0	-100.96	-903.3	389.5	469.3	427.3	41.98	11.180			
11,700.0	11,670.7	11,724.3	11,672.0	22.6	26.2	-100.87	-904.0	388.3	469.2	426.9	42.31	11.088			
11,800.0	11,770.7	11,824.3	11,771.9	22.8	26.3	-100.78	-904.7	387.1	469.0	426.4	42.65	10.997			
11,859.1	11,829.8	11,883.4	11,831.1	22.9	26.4	-100.73	-905.1	386.4	468.9	426.1	42.85	10.944			
11,900.0	11,870.7	11,894.0	11,841.7	22.9	26.4	-100.72	-905.2	386.3	469.9	426.9	42.94	10.943			
11,915.3	11,886.0	11,894.0	11,841.7	23.0	26.4	-100.72	-905.2	386.3	471.1	428.1	42.96	10.965			

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft
D21 595 Pad - LR05B D21 595 (Existing) - DD - DD													Offset Well Error:	0.0 ft
Survey Program: 202-MWD														
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	-54.48	19.3	-27.0	33.5	33.5	0.00	N/A	CC	
100.0	100.0	95.7	95.7	0.2	0.2	-54.58	19.5	-27.4	33.6	33.3	0.33	101.034		
200.0	200.0	195.4	195.4	0.3	0.3	-54.85	20.1	-28.5	34.9	34.2	0.67	51.864		
300.0	300.0	295.3	295.2	0.5	0.5	138.74	20.9	-30.1	38.0	36.9	1.02	37.175		
400.0	399.8	395.0	394.9	0.7	0.7	141.78	21.3	-32.4	44.0	42.7	1.38	31.959		
500.0	499.5	495.2	495.1	0.9	0.9	145.12	20.5	-35.0	52.5	50.8	1.74	30.103		
600.0	598.9	596.6	596.5	1.2	1.0	148.28	17.8	-36.4	60.7	58.6	2.12	28.674		
700.0	698.3	698.2	697.9	1.4	1.2	149.80	12.0	-36.6	66.1	63.6	2.50	26.448		
800.0	797.7	799.6	799.0	1.7	1.4	150.50	3.8	-35.5	68.9	66.0	2.88	23.924		
900.0	897.0	900.5	899.4	1.9	1.6	151.35	-5.4	-33.2	70.1	66.9	3.26	21.514		
1,000.0	996.4	1,000.9	999.2	2.2	1.8	152.90	-14.8	-29.6	70.3	66.7	3.62	19.429		
1,100.0	1,095.8	1,101.3	1,099.2	2.4	2.1	155.54	-23.5	-24.7	70.4	66.4	3.97	17.739		
1,200.0	1,195.2	1,202.3	1,199.5	2.7	2.3	158.85	-33.1	-18.3	69.1	64.8	4.30	16.078		
1,300.0	1,294.6	1,303.2	1,299.6	3.0	2.6	162.13	-43.7	-11.6	66.9	62.3	4.62	14.482		
1,400.0	1,394.0	1,401.8	1,397.5	3.2	2.8	164.43	-54.9	-5.9	64.7	59.7	4.95	13.061		
1,493.2	1,486.7	1,494.4	1,489.5	3.5	3.0	166.39	-64.1	-1.6	64.3	59.0	5.26	12.224		
1,500.0	1,493.4	1,501.2	1,496.3	3.5	3.1	166.55	-64.7	-1.3	64.3	59.0	5.28	12.173		
1,600.0	1,592.8	1,601.2	1,595.7	3.7	3.3	168.91	-74.3	3.4	64.4	58.8	5.61	11.475		
1,700.0	1,692.2	1,700.7	1,694.6	4.0	3.5	171.22	-83.4	7.9	65.0	59.0	5.95	10.926		
1,800.0	1,791.6	1,800.4	1,793.9	4.2	3.8	173.55	-91.9	12.3	66.3	60.0	6.28	10.551		
1,900.0	1,891.0	1,901.6	1,894.5	4.5	4.0	175.10	-101.7	16.2	66.8	60.2	6.63	10.076		
2,000.0	1,990.4	2,001.9	1,994.2	4.8	4.3	176.28	-112.4	19.9	66.4	59.4	6.98	9.518		
2,100.0	2,089.8	2,103.2	2,094.6	5.0	4.6	177.23	-125.0	23.9	64.4	57.1	7.33	8.783		
2,200.0	2,189.2	2,203.1	2,193.6	5.3	4.9	176.79	-138.3	26.4	61.7	54.1	7.68	8.039		
2,300.0	2,288.6	2,303.2	2,292.7	5.5	5.1	176.16	-152.0	28.9	58.8	50.8	8.03	7.324		
2,400.0	2,388.0	2,403.1	2,391.7	5.8	5.4	175.84	-165.3	31.6	56.2	47.8	8.38	6.708		
2,500.0	2,487.4	2,503.4	2,491.0	6.0	5.7	179.33	-178.3	37.9	52.9	44.2	8.74	6.057		
2,600.0	2,586.8	2,603.1	2,589.6	6.3	6.0	-175.59	-191.1	45.3	49.9	40.7	9.15	5.450		
2,700.0	2,686.2	2,702.6	2,688.0	6.6	6.3	-170.04	-203.3	52.4	47.9	38.2	9.65	4.961		
2,800.0	2,785.6	2,802.6	2,787.2	6.8	6.6	-165.47	-215.0	58.5	46.9	36.7	10.19	4.600		
2,900.0	2,885.0	2,903.1	2,886.8	7.1	6.9	-163.40	-227.7	62.4	45.1	34.4	10.66	4.227		
3,000.0	2,984.4	3,002.7	2,985.3	7.3	7.2	-160.38	-241.2	66.7	42.3	31.1	11.20	3.778		
3,006.1	2,990.5	3,008.7	2,991.3	7.4	7.2	-160.22	-242.0	67.0	42.3	31.0	11.24	3.761	ES, SF	
3,100.0	3,083.8	3,013.0	2,995.6	7.6	7.2	-160.11	-242.5	67.1	98.6	87.2	11.43	8.631		
3,200.0	3,183.2	3,013.0	2,995.6	7.9	7.2	-160.11	-242.5	67.1	193.8	182.2	11.61	16.688		
3,300.0	3,282.6	3,013.0	2,995.6	8.1	7.2	-160.11	-242.5	67.1	292.2	280.4	11.80	24.766		
3,400.0	3,382.0	3,013.0	2,995.6	8.4	7.2	-160.11	-242.5	67.1	391.4	379.4	11.98	32.660		
3,500.0	3,481.4	3,013.0	2,995.6	8.6	7.2	-160.11	-242.5	67.1	490.9	478.8	12.17	40.338		
3,600.0	3,580.8	3,013.0	2,995.6	8.9	7.2	-160.11	-242.5	67.1	590.6	578.3	12.36	47.797		
3,700.0	3,680.2	3,013.0	2,995.6	9.2	7.2	-160.11	-242.5	67.1	690.4	677.9	12.54	55.041		
3,800.0	3,779.6	3,013.0	2,995.6	9.4	7.2	-160.11	-242.5	67.1	790.2	777.5	12.73	62.078		
3,900.0	3,879.0	3,013.0	2,995.6	9.7	7.2	-160.11	-242.5	67.1	890.1	877.2	12.92	68.915		
4,000.0	3,978.4	3,013.0	2,995.6	9.9	7.2	-160.11	-242.5	67.1	990.0	976.9	13.10	75.558		
4,100.0	4,077.8	3,013.0	2,995.6	10.2	7.2	-160.11	-242.5	67.1	1,089.9	1,076.6	13.29	82.017		
4,200.0	4,177.2	3,013.0	2,995.6	10.4	7.2	-160.11	-242.5	67.1	1,189.9	1,176.4	13.48	88.298		
4,300.0	4,276.6	3,013.0	2,995.6	10.7	7.2	-160.11	-242.5	67.1	1,289.8	1,276.1	13.66	94.409		
4,400.0	4,376.0	3,013.0	2,995.6	11.0	7.2	-160.11	-242.5	67.1	1,389.8	1,375.9	13.85	100.355		

