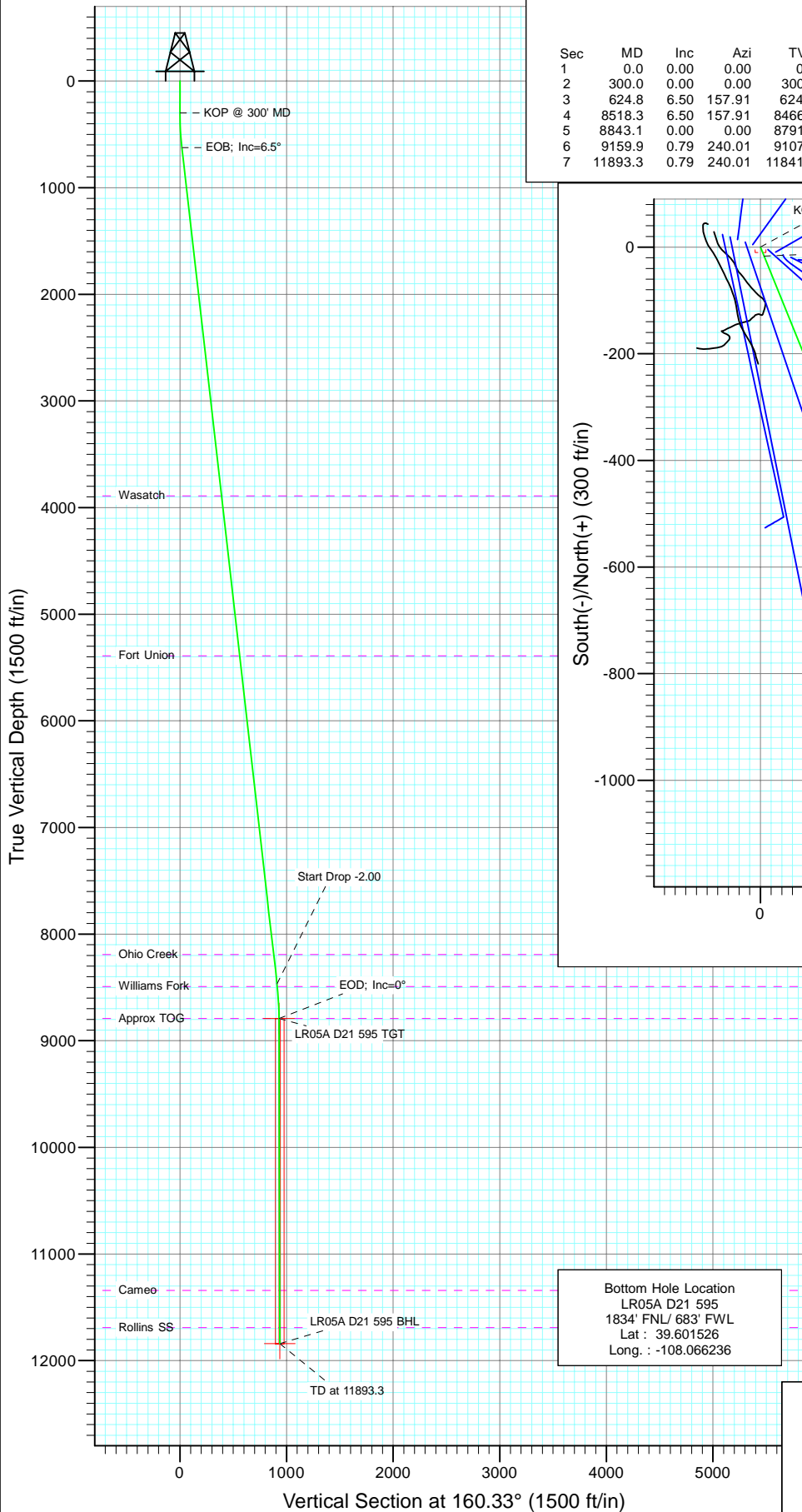
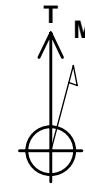
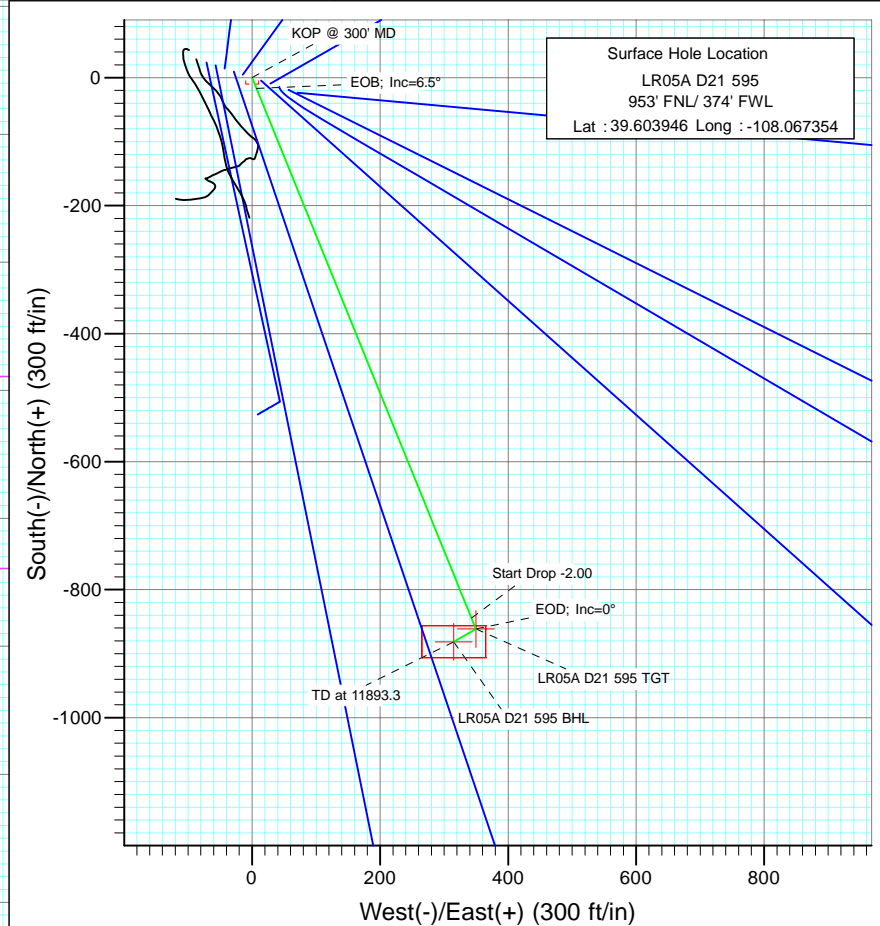


Project: Garfield County
Site: D21 595 Pad
Well: LR05A D21 595
Wellbore: DD
Design: Plan #2



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	624.8	6.50	157.91	624.1	-17.0	6.9	2.00	157.91	18.4	
4	8518.3	6.50	157.91	8466.9	-844.5	342.7	0.00	0.00	910.5	
5	8843.1	0.00	0.00	8791.0	-861.5	349.6	2.00	180.00	928.9	LR05A D21 595 TGT
6	9159.9	0.79	240.01	9107.8	-862.6	347.8	0.25	240.01	929.3	
7	11893.3	0.79	240.01	11841.0	-881.5	315.0	0.00	0.00	936.1	LR05A D21 595 BHL



Azimuths to True North
Magnetic North: 10.44°

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

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3891.0	3912.8	Wasatch
5391.0	5422.5	Fort Union
8191.0	8240.6	Ohio Creek
8491.0	8542.5	Williams Fork
8791.0	8843.1	Approx TOG
11341.0	11393.3	Cameo
11691.0	11743.3	Rollins SS

DESIGN DETAILS: Plan #2

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

Target	Azimuth	Origin	N/S	E/W	From TVD
LR05A D21 595 BHL	160.33	Slot	0.0	0.0	0.0

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Site D21 595 Pad
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:	LR05A 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	LR05A D21 595					
Well Position	+N/-S	-23.7 ft	Northing:	1,655,090.08 ft	Latitude:	39.603946
	+E/-W	71.3 ft	Easting:	2,276,703.50 ft	Longitude:	-108.067354
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,263.0 ft

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

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	-23.7	71.3	160.33

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	-23.7	71.3	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	-23.7	71.3	0.00	0.00	0.00	0.00	
624.8	6.50	157.91	624.1	-40.7	78.2	2.00	2.00	0.00	157.91	
8,518.3	6.50	157.91	8,466.9	-868.1	414.0	0.00	0.00	0.00	0.00	
8,843.1	0.00	0.00	8,791.0	-885.2	420.9	2.00	-2.00	0.00	180.00	LR05A D21 595 TGT
9,159.9	0.79	240.01	9,107.8	-886.3	419.0	0.25	0.25	-37.87	240.01	
11,893.3	0.79	240.01	11,841.0	-905.2	386.3	0.00	0.00	0.00	0.00	LR05A D21 595 BHL

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Site D21 595 Pad
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:	LR05A 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	-23.7	71.3	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	-23.7	71.3	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	-23.7	71.3	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	-23.7	71.3	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	-23.7	71.3	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	-23.7	71.3	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	-23.7	71.3	0.0	0.00	0.00	
210.0	0.00	0.00	210.0	-23.7	71.3	0.0	0.00	0.00	
240.0	0.00	0.00	240.0	-23.7	71.3	0.0	0.00	0.00	
270.0	0.00	0.00	270.0	-23.7	71.3	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	-23.7	71.3	0.0	0.00	0.00	KOP @ 300' MD
330.0	0.60	157.91	330.0	-23.8	71.3	0.2	2.00	2.00	
360.0	1.20	157.91	360.0	-24.3	71.5	0.6	2.00	2.00	
390.0	1.80	157.91	390.0	-25.0	71.8	1.4	2.00	2.00	
420.0	2.40	157.91	420.0	-26.0	72.2	2.5	2.00	2.00	
450.0	3.00	157.91	449.9	-27.3	72.8	3.9	2.00	2.00	
480.0	3.60	157.91	479.9	-28.9	73.4	5.6	2.00	2.00	
510.0	4.20	157.91	509.8	-30.8	74.2	7.7	2.00	2.00	
540.0	4.80	157.91	539.7	-33.0	75.1	10.0	2.00	2.00	
570.0	5.40	157.91	569.6	-35.5	76.1	12.7	2.00	2.00	
600.0	6.00	157.91	599.5	-38.2	77.2	15.7	2.00	2.00	
624.8	6.50	157.91	624.1	-40.7	78.2	18.4	2.00	2.00	EOB; Inc=6.5°
630.0	6.50	157.91	629.3	-41.3	78.4	19.0	0.00	0.00	
660.0	6.50	157.91	659.1	-44.4	79.7	22.4	0.00	0.00	
690.0	6.50	157.91	688.9	-47.6	81.0	25.7	0.00	0.00	
720.0	6.50	157.91	718.7	-50.7	82.3	29.1	0.00	0.00	
750.0	6.50	157.91	748.5	-53.9	83.5	32.5	0.00	0.00	
780.0	6.50	157.91	778.3	-57.0	84.8	35.9	0.00	0.00	
810.0	6.50	157.91	808.1	-60.1	86.1	39.3	0.00	0.00	
840.0	6.50	157.91	837.9	-63.3	87.4	42.7	0.00	0.00	
870.0	6.50	157.91	867.7	-66.4	88.6	46.1	0.00	0.00	
900.0	6.50	157.91	897.5	-69.6	89.9	49.5	0.00	0.00	
930.0	6.50	157.91	927.3	-72.7	91.2	52.9	0.00	0.00	
960.0	6.50	157.91	957.2	-75.9	92.5	56.3	0.00	0.00	
990.0	6.50	157.91	987.0	-79.0	93.7	59.7	0.00	0.00	
1,020.0	6.50	157.91	1,016.8	-82.2	95.0	63.0	0.00	0.00	
1,050.0	6.50	157.91	1,046.6	-85.3	96.3	66.4	0.00	0.00	
1,080.0	6.50	157.91	1,076.4	-88.4	97.6	69.8	0.00	0.00	
1,110.0	6.50	157.91	1,106.2	-91.6	98.8	73.2	0.00	0.00	
1,140.0	6.50	157.91	1,136.0	-94.7	100.1	76.6	0.00	0.00	
1,170.0	6.50	157.91	1,165.8	-97.9	101.4	80.0	0.00	0.00	
1,200.0	6.50	157.91	1,195.6	-101.0	102.7	83.4	0.00	0.00	
1,230.0	6.50	157.91	1,225.4	-104.2	104.0	86.8	0.00	0.00	
1,260.0	6.50	157.91	1,255.2	-107.3	105.2	90.2	0.00	0.00	
1,290.0	6.50	157.91	1,285.0	-110.5	106.5	93.6	0.00	0.00	
1,320.0	6.50	157.91	1,314.8	-113.6	107.8	97.0	0.00	0.00	
1,350.0	6.50	157.91	1,344.6	-116.7	109.1	100.3	0.00	0.00	
1,380.0	6.50	157.91	1,374.5	-119.9	110.3	103.7	0.00	0.00	
1,410.0	6.50	157.91	1,404.3	-123.0	111.6	107.1	0.00	0.00	
1,440.0	6.50	157.91	1,434.1	-126.2	112.9	110.5	0.00	0.00	
1,470.0	6.50	157.91	1,463.9	-129.3	114.2	113.9	0.00	0.00	
1,500.0	6.50	157.91	1,493.7	-132.5	115.4	117.3	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Site D21 595 Pad
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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
1,530.0	6.50	157.91	1,523.5	-135.6	116.7	120.7	0.00	0.00	
1,560.0	6.50	157.91	1,553.3	-138.8	118.0	124.1	0.00	0.00	
1,590.0	6.50	157.91	1,583.1	-141.9	119.3	127.5	0.00	0.00	
1,620.0	6.50	157.91	1,612.9	-145.0	120.5	130.9	0.00	0.00	
1,650.0	6.50	157.91	1,642.7	-148.2	121.8	134.3	0.00	0.00	
1,680.0	6.50	157.91	1,672.5	-151.3	123.1	137.6	0.00	0.00	
1,710.0	6.50	157.91	1,702.3	-154.5	124.4	141.0	0.00	0.00	
1,740.0	6.50	157.91	1,732.1	-157.6	125.6	144.4	0.00	0.00	
1,770.0	6.50	157.91	1,762.0	-160.8	126.9	147.8	0.00	0.00	
1,800.0	6.50	157.91	1,791.8	-163.9	128.2	151.2	0.00	0.00	
1,830.0	6.50	157.91	1,821.6	-167.1	129.5	154.6	0.00	0.00	
1,860.0	6.50	157.91	1,851.4	-170.2	130.8	158.0	0.00	0.00	
1,890.0	6.50	157.91	1,881.2	-173.3	132.0	161.4	0.00	0.00	
1,920.0	6.50	157.91	1,911.0	-176.5	133.3	164.8	0.00	0.00	
1,950.0	6.50	157.91	1,940.8	-179.6	134.6	168.2	0.00	0.00	
1,980.0	6.50	157.91	1,970.6	-182.8	135.9	171.5	0.00	0.00	
2,010.0	6.50	157.91	2,000.4	-185.9	137.1	174.9	0.00	0.00	
2,040.0	6.50	157.91	2,030.2	-189.1	138.4	178.3	0.00	0.00	
2,070.0	6.50	157.91	2,060.0	-192.2	139.7	181.7	0.00	0.00	
2,100.0	6.50	157.91	2,089.8	-195.4	141.0	185.1	0.00	0.00	
2,130.0	6.50	157.91	2,119.6	-198.5	142.2	188.5	0.00	0.00	
2,160.0	6.50	157.91	2,149.4	-201.7	143.5	191.9	0.00	0.00	
2,190.0	6.50	157.91	2,179.3	-204.8	144.8	195.3	0.00	0.00	
2,220.0	6.50	157.91	2,209.1	-207.9	146.1	198.7	0.00	0.00	
2,250.0	6.50	157.91	2,238.9	-211.1	147.3	202.1	0.00	0.00	
2,280.0	6.50	157.91	2,268.7	-214.2	148.6	205.5	0.00	0.00	
2,310.0	6.50	157.91	2,298.5	-217.4	149.9	208.8	0.00	0.00	
2,340.0	6.50	157.91	2,328.3	-220.5	151.2	212.2	0.00	0.00	
2,370.0	6.50	157.91	2,358.1	-223.7	152.5	215.6	0.00	0.00	
2,400.0	6.50	157.91	2,387.9	-226.8	153.7	219.0	0.00	0.00	
2,430.0	6.50	157.91	2,417.7	-230.0	155.0	222.4	0.00	0.00	
2,460.0	6.50	157.91	2,447.5	-233.1	156.3	225.8	0.00	0.00	
2,490.0	6.50	157.91	2,477.3	-236.2	157.6	229.2	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
LR05A D21 595 BHL	0.00	0.00	11,841.0	-905.2	386.3	1,654,200.05	2,276,993.49	39.601526	-108.066236
- hit/miss target									
- Shape									
- plan misses target center by 9390.3ft at 2490.0ft MD (2477.3 TVD, -236.2 N, 157.6 E)									
- Rectangle (sides W50.0 H100.0 D0.0)									
LR05A D21 595 TGT	0.00	0.00	8,791.0	-885.2	420.9	1,654,219.04	2,277,028.67	39.601581	-108.066113
- hit/miss target									
- Shape									
- plan misses target center by 6352.4ft at 2490.0ft MD (2477.3 TVD, -236.2 N, 157.6 E)									
- Point									