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft
D21 595 Pad - LR05C D21 595 - DD - Plan #2													Offset Well Error:	0.0 ft
Survey Program: O-MWD														
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	108.35	-14.2	42.8	45.1	45.1	0.00	N/A		
100.0	100.0	100.0	100.0	0.2	0.1	108.35	-14.2	42.8	45.1	44.8	0.32	139.750		
200.0	200.0	200.0	200.0	0.3	0.3	108.35	-14.2	42.8	45.1	44.5	0.67	67.152 CC		
300.0	300.0	299.1	299.0	0.5	0.5	-59.59	-15.8	43.4	45.3	44.3	1.02	44.202 ES		
400.0	399.8	398.1	398.0	0.7	0.7	-60.04	-20.7	45.0	45.7	44.3	1.40	32.672		
500.0	499.5	497.2	496.6	0.9	0.9	-60.76	-28.8	47.7	46.5	44.7	1.82	25.561		
600.0	598.9	596.2	594.9	1.2	1.2	-60.41	-40.1	51.6	48.2	45.9	2.28	21.171		
700.0	698.3	695.5	693.1	1.4	1.5	-57.37	-54.4	56.4	51.8	49.1	2.74	18.904		
800.0	797.7	795.4	791.8	1.7	1.8	-54.31	-69.2	61.4	55.9	52.7	3.20	17.488		
900.0	897.0	895.3	890.4	1.9	2.1	-51.67	-84.1	66.4	60.1	56.5	3.64	16.507		
1,000.0	996.4	995.2	989.1	2.2	2.4	-49.38	-98.9	71.4	64.4	60.4	4.08	15.804		
1,100.0	1,095.8	1,095.1	1,087.7	2.4	2.7	-47.39	-113.7	76.4	68.8	64.3	4.50	15.285		
1,200.0	1,195.2	1,194.9	1,186.3	2.7	3.0	-45.63	-128.6	81.4	73.3	68.4	4.92	14.894		
1,300.0	1,294.6	1,294.8	1,285.0	3.0	3.4	-44.08	-143.4	86.4	77.9	72.5	5.34	14.593		
1,400.0	1,394.0	1,394.7	1,383.6	3.2	3.7	-42.70	-158.3	91.4	82.5	76.7	5.74	14.357		
1,500.0	1,493.4	1,494.6	1,482.3	3.5	4.0	-41.46	-173.1	96.4	87.1	81.0	6.15	14.170		
1,600.0	1,592.8	1,594.4	1,580.9	3.7	4.3	-40.36	-187.9	101.4	91.8	85.3	6.55	14.020		
1,700.0	1,692.2	1,694.3	1,679.5	4.0	4.6	-39.36	-202.8	106.4	96.5	89.6	6.94	13.898		
1,800.0	1,791.6	1,794.2	1,778.2	4.2	5.0	-38.45	-217.6	111.4	101.2	93.9	7.34	13.797		
1,900.0	1,891.0	1,894.1	1,876.8	4.5	5.3	-37.62	-232.4	116.4	106.0	98.3	7.73	13.714		
2,000.0	1,990.4	1,993.9	1,975.5	4.8	5.6	-36.87	-247.3	121.4	110.8	102.7	8.12	13.645		
2,100.0	2,089.8	2,093.8	2,074.1	5.0	5.9	-36.17	-262.1	126.4	115.6	107.1	8.51	13.587		
2,200.0	2,189.2	2,193.7	2,172.7	5.3	6.3	-35.54	-277.0	131.4	120.4	111.5	8.89	13.538		
2,300.0	2,288.6	2,293.6	2,271.4	5.5	6.6	-34.95	-291.8	136.4	125.2	115.9	9.28	13.496		
2,400.0	2,388.0	2,393.4	2,370.0	5.8	6.9	-34.41	-306.6	141.4	130.1	120.4	9.66	13.461		
2,500.0	2,487.4	2,493.3	2,468.7	6.0	7.2	-33.90	-321.5	146.4	134.9	124.9	10.04	13.430		
2,600.0	2,586.8	2,593.2	2,567.3	6.3	7.6	-33.43	-336.3	151.4	139.8	129.3	10.43	13.404		
2,700.0	2,686.2	2,693.1	2,665.9	6.6	7.9	-32.99	-351.1	156.4	144.6	133.8	10.81	13.381		
2,800.0	2,785.6	2,792.9	2,764.6	6.8	8.2	-32.58	-366.0	161.4	149.5	138.3	11.19	13.362		
2,900.0	2,885.0	2,892.8	2,863.2	7.1	8.5	-32.20	-380.8	166.4	154.4	142.8	11.57	13.345		
3,000.0	2,984.4	2,992.7	2,961.9	7.3	8.9	-31.84	-395.6	171.4	159.3	147.3	11.95	13.330		
3,100.0	3,083.8	3,092.6	3,060.5	7.6	9.2	-31.50	-410.5	176.4	164.2	151.8	12.33	13.317		
3,200.0	3,183.2	3,192.4	3,159.2	7.9	9.5	-31.18	-425.3	181.5	169.1	156.4	12.71	13.305		
3,300.0	3,282.6	3,292.3	3,257.8	8.1	9.8	-30.88	-440.2	186.5	174.0	160.9	13.09	13.295		
3,400.0	3,382.0	3,392.2	3,356.4	8.4	10.1	-30.59	-455.0	191.5	178.9	165.4	13.46	13.287		
3,500.0	3,481.4	3,492.1	3,455.1	8.6	10.5	-30.32	-469.8	196.5	183.8	170.0	13.84	13.279		
3,600.0	3,580.8	3,591.9	3,553.7	8.9	10.8	-30.07	-484.7	201.5	188.7	174.5	14.22	13.272		
3,700.0	3,680.2	3,691.8	3,652.4	9.2	11.1	-29.82	-499.5	206.5	193.6	179.0	14.60	13.266		
3,800.0	3,779.6	3,791.7	3,751.0	9.4	11.4	-29.59	-514.3	211.5	198.6	183.6	14.97	13.261		
3,900.0	3,879.0	3,891.6	3,849.6	9.7	11.8	-29.37	-529.2	216.5	203.5	188.1	15.35	13.256		
4,000.0	3,978.4	3,991.4	3,948.3	9.9	12.1	-29.16	-544.0	221.5	208.4	192.7	15.73	13.252		
4,100.0	4,077.8	4,091.3	4,046.9	10.2	12.4	-28.97	-558.9	226.5	213.4	197.2	16.10	13.249		
4,200.0	4,177.2	4,191.2	4,145.6	10.4	12.7	-28.77	-573.7	231.5	218.3	201.8	16.48	13.246		
4,300.0	4,276.6	4,291.1	4,244.2	10.7	13.1	-28.59	-588.5	236.5	223.2	206.4	16.86	13.243		
4,400.0	4,376.0	4,390.9	4,342.8	11.0	13.4	-28.42	-603.4	241.5	228.2	210.9	17.23	13.240		
4,500.0	4,475.4	4,490.8	4,441.5	11.2	13.7	-28.25	-618.2	246.5	233.1	215.5	17.61	13.238		
4,600.0	4,574.8	4,590.7	4,540.1	11.5	14.0	-28.09	-633.0	251.5	238.1	220.1	17.98	13.236		
4,700.0	4,674.2	4,690.6	4,638.8	11.7	14.4	-27.94	-647.9	256.5	243.0	224.6	18.36	13.235		
4,800.0	4,773.6	4,790.4	4,737.4	12.0	14.7	-27.79	-662.7	261.5	247.9	229.2	18.74	13.233		
4,900.0	4,873.0	4,890.3	4,836.0	12.3	15.0	-27.65	-677.6	266.5	252.9	233.8	19.11	13.232		
5,000.0	4,972.4	4,990.2	4,934.7	12.5	15.3	-27.51	-692.4	271.5	257.8	238.4	19.49	13.231		
5,100.0	5,071.8	5,090.1	5,033.3	12.8	15.7	-27.38	-707.2	276.5	262.8	242.9	19.86	13.230 SF		

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,200.0	5,171.2	5,189.9	5,131.9	13.0	16.0	-27.24	-722.1	281.5	268.1	247.9	20.23	13.255			
5,300.0	5,270.9	5,289.6	5,230.4	13.2	16.3	-26.87	-736.9	286.5	276.2	255.6	20.53	13.453			
5,400.0	5,370.9	5,388.9	5,328.4	13.4	16.6	-26.23	-751.6	291.5	287.3	266.6	20.76	13.840			
5,500.0	5,470.8	5,487.8	5,426.1	13.5	16.9	-97.53	-766.3	296.4	301.5	280.5	20.95	14.391			
5,600.0	5,570.8	5,586.5	5,523.6	13.6	17.3	-96.64	-781.0	301.4	316.4	295.2	21.17	14.948			
5,700.0	5,670.8	5,685.3	5,621.2	13.7	17.6	-95.91	-795.7	306.3	331.4	310.0	21.41	15.480			
5,800.0	5,770.8	5,784.1	5,718.8	13.9	17.9	-95.24	-810.3	311.3	346.5	324.8	21.67	15.993			
5,900.0	5,870.8	5,882.9	5,816.3	14.0	18.2	-94.63	-825.0	316.2	361.6	339.7	21.93	16.489			
6,000.0	5,970.8	5,981.7	5,913.9	14.1	18.6	-94.06	-839.7	321.2	376.7	354.5	22.20	16.969			
6,100.0	6,070.8	6,080.4	6,011.4	14.3	18.9	-93.54	-854.4	326.1	391.9	369.4	22.48	17.433			
6,200.0	6,170.8	6,179.2	6,109.0	14.4	19.2	-93.06	-869.0	331.1	407.1	384.4	22.77	17.882			
6,300.0	6,270.8	6,278.0	6,206.6	14.5	19.5	-92.61	-883.7	336.0	422.4	399.3	23.06	18.316			
6,400.0	6,370.8	6,376.8	6,304.1	14.7	19.8	-92.20	-898.4	341.0	437.6	414.3	23.36	18.737			
6,500.0	6,470.8	6,475.6	6,401.7	14.8	20.2	-91.81	-913.0	345.9	452.9	429.3	23.66	19.145			
6,600.0	6,570.8	6,574.3	6,499.2	14.9	20.5	-91.45	-927.7	350.9	468.2	444.2	23.96	19.540			
6,700.0	6,670.8	6,673.1	6,596.8	15.1	20.8	-91.11	-942.4	355.8	483.5	459.3	24.27	19.924			
6,800.0	6,770.8	6,771.9	6,694.4	15.2	21.1	-90.79	-957.1	360.7	498.9	474.3	24.58	20.295			
6,900.0	6,870.8	6,870.7	6,791.9	15.4	21.4	-90.49	-971.7	365.7	514.2	489.3	24.89	20.656			
7,000.0	6,970.8	6,969.5	6,889.5	15.5	21.8	-90.21	-986.4	370.6	529.6	504.3	25.21	21.007			
7,100.0	7,070.8	7,068.2	6,987.0	15.6	22.1	-89.94	-1,001.1	375.6	544.9	519.4	25.53	21.347			
7,200.0	7,170.8	7,167.0	7,084.6	15.8	22.4	-89.69	-1,015.8	380.5	560.3	534.5	25.85	21.678			
7,300.0	7,270.8	7,265.8	7,182.1	15.9	22.7	-89.45	-1,030.4	385.5	575.7	549.5	26.17	22.000			
7,400.0	7,370.8	7,364.6	7,279.7	16.1	23.0	-89.23	-1,045.1	390.4	591.1	564.6	26.49	22.312			
7,500.0	7,470.8	7,463.4	7,377.3	16.2	23.4	-89.01	-1,059.8	395.4	606.5	579.7	26.82	22.617			
7,600.0	7,570.8	7,562.1	7,474.8	16.3	23.7	-88.81	-1,074.5	400.3	621.9	594.8	27.14	22.913			
7,700.0	7,670.8	7,660.9	7,572.4	16.5	24.0	-88.62	-1,089.1	405.3	637.3	609.9	27.47	23.201			
7,800.0	7,770.8	7,759.7	7,669.9	16.6	24.3	-88.43	-1,103.8	410.2	652.8	625.0	27.80	23.482			
7,900.0	7,870.8	7,858.5	7,767.5	16.8	24.6	-88.25	-1,118.5	415.2	668.2	640.1	28.13	23.756			
8,000.0	7,970.8	7,957.3	7,865.1	16.9	25.0	-88.09	-1,133.2	420.1	683.7	655.2	28.46	24.022			
8,100.0	8,070.8	8,056.1	7,962.6	17.1	25.3	-87.93	-1,147.8	425.1	699.1	670.3	28.79	24.282			
8,200.0	8,170.8	8,154.8	8,060.2	17.2	25.6	-87.77	-1,162.5	430.0	714.6	685.4	29.12	24.536			
8,300.0	8,270.8	8,253.6	8,157.7	17.4	25.9	-87.62	-1,177.2	435.0	730.0	700.6	29.46	24.783			
8,400.0	8,370.8	8,352.4	8,255.3	17.5	26.2	-87.48	-1,191.9	439.9	745.5	715.7	29.79	25.025			
8,500.0	8,470.8	8,453.3	8,355.0	17.7	26.6	-87.34	-1,206.8	445.0	760.9	730.8	30.13	25.257			
8,600.0	8,570.8	8,558.2	8,488.7	17.8	26.9	-87.21	-1,223.5	450.6	773.8	743.3	30.52	25.352			
8,700.0	8,670.8	8,724.5	8,624.5	18.0	27.2	-87.14	-1,234.3	454.2	782.1	751.1	30.93	25.288			
8,800.0	8,770.8	8,861.5	8,761.4	18.1	27.4	-87.15	-1,239.0	455.8	785.6	754.3	31.34	25.069			
8,900.0	8,870.8	8,970.8	8,870.7	18.3	27.5	-87.19	-1,239.3	455.8	785.7	754.0	31.70	24.784			
8,969.1	8,939.9	9,039.8	8,939.7	18.4	27.5	-87.20	-1,239.4	455.5	785.7	753.8	31.94	24.597			
9,000.0	8,970.8	9,070.6	8,970.5	18.4	27.6	-87.20	-1,239.5	455.3	785.7	753.7	32.05	24.514			
9,100.0	9,070.8	9,170.4	9,070.3	18.6	27.7	-87.17	-1,240.0	454.5	785.7	753.3	32.40	24.253			
9,200.0	9,170.8	9,270.3	9,170.2	18.7	27.8	-87.12	-1,240.7	453.3	785.8	753.0	32.74	23.999			
9,300.0	9,270.8	9,370.3	9,270.2	18.9	27.9	-87.07	-1,241.4	452.1	785.8	752.7	33.09	23.750			
9,400.0	9,370.8	9,470.3	9,370.2	19.0	28.0	-87.01	-1,242.1	450.9	785.8	752.4	33.43	23.507			
9,500.0	9,470.8	9,570.3	9,470.2	19.2	28.1	-86.96	-1,242.8	449.7	785.9	752.1	33.78	23.268			
9,600.0	9,570.8	9,670.3	9,570.2	19.3	28.2	-86.90	-1,243.5	448.5	785.9	751.8	34.12	23.034			
9,700.0	9,670.8	9,770.3	9,670.2	19.5	28.3	-86.85	-1,244.2	447.3	786.0	751.5	34.46	22.805			
9,800.0	9,770.8	9,870.3	9,770.2	19.6	28.4	-86.79	-1,244.8	446.1	786.0	751.2	34.81	22.580			
9,900.0	9,870.8	9,970.3	9,870.1	19.8	28.5	-86.74	-1,245.5	444.9	786.1	750.9	35.15	22.360			
10,000.0	9,970.8	10,070.3	9,970.1	19.9	28.6	-86.68	-1,246.2	443.7	786.1	750.6	35.50	22.144			
10,100.0	10,070.8	10,170.3	10,070.1	20.1	28.8	-86.63	-1,246.9	442.5	786.1	750.3	35.84	21.932			
10,200.0	10,170.8	10,270.3	10,170.1	20.2	28.9	-86.57	-1,247.6	441.3	786.2	750.0	36.19	21.724			

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
10,300.0	10,270.8	10,370.3	10,270.1	20.4	29.0	-86.52	-1,248.3	440.1	786.2	749.7	36.53	21.520			
10,400.0	10,370.8	10,470.3	10,370.1	20.6	29.1	-86.46	-1,249.0	438.9	786.3	749.4	36.88	21.320			
10,500.0	10,470.8	10,570.3	10,470.1	20.7	29.2	-86.41	-1,249.7	437.7	786.3	749.1	37.23	21.123			
10,600.0	10,570.7	10,670.3	10,570.1	20.9	29.3	-86.35	-1,250.4	436.5	786.4	748.8	37.57	20.930			
10,700.0	10,670.7	10,770.3	10,670.0	21.0	29.4	-86.30	-1,251.1	435.3	786.4	748.5	37.92	20.741			
10,800.0	10,770.7	10,870.3	10,770.0	21.2	29.6	-86.24	-1,251.8	434.1	786.5	748.2	38.26	20.555			
10,900.0	10,870.7	10,970.3	10,870.0	21.3	29.7	-86.19	-1,252.5	432.9	786.5	747.9	38.61	20.372			
11,000.0	10,970.7	11,070.3	10,970.0	21.5	29.8	-86.13	-1,253.2	431.7	786.6	747.6	38.95	20.193			
11,100.0	11,070.7	11,170.3	11,070.0	21.7	29.9	-86.08	-1,253.8	430.6	786.6	747.3	39.30	20.016			
11,200.0	11,170.7	11,270.3	11,170.0	21.8	30.0	-86.02	-1,254.5	429.4	786.7	747.0	39.64	19.843			
11,300.0	11,270.7	11,370.3	11,270.0	22.0	30.1	-85.97	-1,255.2	428.2	786.7	746.7	39.99	19.673			
11,400.0	11,370.7	11,470.3	11,370.0	22.1	30.3	-85.91	-1,255.9	427.0	786.8	746.4	40.34	19.505			
11,500.0	11,470.7	11,570.3	11,469.9	22.3	30.4	-85.86	-1,256.6	425.8	786.8	746.2	40.68	19.341			
11,600.0	11,570.7	11,670.3	11,569.9	22.5	30.5	-85.80	-1,257.3	424.6	786.9	745.9	41.03	19.179			
11,700.0	11,670.7	11,770.3	11,669.9	22.6	30.6	-85.75	-1,258.0	423.4	786.9	745.6	41.37	19.020			
11,800.0	11,770.7	11,870.3	11,769.9	22.8	30.7	-85.69	-1,258.7	422.2	787.0	745.3	41.72	18.864			
11,849.1	11,819.9	11,919.4	11,819.0	22.8	30.8	-85.67	-1,259.0	421.6	787.0	745.1	41.89	18.788			
11,900.0	11,870.7	11,946.4	11,846.0	22.9	30.8	-85.65	-1,259.2	421.3	787.4	745.4	42.03	18.737			
11,915.3	11,886.0	11,946.4	11,846.0	23.0	30.8	-85.65	-1,259.2	421.3	788.0	746.0	42.05	18.740			

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 LR05BDR 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:	LR05BDR 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														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	108.24	-4.7	14.4	15.1	15.1	0.00	N/A					
100.0	100.0	100.0	100.0	0.2	0.1	108.24	-4.7	14.4	15.1	14.8	0.32	46.859					
200.0	200.0	200.0	200.0	0.3	0.3	108.24	-4.7	14.4	15.1	14.5	0.67	22.517					
300.0	300.0	299.7	299.7	0.5	0.5	-59.53	-6.4	14.7	15.1	14.1	1.03	14.726					
400.0	399.8	399.5	399.3	0.7	0.7	-59.43	-11.5	15.7	15.0	13.6	1.40	10.705					
500.0	499.5	499.2	498.7	0.9	0.9	-59.28	-20.0	17.5	14.9	13.1	1.83	8.160					
510.7	510.1	509.9	509.3	1.0	0.9	-59.20	-21.1	17.7	14.9	13.0	1.88	7.940	CC, ES				
600.0	598.9	598.9	597.6	1.2	1.2	-55.00	-31.9	19.9	15.5	13.2	2.28	6.788	SF				
700.0	698.3	698.4	695.9	1.4	1.5	-42.61	-47.1	22.9	18.4	15.7	2.67	6.897					
800.0	797.7	798.0	793.8	1.7	1.8	-30.18	-65.0	26.5	24.3	21.3	2.98	8.155					
900.0	897.0	897.7	891.7	1.9	2.2	-22.62	-83.2	30.2	31.1	27.8	3.29	9.455					
1,000.0	996.4	997.4	989.7	2.2	2.5	-17.82	-101.4	33.9	38.3	34.7	3.61	10.601					
1,100.0	1,095.8	1,097.1	1,087.7	2.4	2.9	-14.54	-119.5	37.5	45.6	41.7	3.94	11.586					
1,200.0	1,195.2	1,196.8	1,185.6	2.7	3.3	-12.18	-137.7	41.2	53.1	48.8	4.27	12.429					
1,300.0	1,294.6	1,296.5	1,283.6	3.0	3.6	-10.40	-155.9	44.9	60.6	56.0	4.60	13.156					
1,400.0	1,394.0	1,396.2	1,381.6	3.2	4.0	-9.02	-174.0	48.5	68.1	63.2	4.94	13.785					
1,500.0	1,493.4	1,495.9	1,479.5	3.5	4.3	-7.91	-192.2	52.2	75.7	70.4	5.28	14.335					
1,600.0	1,592.8	1,595.6	1,577.5	3.7	4.7	-7.01	-210.3	55.9	83.3	77.7	5.62	14.818					
1,700.0	1,692.2	1,695.3	1,675.5	4.0	5.1	-6.25	-228.5	59.5	91.0	85.0	5.97	15.245					
1,800.0	1,791.6	1,795.0	1,773.4	4.2	5.4	-5.62	-246.7	63.2	98.6	92.3	6.31	15.626					
1,900.0	1,891.0	1,894.7	1,871.4	4.5	5.8	-5.07	-264.8	66.9	106.3	99.6	6.65	15.968					
2,000.0	1,990.4	1,994.4	1,969.4	4.8	6.2	-4.60	-283.0	70.5	113.9	106.9	7.00	16.275					
2,100.0	2,089.8	2,094.1	2,067.3	5.0	6.5	-4.19	-301.2	74.2	121.6	114.2	7.35	16.554					
2,200.0	2,189.2	2,193.8	2,165.3	5.3	6.9	-3.82	-319.3	77.9	129.3	121.6	7.69	16.807					
2,300.0	2,288.6	2,293.5	2,263.2	5.5	7.3	-3.50	-337.5	81.5	136.9	128.9	8.04	17.038					
2,400.0	2,388.0	2,393.2	2,361.2	5.8	7.6	-3.21	-355.7	85.2	144.6	136.2	8.38	17.250					
2,500.0	2,487.4	2,492.9	2,459.2	6.0	8.0	-2.95	-373.8	88.9	152.3	143.6	8.73	17.445					
2,600.0	2,586.8	2,592.6	2,557.1	6.3	8.4	-2.72	-392.0	92.5	160.0	150.9	9.08	17.625					
2,700.0	2,686.2	2,692.3	2,655.1	6.6	8.7	-2.51	-410.2	96.2	167.7	158.3	9.43	17.792					
2,800.0	2,785.6	2,792.0	2,753.1	6.8	9.1	-2.31	-428.3	99.9	175.4	165.6	9.77	17.947					
2,900.0	2,885.0	2,891.7	2,851.0	7.1	9.5	-2.13	-446.5	103.5	183.1	173.0	10.12	18.091					
3,000.0	2,984.4	2,991.4	2,949.0	7.3	9.8	-1.97	-464.7	107.2	190.8	180.3	10.47	18.225					
3,100.0	3,083.8	3,091.1	3,047.0	7.6	10.2	-1.82	-482.8	110.9	198.5	187.7	10.82	18.350					
3,200.0	3,183.2	3,190.8	3,144.9	7.9	10.6	-1.68	-501.0	114.5	206.2	195.0	11.16	18.468					
3,300.0	3,282.6	3,290.5	3,242.9	8.1	10.9	-1.55	-519.1	118.2	213.9	202.4	11.51	18.579					
3,400.0	3,382.0	3,390.2	3,340.9	8.4	11.3	-1.43	-537.3	121.9	221.6	209.7	11.86	18.683					
3,500.0	3,481.4	3,489.9	3,438.8	8.6	11.7	-1.32	-555.5	125.5	229.3	217.1	12.21	18.781					
3,600.0	3,580.8	3,589.6	3,536.8	8.9	12.0	-1.21	-573.6	129.2	237.0	224.4	12.56	18.873					
3,700.0	3,680.2	3,689.3	3,634.8	9.2	12.4	-1.11	-591.8	132.9	244.7	231.8	12.91	18.961					
3,800.0	3,779.6	3,789.0	3,732.7	9.4	12.8	-1.02	-610.0	136.5	252.4	239.1	13.25	19.043					
3,900.0	3,879.0	3,888.7	3,830.7	9.7	13.1	-0.93	-628.1	140.2	260.1	246.5	13.60	19.122					
4,000.0	3,978.4	3,988.4	3,928.6	9.9	13.5	-0.85	-646.3	143.9	267.8	253.9	13.95	19.197					
4,100.0	4,077.8	4,088.1	4,026.6	10.2	13.9	-0.78	-664.5	147.5	275.5	261.2	14.30	19.268					
4,200.0	4,177.2	4,187.8	4,124.6	10.4	14.2	-0.70	-682.6	151.2	283.2	268.6	14.65	19.335					
4,300.0	4,276.6	4,287.5	4,222.5	10.7	14.6	-0.63	-700.8	154.9	290.9	275.9	15.00	19.399					
4,400.0	4,376.0	4,387.2	4,320.5	11.0	15.0	-0.57	-719.0	158.5	298.6	283.3	15.35	19.461					
4,500.0	4,475.4	4,486.9	4,418.5	11.2	15.3	-0.50	-737.1	162.2	306.3	290.6	15.69	19.520					
4,600.0	4,574.8	4,586.6	4,516.4	11.5	15.7	-0.45	-755.3	165.9	314.1	298.0	16.04	19.576					
4,700.0	4,674.2	4,686.4	4,614.4	11.7	16.1	-0.39	-773.4	169.5	321.8	305.4	16.39	19.629					
4,800.0	4,773.6	4,786.1	4,712.4	12.0	16.4	-0.33	-791.6	173.2	329.5	312.7	16.74	19.681					
4,900.0	4,873.0	4,885.8	4,810.3	12.3	16.8	-0.28	-809.8	176.9	337.2	320.1	17.09	19.730					
5,000.0	4,972.4	4,985.5	4,908.3	12.5	17.2	-0.23	-827.9	180.5	344.9	327.5	17.44	19.778					