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Site D21 595 Pad
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:	LR05A 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	6.50	157.91	2,487.3	-237.3	158.0	230.3	0.00	0.00	
2,600.0	6.50	157.91	2,586.6	-247.8	162.2	241.6	0.00	0.00	
2,700.0	6.50	157.91	2,686.0	-258.3	166.5	252.9	0.00	0.00	
2,800.0	6.50	157.91	2,785.3	-268.7	170.7	264.2	0.00	0.00	
2,900.0	6.50	157.91	2,884.7	-279.2	175.0	275.5	0.00	0.00	
3,000.0	6.50	157.91	2,984.1	-289.7	179.3	286.8	0.00	0.00	
3,100.0	6.50	157.91	3,083.4	-300.2	183.5	298.1	0.00	0.00	
3,200.0	6.50	157.91	3,182.8	-310.7	187.8	309.4	0.00	0.00	
3,300.0	6.50	157.91	3,282.1	-321.1	192.0	320.7	0.00	0.00	
3,400.0	6.50	157.91	3,381.5	-331.6	196.3	332.0	0.00	0.00	
3,500.0	6.50	157.91	3,480.8	-342.1	200.5	343.3	0.00	0.00	
3,600.0	6.50	157.91	3,580.2	-352.6	204.8	354.7	0.00	0.00	
3,700.0	6.50	157.91	3,679.6	-363.1	209.0	366.0	0.00	0.00	
3,800.0	6.50	157.91	3,778.9	-373.6	213.3	377.3	0.00	0.00	
3,900.0	6.50	157.91	3,878.3	-384.0	217.5	388.6	0.00	0.00	
3,912.8	6.50	157.91	3,891.0	-385.4	218.1	390.0	0.00	0.00	Wasatch
4,000.0	6.50	157.91	3,977.6	-394.5	221.8	399.9	0.00	0.00	
4,100.0	6.50	157.91	4,077.0	-405.0	226.1	411.2	0.00	0.00	
4,200.0	6.50	157.91	4,176.4	-415.5	230.3	422.5	0.00	0.00	
4,300.0	6.50	157.91	4,275.7	-426.0	234.6	433.8	0.00	0.00	
4,400.0	6.50	157.91	4,375.1	-436.5	238.8	445.1	0.00	0.00	
4,500.0	6.50	157.91	4,474.4	-446.9	243.1	456.4	0.00	0.00	
4,600.0	6.50	157.91	4,573.8	-457.4	247.3	467.7	0.00	0.00	
4,700.0	6.50	157.91	4,673.1	-467.9	251.6	479.0	0.00	0.00	
4,800.0	6.50	157.91	4,772.5	-478.4	255.8	490.3	0.00	0.00	
4,900.0	6.50	157.91	4,871.9	-488.9	260.1	501.6	0.00	0.00	
5,000.0	6.50	157.91	4,971.2	-499.3	264.3	512.9	0.00	0.00	
5,100.0	6.50	157.91	5,070.6	-509.8	268.6	524.2	0.00	0.00	
5,200.0	6.50	157.91	5,169.9	-520.3	272.9	535.5	0.00	0.00	
5,300.0	6.50	157.91	5,269.3	-530.8	277.1	546.8	0.00	0.00	
5,400.0	6.50	157.91	5,368.7	-541.3	281.4	558.1	0.00	0.00	
5,422.5	6.50	157.91	5,391.0	-543.6	282.3	560.6	0.00	0.00	Fort Union
5,500.0	6.50	157.91	5,468.0	-551.8	285.6	569.4	0.00	0.00	
5,600.0	6.50	157.91	5,567.4	-562.2	289.9	580.7	0.00	0.00	
5,700.0	6.50	157.91	5,666.7	-572.7	294.1	592.0	0.00	0.00	
5,800.0	6.50	157.91	5,766.1	-583.2	298.4	603.3	0.00	0.00	
5,900.0	6.50	157.91	5,865.4	-593.7	302.6	614.6	0.00	0.00	
6,000.0	6.50	157.91	5,964.8	-604.2	306.9	625.9	0.00	0.00	
6,100.0	6.50	157.91	6,064.2	-614.7	311.1	637.2	0.00	0.00	
6,200.0	6.50	157.91	6,163.5	-625.1	315.4	648.5	0.00	0.00	
6,300.0	6.50	157.91	6,262.9	-635.6	319.6	659.8	0.00	0.00	
6,400.0	6.50	157.91	6,362.2	-646.1	323.9	671.1	0.00	0.00	
6,500.0	6.50	157.91	6,461.6	-656.6	328.2	682.4	0.00	0.00	
6,600.0	6.50	157.91	6,560.9	-667.1	332.4	693.7	0.00	0.00	
6,700.0	6.50	157.91	6,660.3	-677.5	336.7	705.0	0.00	0.00	
6,800.0	6.50	157.91	6,759.7	-688.0	340.9	716.3	0.00	0.00	
6,900.0	6.50	157.91	6,859.0	-698.5	345.2	727.6	0.00	0.00	
7,000.0	6.50	157.91	6,958.4	-709.0	349.4	738.9	0.00	0.00	
7,100.0	6.50	157.91	7,057.7	-719.5	353.7	750.2	0.00	0.00	
7,200.0	6.50	157.91	7,157.1	-730.0	357.9	761.5	0.00	0.00	
7,300.0	6.50	157.91	7,256.5	-740.4	362.2	772.8	0.00	0.00	
7,400.0	6.50	157.91	7,355.8	-750.9	366.4	784.2	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Site D21 595 Pad
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:	LR05A 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
7,500.0	6.50	157.91	7,455.2	-761.4	370.7	795.5	0.00	0.00	
7,600.0	6.50	157.91	7,554.5	-771.9	375.0	806.8	0.00	0.00	
7,700.0	6.50	157.91	7,653.9	-782.4	379.2	818.1	0.00	0.00	
7,800.0	6.50	157.91	7,753.2	-792.9	383.5	829.4	0.00	0.00	
7,900.0	6.50	157.91	7,852.6	-803.3	387.7	840.7	0.00	0.00	
8,000.0	6.50	157.91	7,952.0	-813.8	392.0	852.0	0.00	0.00	
8,100.0	6.50	157.91	8,051.3	-824.3	396.2	863.3	0.00	0.00	
8,200.0	6.50	157.91	8,150.7	-834.8	400.5	874.6	0.00	0.00	
8,240.6	6.50	157.91	8,191.0	-839.0	402.2	879.2	0.00	0.00	Ohio Creek
8,300.0	6.50	157.91	8,250.0	-845.3	404.7	885.9	0.00	0.00	
8,400.0	6.50	157.91	8,349.4	-855.7	409.0	897.2	0.00	0.00	
8,500.0	6.50	157.91	8,448.7	-866.2	413.2	908.5	0.00	0.00	
8,518.3	6.50	157.91	8,466.9	-868.1	414.0	910.5	0.00	0.00	Start Drop -2.00
8,542.5	6.01	157.91	8,491.0	-870.6	415.0	913.2	2.00	-2.00	Williams Fork
8,600.0	4.86	157.91	8,548.2	-875.6	417.1	918.6	2.00	-2.00	
8,700.0	2.86	157.91	8,648.0	-881.9	419.6	925.4	2.00	-2.00	
8,800.0	0.86	157.91	8,747.9	-884.9	420.8	928.6	2.00	-2.00	
8,843.1	0.00	0.00	8,791.0	-885.2	420.9	928.9	2.00	-2.00	EOD; Inc=0° - Approx TOG - LR05A D21 595 T
8,900.0	0.14	240.01	8,847.9	-885.2	420.9	928.9	0.25	0.25	
9,000.0	0.39	240.01	8,947.9	-885.5	420.5	929.0	0.25	0.25	
9,100.0	0.64	240.01	9,047.9	-885.9	419.7	929.2	0.25	0.25	
9,159.9	0.79	240.01	9,107.8	-886.3	419.0	929.3	0.25	0.25	
9,200.0	0.79	240.01	9,147.9	-886.6	418.6	929.4	0.00	0.00	
9,300.0	0.79	240.01	9,247.9	-887.2	417.4	929.7	0.00	0.00	
9,400.0	0.79	240.01	9,347.9	-887.9	416.2	929.9	0.00	0.00	
9,500.0	0.79	240.01	9,447.9	-888.6	415.0	930.2	0.00	0.00	
9,600.0	0.79	240.01	9,547.9	-889.3	413.8	930.4	0.00	0.00	
9,700.0	0.79	240.01	9,647.9	-890.0	412.6	930.6	0.00	0.00	
9,800.0	0.79	240.01	9,747.9	-890.7	411.4	930.9	0.00	0.00	
9,900.0	0.79	240.01	9,847.9	-891.4	410.2	931.1	0.00	0.00	
10,000.0	0.79	240.01	9,947.8	-892.1	409.0	931.4	0.00	0.00	
10,100.0	0.79	240.01	10,047.8	-892.8	407.8	931.6	0.00	0.00	
10,200.0	0.79	240.01	10,147.8	-893.5	406.6	931.9	0.00	0.00	
10,300.0	0.79	240.01	10,247.8	-894.2	405.4	932.1	0.00	0.00	
10,400.0	0.79	240.01	10,347.8	-894.8	404.2	932.4	0.00	0.00	
10,500.0	0.79	240.01	10,447.8	-895.5	403.0	932.6	0.00	0.00	
10,600.0	0.79	240.01	10,547.8	-896.2	401.8	932.9	0.00	0.00	
10,700.0	0.79	240.01	10,647.8	-896.9	400.6	933.1	0.00	0.00	
10,800.0	0.79	240.01	10,747.8	-897.6	399.4	933.4	0.00	0.00	
10,900.0	0.79	240.01	10,847.8	-898.3	398.2	933.6	0.00	0.00	
11,000.0	0.79	240.01	10,947.8	-899.0	397.0	933.9	0.00	0.00	
11,100.0	0.79	240.01	11,047.7	-899.7	395.8	934.1	0.00	0.00	
11,200.0	0.79	240.01	11,147.7	-900.4	394.6	934.4	0.00	0.00	
11,300.0	0.79	240.01	11,247.7	-901.1	393.4	934.6	0.00	0.00	
11,393.3	0.79	240.01	11,341.0	-901.7	392.3	934.8	0.00	0.00	Cameo
11,400.0	0.79	240.01	11,347.7	-901.8	392.2	934.9	0.00	0.00	
11,500.0	0.79	240.01	11,447.7	-902.4	391.0	935.1	0.00	0.00	
11,600.0	0.79	240.01	11,547.7	-903.1	389.8	935.4	0.00	0.00	
11,700.0	0.79	240.01	11,647.7	-903.8	388.6	935.6	0.00	0.00	
11,743.3	0.79	240.01	11,691.0	-904.1	388.1	935.7	0.00	0.00	Rollins SS
11,800.0	0.79	240.01	11,747.7	-904.5	387.4	935.9	0.00	0.00	
11,893.3	0.79	240.01	11,841.0	-905.2	386.3	936.1	0.00	0.00	TD at 11893.3 - LR05A D21 595 BHL