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 LR05BDR 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:	LR05BDR 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														Offset Site Error:	0.0 ft
Survey Program: O-MWD															
Reference															
Offset				Semi Major Axis				Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
5,100.0	5,071.8	5,085.2	5,006.3	12.8	17.5	-0.19	-846.1	184.2	352.6	334.8	17.79	19.823			
5,200.0	5,171.2	5,184.8	5,104.2	13.0	17.9	-0.14	-864.3	187.9	360.7	342.6	18.13	19.898			
5,300.0	5,270.9	5,284.2	5,201.8	13.2	18.3	-0.10	-882.4	191.5	371.9	353.4	18.45	20.156			
5,400.0	5,370.9	5,383.1	5,299.0	13.4	18.6	-0.06	-900.4	195.2	386.5	367.8	18.76	20.608			
5,500.0	5,470.8	5,481.5	5,395.7	13.5	19.0	-72.19	-918.3	198.8	404.4	385.3	19.07	21.209			
5,600.0	5,570.8	5,579.8	5,492.3	13.6	19.4	-72.15	-936.2	202.4	422.8	403.4	19.41	21.781			
5,700.0	5,670.8	5,678.1	5,588.8	13.7	19.7	-72.19	-954.1	206.0	441.2	421.5	19.76	22.331			
5,800.0	5,770.8	5,776.4	5,685.4	13.9	20.1	-72.23	-972.0	209.6	459.6	439.5	20.10	22.862			
5,900.0	5,870.8	5,874.7	5,782.0	14.0	20.4	-72.27	-989.9	213.2	478.0	457.6	20.45	23.375			
6,000.0	5,970.8	5,973.0	5,878.6	14.1	20.8	-72.31	-1,007.8	216.9	496.4	475.6	20.80	23.871			
6,100.0	6,070.8	6,071.3	5,975.2	14.3	21.2	-72.34	-1,025.8	220.5	514.8	493.7	21.14	24.351			
6,200.0	6,170.8	6,169.5	6,071.7	14.4	21.5	-72.37	-1,043.7	224.1	533.2	511.7	21.49	24.816			
6,300.0	6,270.8	6,267.8	6,168.3	14.5	21.9	-72.40	-1,061.6	227.7	551.6	529.8	21.83	25.265			
6,400.0	6,370.8	6,366.1	6,264.9	14.7	22.3	-72.42	-1,079.5	231.3	570.0	547.8	22.18	25.701			
6,500.0	6,470.8	6,464.4	6,361.5	14.8	22.6	-72.45	-1,097.4	234.9	588.4	565.9	22.52	26.124			
6,600.0	6,570.8	6,562.7	6,458.1	14.9	23.0	-72.47	-1,115.3	238.5	606.8	583.9	22.87	26.533			
6,700.0	6,670.8	6,661.0	6,554.6	15.1	23.3	-72.49	-1,133.2	242.2	625.2	602.0	23.22	26.931			
6,800.0	6,770.8	6,759.3	6,651.2	15.2	23.7	-72.51	-1,151.1	245.8	643.6	620.0	23.56	27.316			
6,900.0	6,870.8	6,857.6	6,747.8	15.4	24.1	-72.53	-1,169.0	249.4	662.0	638.1	23.91	27.691			
7,000.0	6,970.8	6,955.9	6,844.4	15.5	24.4	-72.55	-1,186.9	253.0	680.4	656.1	24.25	28.055			
7,100.0	7,070.8	7,054.2	6,941.0	15.6	24.8	-72.57	-1,204.8	256.6	698.8	674.2	24.60	28.409			
7,200.0	7,170.8	7,152.5	7,037.5	15.8	25.2	-72.58	-1,222.7	260.2	717.2	692.2	24.94	28.753			
7,300.0	7,270.8	7,250.8	7,134.1	15.9	25.5	-72.60	-1,240.6	263.8	735.6	710.3	25.29	29.087			
7,400.0	7,370.8	7,349.1	7,230.7	16.1	25.9	-72.61	-1,258.6	267.5	754.0	728.3	25.63	29.413			
7,500.0	7,470.8	7,447.4	7,327.3	16.2	26.2	-72.63	-1,276.5	271.1	772.4	746.4	25.98	29.730			
7,600.0	7,570.8	7,545.6	7,423.9	16.3	26.6	-72.64	-1,294.4	274.7	790.8	764.4	26.33	30.038			
7,700.0	7,670.8	7,643.9	7,520.5	16.5	27.0	-72.65	-1,312.3	278.3	809.2	782.5	26.67	30.339			
7,800.0	7,770.8	7,742.2	7,617.0	16.6	27.3	-72.67	-1,330.2	281.9	827.6	800.6	27.02	30.631			
7,900.0	7,870.8	7,840.5	7,713.6	16.8	27.7	-72.68	-1,348.1	285.5	846.0	818.6	27.36	30.917			
8,000.0	7,970.8	7,938.8	7,810.2	16.9	28.1	-72.69	-1,366.0	289.1	864.4	836.7	27.71	31.195			
8,100.0	8,070.8	8,037.1	7,906.8	17.1	28.4	-72.70	-1,383.9	292.8	882.8	854.7	28.05	31.467			
8,200.0	8,170.8	8,135.4	8,003.4	17.2	28.8	-72.71	-1,401.8	296.4	901.2	872.8	28.40	31.732			
8,300.0	8,270.8	8,233.7	8,099.9	17.4	29.1	-72.72	-1,419.7	300.0	919.6	890.8	28.74	31.990			
8,400.0	8,370.8	8,332.0	8,196.5	17.5	29.5	-72.73	-1,437.6	303.6	938.0	908.9	29.09	32.243			
8,500.0	8,470.8	8,450.4	8,313.0	17.7	29.9	-72.74	-1,458.6	307.8	955.9	926.5	29.47	32.436			
8,600.0	8,570.8	8,599.6	8,460.7	17.8	30.3	-72.76	-1,479.0	312.0	969.7	939.8	29.91	32.425			
8,700.0	8,670.8	8,750.6	8,611.1	18.0	30.6	-72.80	-1,491.9	314.6	978.2	947.9	30.34	32.238			
8,800.0	8,770.8	8,902.5	8,762.9	18.1	30.8	-72.84	-1,497.0	315.6	981.5	950.7	30.79	31.882			
8,900.0	8,870.8	9,009.3	8,869.7	18.3	30.9	-72.87	-1,497.2	315.5	981.4	950.3	31.15	31.507			
8,961.5	8,932.3	9,070.1	8,930.5	18.4	30.9	-72.88	-1,497.4	315.2	981.4	950.0	31.36	31.291			
9,000.0	8,970.8	9,108.1	8,968.5	18.4	31.0	-72.88	-1,497.5	315.0	981.4	949.9	31.50	31.158			
9,100.0	9,070.8	9,206.9	9,067.2	18.6	31.1	-72.85	-1,498.0	314.1	981.5	949.7	31.85	30.821			
9,200.0	9,170.8	9,306.4	9,166.8	18.7	31.2	-72.81	-1,498.7	313.0	981.7	949.5	32.20	30.493			
9,300.0	9,270.8	9,406.4	9,266.8	18.9	31.3	-72.77	-1,499.4	311.8	982.0	949.4	32.55	30.171			
9,400.0	9,370.8	9,506.4	9,366.8	19.0	31.4	-72.73	-1,500.1	310.6	982.2	949.3	32.90	29.857			
9,500.0	9,470.8	9,606.4	9,466.7	19.2	31.5	-72.69	-1,500.7	309.4	982.4	949.2	33.25	29.549			
9,600.0	9,570.8	9,706.4	9,566.7	19.3	31.6	-72.65	-1,501.4	308.2	982.6	949.0	33.60	29.248			
9,700.0	9,670.8	9,806.4	9,666.7	19.5	31.7	-72.60	-1,502.1	307.0	982.9	948.9	33.95	28.953			
9,800.0	9,770.8	9,906.4	9,766.7	19.6	31.8	-72.56	-1,502.8	305.8	983.1	948.8	34.30	28.664			
9,900.0	9,870.8	10,006.4	9,866.7	19.8	31.9	-72.52	-1,503.5	304.6	983.3	948.7	34.65	28.381			
10,000.0	9,970.8	10,106.4	9,966.7	19.9	32.0	-72.48	-1,504.2	303.4	983.5	948.5	35.00	28.104			
10,100.0	10,070.8	10,206.4	10,066.7	20.1	32.1	-72.43	-1,504.9	302.2	983.8	948.4	35.35	27.832			

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
10,200.0	10,170.8	10,306.4	10,166.7	20.2	32.2	-72.39	-1,505.6	301.0	984.0	948.3	35.70	27.565			
10,300.0	10,270.8	10,406.4	10,266.6	20.4	32.3	-72.35	-1,506.3	299.8	984.2	948.2	36.05	27.304			
10,400.0	10,370.8	10,506.4	10,366.6	20.6	32.4	-72.31	-1,507.0	298.6	984.4	948.0	36.40	27.048			
10,500.0	10,470.8	10,606.4	10,466.6	20.7	32.5	-72.27	-1,507.6	297.4	984.7	947.9	36.75	26.796			
10,600.0	10,570.7	10,706.4	10,566.6	20.9	32.6	-72.22	-1,508.3	296.2	984.9	947.8	37.10	26.550			
10,700.0	10,670.7	10,806.4	10,666.6	21.0	32.7	-72.18	-1,509.0	295.0	985.1	947.7	37.45	26.308			
10,800.0	10,770.7	10,906.4	10,766.6	21.2	32.8	-72.14	-1,509.7	293.8	985.3	947.6	37.80	26.070			
10,900.0	10,870.7	11,006.4	10,866.6	21.3	32.9	-72.10	-1,510.4	292.6	985.6	947.4	38.15	25.837			
11,000.0	10,970.7	11,106.3	10,966.6	21.5	33.0	-72.06	-1,511.1	291.4	985.8	947.3	38.50	25.608			
11,100.0	11,070.7	11,206.3	11,066.5	21.7	33.1	-72.02	-1,511.8	290.2	986.0	947.2	38.85	25.384			
11,200.0	11,170.7	11,306.3	11,166.5	21.8	33.2	-71.97	-1,512.5	289.0	986.3	947.1	39.20	25.163			
11,300.0	11,270.7	11,406.3	11,266.5	22.0	33.4	-71.93	-1,513.2	287.8	986.5	947.0	39.55	24.946			
11,400.0	11,370.7	11,506.3	11,366.5	22.1	33.5	-71.89	-1,513.9	286.6	986.7	946.8	39.89	24.733			
11,500.0	11,470.7	11,606.3	11,466.5	22.3	33.6	-71.85	-1,514.5	285.4	987.0	946.7	40.24	24.524			
11,600.0	11,570.7	11,706.3	11,566.5	22.5	33.7	-71.81	-1,515.2	284.2	987.2	946.6	40.59	24.319			
11,700.0	11,670.7	11,806.3	11,666.5	22.6	33.8	-71.76	-1,515.9	283.0	987.4	946.5	40.94	24.117			
11,800.0	11,770.7	11,906.3	11,766.5	22.8	33.9	-71.72	-1,516.6	281.8	987.7	946.4	41.29	23.918			
11,838.1	11,808.9	11,944.5	11,804.6	22.8	34.0	-71.71	-1,516.9	281.3	987.8	946.3	41.43	23.843			
11,900.0	11,870.7	11,975.9	11,836.0	22.9	34.0	-71.69	-1,517.1	280.9	988.4	946.8	41.59	23.765			
11,915.3	11,886.0	11,975.9	11,836.0	23.0	34.0	-71.69	-1,517.1	280.9	989.0	947.4	41.62	23.764			

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance			Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)				Between Ellipses (ft)		
0.0	0.0	0.0	0.0	0.0	0.0	108.39	-42.6	128.2	135.1	135.1	0.00	N/A			
100.0	100.0	100.0	100.0	0.2	0.1	108.39	-42.6	128.2	135.1	134.8	0.32	418.421			
200.0	200.0	200.0	200.0	0.3	0.3	108.39	-42.6	128.2	135.1	134.4	0.67	201.060			
300.0	300.0	300.0	300.0	0.5	0.5	-60.06	-42.6	128.2	134.2	133.2	1.02	131.135			
400.0	399.8	399.8	399.8	0.7	0.7	-62.08	-42.6	128.2	131.7	130.3	1.39	94.888			
500.0	499.5	499.5	499.5	0.9	0.8	-65.59	-42.6	128.2	127.8	126.1	1.78	71.871			
600.0	598.9	594.9	594.9	1.2	1.0	-69.77	-43.3	129.6	125.3	123.1	2.18	57.405			
617.0	615.8	611.2	611.2	1.2	1.0	-70.45	-43.6	130.1	125.2	122.9	2.25	55.585 CC, ES			
700.0	698.3	690.6	690.5	1.4	1.2	-73.55	-45.4	133.9	126.5	123.9	2.60	48.695			
800.0	797.7	786.3	785.8	1.7	1.4	-76.63	-49.0	141.0	131.3	128.3	3.02	43.431			
900.0	897.0	881.8	880.7	1.9	1.6	-78.85	-54.0	150.9	139.4	135.9	3.46	40.303			
1,000.0	996.4	976.9	974.7	2.2	1.9	-80.23	-60.3	163.6	150.6	146.7	3.91	38.546			
1,100.0	1,095.8	1,072.6	1,068.8	2.4	2.2	-80.87	-68.0	179.1	164.6	160.2	4.37	37.701			
1,200.0	1,195.2	1,171.5	1,165.9	2.7	2.5	-81.29	-76.4	196.0	179.4	174.6	4.84	37.064			
1,300.0	1,294.6	1,270.3	1,263.0	3.0	2.9	-81.64	-84.8	212.8	194.2	188.9	5.32	36.501			
1,400.0	1,394.0	1,369.2	1,360.0	3.2	3.2	-81.95	-93.2	229.6	209.1	203.3	5.81	36.001			
1,500.0	1,493.4	1,468.1	1,457.1	3.5	3.6	-82.21	-101.6	246.4	223.9	217.6	6.30	35.556			
1,600.0	1,592.8	1,567.0	1,554.2	3.7	3.9	-82.44	-110.0	263.2	238.7	231.9	6.79	35.159			
1,700.0	1,692.2	1,665.9	1,651.3	4.0	4.3	-82.64	-118.4	280.1	253.6	246.3	7.29	34.804			
1,800.0	1,791.6	1,764.8	1,748.4	4.2	4.6	-82.82	-126.7	296.9	268.4	260.6	7.78	34.485			
1,900.0	1,891.0	1,863.7	1,845.5	4.5	5.0	-82.98	-135.1	313.7	283.3	275.0	8.28	34.197			
2,000.0	1,990.4	1,962.6	1,942.6	4.8	5.4	-83.13	-143.5	330.5	298.1	289.3	8.79	33.936			
2,100.0	2,089.8	2,061.5	2,039.6	5.0	5.7	-83.26	-151.9	347.3	313.0	303.7	9.29	33.698			
2,200.0	2,189.2	2,160.3	2,136.7	5.3	6.1	-83.38	-160.3	364.2	327.8	318.0	9.79	33.482			
2,300.0	2,288.6	2,259.2	2,233.8	5.5	6.5	-83.49	-168.7	381.0	342.7	332.4	10.30	33.283			
2,400.0	2,388.0	2,358.1	2,330.9	5.8	6.8	-83.59	-177.1	397.8	357.5	346.7	10.80	33.101			
2,500.0	2,487.4	2,457.0	2,428.0	6.0	7.2	-83.68	-185.5	414.6	372.4	361.1	11.31	32.933			
2,600.0	2,586.8	2,555.9	2,525.1	6.3	7.6	-83.77	-193.8	431.4	387.3	375.5	11.81	32.778			
2,700.0	2,686.2	2,654.8	2,622.2	6.6	8.0	-83.85	-202.2	448.3	402.1	389.8	12.32	32.634			
2,800.0	2,785.6	2,753.7	2,719.2	6.8	8.3	-83.92	-210.6	465.1	417.0	404.2	12.83	32.500			
2,900.0	2,885.0	2,852.6	2,816.3	7.1	8.7	-83.99	-219.0	481.9	431.8	418.5	13.34	32.375			
3,000.0	2,984.4	2,951.4	2,913.4	7.3	9.1	-84.05	-227.4	498.7	446.7	432.9	13.85	32.259			
3,100.0	3,083.8	3,050.3	3,010.5	7.6	9.4	-84.11	-235.8	515.5	461.6	447.2	14.36	32.150			
3,200.0	3,183.2	3,149.2	3,107.6	7.9	9.8	-84.17	-244.2	532.4	476.4	461.6	14.87	32.048			
3,300.0	3,282.6	3,248.1	3,204.7	8.1	10.2	-84.22	-252.6	549.2	491.3	475.9	15.38	31.952			
3,400.0	3,382.0	3,347.0	3,301.8	8.4	10.6	-84.27	-261.0	566.0	506.2	490.3	15.89	31.862			
3,500.0	3,481.4	3,445.9	3,398.8	8.6	10.9	-84.32	-269.3	582.8	521.0	504.6	16.40	31.777			
3,600.0	3,580.8	3,544.8	3,495.9	8.9	11.3	-84.36	-277.7	599.6	535.9	519.0	16.91	31.696			
3,700.0	3,680.2	3,643.7	3,593.0	9.2	11.7	-84.40	-286.1	616.5	550.7	533.3	17.42	31.620			
3,800.0	3,779.6	3,742.6	3,690.1	9.4	12.1	-84.44	-294.5	633.3	565.6	547.7	17.93	31.548			
3,900.0	3,879.0	3,841.4	3,787.2	9.7	12.4	-84.48	-302.9	650.1	580.5	562.0	18.44	31.480			
4,000.0	3,978.4	3,940.3	3,884.3	9.9	12.8	-84.51	-311.3	666.9	595.3	576.4	18.95	31.415			
4,100.0	4,077.8	4,039.2	3,981.4	10.2	13.2	-84.55	-319.7	683.7	610.2	590.7	19.46	31.354			
4,200.0	4,177.2	4,138.1	4,078.4	10.4	13.5	-84.58	-328.1	700.6	625.1	605.1	19.97	31.295			
4,300.0	4,276.6	4,237.0	4,175.5	10.7	13.9	-84.61	-336.4	717.4	639.9	619.4	20.48	31.239			
4,400.0	4,376.0	4,335.9	4,272.6	11.0	14.3	-84.64	-344.8	734.2	654.8	633.8	21.00	31.186			
4,500.0	4,475.4	4,434.8	4,369.7	11.2	14.7	-84.67	-353.2	751.0	669.7	648.2	21.51	31.135			
4,600.0	4,574.8	4,533.7	4,466.8	11.5	15.0	-84.69	-361.6	767.8	684.5	662.5	22.02	31.086			
4,700.0	4,674.2	4,632.6	4,563.9	11.7	15.4	-84.72	-370.0	784.7	699.4	676.9	22.53	31.039			
4,800.0	4,773.6	4,731.4	4,661.0	12.0	15.8	-84.74	-378.4	801.5	714.3	691.2	23.04	30.995			
4,900.0	4,873.0	4,830.3	4,758.0	12.3	16.2	-84.77	-386.8	818.3	729.1	705.6	23.56	30.952			
5,000.0	4,972.4	4,929.2	4,855.1	12.5	16.5	-84.79	-395.2	835.1	744.0	719.9	24.07	30.911			