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Site D21 595 Pad
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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
LR05A D21 595 BHL	0.00	0.00	11,841.0	-905.2	386.3	1,654,200.05	2,276,993.49	39.601526	-108.066236
- plan hits target center									
- Rectangle (sides W50.0 H100.0 D0.0)									
LR05A D21 595 TGT	0.00	0.00	8,791.0	-885.2	420.9	1,654,219.04	2,277,028.67	39.601581	-108.066113
- plan hits target center									
- Point									

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
3,912.8	3,891.0	Wasatch		0.00	
5,422.5	5,391.0	Fort Union		0.00	
8,240.6	8,191.0	Ohio Creek		0.00	
8,542.5	8,491.0	Williams Fork		0.00	
8,843.1	8,791.0	Approx TOG		0.00	
11,393.3	11,341.0	Cameo		0.00	
11,743.3	11,691.0	Rollins SS		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
300.0	300.0	-23.7	71.3	KOP @ 300' MD
624.8	624.1	-40.7	78.2	EOB; Inc=6.5°
8,518.3	8,466.9	-868.1	414.0	Start Drop -2.00
8,843.1	8,791.0	-885.2	420.9	EOD; Inc=0°
11,893.3	11,841.0	-886.3	419.0	TD at 11893.3

Berry Petroleum Company (NAD 83)

Garfield County

D21 595 Pad

LR05A 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 LR05A 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:	LR05A 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	11,893.3	Plan #2 (DD)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D21 595 Pad						
LR03C D21 595 - DD - Plan #2	200.0	200.0	74.8	74.2	115.906	CC, ES
LR03C D21 595 - DD - Plan #2	11,894.0	11,968.7	1,285.5	1,233.7	24.835	SF
LR04A D21 595 - DD - Plan #2	300.0	300.0	15.1	14.1	15.209	CC, ES
LR04A D21 595 - DD - Plan #2	400.0	400.1	16.0	14.7	11.887	SF
LR04B D21 595 - DD - Plan #2	300.0	300.0	45.1	44.1	45.357	CC, ES
LR04B D21 595 - DD - Plan #2	500.0	498.5	52.4	50.7	30.617	SF
LR04C D21 595 (Existing) - DD - DD	374.8	372.3	89.3	88.0	70.440	CC, ES
LR04C D21 595 (Existing) - DD - DD	2,500.0	2,495.6	166.0	157.2	18.865	SF
LR04D D21 595 - DD - Plan #2	200.0	200.0	30.0	29.3	46.445	CC, ES
LR04D D21 595 - DD - Plan #2	700.0	695.9	54.2	51.7	21.649	SF
LR05B D21 595 (Existing) - DD - DD	0.0	0.0	107.4			
LR05B D21 595 (Existing) - DD - DD	3,005.7	3,013.0	122.5	109.8	9.637	SF
LR05BDR D21-595 - DD - Plan #2	526.6	530.2	72.0	70.1	37.515	CC, ES
LR05BDR D21-595 - DD - Plan #2	5,200.0	5,202.0	160.8	135.4	6.326	SF
LR05C D21 595 - DD - Plan #2	643.1	644.7	25.5	23.0	10.196	CC
LR05C D21 595 - DD - Plan #2	700.0	701.6	25.6	22.8	9.117	ES
LR05C D21 595 - DD - Plan #2	1,100.0	1,101.2	32.6	27.7	6.767	SF
LR05D D21 595 - DD - Plan #2	516.9	519.6	57.3	55.4	30.806	CC
LR05D D21 595 - DD - Plan #2	600.0	603.2	57.5	55.3	25.529	ES
LR05D D21 595 - DD - Plan #2	1,400.0	1,401.6	82.3	75.5	12.230	SF
LR06B D21 595 - DD - Plan #2	642.3	639.3	52.4	50.2	23.198	CC, ES
LR06B D21 595 - DD - Plan #2	900.0	892.0	64.4	61.0	19.008	SF
LR06C D21 595 - DD - Plan #2	535.6	535.3	11.3	9.4	6.089	CC, ES, SF
LR06D D21 595 - DD - Plan #2	200.0	200.0	44.9	44.2	69.461	CC, ES
LR06D D21 595 - DD - Plan #2	800.0	788.8	72.0	69.1	24.397	SF

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR03C D21 595 - DD - Plan #2													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						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	108.44	-23.7	71.0	74.8							
100.0	100.0	100.0	100.0	0.1	0.1	108.44	-23.7	71.0	74.8	74.6	0.30	252.266				
200.0	200.0	200.0	200.0	0.3	0.3	108.44	-23.7	71.0	74.8	74.2	0.65	115.906	CC, ES			
300.0	300.0	297.5	297.5	0.5	0.5	108.16	-23.8	72.7	76.5	75.5	0.99	77.150				
400.0	400.0	394.8	394.6	0.7	0.7	-51.41	-24.3	77.6	80.4	79.0	1.34	60.109				
500.0	499.8	491.7	491.2	0.9	0.9	-55.06	-25.0	85.8	85.6	83.9	1.69	50.591				
600.0	599.5	588.1	586.9	1.1	1.2	-60.14	-26.1	97.1	92.8	90.7	2.07	44.850				
700.0	698.8	684.3	682.0	1.3	1.4	-65.68	-27.4	111.6	102.9	100.5	2.47	41.666				
800.0	798.2	783.2	779.6	1.6	1.8	-70.33	-28.8	127.7	115.1	112.2	2.90	39.730				
900.0	897.5	882.1	877.1	1.8	2.1	-74.09	-30.3	143.8	127.8	124.5	3.34	38.278				
1,000.0	996.9	981.0	974.7	2.1	2.4	-77.15	-31.8	159.9	141.0	137.2	3.80	37.146				
1,100.0	1,096.3	1,079.8	1,072.2	2.3	2.7	-79.69	-33.2	176.0	154.5	150.2	4.26	36.239				
1,200.0	1,195.6	1,178.7	1,169.8	2.6	3.1	-81.82	-34.7	192.1	168.2	163.5	4.74	35.499				
1,300.0	1,295.0	1,277.6	1,267.3	2.8	3.4	-83.62	-36.2	208.1	182.2	177.0	5.22	34.885				
1,400.0	1,394.3	1,376.4	1,364.8	3.1	3.7	-85.17	-37.6	224.2	196.3	190.6	5.71	34.369				
1,500.0	1,493.7	1,475.3	1,462.4	3.4	4.0	-86.51	-39.1	240.3	210.5	204.3	6.20	33.931				
1,600.0	1,593.0	1,574.2	1,559.9	3.6	4.4	-87.68	-40.6	256.4	224.8	218.1	6.70	33.555				
1,700.0	1,692.4	1,673.1	1,657.5	3.9	4.7	-88.71	-42.0	272.5	239.2	232.0	7.20	33.230				
1,800.0	1,791.8	1,771.9	1,755.0	4.1	5.0	-89.62	-43.5	288.6	253.7	246.0	7.70	32.946				
1,900.0	1,891.1	1,870.8	1,852.6	4.4	5.4	-90.43	-45.0	304.6	268.2	260.0	8.20	32.696				
2,000.0	1,990.5	1,969.7	1,950.1	4.7	5.7	-91.16	-46.4	320.7	282.8	274.1	8.71	32.475				
2,100.0	2,089.8	2,068.5	2,047.6	4.9	6.0	-91.82	-47.9	336.8	297.4	288.2	9.21	32.278				
2,200.0	2,189.2	2,167.4	2,145.2	5.2	6.4	-92.42	-49.4	352.9	312.1	302.4	9.72	32.102				
2,300.0	2,288.6	2,266.3	2,242.7	5.5	6.7	-92.96	-50.8	369.0	326.8	316.5	10.23	31.944				
2,400.0	2,387.9	2,365.2	2,340.3	5.7	7.0	-93.46	-52.3	385.1	341.5	330.7	10.74	31.801				
2,500.0	2,487.3	2,464.0	2,437.8	6.0	7.4	-93.92	-53.8	401.1	356.2	344.9	11.25	31.671				
2,600.0	2,586.6	2,562.9	2,535.4	6.2	7.7	-94.34	-55.2	417.2	370.9	359.2	11.76	31.552				
2,700.0	2,686.0	2,661.8	2,632.9	6.5	8.0	-94.72	-56.7	433.3	385.7	373.4	12.27	31.444				
2,800.0	2,785.3	2,760.6	2,730.5	6.8	8.4	-95.08	-58.2	449.4	400.5	387.7	12.78	31.345				
2,900.0	2,884.7	2,859.5	2,828.0	7.0	8.7	-95.42	-59.6	465.5	415.3	402.0	13.29	31.253				
3,000.0	2,984.1	2,958.4	2,925.5	7.3	9.0	-95.73	-61.1	481.6	430.1	416.3	13.80	31.168				
3,100.0	3,083.4	3,057.2	3,023.1	7.6	9.4	-96.02	-62.6	497.6	444.9	430.6	14.31	31.090				
3,200.0	3,182.8	3,156.1	3,120.6	7.8	9.7	-96.29	-64.0	513.7	459.8	444.9	14.82	31.017				
3,300.0	3,282.1	3,255.0	3,218.2	8.1	10.0	-96.54	-65.5	529.8	474.6	459.3	15.33	30.950				
3,400.0	3,381.5	3,353.9	3,315.7	8.3	10.4	-96.78	-67.0	545.9	489.5	473.6	15.85	30.886				
3,500.0	3,480.8	3,452.7	3,413.3	8.6	10.7	-97.01	-68.4	562.0	504.3	488.0	16.36	30.827				
3,600.0	3,580.2	3,551.6	3,510.8	8.9	11.0	-97.22	-69.9	578.1	519.2	502.3	16.87	30.772				
3,700.0	3,679.6	3,650.5	3,608.3	9.1	11.4	-97.42	-71.4	594.1	534.1	516.7	17.38	30.720				
3,800.0	3,778.9	3,749.3	3,705.9	9.4	11.7	-97.61	-72.8	610.2	548.9	531.0	17.90	30.671				
3,900.0	3,878.3	3,848.2	3,803.4	9.7	12.0	-97.79	-74.3	626.3	563.8	545.4	18.41	30.625				
4,000.0	3,977.6	3,947.1	3,901.0	9.9	12.4	-97.96	-75.8	642.4	578.7	559.8	18.92	30.582				
4,100.0	4,077.0	4,046.0	3,998.5	10.2	12.7	-98.12	-77.2	658.5	593.6	574.2	19.44	30.540				
4,200.0	4,176.4	4,144.8	4,096.1	10.5	13.0	-98.27	-78.7	674.6	608.5	588.6	19.95	30.502				
4,300.0	4,275.7	4,243.7	4,193.6	10.7	13.4	-98.42	-80.1	690.6	623.4	602.9	20.46	30.465				
4,400.0	4,375.1	4,342.6	4,291.1	11.0	13.7	-98.56	-81.6	706.7	638.3	617.3	20.98	30.430				
4,500.0	4,474.4	4,441.4	4,388.7	11.2	14.0	-98.69	-83.1	722.8	653.2	631.7	21.49	30.397				
4,600.0	4,573.8	4,540.3	4,486.2	11.5	14.4	-98.82	-84.5	738.9	668.1	646.1	22.00	30.365				
4,700.0	4,673.1	4,639.2	4,583.8	11.8	14.7	-98.94	-86.0	755.0	683.1	660.5	22.52	30.335				
4,800.0	4,772.5	4,738.1	4,681.3	12.0	15.0	-99.05	-87.5	771.1	698.0	674.9	23.03	30.306				
4,900.0	4,871.9	4,836.9	4,778.9	12.3	15.4	-99.17	-88.9	787.1	712.9	689.3	23.54	30.279				
5,000.0	4,971.2	4,935.8	4,876.4	12.6	15.7	-99.27	-90.4	803.2	727.8	703.8	24.06	30.252				
5,100.0	5,070.6	5,034.7	4,973.9	12.8	16.0	-99.38	-91.9	819.3	742.7	718.2	24.57	30.227				

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR03C D21 595 - DD - Plan #2												Offset Site Error:	0.0 ft
Survey Program: O-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,169.9	5,133.5	5,071.5	13.1	16.4	-99.47	-93.3	835.4	757.7	732.6	25.09	30.203	
5,300.0	5,269.3	5,232.4	5,169.0	13.4	16.7	-99.57	-94.8	851.5	772.6	747.0	25.60	30.180	
5,400.0	5,368.7	5,331.3	5,266.6	13.6	17.0	-99.66	-96.3	867.6	787.5	761.4	26.11	30.158	
5,500.0	5,468.0	5,430.2	5,364.1	13.9	17.4	-99.75	-97.7	883.6	802.5	775.8	26.63	30.137	
5,600.0	5,567.4	5,529.0	5,461.7	14.1	17.7	-99.83	-99.2	899.7	817.4	790.3	27.14	30.117	
5,700.0	5,666.7	5,627.9	5,559.2	14.4	18.0	-99.91	-100.7	915.8	832.3	804.7	27.66	30.097	
5,800.0	5,766.1	5,726.8	5,656.7	14.7	18.4	-99.99	-102.1	931.9	847.3	819.1	28.17	30.078	
5,900.0	5,865.4	5,825.6	5,754.3	14.9	18.7	-100.07	-103.6	948.0	862.2	833.5	28.68	30.060	
6,000.0	5,964.8	5,924.5	5,851.8	15.2	19.0	-100.14	-105.1	964.1	877.2	848.0	29.20	30.043	
6,100.0	6,064.2	6,023.4	5,949.4	15.5	19.4	-100.21	-106.5	980.1	892.1	862.4	29.71	30.026	
6,200.0	6,163.5	6,122.3	6,046.9	15.7	19.7	-100.28	-108.0	996.2	907.1	876.8	30.23	30.010	
6,300.0	6,262.9	6,221.1	6,144.5	16.0	20.0	-100.35	-109.5	1,012.3	922.0	891.3	30.74	29.994	
6,400.0	6,362.2	6,320.0	6,242.0	16.3	20.4	-100.41	-110.9	1,028.4	937.0	905.7	31.25	29.979	
6,500.0	6,461.6	6,418.9	6,339.5	16.5	20.7	-100.47	-112.4	1,044.5	951.9	920.1	31.77	29.964	
6,600.0	6,560.9	6,517.7	6,437.1	16.8	21.0	-100.53	-113.9	1,060.6	966.9	934.6	32.28	29.950	
6,700.0	6,660.3	6,616.6	6,534.6	17.0	21.4	-100.59	-115.3	1,076.6	981.8	949.0	32.80	29.936	
6,800.0	6,759.7	6,715.5	6,632.2	17.3	21.7	-100.65	-116.8	1,092.7	996.8	963.5	33.31	29.923	
6,900.0	6,859.0	6,814.3	6,729.7	17.6	22.0	-100.70	-118.3	1,108.8	1,011.7	977.9	33.83	29.910	
7,000.0	6,958.4	6,913.2	6,827.3	17.8	22.4	-100.76	-119.7	1,124.9	1,026.7	992.3	34.34	29.898	
7,100.0	7,057.7	7,012.1	6,924.8	18.1	22.7	-100.81	-121.2	1,141.0	1,041.6	1,006.8	34.85	29.886	
7,200.0	7,157.1	7,111.0	7,022.4	18.4	23.0	-100.86	-122.7	1,157.1	1,056.6	1,021.2	35.37	29.874	
7,300.0	7,256.5	7,209.8	7,119.9	18.6	23.4	-100.91	-124.1	1,173.1	1,071.5	1,035.7	35.88	29.863	
7,400.0	7,355.8	7,308.7	7,217.4	18.9	23.7	-100.96	-125.6	1,189.2	1,086.5	1,050.1	36.40	29.852	
7,500.0	7,455.2	7,407.6	7,315.0	19.1	24.0	-101.00	-127.1	1,205.3	1,101.5	1,064.5	36.91	29.841	
7,600.0	7,554.5	7,506.4	7,412.5	19.4	24.4	-101.05	-128.5	1,221.4	1,116.4	1,079.0	37.43	29.831	
7,700.0	7,653.9	7,605.3	7,510.1	19.7	24.7	-101.09	-130.0	1,237.5	1,131.4	1,093.4	37.94	29.821	
7,800.0	7,753.2	7,704.2	7,607.6	19.9	25.0	-101.13	-131.5	1,253.6	1,146.3	1,107.9	38.45	29.811	
7,900.0	7,852.6	7,803.1	7,705.2	20.2	25.4	-101.18	-132.9	1,269.6	1,161.3	1,122.3	38.97	29.801	
8,000.0	7,952.0	7,901.9	7,802.7	20.5	25.7	-101.22	-134.4	1,285.7	1,176.3	1,136.8	39.48	29.792	
8,100.0	8,051.3	8,000.8	7,900.2	20.7	26.0	-101.26	-135.8	1,301.8	1,191.2	1,151.2	40.00	29.783	
8,200.0	8,150.7	8,099.7	7,997.8	21.0	26.4	-101.29	-137.3	1,317.9	1,206.2	1,165.7	40.51	29.774	
8,300.0	8,250.0	8,198.5	8,095.3	21.3	26.7	-101.33	-138.8	1,334.0	1,221.1	1,180.1	41.03	29.765	
8,400.0	8,349.4	8,297.4	8,192.9	21.5	27.0	-101.37	-140.2	1,350.1	1,236.1	1,194.6	41.54	29.757	
8,500.0	8,448.7	8,396.3	8,290.4	21.8	27.4	-101.41	-141.7	1,366.1	1,251.1	1,209.0	42.05	29.749	
8,600.0	8,548.2	8,505.7	8,398.4	22.0	27.7	-101.62	-143.3	1,383.8	1,265.7	1,223.1	42.61	29.705	
8,700.0	8,648.0	8,657.2	8,548.6	22.2	28.1	-101.74	-145.1	1,402.9	1,276.9	1,233.8	43.14	29.599	
8,800.0	8,747.9	8,810.0	8,701.0	22.3	28.4	-101.77	-146.1	1,414.1	1,283.3	1,239.8	43.55	29.467	
8,900.0	8,847.9	8,957.7	8,848.6	22.5	28.5	176.17	-146.4	1,417.3	1,285.1	1,241.2	43.86	29.298	
9,000.0	8,947.9	9,063.6	8,954.6	22.6	28.6	176.17	-146.5	1,417.0	1,285.2	1,241.1	44.11	29.136	
9,100.0	9,047.9	9,169.5	9,060.5	22.7	28.7	176.17	-146.9	1,416.3	1,285.4	1,241.0	44.36	28.975	
9,200.0	9,147.9	9,274.7	9,165.7	22.8	28.8	176.17	-147.6	1,415.2	1,285.5	1,240.9	44.61	28.813	
9,300.0	9,247.9	9,374.7	9,265.7	23.0	28.9	176.17	-148.3	1,414.0	1,285.5	1,240.6	44.87	28.652	
9,400.0	9,347.9	9,474.7	9,365.6	23.1	29.0	176.18	-148.9	1,412.8	1,285.5	1,240.4	45.12	28.492	
9,500.0	9,447.9	9,574.7	9,465.6	23.2	29.1	176.18	-149.6	1,411.6	1,285.5	1,240.1	45.37	28.333	
9,600.0	9,547.9	9,674.7	9,565.6	23.3	29.2	176.18	-150.3	1,410.4	1,285.5	1,239.9	45.62	28.176	
9,700.0	9,647.9	9,774.7	9,665.6	23.5	29.2	176.18	-151.0	1,409.2	1,285.5	1,239.6	45.88	28.019	
9,800.0	9,747.9	9,874.7	9,765.6	23.6	29.3	176.18	-151.7	1,408.0	1,285.5	1,239.3	46.14	27.863	
9,900.0	9,847.9	9,974.7	9,865.6	23.7	29.4	176.18	-152.4	1,406.8	1,285.5	1,239.1	46.39	27.708	
10,000.0	9,947.8	10,074.7	9,965.6	23.9	29.5	176.18	-153.1	1,405.6	1,285.5	1,238.8	46.65	27.554	
10,100.0	10,047.8	10,174.7	10,065.6	24.0	29.6	176.18	-153.8	1,404.4	1,285.5	1,238.6	46.91	27.401	
10,200.0	10,147.8	10,274.7	10,165.6	24.1	29.7	176.18	-154.5	1,403.2	1,285.5	1,238.3	47.17	27.249	
10,300.0	10,247.8	10,374.7	10,265.6	24.2	29.8	176.18	-155.2	1,402.0	1,285.5	1,238.0	47.44	27.098	