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 LR05BDR 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:	LR05BDR 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													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)					
5,100.0	5,071.8	5,028.1	4,952.2	12.8	16.9	-84.81	-403.6	851.9	758.9	734.3	24.58	30.871			
5,200.0	5,171.2	5,127.0	5,049.3	13.0	17.3	-84.95	-411.9	868.8	773.8	748.7	25.10	30.828			
5,300.0	5,270.9	5,225.8	5,146.3	13.2	17.7	-85.02	-420.3	885.6	788.9	763.4	25.55	30.875			
5,400.0	5,370.9	5,324.3	5,243.1	13.4	18.0	-84.86	-428.7	902.3	804.4	778.5	25.92	31.030			
5,500.0	5,470.8	5,422.6	5,339.5	13.5	18.4	-156.56	-437.0	919.0	820.3	794.1	26.22	31.292			
5,600.0	5,570.8	5,520.7	5,435.9	13.6	18.8	-155.85	-445.3	935.7	836.7	810.3	26.46	31.617			
5,700.0	5,670.8	5,618.8	5,532.2	13.7	19.1	-155.18	-453.7	952.4	853.5	826.8	26.72	31.941			
5,800.0	5,770.8	5,717.0	5,628.5	13.9	19.5	-154.55	-462.0	969.1	870.4	843.4	26.98	32.260			
5,900.0	5,870.8	5,815.1	5,724.8	14.0	19.9	-153.93	-470.3	985.8	887.3	860.1	27.24	32.576			
6,000.0	5,970.8	5,913.2	5,821.2	14.1	20.3	-153.34	-478.6	1,002.5	904.4	876.9	27.50	32.889			
6,100.0	6,070.8	6,011.3	5,917.5	14.3	20.6	-152.77	-487.0	1,019.2	921.5	893.8	27.76	33.197			
6,200.0	6,170.8	6,109.4	6,013.8	14.4	21.0	-152.22	-495.3	1,035.8	938.8	910.7	28.02	33.502			
6,300.0	6,270.8	6,207.5	6,110.1	14.5	21.4	-151.70	-503.6	1,052.5	956.1	927.8	28.28	33.802			
6,400.0	6,370.8	6,305.6	6,206.4	14.7	21.7	-151.19	-511.9	1,069.2	973.5	944.9	28.55	34.098			
6,500.0	6,470.8	6,403.7	6,302.8	14.8	22.1	-150.69	-520.2	1,085.9	990.9	962.1	28.81	34.390			
6,600.0	6,570.8	6,501.8	6,399.1	14.9	22.5	-150.22	-528.6	1,102.6	1,008.5	979.4	29.08	34.677			
6,700.0	6,670.8	6,599.9	6,495.4	15.1	22.9	-149.76	-536.9	1,119.3	1,026.1	996.7	29.35	34.959			
6,800.0	6,770.8	6,698.1	6,591.7	15.2	23.2	-149.31	-545.2	1,136.0	1,043.7	1,014.1	29.62	35.237			
6,900.0	6,870.8	6,796.2	6,688.0	15.4	23.6	-148.89	-553.5	1,152.7	1,061.4	1,031.6	29.89	35.510			
7,000.0	6,970.8	6,894.3	6,784.4	15.5	24.0	-148.47	-561.9	1,169.3	1,079.2	1,049.1	30.16	35.779			
7,100.0	7,070.8	6,992.4	6,880.7	15.6	24.3	-148.07	-570.2	1,186.0	1,097.0	1,066.6	30.44	36.042			
7,200.0	7,170.8	7,090.5	6,977.0	15.8	24.7	-147.68	-578.5	1,202.7	1,114.9	1,084.2	30.71	36.301			
7,300.0	7,270.8	7,188.6	7,073.3	15.9	25.1	-147.30	-586.8	1,219.4	1,132.9	1,101.9	30.99	36.556			
7,400.0	7,370.8	7,286.7	7,169.6	16.1	25.5	-146.94	-595.1	1,236.1	1,150.8	1,119.6	31.27	36.806			
7,500.0	7,470.8	7,384.8	7,266.0	16.2	25.8	-146.59	-603.5	1,252.8	1,168.8	1,137.3	31.55	37.051			
7,600.0	7,570.8	7,482.9	7,362.3	16.3	26.2	-146.24	-611.8	1,269.5	1,186.9	1,155.1	31.83	37.292			
7,700.0	7,670.8	7,581.0	7,458.6	16.5	26.6	-145.91	-620.1	1,286.2	1,205.0	1,172.9	32.11	37.528			
7,800.0	7,770.8	7,679.1	7,554.9	16.6	26.9	-145.59	-628.4	1,302.8	1,223.2	1,190.8	32.39	37.760			
7,900.0	7,870.8	7,777.3	7,651.3	16.8	27.3	-145.27	-636.8	1,319.5	1,241.3	1,208.6	32.68	37.988			
8,000.0	7,970.8	7,875.4	7,747.6	16.9	27.7	-144.97	-645.1	1,336.2	1,259.5	1,226.6	32.96	38.211			
8,100.0	8,070.8	7,973.5	7,843.9	17.1	28.1	-144.67	-653.4	1,352.9	1,277.8	1,244.5	33.25	38.430			
8,200.0	8,170.8	8,071.6	7,940.2	17.2	28.4	-144.38	-661.7	1,369.6	1,296.1	1,262.5	33.54	38.645			
8,300.0	8,270.8	8,169.7	8,036.5	17.4	28.8	-144.11	-670.0	1,386.3	1,314.4	1,280.5	33.83	38.856			
8,400.0	8,370.8	8,267.8	8,132.9	17.5	29.2	-143.83	-678.4	1,403.0	1,332.7	1,298.6	34.12	39.063			
8,500.0	8,470.8	8,365.9	8,229.2	17.7	29.5	-143.57	-686.7	1,419.7	1,351.1	1,316.7	34.41	39.266			
8,600.0	8,570.8	8,513.2	8,374.2	17.8	30.0	-143.21	-695.3	1,442.9	1,368.4	1,333.6	34.77	39.360			
8,700.0	8,670.8	8,694.4	8,554.0	18.0	30.5	-142.93	-708.1	1,462.5	1,380.3	1,345.1	35.18	39.239			
8,800.0	8,770.8	8,877.7	8,737.0	18.1	30.8	-142.82	-712.8	1,472.0	1,386.3	1,350.7	35.60	38.941			
8,900.0	8,870.8	9,014.6	8,873.8	18.3	30.9	-142.82	-713.3	1,472.8	1,387.2	1,351.2	35.96	38.571			
9,000.0	8,970.8	9,119.6	8,978.9	18.4	31.0	-142.83	-713.5	1,472.3	1,387.3	1,351.0	36.28	38.234			
9,100.0	9,070.8	9,224.7	9,084.0	18.6	31.0	-142.82	-714.0	1,471.4	1,387.0	1,350.4	36.60	37.893			
9,200.0	9,170.8	9,326.8	9,186.1	18.7	31.1	-142.80	-714.7	1,470.3	1,386.4	1,349.5	36.92	37.555			
9,300.0	9,270.8	9,426.8	9,286.1	18.9	31.2	-142.78	-715.4	1,469.1	1,385.8	1,348.6	37.23	37.224			
9,400.0	9,370.8	9,526.8	9,386.0	19.0	31.3	-142.76	-716.1	1,467.9	1,385.2	1,347.7	37.54	36.898			
9,500.0	9,470.8	9,626.8	9,486.0	19.2	31.4	-142.74	-716.8	1,466.7	1,384.6	1,346.8	37.85	36.578			
9,600.0	9,570.8	9,726.8	9,586.0	19.3	31.5	-142.72	-717.5	1,465.5	1,384.0	1,345.9	38.17	36.261			
9,700.0	9,670.8	9,826.8	9,686.0	19.5	31.5	-142.70	-718.2	1,464.3	1,383.4	1,344.9	38.48	35.949			
9,800.0	9,770.8	9,926.8	9,786.0	19.6	31.6	-142.68	-718.9	1,463.1	1,382.8	1,344.0	38.80	35.642			
9,900.0	9,870.8	10,026.8	9,886.0	19.8	31.7	-142.67	-719.5	1,461.9	1,382.2	1,343.1	39.11	35.339			
10,000.0	9,970.8	10,126.8	9,986.0	19.9	31.8	-142.65	-720.2	1,460.7	1,381.6	1,342.2	39.43	35.041			
10,100.0	10,070.8	10,226.8	10,086.0	20.1	31.9	-142.63	-720.9	1,459.5	1,381.0	1,341.3	39.75	34.747			
10,200.0	10,170.8	10,326.8	10,185.9	20.2	32.0	-142.61	-721.6	1,458.3	1,380.4	1,340.3	40.06	34.457			

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 LR05BDR 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:	LR05BDR 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													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		
10,300.0	10,270.8	10,426.8	10,285.9	20.4	32.1	-142.59	-722.3	1,457.1	1,379.8	1,339.4	40.38	34.171			
10,400.0	10,370.8	10,526.8	10,385.9	20.6	32.1	-142.57	-723.0	1,455.9	1,379.2	1,338.5	40.70	33.889			
10,500.0	10,470.8	10,626.8	10,485.9	20.7	32.2	-142.55	-723.7	1,454.7	1,378.6	1,337.6	41.02	33.611			
10,600.0	10,570.7	10,726.8	10,585.9	20.9	32.3	-142.53	-724.4	1,453.5	1,378.0	1,336.7	41.34	33.337			
10,700.0	10,670.7	10,826.8	10,685.9	21.0	32.4	-142.51	-725.1	1,452.3	1,377.4	1,335.7	41.66	33.067			
10,800.0	10,770.7	10,926.8	10,785.9	21.2	32.5	-142.49	-725.8	1,451.1	1,376.8	1,334.8	41.98	32.800			
10,900.0	10,870.7	11,026.8	10,885.9	21.3	32.6	-142.48	-726.5	1,449.9	1,376.2	1,333.9	42.30	32.537			
11,000.0	10,970.7	11,126.8	10,985.8	21.5	32.7	-142.46	-727.2	1,448.7	1,375.6	1,333.0	42.62	32.278			
11,100.0	11,070.7	11,226.8	11,085.8	21.7	32.8	-142.44	-727.8	1,447.5	1,375.0	1,332.1	42.94	32.022			
11,200.0	11,170.7	11,326.8	11,185.8	21.8	32.9	-142.42	-728.5	1,446.3	1,374.4	1,331.1	43.26	31.770			
11,300.0	11,270.7	11,426.8	11,285.8	22.0	33.0	-142.40	-729.2	1,445.1	1,373.8	1,330.2	43.58	31.521			
11,400.0	11,370.7	11,526.8	11,385.8	22.1	33.1	-142.38	-729.9	1,443.9	1,373.2	1,329.3	43.91	31.276			
11,500.0	11,470.7	11,626.8	11,485.8	22.3	33.2	-142.36	-730.6	1,442.7	1,372.6	1,328.4	44.23	31.034			
11,600.0	11,570.7	11,726.8	11,585.8	22.5	33.3	-142.34	-731.3	1,441.5	1,372.0	1,327.4	44.55	30.795			
11,700.0	11,670.7	11,826.8	11,685.8	22.6	33.4	-142.32	-732.0	1,440.3	1,371.4	1,326.5	44.88	30.559			
11,800.0	11,770.7	11,926.8	11,785.7	22.8	33.5	-142.30	-732.7	1,439.1	1,370.8	1,325.6	45.20	30.327			
11,880.3	11,851.0	12,002.0	11,861.0	22.9	33.5	-142.29	-733.2	1,438.2	1,370.3	1,324.9	45.45	30.148			
11,900.0	11,870.7	12,002.0	11,861.0	22.9	33.5	-142.29	-733.2	1,438.2	1,370.4	1,324.9	45.48	30.129			
11,915.3	11,886.0	12,002.0	11,861.0	23.0	33.5	-142.29	-733.2	1,438.2	1,370.7	1,325.2	45.51	30.119 SF			