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR03C D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						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	10,347.8	10,474.7	10,365.6	24.4	29.9	176.18	-155.9	1,400.8	1,285.5	1,237.8	47.70	26.949		
10,500.0	10,447.8	10,574.7	10,465.5	24.5	29.9	176.18	-156.6	1,399.6	1,285.5	1,237.5	47.97	26.800		
10,600.0	10,547.8	10,674.7	10,565.5	24.6	30.0	176.18	-157.3	1,398.5	1,285.5	1,237.2	48.23	26.652		
10,700.0	10,647.8	10,774.7	10,665.5	24.8	30.1	176.18	-158.0	1,397.3	1,285.5	1,237.0	48.50	26.506		
10,800.0	10,747.8	10,874.7	10,765.5	24.9	30.2	176.18	-158.7	1,396.1	1,285.5	1,236.7	48.77	26.360		
10,900.0	10,847.8	10,974.7	10,865.5	25.0	30.3	176.18	-159.3	1,394.9	1,285.5	1,236.4	49.03	26.215		
11,000.0	10,947.8	11,074.7	10,965.5	25.2	30.4	176.18	-160.0	1,393.7	1,285.5	1,236.2	49.30	26.072		
11,100.0	11,047.7	11,174.7	11,065.5	25.3	30.5	176.18	-160.7	1,392.5	1,285.5	1,235.9	49.58	25.929		
11,200.0	11,147.7	11,274.7	11,165.5	25.5	30.6	176.18	-161.4	1,391.3	1,285.5	1,235.6	49.85	25.788		
11,300.0	11,247.7	11,374.7	11,265.5	25.6	30.7	176.18	-162.1	1,390.1	1,285.5	1,235.3	50.12	25.647		
11,400.0	11,347.7	11,474.7	11,365.5	25.7	30.8	176.18	-162.8	1,388.9	1,285.5	1,235.1	50.39	25.508		
11,500.0	11,447.7	11,574.7	11,465.4	25.9	30.9	176.18	-163.5	1,387.7	1,285.5	1,234.8	50.67	25.370		
11,600.0	11,547.7	11,674.7	11,565.4	26.0	31.0	176.18	-164.2	1,386.5	1,285.5	1,234.5	50.94	25.233		
11,700.0	11,647.7	11,774.7	11,665.4	26.1	31.1	176.18	-164.9	1,385.3	1,285.5	1,234.2	51.22	25.096		
11,800.0	11,747.7	11,874.7	11,765.4	26.3	31.2	176.18	-165.6	1,384.1	1,285.5	1,234.0	51.50	24.961		
11,894.0	11,841.7	11,968.7	11,859.4	26.4	31.3	176.18	-166.2	1,383.0	1,285.5	1,233.7	51.76	24.835 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A 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 - LR04A D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-71.76	4.7	-14.4	15.1					
100.0	100.0	100.0	100.0	0.1	0.1	-71.76	4.7	-14.4	15.1	14.8	0.30	50.994		
200.0	200.0	200.0	200.0	0.3	0.3	-71.76	4.7	-14.4	15.1	14.5	0.65	23.430		
300.0	300.0	300.0	300.0	0.5	0.5	-71.76	4.7	-14.4	15.1	14.1	0.99	15.209 CC, ES		
400.0	400.0	400.1	400.0	0.7	0.7	141.10	6.2	-13.4	16.0	14.7	1.35	11.887 SF		
500.0	499.8	499.6	499.4	0.9	0.9	164.50	10.4	-10.3	21.2	19.5	1.71	12.429		
600.0	599.5	598.0	597.4	1.1	1.1	-177.31	17.3	-5.3	33.8	31.8	2.07	16.311		
700.0	698.8	695.5	694.3	1.3	1.3	-167.34	26.6	1.4	52.5	50.0	2.45	21.449		
800.0	798.2	793.3	791.4	1.6	1.6	-162.35	36.4	8.4	72.4	69.6	2.83	25.610		
900.0	897.5	891.2	888.5	1.8	1.8	-159.53	46.2	15.5	92.6	89.4	3.21	28.844		
1,000.0	996.9	989.0	985.6	2.1	2.1	-157.71	56.0	22.5	113.0	109.4	3.60	31.404		
1,100.0	1,096.3	1,086.9	1,082.7	2.3	2.3	-156.46	65.9	29.6	133.4	129.4	3.99	33.471		
1,200.0	1,195.6	1,184.7	1,179.8	2.6	2.6	-155.53	75.7	36.6	153.9	149.5	4.38	35.171		
1,300.0	1,295.0	1,282.6	1,276.9	2.8	2.9	-154.83	85.5	43.7	174.4	169.7	4.77	36.591		
1,400.0	1,394.3	1,380.4	1,374.0	3.1	3.1	-154.27	95.3	50.7	194.9	189.8	5.16	37.795		
1,500.0	1,493.7	1,478.3	1,471.1	3.4	3.4	-153.82	105.1	57.8	215.5	209.9	5.55	38.827		
1,600.0	1,593.0	1,576.2	1,568.2	3.6	3.7	-153.44	114.9	64.8	236.0	230.1	5.94	39.722		
1,700.0	1,692.4	1,674.0	1,665.3	3.9	3.9	-153.13	124.7	71.9	256.6	250.3	6.34	40.505		
1,800.0	1,791.8	1,771.9	1,762.4	4.1	4.2	-152.86	134.5	78.9	277.2	270.4	6.73	41.195		
1,900.0	1,891.1	1,869.7	1,859.5	4.4	4.5	-152.63	144.3	86.0	297.8	290.6	7.12	41.808		
2,000.0	1,990.5	1,967.6	1,956.6	4.7	4.8	-152.43	154.1	93.0	318.3	310.8	7.52	42.357		
2,100.0	2,089.8	2,065.4	2,053.7	4.9	5.0	-152.26	163.9	100.1	338.9	331.0	7.91	42.850		
2,200.0	2,189.2	2,163.3	2,150.8	5.2	5.3	-152.10	173.7	107.1	359.5	351.2	8.30	43.296		
2,300.0	2,288.6	2,261.1	2,247.9	5.5	5.6	-151.96	183.5	114.2	380.1	371.4	8.70	43.701		
2,400.0	2,387.9	2,359.0	2,345.0	5.7	5.8	-151.84	193.4	121.2	400.7	391.6	9.09	44.070		
2,500.0	2,487.3	2,456.8	2,442.2	6.0	6.1	-151.72	203.2	128.3	421.3	411.8	9.49	44.409		
2,600.0	2,586.6	2,554.7	2,539.3	6.2	6.4	-151.62	213.0	135.3	441.9	432.0	9.88	44.720		
2,700.0	2,686.0	2,652.6	2,636.4	6.5	6.6	-151.53	222.8	142.4	462.4	452.2	10.27	45.007		
2,800.0	2,785.3	2,750.4	2,733.5	6.8	6.9	-151.44	232.6	149.4	483.0	472.4	10.67	45.273		
2,900.0	2,884.7	2,848.3	2,830.6	7.0	7.2	-151.37	242.4	156.5	503.6	492.6	11.06	45.520		
3,000.0	2,984.1	2,946.1	2,927.7	7.3	7.5	-151.30	252.2	163.5	524.2	512.8	11.46	45.749		
3,100.0	3,083.4	3,044.0	3,024.8	7.6	7.7	-151.23	262.0	170.6	544.8	533.0	11.85	45.963		
3,200.0	3,182.8	3,141.8	3,121.9	7.8	8.0	-151.17	271.8	177.7	565.4	553.2	12.25	46.163		
3,300.0	3,282.1	3,239.7	3,219.0	8.1	8.3	-151.11	281.6	184.7	586.0	573.4	12.64	46.350		
3,400.0	3,381.5	3,337.5	3,316.1	8.3	8.5	-151.06	291.4	191.8	606.6	593.6	13.04	46.526		
3,500.0	3,480.8	3,435.4	3,413.2	8.6	8.8	-151.01	301.2	198.8	627.2	613.8	13.43	46.692		
3,600.0	3,580.2	3,533.2	3,510.3	8.9	9.1	-150.96	311.0	205.9	647.8	634.0	13.83	46.848		
3,700.0	3,679.6	3,631.1	3,607.4	9.1	9.4	-150.92	320.9	212.9	668.4	654.2	14.22	46.995		
3,800.0	3,778.9	3,728.9	3,704.5	9.4	9.6	-150.87	330.7	220.0	689.0	674.4	14.62	47.135		
3,900.0	3,878.3	3,826.8	3,801.6	9.7	9.9	-150.84	340.5	227.0	709.6	694.6	15.01	47.267		
4,000.0	3,977.6	3,924.7	3,898.7	9.9	10.2	-150.80	350.3	234.1	730.2	714.8	15.41	47.392		
4,100.0	4,077.0	4,022.5	3,995.8	10.2	10.4	-150.76	360.1	241.1	750.8	735.0	15.80	47.510		
4,200.0	4,176.4	4,120.4	4,093.0	10.5	10.7	-150.73	369.9	248.2	771.4	755.2	16.20	47.623		
4,300.0	4,275.7	4,218.2	4,190.1	10.7	11.0	-150.70	379.7	255.2	792.0	775.4	16.59	47.731		
4,400.0	4,375.1	4,316.1	4,287.2	11.0	11.3	-150.67	389.5	262.3	812.6	795.6	16.99	47.833		
4,500.0	4,474.4	4,413.9	4,384.3	11.2	11.5	-150.64	399.3	269.3	833.2	815.8	17.38	47.931		
4,600.0	4,573.8	4,511.8	4,481.4	11.5	11.8	-150.62	409.1	276.4	853.8	836.0	17.78	48.025		
4,700.0	4,673.1	4,609.6	4,578.5	11.8	12.1	-150.59	418.9	283.4	874.4	856.2	18.17	48.114		
4,800.0	4,772.5	4,707.5	4,675.6	12.0	12.3	-150.57	428.7	290.5	895.0	876.5	18.57	48.201		
4,900.0	4,871.9	4,805.3	4,772.7	12.3	12.6	-150.54	438.5	297.5	915.6	896.7	18.96	48.281		
5,000.0	4,971.2	4,903.2	4,869.8	12.6	12.9	-150.52	448.3	304.6	936.2	916.9	19.36	48.360		
5,100.0	5,070.6	5,001.0	4,966.9	12.8	13.2	-150.50	458.2	311.6	956.8	937.1	19.75	48.435		

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 LR05A 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:	LR05A 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 - LR04A D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
5,200.0	5,169.9	5,098.9	5,064.0	13.1	13.4	-150.48	468.0	318.7	977.4	957.3	20.15	48.508		
5,300.0	5,269.3	5,218.4	5,182.7	13.4	13.7	-150.48	479.2	326.8	997.5	976.9	20.58	48.467		
5,400.0	5,368.7	5,361.0	5,324.8	13.6	14.0	-150.65	487.8	332.9	1,013.8	992.8	21.03	48.208		
5,500.0	5,468.0	5,504.2	5,468.1	13.9	14.2	-151.00	490.6	335.0	1,025.8	1,004.4	21.46	47.809		
5,600.0	5,567.4	5,606.3	5,570.2	14.1	14.3	-151.32	490.5	334.8	1,035.6	1,013.8	21.81	47.480		
5,700.0	5,666.7	5,706.8	5,670.6	14.4	14.4	-151.65	490.2	334.3	1,045.2	1,023.1	22.16	47.163		
5,800.0	5,766.1	5,806.1	5,770.0	14.7	14.5	-151.97	489.9	333.7	1,054.8	1,032.3	22.51	46.860		
5,900.0	5,865.4	5,905.5	5,869.3	14.9	14.6	-152.28	489.6	333.2	1,064.5	1,041.6	22.86	46.570		
6,000.0	5,964.8	6,004.9	5,968.7	15.2	14.8	-152.59	489.3	332.6	1,074.2	1,051.0	23.20	46.292		
6,100.0	6,064.2	6,104.2	6,068.0	15.5	14.9	-152.89	489.0	332.1	1,083.9	1,060.3	23.55	46.024		
6,200.0	6,163.5	6,203.6	6,167.4	15.7	15.0	-153.18	488.7	331.6	1,093.6	1,069.7	23.90	45.766		
6,300.0	6,262.9	6,303.0	6,266.8	16.0	15.1	-153.48	488.3	331.0	1,103.4	1,079.1	24.24	45.518		
6,400.0	6,362.2	6,402.3	6,366.1	16.3	15.2	-153.76	488.0	330.5	1,113.2	1,088.6	24.58	45.279		
6,500.0	6,461.6	6,501.7	6,465.5	16.5	15.4	-154.04	487.7	329.9	1,123.0	1,098.1	24.93	45.049		
6,600.0	6,560.9	6,601.1	6,564.9	16.8	15.5	-154.32	487.4	329.4	1,132.9	1,107.6	25.27	44.827		
6,700.0	6,660.3	6,700.4	6,664.2	17.0	15.6	-154.59	487.1	328.9	1,142.7	1,117.1	25.61	44.613		
6,800.0	6,759.7	6,799.8	6,763.6	17.3	15.7	-154.86	486.8	328.3	1,152.6	1,126.7	25.96	44.406		
6,900.0	6,859.0	6,899.2	6,863.0	17.6	15.8	-155.12	486.5	327.8	1,162.6	1,136.3	26.30	44.206		
7,000.0	6,958.4	6,998.5	6,962.3	17.8	16.0	-155.38	486.2	327.2	1,172.5	1,145.9	26.64	44.013		
7,100.0	7,057.7	7,097.9	7,061.7	18.1	16.1	-155.63	485.9	326.7	1,182.5	1,155.5	26.98	43.826		
7,200.0	7,157.1	7,197.3	7,161.0	18.4	16.2	-155.88	485.5	326.2	1,192.5	1,165.2	27.32	43.645		
7,300.0	7,256.5	7,296.6	7,260.4	18.6	16.4	-156.13	485.2	325.6	1,202.5	1,174.8	27.66	43.470		
7,400.0	7,355.8	7,396.0	7,359.8	18.9	16.5	-156.37	484.9	325.1	1,212.5	1,184.5	28.00	43.300		
7,500.0	7,455.2	7,495.3	7,459.1	19.1	16.6	-156.61	484.6	324.6	1,222.6	1,194.2	28.34	43.136		
7,600.0	7,554.5	7,594.7	7,558.5	19.4	16.7	-156.84	484.3	324.0	1,232.7	1,204.0	28.68	42.977		
7,700.0	7,653.9	7,694.1	7,657.9	19.7	16.9	-157.07	484.0	323.5	1,242.8	1,213.8	29.02	42.823		
7,800.0	7,753.2	7,793.4	7,757.2	19.9	17.0	-157.29	483.7	322.9	1,252.9	1,223.5	29.36	42.673		
7,900.0	7,852.6	7,892.8	7,856.6	20.2	17.1	-157.52	483.4	322.4	1,263.0	1,233.3	29.70	42.528		
8,000.0	7,952.0	7,992.2	7,956.0	20.5	17.3	-157.74	483.0	321.9	1,273.2	1,243.1	30.04	42.386		
8,100.0	8,051.3	8,091.5	8,055.3	20.7	17.4	-157.95	482.7	321.3	1,283.4	1,253.0	30.38	42.249		
8,200.0	8,150.7	8,190.9	8,154.7	21.0	17.5	-158.16	482.4	320.8	1,293.6	1,262.8	30.71	42.116		
8,300.0	8,250.0	8,290.3	8,254.1	21.3	17.7	-158.37	482.1	320.2	1,303.8	1,272.7	31.05	41.986		
8,400.0	8,349.4	8,389.6	8,353.4	21.5	17.8	-158.58	481.8	319.7	1,314.0	1,282.6	31.39	41.860		
8,500.0	8,448.7	8,489.0	8,452.8	21.8	18.0	-158.78	481.5	319.2	1,324.2	1,292.5	31.73	41.738		
8,600.0	8,548.2	8,588.5	8,552.3	22.0	18.1	-159.01	481.2	318.6	1,334.4	1,301.3	32.10	41.538		
8,700.0	8,648.0	8,688.3	8,652.0	22.2	18.2	-159.18	480.9	318.1	1,339.4	1,306.9	32.46	41.266		
8,800.0	8,747.9	8,788.2	8,752.0	22.3	18.4	-159.27	480.6	317.5	1,342.1	1,309.4	32.79	40.935		
8,900.0	8,847.9	8,888.2	8,852.0	22.5	18.5	-118.60	480.2	317.0	1,342.2	1,309.1	33.10	40.543		
8,986.9	8,934.9	8,975.1	8,938.9	22.6	18.6	-118.59	480.0	316.5	1,342.1	1,308.7	33.38	40.203		
9,000.0	8,947.9	8,988.2	8,952.0	22.6	18.7	-118.59	479.9	316.4	1,342.1	1,308.7	33.43	40.152		
9,100.0	9,047.9	9,088.2	9,052.0	22.7	18.8	-118.60	479.6	315.9	1,342.2	1,308.5	33.74	39.776		
9,200.0	9,147.9	9,188.2	9,152.0	22.8	18.9	-118.63	479.3	315.4	1,342.6	1,308.5	34.06	39.413		
9,300.0	9,247.9	9,288.2	9,252.0	23.0	19.1	-118.66	479.0	314.8	1,342.9	1,308.5	34.38	39.058		
9,400.0	9,347.9	9,388.2	9,352.0	23.1	19.2	-118.68	478.7	314.3	1,343.3	1,308.6	34.70	38.708		
9,500.0	9,447.9	9,488.2	9,451.9	23.2	19.4	-118.71	478.4	313.7	1,343.6	1,308.6	35.02	38.364		
9,600.0	9,547.9	9,588.2	9,551.9	23.3	19.5	-118.74	478.0	313.2	1,344.0	1,308.7	35.34	38.026		
9,700.0	9,647.9	9,688.2	9,651.9	23.5	19.7	-118.77	477.7	312.6	1,344.4	1,308.7	35.67	37.693		
9,800.0	9,747.9	9,788.2	9,751.9	23.6	19.8	-118.80	477.4	312.1	1,344.7	1,308.7	35.99	37.366		
9,900.0	9,847.9	9,888.2	9,851.9	23.7	19.9	-118.82	477.1	311.6	1,345.1	1,308.8	36.31	37.044		
10,000.0	9,947.8	9,988.2	9,951.9	23.9	20.1	-118.85	476.8	311.0	1,345.5	1,308.8	36.63	36.727		
10,100.0	10,047.8	10,088.2	10,051.9	24.0	20.2	-118.88	476.5	310.5	1,345.8	1,308.9	36.96	36.415		
10,200.0	10,147.8	10,188.2	10,151.9	24.1	20.4	-118.91	476.2	309.9	1,346.2	1,308.9	37.28	36.108		