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 LR05BDR 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:	LR05BDR 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													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	108.41	-28.4	85.4	90.0	90.0	0.00	N/A			
100.0	100.0	100.0	100.0	0.2	0.1	108.41	-28.4	85.4	90.0	89.7	0.32	278.671			
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-28.4	85.4	90.0	89.3	0.67	133.907			
300.0	300.0	300.0	300.0	0.5	0.5	-60.37	-28.4	85.4	89.1	88.1	1.02	87.052			
400.0	399.8	399.8	399.8	0.7	0.7	-63.42	-28.4	85.4	86.6	85.2	1.39	62.403			
500.0	499.5	499.5	499.5	0.9	0.8	-68.85	-28.4	85.4	83.1	81.3	1.78	46.637			
600.0	598.9	598.9	598.9	1.2	1.0	-76.15	-28.4	85.4	79.8	77.6	2.20	36.315			
700.0	698.3	698.3	698.3	1.4	1.2	-83.95	-28.4	85.4	77.9	75.3	2.62	29.695			
775.4	773.2	773.2	773.2	1.6	1.3	-90.00	-28.4	85.4	77.4	74.5	2.94	26.302	CC		
800.0	797.7	797.7	797.7	1.7	1.4	-91.98	-28.4	85.4	77.5	74.4	3.05	25.420	ES		
900.0	897.0	897.0	897.0	1.9	1.5	-99.94	-28.4	85.4	78.6	75.2	3.46	22.697			
1,000.0	996.4	996.4	996.4	2.2	1.7	-107.52	-28.4	85.4	81.3	77.4	3.86	21.023			
1,100.0	1,095.8	1,095.2	1,095.2	2.4	1.9	-113.45	-29.5	86.6	85.5	81.3	4.25	20.109			
1,200.0	1,195.2	1,194.4	1,194.3	2.7	2.1	-116.65	-32.8	90.3	91.2	86.5	4.65	19.589			
1,300.0	1,294.6	1,293.7	1,293.2	3.0	2.3	-117.47	-38.4	96.6	97.5	92.4	5.08	19.184			
1,400.0	1,394.0	1,392.9	1,391.7	3.2	2.5	-116.31	-46.3	105.5	104.3	98.8	5.55	18.800			
1,500.0	1,493.4	1,491.8	1,489.4	3.5	2.7	-113.58	-56.4	116.8	111.9	105.8	6.07	18.448			
1,600.0	1,592.8	1,590.1	1,585.9	3.7	3.0	-109.64	-68.7	130.6	120.6	114.0	6.63	18.198			
1,700.0	1,692.2	1,687.6	1,681.0	4.0	3.4	-104.89	-83.0	146.7	131.0	123.8	7.23	18.133	SF		
1,800.0	1,791.6	1,784.1	1,774.4	4.2	3.7	-99.71	-99.4	165.0	143.7	135.9	7.84	18.328			
1,900.0	1,891.0	1,879.6	1,865.9	4.5	4.2	-94.41	-117.5	185.4	159.1	150.6	8.44	18.845			
2,000.0	1,990.4	1,977.1	1,958.8	4.8	4.7	-89.59	-137.0	207.2	176.4	167.4	9.02	19.570			
2,100.0	2,089.8	2,074.6	2,051.8	5.0	5.1	-85.64	-156.5	229.1	194.8	185.3	9.56	20.376			
2,200.0	2,189.2	2,172.0	2,144.8	5.3	5.6	-82.37	-175.9	250.9	214.0	203.9	10.09	21.214			
2,300.0	2,288.6	2,269.5	2,237.8	5.5	6.1	-79.64	-195.4	272.7	233.7	223.1	10.59	22.057			
2,400.0	2,388.0	2,367.0	2,330.8	5.8	6.7	-77.33	-214.8	294.6	253.8	242.7	11.09	22.886			
2,500.0	2,487.4	2,464.4	2,423.7	6.0	7.2	-75.37	-234.3	316.4	274.3	262.7	11.58	23.692			
2,600.0	2,586.8	2,561.9	2,516.7	6.3	7.7	-73.68	-253.8	338.2	295.1	283.0	12.06	24.468			
2,700.0	2,686.2	2,659.4	2,609.7	6.6	8.2	-72.20	-273.2	360.1	316.0	303.5	12.54	25.212			
2,800.0	2,785.6	2,756.9	2,702.7	6.8	8.8	-70.92	-292.7	381.9	337.2	324.2	13.01	25.923			
2,900.0	2,885.0	2,854.3	2,795.7	7.1	9.3	-69.78	-312.1	403.8	358.5	345.0	13.48	26.601			
3,000.0	2,984.4	2,951.8	2,888.7	7.3	9.8	-68.77	-331.6	425.6	379.9	366.0	13.94	27.246			
3,100.0	3,083.8	3,049.3	2,981.6	7.6	10.4	-67.87	-351.1	447.4	401.4	387.0	14.41	27.861			
3,200.0	3,183.2	3,146.8	3,074.6	7.9	10.9	-67.06	-370.5	469.3	423.0	408.1	14.87	28.445			
3,300.0	3,282.6	3,244.2	3,167.6	8.1	11.4	-66.33	-390.0	491.1	444.7	429.3	15.33	29.001			
3,400.0	3,382.0	3,341.7	3,260.6	8.4	12.0	-65.66	-409.4	512.9	466.4	450.6	15.79	29.531			
3,500.0	3,481.4	3,439.2	3,353.6	8.6	12.5	-65.06	-428.9	534.8	488.2	471.9	16.25	30.035			
3,600.0	3,580.8	3,536.7	3,446.5	8.9	13.1	-64.51	-448.4	556.6	510.0	493.3	16.71	30.516			
3,700.0	3,680.2	3,634.1	3,539.5	9.2	13.6	-64.00	-467.8	578.4	531.9	514.7	17.17	30.974			
3,800.0	3,779.6	3,731.6	3,632.5	9.4	14.1	-63.53	-487.3	600.3	553.8	536.2	17.63	31.412			
3,900.0	3,879.0	3,829.1	3,725.5	9.7	14.7	-63.10	-506.7	622.1	575.8	557.7	18.09	31.830			
4,000.0	3,978.4	3,926.6	3,818.5	9.9	15.2	-62.70	-526.2	644.0	597.7	579.2	18.55	32.229			
4,100.0	4,077.8	4,024.0	3,911.5	10.2	15.8	-62.33	-545.6	665.8	619.7	600.7	19.00	32.611			
4,200.0	4,177.2	4,121.5	4,004.4	10.4	16.3	-61.98	-565.1	687.6	641.7	622.3	19.46	32.977			
4,300.0	4,276.6	4,219.0	4,097.4	10.7	16.9	-61.66	-584.6	709.5	663.8	643.9	19.92	33.327			
4,400.0	4,376.0	4,316.5	4,190.4	11.0	17.4	-61.35	-604.0	731.3	685.9	665.5	20.37	33.663			
4,500.0	4,475.4	4,413.9	4,283.4	11.2	17.9	-61.07	-623.5	753.1	707.9	687.1	20.83	33.985			
4,600.0	4,574.8	4,511.4	4,376.4	11.5	18.5	-60.80	-642.9	775.0	730.0	708.7	21.29	34.294			
4,700.0	4,674.2	4,608.9	4,469.4	11.7	19.0	-60.55	-662.4	796.8	752.1	730.4	21.74	34.591			
4,800.0	4,773.6	4,706.3	4,562.3	12.0	19.6	-60.31	-681.9	818.6	774.3	752.1	22.20	34.877			
4,900.0	4,873.0	4,803.8	4,655.3	12.3	20.1	-60.09	-701.3	840.5	796.4	773.7	22.66	35.152			
5,000.0	4,972.4	4,901.3	4,748.3	12.5	20.7	-59.88	-720.8	862.3	818.5	795.4	23.11	35.416			

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
5,100.0	5,071.8	4,998.8	4,841.3	12.8	21.2	-59.68	-740.2	884.1	840.7	817.1	23.57	35.671			
5,200.0	5,171.2	5,096.2	4,934.2	13.0	21.8	-59.66	-759.7	906.0	863.1	839.0	24.05	35.889			
5,300.0	5,270.9	5,193.1	5,026.7	13.2	22.3	-59.71	-779.0	927.7	887.0	862.5	24.49	36.218			
5,400.0	5,370.9	5,289.4	5,118.5	13.4	22.9	-59.62	-798.3	949.3	912.6	887.8	24.86	36.714			
5,500.0	5,470.8	5,385.0	5,209.7	13.5	23.4	-131.40	-817.3	970.7	940.0	914.9	25.12	37.418			
5,600.0	5,570.8	5,480.3	5,300.6	13.6	23.9	-130.67	-836.4	992.0	968.1	942.8	25.30	38.265			
5,700.0	5,670.8	5,575.7	5,391.6	13.7	24.5	-130.04	-855.4	1,013.4	996.4	970.9	25.50	39.070			
5,800.0	5,770.8	5,671.0	5,482.5	13.9	25.0	-129.44	-874.4	1,034.7	1,024.9	999.2	25.72	39.856			
5,900.0	5,870.8	5,766.3	5,573.5	14.0	25.5	-128.88	-893.5	1,056.1	1,053.4	1,027.5	25.93	40.624			
6,000.0	5,970.8	5,861.6	5,664.4	14.1	26.1	-128.35	-912.5	1,077.5	1,082.1	1,055.9	26.15	41.374			
6,100.0	6,070.8	5,957.0	5,755.3	14.3	26.6	-127.84	-931.5	1,098.8	1,110.8	1,084.4	26.38	42.109			
6,200.0	6,170.8	6,052.3	5,846.3	14.4	27.1	-127.36	-950.6	1,120.2	1,139.6	1,113.0	26.61	42.826			
6,300.0	6,270.8	6,147.6	5,937.2	14.5	27.7	-126.91	-969.6	1,141.5	1,168.5	1,141.7	26.85	43.526			
6,400.0	6,370.8	6,243.0	6,028.1	14.7	28.2	-126.47	-988.6	1,162.9	1,197.5	1,170.4	27.09	44.211			
6,500.0	6,470.8	6,338.3	6,119.1	14.8	28.8	-126.06	-1,007.7	1,184.2	1,226.5	1,199.1	27.33	44.879			
6,600.0	6,570.8	6,433.6	6,210.0	14.9	29.3	-125.67	-1,026.7	1,205.6	1,255.5	1,227.9	27.57	45.532			
6,700.0	6,670.8	6,529.0	6,301.0	15.1	29.8	-125.29	-1,045.7	1,226.9	1,284.6	1,256.8	27.82	46.169			
6,800.0	6,770.8	6,624.3	6,391.9	15.2	30.4	-124.93	-1,064.8	1,248.3	1,313.8	1,285.7	28.08	46.792			
6,900.0	6,870.8	6,719.6	6,482.8	15.4	30.9	-124.58	-1,083.8	1,269.7	1,343.0	1,314.7	28.33	47.399			
7,000.0	6,970.8	6,815.0	6,573.8	15.5	31.4	-124.25	-1,102.8	1,291.0	1,372.3	1,343.7	28.59	47.993			