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 LR05A 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:	LR05A 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 - LR04A D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
10,300.0	10,247.8	10,288.2	10,251.9	24.2	20.5	118.94	475.8	309.4	1,346.5	1,308.9	37.61	35.806		
10,400.0	10,347.8	10,388.2	10,351.9	24.4	20.7	118.97	475.5	308.8	1,346.9	1,309.0	37.93	35.509		
10,500.0	10,447.8	10,488.2	10,451.9	24.5	20.8	118.99	475.2	308.3	1,347.3	1,309.0	38.26	35.217		
10,600.0	10,547.8	10,588.2	10,551.9	24.6	21.0	119.02	474.9	307.8	1,347.6	1,309.1	38.58	34.928		
10,700.0	10,647.8	10,688.2	10,651.9	24.8	21.1	119.05	474.6	307.2	1,348.0	1,309.1	38.91	34.645		
10,800.0	10,747.8	10,788.2	10,751.9	24.9	21.3	119.08	474.3	306.7	1,348.4	1,309.1	39.24	34.366		
10,900.0	10,847.8	10,888.2	10,851.9	25.0	21.4	119.11	474.0	306.1	1,348.7	1,309.2	39.56	34.091		
11,000.0	10,947.8	10,988.2	10,951.9	25.2	21.6	119.13	473.6	305.6	1,349.1	1,309.2	39.89	33.820		
11,100.0	11,047.7	11,088.1	11,051.9	25.3	21.7	119.16	473.3	305.0	1,349.5	1,309.3	40.22	33.553		
11,200.0	11,147.7	11,188.1	11,151.9	25.5	21.9	119.19	473.0	304.5	1,349.8	1,309.3	40.55	33.291		
11,300.0	11,247.7	11,288.1	11,251.9	25.6	22.0	119.22	472.7	304.0	1,350.2	1,309.3	40.88	33.032		
11,400.0	11,347.7	11,388.1	11,351.9	25.7	22.2	119.25	472.4	303.4	1,350.6	1,309.4	41.21	32.777		
11,500.0	11,447.7	11,488.1	11,451.8	25.9	22.3	119.27	472.1	302.9	1,351.0	1,309.4	41.53	32.526		
11,600.0	11,547.7	11,588.1	11,551.8	26.0	22.5	119.30	471.8	302.3	1,351.3	1,309.5	41.86	32.279		
11,700.0	11,647.7	11,688.1	11,651.8	26.1	22.6	119.33	471.5	301.8	1,351.7	1,309.5	42.19	32.035		
11,800.0	11,747.7	11,788.1	11,751.8	26.3	22.8	119.36	471.1	301.3	1,352.1	1,309.5	42.52	31.795		
11,894.0	11,841.7	11,882.1	11,845.8	26.4	22.9	119.38	470.8	300.7	1,352.4	1,309.6	42.84	31.572		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													D21 595 Pad - LR04B D21 595 - DD - Plan #2		Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft) +E/-W (ft)		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor					
0.0	0.0	0.0	0.0	0.0	0.0	-71.65	14.2	-42.8	45.1								
100.0	100.0	100.0	100.0	0.1	0.1	-71.65	14.2	-42.8	45.1	44.8	0.30	152.081					
200.0	200.0	200.0	200.0	0.3	0.3	-71.65	14.2	-42.8	45.1	44.5	0.65	69.875					
300.0	300.0	300.0	300.0	0.5	0.5	-71.65	14.2	-42.8	45.1	44.1	0.99	45.357	CC, ES				
400.0	400.0	399.6	399.6	0.7	0.7	134.13	15.9	-42.6	46.7	45.3	1.35	34.664					
500.0	499.8	498.5	498.3	0.9	0.9	143.61	21.0	-42.0	52.4	50.7	1.71	30.617	SF				
600.0	599.5	596.1	595.5	1.1	1.1	154.99	29.4	-40.9	64.3	62.2	2.08	30.883					
700.0	698.8	691.9	690.7	1.3	1.3	164.78	40.8	-39.5	82.7	80.3	2.45	33.791					
800.0	798.2	786.3	784.0	1.6	1.6	172.02	55.1	-37.7	105.3	102.5	2.81	37.528					
900.0	897.5	882.6	878.9	1.8	1.9	177.15	71.1	-35.6	130.3	127.1	3.16	41.193					
1,000.0	996.9	978.9	973.9	2.1	2.2	-179.37	87.1	-33.6	155.9	152.4	3.52	44.326					
1,100.0	1,096.3	1,075.2	1,068.8	2.3	2.5	-176.88	103.2	-31.6	182.0	178.1	3.87	46.989					
1,200.0	1,195.6	1,171.5	1,163.7	2.6	2.8	-175.01	119.2	-29.5	208.2	204.0	4.23	49.260					
1,300.0	1,295.0	1,267.8	1,258.6	2.8	3.2	-173.56	135.3	-27.5	234.7	230.1	4.58	51.211					
1,400.0	1,394.3	1,364.1	1,353.5	3.1	3.5	-172.40	151.3	-25.5	261.2	256.3	4.94	52.901					
1,500.0	1,493.7	1,460.4	1,448.5	3.4	3.8	-171.45	167.3	-23.4	287.9	282.6	5.29	54.376					
1,600.0	1,593.0	1,556.7	1,543.4	3.6	4.1	-170.67	183.4	-21.4	314.5	308.9	5.65	55.673					
1,700.0	1,692.4	1,653.0	1,638.3	3.9	4.4	-170.01	199.4	-19.4	341.3	335.3	6.01	56.822					
1,800.0	1,791.8	1,749.2	1,733.2	4.1	4.8	-169.44	215.5	-17.3	368.1	361.7	6.36	57.846					
1,900.0	1,891.1	1,845.5	1,828.2	4.4	5.1	-168.95	231.5	-15.3	394.9	388.1	6.72	58.764					
2,000.0	1,990.5	1,941.8	1,923.1	4.7	5.4	-168.53	247.6	-13.3	421.7	414.6	7.08	59.591					
2,100.0	2,089.8	2,038.1	2,018.0	4.9	5.7	-168.15	263.6	-11.2	448.5	441.1	7.43	60.340					
2,200.0	2,189.2	2,134.4	2,112.9	5.2	6.1	-167.82	279.6	-9.2	475.4	467.6	7.79	61.022					
2,300.0	2,288.6	2,230.7	2,207.9	5.5	6.4	-167.52	295.7	-7.2	502.2	494.1	8.15	61.644					
2,400.0	2,387.9	2,327.0	2,302.8	5.7	6.7	-167.25	311.7	-5.1	529.1	520.6	8.50	62.215					
2,500.0	2,487.3	2,423.3	2,397.7	6.0	7.0	-167.01	327.8	-3.1	556.0	547.2	8.86	62.740					
2,600.0	2,586.6	2,519.6	2,492.6	6.2	7.4	-166.79	343.8	-1.1	582.9	573.7	9.22	63.225					
2,700.0	2,686.0	2,615.9	2,587.5	6.5	7.7	-166.59	359.8	1.0	609.8	600.3	9.58	63.674					
2,800.0	2,785.3	2,712.2	2,682.5	6.8	8.0	-166.41	375.9	3.0	636.8	626.8	9.94	64.091					
2,900.0	2,884.7	2,808.4	2,777.4	7.0	8.4	-166.24	391.9	5.0	663.7	653.4	10.29	64.479					
3,000.0	2,984.1	2,904.7	2,872.3	7.3	8.7	-166.08	408.0	7.0	690.6	679.9	10.65	64.841					
3,100.0	3,083.4	3,001.0	2,967.2	7.6	9.0	-165.94	424.0	9.1	717.5	706.5	11.01	65.180					
3,200.0	3,182.8	3,097.3	3,062.2	7.8	9.3	-165.81	440.0	11.1	744.5	733.1	11.37	65.498					
3,300.0	3,282.1	3,193.6	3,157.1	8.1	9.7	-165.68	456.1	13.1	771.4	759.7	11.72	65.796					
3,400.0	3,381.5	3,289.9	3,252.0	8.3	10.0	-165.57	472.1	15.2	798.3	786.3	12.08	66.076					
3,500.0	3,480.8	3,386.2	3,346.9	8.6	10.3	-165.46	488.2	17.2	825.3	812.8	12.44	66.341					
3,600.0	3,580.2	3,482.5	3,441.9	8.9	10.7	-165.36	504.2	19.2	852.2	839.4	12.80	66.591					
3,700.0	3,679.6	3,578.8	3,536.8	9.1	11.0	-165.26	520.3	21.3	879.2	866.0	13.16	66.827					
3,800.0	3,778.9	3,675.1	3,631.7	9.4	11.3	-165.17	536.3	23.3	906.1	892.6	13.51	67.051					
3,900.0	3,878.3	3,771.3	3,726.6	9.7	11.6	-165.09	552.3	25.3	933.1	919.2	13.87	67.263					
4,000.0	3,977.6	3,867.6	3,821.6	9.9	12.0	-165.01	568.4	27.4	960.0	945.8	14.23	67.464					
4,100.0	4,077.0	3,963.9	3,916.5	10.2	12.3	-164.94	584.4	29.4	987.0	972.4	14.59	67.656					
4,200.0	4,176.4	4,060.2	4,011.4	10.5	12.6	-164.86	600.5	31.4	1,013.9	999.0	14.95	67.838					
4,300.0	4,275.7	4,156.5	4,106.3	10.7	12.9	-164.80	616.5	33.5	1,040.9	1,025.6	15.30	68.012					
4,400.0	4,375.1	4,252.8	4,201.2	11.0	13.3	-164.73	632.5	35.5	1,067.9	1,052.2	15.66	68.178					
4,500.0	4,474.4	4,349.1	4,296.2	11.2	13.6	-164.67	648.6	37.5	1,094.8	1,078.8	16.02	68.337					
4,600.0	4,573.8	4,445.4	4,391.1	11.5	13.9	-164.61	664.6	39.6	1,121.8	1,105.4	16.38	68.489					
4,700.0	4,673.1	4,541.7	4,486.0	11.8	14.3	-164.56	680.7	41.6	1,148.7	1,132.0	16.74	68.634					
4,800.0	4,772.5	4,638.0	4,580.9	12.0	14.6	-164.51	696.7	43.6	1,175.7	1,158.6	17.10	68.773					
4,900.0	4,871.9	4,734.3	4,675.9	12.3	14.9	-164.46	712.7	45.7	1,202.7	1,185.2	17.45	68.906					
5,000.0	4,971.2	4,830.5	4,770.8	12.6	15.2	-164.41	728.8	47.7	1,229.6	1,211.8	17.81	69.034					
5,100.0	5,070.6	4,926.8	4,865.7	12.8	15.6	-164.36	744.8	49.7	1,256.6	1,238.4	18.17	69.157					