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05BDR 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:	LR05BDR 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													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	-37.9	113.8	120.0	120.0	0.00	N/A			
100.0	100.0	100.0	100.0	0.2	0.1	108.41	-37.9	113.8	120.0	119.6	0.32	371.562			
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-37.9	113.8	120.0	119.3	0.67	178.543			
300.0	300.0	298.0	298.0	0.5	0.5	-59.39	-39.5	114.1	119.9	118.9	1.02	117.205			
311.8	311.7	309.4	309.4	0.5	0.5	-59.39	-39.9	114.2	119.9	118.8	1.07	112.466 CC, ES			
400.0	399.8	394.1	393.9	0.7	0.7	-59.96	-43.5	116.1	120.5	119.1	1.39	86.912			
500.0	499.5	489.9	489.5	0.9	0.9	-61.68	-48.7	121.0	122.8	121.0	1.78	69.023			
600.0	598.9	585.6	584.6	1.2	1.1	-63.98	-55.2	128.9	127.4	125.2	2.19	58.087			
700.0	698.3	680.9	679.0	1.4	1.4	-65.83	-62.9	139.5	135.6	132.9	2.63	51.624			
800.0	797.7	775.6	772.3	1.7	1.7	-67.18	-71.9	153.0	147.0	143.9	3.07	47.871			
900.0	897.0	869.6	864.4	1.9	2.1	-68.05	-82.0	169.1	161.7	158.2	3.53	45.854			
1,000.0	996.4	962.6	954.8	2.2	2.5	-68.50	-93.2	187.8	179.5	175.5	3.99	45.029			
1,100.0	1,095.8	1,060.2	1,049.2	2.4	2.9	-68.76	-105.6	209.1	199.1	194.7	4.46	44.625			
1,200.0	1,195.2	1,158.2	1,144.1	2.7	3.4	-68.96	-118.1	230.4	218.8	213.8	4.94	44.262			
1,300.0	1,294.6	1,256.3	1,239.0	3.0	3.8	-69.14	-130.6	251.8	238.4	233.0	5.43	43.941			
1,400.0	1,394.0	1,354.3	1,333.9	3.2	4.3	-69.28	-143.1	273.1	258.1	252.1	5.91	43.657			
1,500.0	1,493.4	1,452.4	1,428.7	3.5	4.8	-69.41	-155.6	294.5	277.7	271.3	6.40	43.404			
1,600.0	1,592.8	1,550.4	1,523.6	3.7	5.2	-69.52	-168.2	315.8	297.3	290.4	6.89	43.179			
1,700.0	1,692.2	1,648.5	1,618.5	4.0	5.7	-69.62	-180.7	337.2	317.0	309.6	7.38	42.976			
1,800.0	1,791.6	1,746.5	1,713.4	4.2	6.2	-69.70	-193.2	358.5	336.6	328.8	7.87	42.794			
1,900.0	1,891.0	1,844.6	1,808.2	4.5	6.6	-69.78	-205.7	379.9	356.3	347.9	8.36	42.630			
2,000.0	1,990.4	1,942.6	1,903.1	4.8	7.1	-69.84	-218.2	401.2	375.9	367.1	8.85	42.480			
2,100.0	2,089.8	2,040.7	1,998.0	5.0	7.6	-69.90	-230.7	422.6	395.5	386.2	9.34	42.344			
2,200.0	2,189.2	2,138.8	2,092.9	5.3	8.0	-69.96	-243.2	443.9	415.2	405.4	9.83	42.220			
2,300.0	2,288.6	2,236.8	2,187.8	5.5	8.5	-70.01	-255.7	465.3	434.8	424.5	10.33	42.105			
2,400.0	2,388.0	2,334.9	2,282.6	5.8	9.0	-70.05	-268.3	486.6	454.5	443.7	10.82	42.000			
2,500.0	2,487.4	2,432.9	2,377.5	6.0	9.5	-70.10	-280.8	508.0	474.1	462.8	11.31	41.903			
2,600.0	2,586.8	2,531.0	2,472.4	6.3	9.9	-70.13	-293.3	529.3	493.8	482.0	11.81	41.812			
2,700.0	2,686.2	2,629.0	2,567.3	6.6	10.4	-70.17	-305.8	550.7	513.4	501.1	12.30	41.729			
2,800.0	2,785.6	2,727.1	2,662.1	6.8	10.9	-70.20	-318.3	572.0	533.1	520.3	12.80	41.651			
2,900.0	2,885.0	2,825.1	2,757.0	7.1	11.3	-70.23	-330.8	593.4	552.7	539.4	13.29	41.578			
3,000.0	2,984.4	2,923.2	2,851.9	7.3	11.8	-70.26	-343.3	614.7	572.4	558.6	13.79	41.510			
3,100.0	3,083.8	3,021.2	2,946.8	7.6	12.3	-70.29	-355.8	636.1	592.0	577.7	14.28	41.446			
3,200.0	3,183.2	3,119.3	3,041.6	7.9	12.8	-70.31	-368.4	657.4	611.6	596.9	14.78	41.386			
3,300.0	3,282.6	3,217.3	3,136.5	8.1	13.2	-70.34	-380.9	678.8	631.3	616.0	15.27	41.330			
3,400.0	3,382.0	3,315.4	3,231.4	8.4	13.7	-70.36	-393.4	700.1	650.9	635.2	15.77	41.277			
3,500.0	3,481.4	3,413.4	3,326.3	8.6	14.2	-70.38	-405.9	721.5	670.6	654.3	16.27	41.227			
3,600.0	3,580.8	3,511.5	3,421.1	8.9	14.7	-70.40	-418.4	742.8	690.2	673.5	16.76	41.179			
3,700.0	3,680.2	3,609.5	3,516.0	9.2	15.1	-70.42	-430.9	764.2	709.9	692.6	17.26	41.135			
3,800.0	3,779.6	3,707.6	3,610.9	9.4	15.6	-70.44	-443.4	785.5	729.5	711.8	17.75	41.092			
3,900.0	3,879.0	3,805.6	3,705.8	9.7	16.1	-70.45	-455.9	806.9	749.2	730.9	18.25	41.052			
4,000.0	3,978.4	3,903.7	3,800.7	9.9	16.5	-70.47	-468.4	828.2	768.8	750.1	18.75	41.013			
4,100.0	4,077.8	4,001.7	3,895.5	10.2	17.0	-70.48	-481.0	849.6	788.5	769.2	19.24	40.977			
4,200.0	4,177.2	4,099.8	3,990.4	10.4	17.5	-70.50	-493.5	870.9	808.1	788.4	19.74	40.942			
4,300.0	4,276.6	4,197.8	4,085.3	10.7	18.0	-70.51	-506.0	892.3	827.8	807.5	20.23	40.908			
4,400.0	4,376.0	4,295.9	4,180.2	11.0	18.4	-70.52	-518.5	913.6	847.4	826.7	20.73	40.877			
4,500.0	4,475.4	4,393.9	4,275.0	11.2	18.9	-70.54	-531.0	935.0	867.1	845.8	21.23	40.846			
4,600.0	4,574.8	4,492.0	4,369.9	11.5	19.4	-70.55	-543.5	956.3	886.7	865.0	21.72	40.817			
4,700.0	4,674.2	4,590.0	4,464.8	11.7	19.9	-70.56	-556.0	977.7	906.3	884.1	22.22	40.789			
4,800.0	4,773.6	4,688.1	4,559.7	12.0	20.3	-70.57	-568.5	999.0	926.0	903.3	22.72	40.763			
4,900.0	4,873.0	4,786.1	4,654.5	12.3	20.8	-70.58	-581.1	1,020.4	945.6	922.4	23.21	40.737			
5,000.0	4,972.4	4,884.2	4,749.4	12.5	21.3	-70.59	-593.6	1,041.7	965.3	941.6	23.71	40.712			

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 LR05BDR 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:	LR05BDR 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													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,100.0	5,071.8	4,982.2	4,844.3	12.8	21.8	-70.60	-606.1	1,063.1	984.9	960.7	24.21	40.689			
5,200.0	5,171.2	5,080.2	4,939.1	13.0	22.2	-70.77	-618.6	1,084.4	1,004.7	980.0	24.73	40.634 SF			
5,300.0	5,270.9	5,178.0	5,033.7	13.2	22.7	-71.00	-631.1	1,105.7	1,025.5	1,000.3	25.20	40.691			
5,400.0	5,370.9	5,275.4	5,128.0	13.4	23.2	-71.07	-643.5	1,126.9	1,047.4	1,021.8	25.60	40.913			
5,500.0	5,470.8	5,372.3	5,221.7	13.5	23.6	-143.02	-655.8	1,148.0	1,070.4	1,044.5	25.90	41.334			
5,600.0	5,570.8	5,469.0	5,315.3	13.6	24.1	-142.47	-668.2	1,169.1	1,094.0	1,067.9	26.11	41.898			
5,700.0	5,670.8	5,565.7	5,408.8	13.7	24.6	-141.99	-680.5	1,190.1	1,117.9	1,091.6	26.34	42.434			
5,800.0	5,770.8	5,662.3	5,502.4	13.9	25.0	-141.52	-692.9	1,211.2	1,141.8	1,115.3	26.58	42.957			
5,900.0	5,870.8	5,759.0	5,595.9	14.0	25.5	-141.08	-705.2	1,232.2	1,165.9	1,139.0	26.82	43.469			
6,000.0	5,970.8	5,855.7	5,689.5	14.1	26.0	-140.66	-717.5	1,253.3	1,190.0	1,162.9	27.06	43.969			
6,100.0	6,070.8	5,952.4	5,783.1	14.3	26.4	-140.25	-729.9	1,274.3	1,214.1	1,186.8	27.31	44.459			
6,200.0	6,170.8	6,049.1	5,876.6	14.4	26.9	-139.86	-742.2	1,295.4	1,238.3	1,210.7	27.56	44.937			
6,300.0	6,270.8	6,145.8	5,970.2	14.5	27.4	-139.48	-754.5	1,316.4	1,262.5	1,234.7	27.81	45.405			
6,400.0	6,370.8	6,242.4	6,063.7	14.7	27.8	-139.11	-766.9	1,337.5	1,286.8	1,258.8	28.06	45.863			
6,500.0	6,470.8	6,339.1	6,157.3	14.8	28.3	-138.76	-779.2	1,358.5	1,311.2	1,282.9	28.31	46.310			
6,600.0	6,570.8	6,435.8	6,250.8	14.9	28.8	-138.43	-791.6	1,379.6	1,335.6	1,307.0	28.57	46.747			
6,700.0	6,670.8	6,532.5	6,344.4	15.1	29.2	-138.10	-803.9	1,400.6	1,360.0	1,331.2	28.83	47.174			
6,800.0	6,770.8	6,629.2	6,437.9	15.2	29.7	-137.79	-816.2	1,421.7	1,384.5	1,355.4	29.09	47.591			

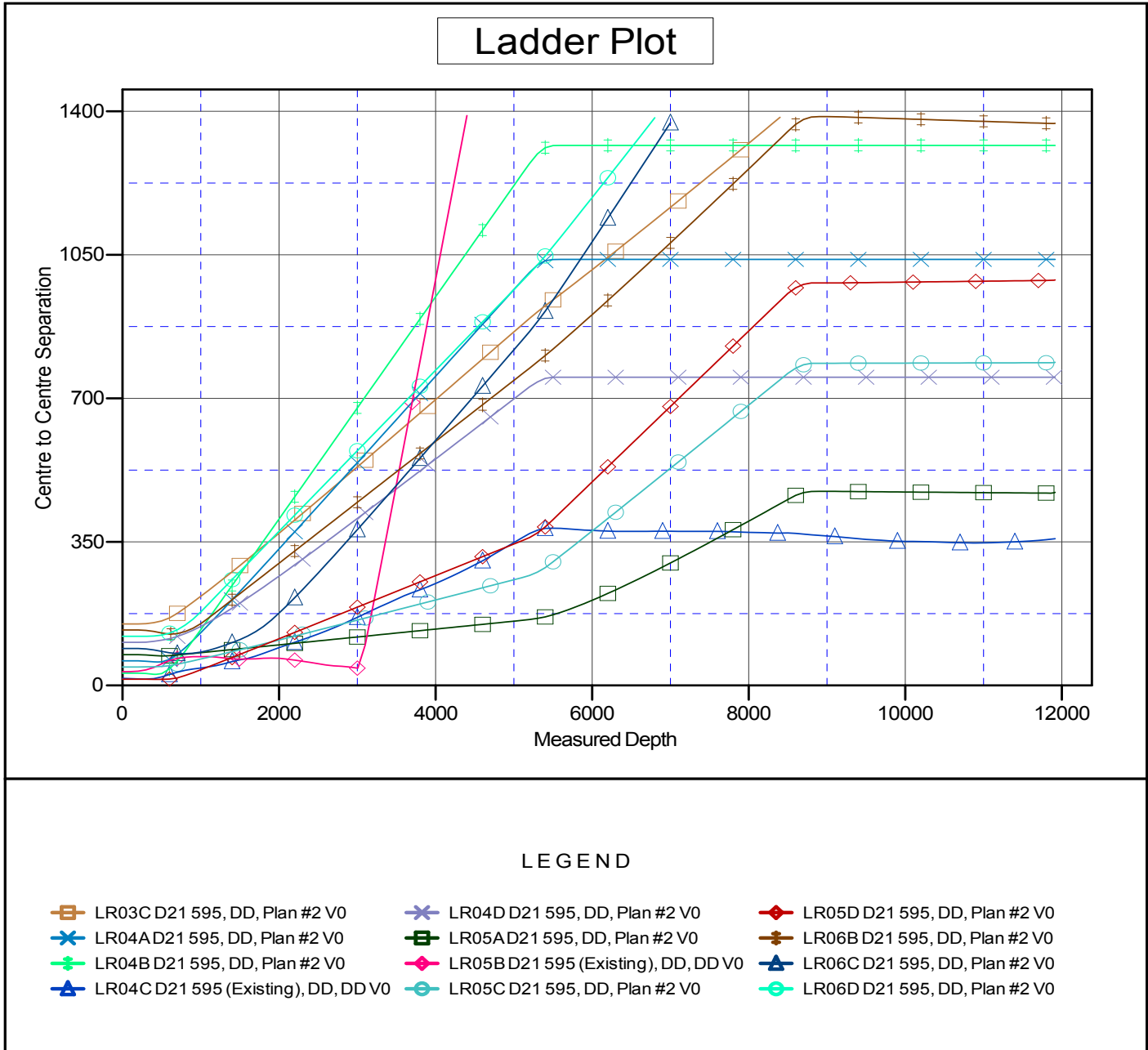
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company: Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference: Well LR05BDR D21-595	Well LR05BDR D21-595
Project: Garfield County	TVD Reference: KBE @ 8278.0ft (Original Well Elev)	Reference Well: LR05BDR D21-595
Reference Site: D21 595 Pad	MD Reference: KBE @ 8278.0ft (Original Well Elev)	Well Error: 0.0ft
Site Error: 0.0ft	North Reference: True	Reference Wellbore: DD
Reference Well: LR05BDR D21-595	Survey Calculation Method: Minimum Curvature	Reference Design: Plan #2
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) Coordinates are relative to: LR05BDR D21-595
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Central Zone
 Central Meridian is -105.500000 ° Grid Convergence at Surface is: -1.62°



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