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04B D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,200.0	5,169.9	5,023.1	4,960.6	13.1	15.9	-164.32	760.9	51.7	1,283.6	1,265.0	18.53	69.276		
5,300.0	5,269.3	5,152.3	5,088.2	13.4	16.3	-164.27	781.5	54.4	1,310.0	1,291.1	18.94	69.152		
5,400.0	5,368.7	5,329.2	5,263.9	13.6	16.7	-164.30	801.1	56.8	1,331.7	1,312.2	19.44	68.513		
5,500.0	5,468.0	5,510.1	5,444.5	13.9	17.0	-164.45	809.9	58.0	1,347.3	1,327.4	19.93	67.611		
5,600.0	5,567.4	5,634.6	5,569.1	14.1	17.1	-164.61	810.3	57.9	1,358.4	1,338.1	20.32	66.855		
5,700.0	5,666.7	5,735.6	5,670.1	14.4	17.2	-164.76	810.1	57.5	1,369.2	1,348.5	20.67	66.240		
5,800.0	5,766.1	5,835.0	5,769.4	14.7	17.3	-164.90	809.8	56.9	1,379.8	1,358.8	21.02	65.652		
5,900.0	5,865.4	5,934.4	5,868.8	14.9	17.4	-165.05	809.5	56.4	1,390.5	1,369.2	21.36	65.085		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04C D21 595 (Existing) - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 140-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-71.77	28.8	-87.3	92.1					
100.0	100.0	96.5	96.5	0.1	0.2	-71.99	28.4	-87.2	91.7	91.4	0.30	301.785		
200.0	200.0	196.9	196.9	0.3	0.3	-72.67	27.1	-86.8	90.9	90.3	0.65	140.269		
300.0	300.0	297.2	297.2	0.5	0.5	-73.78	25.1	-86.2	89.8	88.8	1.00	89.857		
374.8	374.8	372.3	372.2	0.6	0.6	127.83	23.3	-85.6	89.3	88.0	1.27	70.440 CC, ES		
400.0	400.0	397.3	397.2	0.7	0.7	127.92	22.7	-85.3	89.4	88.0	1.36	65.918		
500.0	499.8	497.4	497.3	0.9	0.9	129.42	20.8	-84.6	91.4	89.7	1.72	53.181		
600.0	599.5	597.7	597.5	1.1	1.1	131.72	17.5	-83.6	95.1	93.0	2.10	45.360		
700.0	698.8	698.4	698.2	1.3	1.2	134.31	13.0	-82.5	100.1	97.6	2.49	40.260		
800.0	798.2	799.9	799.4	1.6	1.5	136.37	7.2	-80.3	104.0	101.1	2.88	36.109		
900.0	897.5	901.6	900.9	1.8	1.7	138.28	0.7	-76.7	106.4	103.1	3.27	32.517		
1,000.0	996.9	1,003.1	1,002.0	2.1	1.9	140.47	-5.9	-71.3	107.2	103.6	3.65	29.382		
1,100.0	1,096.3	1,104.4	1,102.8	2.3	2.1	143.05	-12.5	-64.3	106.9	102.9	4.01	26.631		
1,162.1	1,158.0	1,165.6	1,163.8	2.5	2.3	144.69	-16.5	-59.7	106.4	102.2	4.23	25.144		
1,200.0	1,195.6	1,202.4	1,200.4	2.6	2.3	145.60	-18.9	-57.4	106.7	102.3	4.37	24.431		
1,300.0	1,295.0	1,300.5	1,298.3	2.8	2.5	147.75	-24.6	-52.6	108.8	104.1	4.72	23.065		
1,400.0	1,394.3	1,399.3	1,396.8	3.1	2.7	149.62	-30.0	-49.1	112.4	107.3	5.07	22.164		
1,500.0	1,493.7	1,500.7	1,497.9	3.4	3.0	150.79	-36.7	-46.0	115.8	110.3	5.44	21.282		
1,600.0	1,593.0	1,600.1	1,597.0	3.6	3.2	151.73	-43.9	-42.8	118.6	112.8	5.80	20.463		
1,700.0	1,692.4	1,699.0	1,695.8	3.9	3.4	153.63	-48.8	-38.8	122.3	116.2	6.13	19.955		
1,800.0	1,791.8	1,797.7	1,794.3	4.1	3.6	155.68	-52.9	-34.9	126.9	120.4	6.46	19.652		
1,900.0	1,891.1	1,895.7	1,892.2	4.4	3.7	157.35	-56.4	-32.2	132.8	126.0	6.79	19.565		
2,000.0	1,990.5	1,997.1	1,993.5	4.7	3.9	158.82	-60.2	-29.7	138.9	131.8	7.13	19.491		
2,100.0	2,089.8	2,097.7	2,093.9	4.9	4.2	160.23	-64.5	-26.4	144.1	136.7	7.46	19.313		
2,200.0	2,189.2	2,197.5	2,193.5	5.2	4.4	161.54	-69.0	-22.9	149.2	141.4	7.80	19.129		
2,300.0	2,288.6	2,296.5	2,292.4	5.5	4.5	162.85	-73.1	-19.5	154.6	146.4	8.13	19.008		
2,400.0	2,387.9	2,396.6	2,392.4	5.7	4.7	164.10	-77.0	-16.0	160.2	151.8	8.47	18.926		
2,500.0	2,487.3	2,495.6	2,491.2	6.0	4.9	165.27	-80.8	-12.7	166.0	157.2	8.80	18.865 SF		
2,600.0	2,586.6	2,594.2	2,589.7	6.2	5.1	166.35	-84.1	-9.7	172.6	163.4	9.13	18.891		
2,700.0	2,686.0	2,694.2	2,689.7	6.5	5.3	167.40	-87.1	-6.8	179.4	170.0	9.47	18.942		
2,800.0	2,785.3	2,792.2	2,787.6	6.8	5.5	168.34	-89.7	-4.2	186.9	177.1	9.81	19.051		
2,900.0	2,884.7	2,891.1	2,886.4	7.0	5.7	169.32	-91.8	-1.6	194.8	184.6	10.15	19.199		
3,000.0	2,984.1	2,990.3	2,985.6	7.3	5.8	170.18	-93.5	0.7	203.3	192.8	10.49	19.385		
3,100.0	3,083.4	3,089.3	3,084.5	7.6	6.0	170.97	-95.1	2.8	211.9	201.1	10.83	19.570		
3,200.0	3,182.8	3,188.9	3,184.1	7.8	6.2	171.64	-96.8	4.8	220.6	209.5	11.17	19.753		
3,300.0	3,282.1	3,288.2	3,283.4	8.1	6.4	172.10	-98.7	6.2	229.5	218.0	11.51	19.929		
3,400.0	3,381.5	3,387.5	3,382.7	8.3	6.5	172.40	-100.7	7.0	238.5	226.6	11.86	20.109		
3,500.0	3,480.8	3,487.3	3,482.5	8.6	6.7	172.76	-102.7	8.1	247.5	235.3	12.21	20.274		
3,600.0	3,580.2	3,587.8	3,582.9	8.9	6.9	173.10	-104.7	9.4	256.4	243.8	12.55	20.423		
3,700.0	3,679.6	3,688.4	3,683.4	9.1	7.1	173.00	-108.1	9.2	264.7	251.8	12.90	20.514		
3,800.0	3,778.9	3,787.2	3,782.2	9.4	7.2	172.81	-111.7	8.6	273.1	259.8	13.25	20.606		
3,900.0	3,878.3	3,886.0	3,881.0	9.7	7.4	172.63	-114.9	7.8	281.9	268.3	13.60	20.720		
4,000.0	3,977.6	3,984.6	3,979.5	9.9	7.6	172.51	-117.9	7.1	290.9	276.9	13.95	20.847		
4,100.0	4,077.0	4,082.5	4,077.4	10.2	7.7	172.45	-120.2	6.4	300.4	286.1	14.30	21.004		
4,200.0	4,176.4	4,181.8	4,176.6	10.5	7.9	172.39	-122.2	5.5	310.2	295.6	14.65	21.178		
4,300.0	4,275.7	4,280.5	4,275.3	10.7	8.1	172.42	-124.0	5.0	320.2	305.2	15.00	21.349		
4,400.0	4,375.1	4,378.9	4,373.7	11.0	8.2	172.49	-125.3	4.5	330.4	315.1	15.34	21.535		
4,500.0	4,474.4	4,477.7	4,472.5	11.2	8.4	172.57	-126.4	4.0	341.0	325.3	15.69	21.730		
4,600.0	4,573.8	4,575.5	4,570.3	11.5	8.6	172.62	-127.3	3.3	351.7	335.7	16.04	21.934		
4,700.0	4,673.1	4,672.7	4,667.5	11.8	8.7	172.73	-127.6	2.5	363.2	346.8	16.38	22.171		
4,800.0	4,772.5	4,771.5	4,766.2	12.0	8.9	172.86	-127.4	1.8	374.9	358.2	16.73	22.415		
4,900.0	4,871.9	4,870.9	4,865.7	12.3	9.0	173.00	-127.1	1.1	386.7	369.7	17.07	22.652		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04C D21 595 (Existing) - DD - DD													Offset Site Error: 0.0 ft	
Survey Program: 140-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,000.0	4,971.2	4,970.1	4,964.9	12.6	9.2	173.11	-126.9	0.3	398.5	381.1	17.42	22.878		
5,100.0	5,070.6	5,068.7	5,063.5	12.8	9.4	173.20	-126.7	-0.6	410.4	392.6	17.76	23.101		
5,200.0	5,169.9	5,166.8	5,161.6	13.1	9.5	173.28	-126.2	-1.7	422.5	404.4	18.11	23.331		
5,300.0	5,269.3	5,266.1	5,260.9	13.4	9.7	173.35	-125.7	-2.9	434.8	416.3	18.46	23.556		
5,400.0	5,368.7	5,367.4	5,362.1	13.6	9.8	173.37	-125.5	-4.3	446.9	428.0	18.81	23.757		
5,500.0	5,468.0	5,468.3	5,463.0	13.9	10.0	173.29	-126.2	-6.2	458.4	439.2	19.16	23.920		
5,600.0	5,567.4	5,566.4	5,561.1	14.1	10.2	173.18	-126.8	-8.4	470.2	450.7	19.51	24.096		
5,700.0	5,666.7	5,673.0	5,667.7	14.4	10.3	173.00	-128.7	-10.7	480.9	461.0	19.88	24.189		
5,800.0	5,766.1	5,770.9	5,765.5	14.7	10.5	172.81	-130.9	-12.8	491.2	471.0	20.23	24.278		
5,900.0	5,865.4	5,868.5	5,863.1	14.9	10.7	172.67	-132.6	-14.9	502.0	481.4	20.58	24.389		
6,000.0	5,964.8	5,968.8	5,963.4	15.2	10.9	172.57	-134.1	-16.8	512.8	491.9	20.94	24.492		
6,100.0	6,064.2	6,068.5	6,063.1	15.5	11.0	172.51	-135.5	-18.2	523.5	502.2	21.29	24.587		
6,200.0	6,163.5	6,167.3	6,161.9	15.7	11.2	172.51	-136.7	-19.2	534.2	512.6	21.64	24.685		
6,300.0	6,262.9	6,265.6	6,260.1	16.0	11.4	172.55	-137.5	-20.0	545.1	523.1	21.99	24.790		
6,400.0	6,362.2	6,363.5	6,358.0	16.3	11.5	172.60	-138.0	-20.8	556.2	533.9	22.33	24.905		
6,500.0	6,461.6	6,461.5	6,456.0	16.5	11.7	172.63	-138.5	-21.9	567.6	544.9	22.68	25.026		
6,600.0	6,560.9	6,559.6	6,554.1	16.8	11.9	172.61	-138.9	-23.5	579.2	556.2	23.03	25.151		
6,700.0	6,660.3	6,657.8	6,652.3	17.0	12.0	172.57	-139.3	-25.4	591.0	567.6	23.38	25.280		
6,800.0	6,759.7	6,757.7	6,752.2	17.3	12.2	172.54	-139.6	-27.2	602.9	579.2	23.73	25.406		
6,900.0	6,859.0	6,857.7	6,852.1	17.6	12.4	172.50	-140.1	-29.1	614.6	590.5	24.08	25.520		
7,000.0	6,958.4	6,958.1	6,952.5	17.8	12.5	172.45	-140.8	-31.1	626.2	601.8	24.44	25.625		
7,100.0	7,057.7	7,056.7	7,051.1	18.1	12.7	172.38	-141.6	-33.2	637.8	613.0	24.79	25.726		
7,200.0	7,157.1	7,155.0	7,149.3	18.4	12.9	172.29	-142.4	-35.6	649.5	624.3	25.14	25.831		
7,300.0	7,256.5	7,252.6	7,246.9	18.6	13.0	172.19	-143.1	-38.2	661.4	635.9	25.50	25.941		
7,400.0	7,355.8	7,353.0	7,347.3	18.9	13.2	172.09	-143.7	-40.9	673.4	647.5	25.85	26.045		
7,500.0	7,455.2	7,451.9	7,446.1	19.1	13.4	172.00	-144.5	-43.6	685.3	659.1	26.21	26.147		
7,600.0	7,554.5	7,552.7	7,546.9	19.4	13.5	171.89	-145.4	-46.4	697.1	670.6	26.57	26.238		
7,700.0	7,653.9	7,653.9	7,648.1	19.7	13.7	171.78	-146.5	-49.2	708.7	681.8	26.93	26.317		
7,800.0	7,753.2	7,755.5	7,749.6	19.9	13.9	171.68	-147.9	-51.8	720.0	692.7	27.29	26.381		
7,900.0	7,852.6	7,854.1	7,848.1	20.2	14.1	171.58	-149.4	-54.2	731.2	703.5	27.65	26.447		
8,000.0	7,952.0	7,952.0	7,946.0	20.5	14.2	171.46	-150.8	-56.9	742.5	714.5	28.00	26.514		
8,100.0	8,051.3	8,048.8	8,042.8	20.7	14.4	171.35	-152.1	-59.9	754.1	725.8	28.36	26.592		
8,200.0	8,150.7	8,148.7	8,142.5	21.0	14.6	171.19	-153.5	-63.5	766.0	737.3	28.72	26.668		
8,300.0	8,250.0	8,252.0	8,245.7	21.3	14.7	171.00	-155.5	-67.2	777.3	748.2	29.10	26.716		
8,400.0	8,349.4	8,345.8	8,339.5	21.5	14.9	170.88	-157.0	-70.3	788.8	759.4	29.45	26.788		
8,500.0	8,448.7	8,447.6	8,441.3	21.8	15.1	170.83	-157.3	-73.0	801.1	771.3	29.80	26.877		
8,600.0	8,548.2	8,567.0	8,560.6	22.0	15.3	171.00	-158.5	-72.2	809.9	779.7	30.20	26.818		
8,700.0	8,648.0	8,668.4	8,662.0	22.2	15.5	171.16	-159.9	-70.1	814.3	783.7	30.54	26.662		
8,800.0	8,747.9	8,766.9	8,760.5	22.3	15.6	171.27	-161.2	-68.2	815.4	784.5	30.86	26.424		
8,900.0	8,847.9	8,866.4	8,860.0	22.5	15.8	89.27	-162.1	-66.0	813.7	782.5	31.18	26.098		
9,000.0	8,947.9	8,967.9	8,961.4	22.6	16.0	89.40	-163.3	-63.8	811.7	780.1	31.52	25.749		
9,100.0	9,047.9	9,069.2	9,062.7	22.7	16.2	89.58	-164.5	-61.4	809.4	777.5	31.86	25.402		
9,200.0	9,147.9	9,170.2	9,163.6	22.8	16.4	89.76	-165.9	-59.1	807.0	774.8	32.21	25.058		
9,300.0	9,247.9	9,263.8	9,257.2	23.0	16.5	89.88	-167.5	-57.9	804.9	772.4	32.54	24.736		
9,400.0	9,347.9	9,365.9	9,359.3	23.1	16.7	89.92	-169.4	-57.7	803.2	770.3	32.89	24.416		
9,500.0	9,447.9	9,459.0	9,452.4	23.2	16.9	89.95	-171.2	-57.6	801.5	768.2	33.23	24.117		
9,600.0	9,547.9	9,555.4	9,548.8	23.3	17.0	89.96	-172.7	-58.1	800.4	766.9	33.58	23.838		
9,700.0	9,647.9	9,658.1	9,651.5	23.5	17.2	89.92	-174.4	-59.4	799.6	765.7	33.94	23.561		
9,800.0	9,747.9	9,756.3	9,749.7	23.6	17.4	89.88	-176.1	-60.7	798.8	764.5	34.29	23.296		
9,900.0	9,847.9	9,854.5	9,847.8	23.7	17.6	89.85	-177.5	-61.9	798.2	763.5	34.64	23.043		
10,000.0	9,947.8	9,952.7	9,946.0	23.9	17.7	89.84	-178.5	-63.0	797.8	762.8	34.99	22.802		
10,100.0	10,047.8	10,050.9	10,044.2	24.0	17.9	89.85	-179.3	-63.9	797.6	762.3	35.34	22.572		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR04C D21 595 (Existing) - DD - DD												Offset Site Error:	0.0 ft
Survey Program: 140-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
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
10,200.0	10,147.8	10,152.7	10,146.0	24.1	18.1	89.88	-179.9	-64.8	797.5	761.8	35.69	22.346	
10,300.0	10,247.8	10,252.5	10,245.9	24.2	18.2	89.91	-180.7	-65.5	797.2	761.2	36.04	22.120	
10,400.0	10,347.8	10,354.4	10,347.7	24.4	18.4	89.93	-181.5	-66.3	796.9	760.5	36.39	21.895	
10,500.0	10,447.8	10,454.1	10,447.3	24.5	18.6	89.93	-182.6	-67.2	796.4	759.6	36.75	21.672	
10,600.0	10,547.8	10,554.0	10,547.3	24.6	18.8	89.91	-183.8	-68.5	795.9	758.8	37.10	21.454	
10,700.0	10,647.8	10,650.8	10,644.0	24.8	18.9	89.87	-185.0	-70.0	795.7	758.2	37.45	21.247	
10,711.0	10,658.8	10,661.5	10,654.8	24.8	19.0	89.86	-185.1	-70.2	795.7	758.2	37.49	21.225	
10,800.0	10,747.8	10,749.1	10,742.3	24.9	19.1	89.79	-186.1	-72.1	795.8	758.0	37.81	21.049	
10,900.0	10,847.8	10,845.6	10,838.8	25.0	19.3	89.69	-187.2	-74.7	796.2	758.0	38.16	20.865	
11,000.0	10,947.8	10,944.8	10,937.9	25.2	19.4	89.60	-187.9	-77.3	796.9	758.3	38.52	20.689	
11,100.0	11,047.7	11,040.9	11,034.1	25.3	19.6	89.51	-188.4	-79.9	797.8	758.9	38.87	20.526	
11,200.0	11,147.7	11,140.0	11,133.1	25.5	19.8	89.40	-188.8	-83.1	799.1	759.9	39.23	20.371	
11,300.0	11,247.7	11,239.4	11,232.4	25.6	20.0	89.26	-189.3	-86.7	800.4	760.9	39.59	20.219	
11,400.0	11,347.7	11,337.9	11,330.8	25.7	20.1	89.10	-189.9	-90.5	801.9	762.0	39.95	20.074	
11,500.0	11,447.7	11,436.7	11,429.5	25.9	20.3	88.93	-190.4	-94.6	803.6	763.3	40.31	19.934	
11,600.0	11,547.7	11,534.2	11,526.9	26.0	20.5	88.74	-190.9	-99.1	805.5	764.8	40.68	19.803	
11,700.0	11,647.7	11,633.2	11,625.9	26.1	20.6	88.52	-191.3	-103.9	807.6	766.6	41.04	19.677	
11,800.0	11,747.7	11,729.7	11,722.2	26.3	20.8	88.36	-191.3	-108.3	810.0	768.6	41.40	19.564	
11,894.0	11,841.7	11,823.9	11,816.4	26.4	21.0	88.25	-190.7	-112.0	812.4	770.7	41.74	19.464	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A 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									
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	-9.5	28.5	30.0						
100.0	100.0	100.0	100.0	0.1	0.1	108.41	-9.5	28.5	30.0	29.7	0.30	101.087			
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-9.5	28.5	30.0	29.3	0.65	46.445 CC, ES			
300.0	300.0	299.1	299.0	0.5	0.5	105.49	-8.4	30.3	31.5	30.5	1.00	31.533			
400.0	400.0	398.1	397.9	0.7	0.7	-61.82	-5.3	35.7	35.3	34.0	1.35	26.099			
500.0	499.8	497.6	497.1	0.9	0.9	-74.64	-1.7	42.1	39.8	38.1	1.72	23.198			
600.0	599.5	596.9	596.1	1.1	1.1	-88.73	2.0	48.4	45.7	43.6	2.10	21.750			
700.0	698.8	695.9	694.8	1.3	1.3	-101.76	5.6	54.7	54.2	51.7	2.50	21.649 SF			
800.0	798.2	794.9	793.6	1.6	1.5	-111.08	9.2	61.0	64.8	61.8	2.91	22.249			
900.0	897.5	893.8	892.3	1.8	1.7	-117.69	12.9	67.4	76.5	73.2	3.32	23.068			
1,000.0	996.9	992.8	991.0	2.1	2.0	-122.49	16.5	73.7	89.0	85.3	3.72	23.912			
1,100.0	1,096.3	1,091.8	1,089.7	2.3	2.2	-126.10	20.1	80.0	102.0	97.9	4.13	24.709			
1,200.0	1,195.6	1,190.8	1,188.4	2.6	2.4	-128.89	23.8	86.3	115.3	110.8	4.53	25.438			
1,300.0	1,295.0	1,289.7	1,287.1	2.8	2.6	-131.10	27.4	92.6	128.8	123.8	4.93	26.095			
1,400.0	1,394.3	1,388.7	1,385.8	3.1	2.8	-132.89	31.0	99.0	142.4	137.1	5.34	26.684			
1,500.0	1,493.7	1,487.7	1,484.5	3.4	3.0	-134.37	34.6	105.3	156.2	150.4	5.74	27.212			
1,600.0	1,593.0	1,586.7	1,583.2	3.6	3.2	-135.61	38.3	111.6	170.0	163.9	6.14	27.686			
1,700.0	1,692.4	1,685.6	1,681.9	3.9	3.5	-136.66	41.9	117.9	183.9	177.4	6.54	28.114			
1,800.0	1,791.8	1,784.6	1,780.6	4.1	3.7	-137.56	45.5	124.2	197.9	191.0	6.94	28.500			
1,900.0	1,891.1	1,883.6	1,879.3	4.4	3.9	-138.34	49.2	130.5	211.9	204.6	7.34	28.851			
2,000.0	1,990.5	1,982.6	1,978.0	4.7	4.1	-139.03	52.8	136.9	225.9	218.2	7.75	29.170			
2,100.0	2,089.8	2,081.5	2,076.7	4.9	4.3	-139.64	56.4	143.2	240.0	231.9	8.15	29.462			
2,200.0	2,189.2	2,180.5	2,175.5	5.2	4.5	-140.17	60.0	149.5	254.1	245.5	8.55	29.729			
2,300.0	2,288.6	2,279.5	2,274.2	5.5	4.7	-140.66	63.7	155.8	268.2	259.3	8.95	29.975			
2,400.0	2,387.9	2,378.5	2,372.9	5.7	5.0	-141.09	67.3	162.1	282.3	273.0	9.35	30.202			
2,500.0	2,487.3	2,477.4	2,471.6	6.0	5.2	-141.48	70.9	168.5	296.5	286.7	9.75	30.412			
2,600.0	2,586.6	2,576.4	2,570.3	6.2	5.4	-141.84	74.6	174.8	310.6	300.5	10.15	30.607			
2,700.0	2,686.0	2,675.4	2,669.0	6.5	5.6	-142.17	78.2	181.1	324.8	314.2	10.55	30.788			
2,800.0	2,785.3	2,774.4	2,767.7	6.8	5.8	-142.46	81.8	187.4	339.0	328.0	10.95	30.956			
2,900.0	2,884.7	2,873.3	2,866.4	7.0	6.0	-142.74	85.4	193.7	353.1	341.8	11.35	31.114			
3,000.0	2,984.1	2,972.3	2,965.1	7.3	6.2	-142.99	89.1	200.1	367.3	355.6	11.75	31.262			
3,100.0	3,083.4	3,071.3	3,063.8	7.6	6.5	-143.23	92.7	206.4	381.5	369.4	12.15	31.400			
3,200.0	3,182.8	3,170.3	3,162.5	7.8	6.7	-143.44	96.3	212.7	395.7	383.2	12.55	31.531			
3,300.0	3,282.1	3,269.3	3,261.2	8.1	6.9	-143.65	100.0	219.0	409.9	397.0	12.95	31.653			
3,400.0	3,381.5	3,368.2	3,359.9	8.3	7.1	-143.84	103.6	225.3	424.1	410.8	13.35	31.769			
3,500.0	3,480.8	3,467.2	3,458.6	8.6	7.3	-144.01	107.2	231.6	438.4	424.6	13.75	31.878			
3,600.0	3,580.2	3,566.2	3,557.4	8.9	7.5	-144.18	110.9	238.0	452.6	438.4	14.15	31.982			
3,700.0	3,679.6	3,665.2	3,656.1	9.1	7.7	-144.33	114.5	244.3	466.8	452.2	14.55	32.080			
3,800.0	3,778.9	3,764.1	3,754.8	9.4	8.0	-144.48	118.1	250.6	481.0	466.1	14.95	32.173			
3,900.0	3,878.3	3,863.1	3,853.5	9.7	8.2	-144.62	121.7	256.9	495.3	479.9	15.35	32.261			
4,000.0	3,977.6	3,962.1	3,952.2	9.9	8.4	-144.75	125.4	263.2	509.5	493.7	15.75	32.345			
4,100.0	4,077.0	4,061.1	4,050.9	10.2	8.6	-144.87	129.0	269.6	523.7	507.6	16.15	32.425			
4,200.0	4,176.4	4,160.0	4,149.6	10.5	8.8	-144.99	132.6	275.9	538.0	521.4	16.55	32.501			
4,300.0	4,275.7	4,259.0	4,248.3	10.7	9.0	-145.10	136.3	282.2	552.2	535.2	16.95	32.574			
4,400.0	4,375.1	4,358.0	4,347.0	11.0	9.2	-145.21	139.9	288.5	566.4	549.1	17.35	32.644			
4,500.0	4,474.4	4,457.0	4,445.7	11.2	9.5	-145.31	143.5	294.8	580.7	562.9	17.75	32.710			
4,600.0	4,573.8	4,555.9	4,544.4	11.5	9.7	-145.40	147.1	301.1	594.9	576.8	18.15	32.774			
4,700.0	4,673.1	4,654.9	4,643.1	11.8	9.9	-145.49	150.8	307.5	609.2	590.6	18.55	32.835			
4,800.0	4,772.5	4,753.9	4,741.8	12.0	10.1	-145.58	154.4	313.8	623.4	604.5	18.95	32.894			
4,900.0	4,871.9	4,852.9	4,840.5	12.3	10.3	-145.66	158.0	320.1	637.7	618.3	19.35	32.950			
5,000.0	4,971.2	4,951.8	4,939.3	12.6	10.5	-145.74	161.7	326.4	651.9	632.2	19.75	33.004			
5,100.0	5,070.6	5,050.8	5,038.0	12.8	10.8	-145.82	165.3	332.7	666.2	646.0	20.15	33.056			

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 LR05A 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:	LR05A 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				
5,200.0	5,169.9	5,149.8	5,136.7	13.1	11.0	-145.89	168.9	339.1	680.4	659.9	20.55	33.106				
5,300.0	5,269.3	5,248.8	5,235.4	13.4	11.2	-145.96	172.5	345.4	694.7	673.7	20.95	33.154				
5,400.0	5,368.7	5,358.5	5,344.9	13.6	11.4	-146.07	176.3	351.9	708.6	687.2	21.36	33.175				
5,500.0	5,468.0	5,481.9	5,468.2	13.9	11.6	-146.52	177.7	354.4	719.6	697.8	21.75	33.089				
5,600.0	5,567.4	5,583.3	5,569.6	14.1	11.7	-147.03	177.6	354.2	728.9	706.8	22.09	33.003				
5,700.0	5,666.7	5,683.4	5,669.7	14.4	11.9	-147.55	177.3	353.7	738.0	715.6	22.42	32.918				
5,800.0	5,766.1	5,782.8	5,769.1	14.7	12.0	-148.05	177.0	353.1	747.2	724.5	22.75	32.840				
5,900.0	5,865.4	5,882.1	5,868.4	14.9	12.1	-148.54	176.7	352.6	756.5	733.4	23.09	32.767				
6,000.0	5,964.8	5,981.5	5,967.8	15.2	12.3	-149.01	176.4	352.0	765.8	742.3	23.42	32.700				
6,100.0	6,064.2	6,080.9	6,067.2	15.5	12.4	-149.48	176.1	351.5	775.1	751.4	23.75	32.638				
6,200.0	6,163.5	6,180.2	6,166.5	15.7	12.6	-149.93	175.7	351.0	784.5	760.4	24.08	32.580				
6,300.0	6,262.9	6,279.6	6,265.9	16.0	12.7	-150.38	175.4	350.4	794.0	769.5	24.41	32.527				
6,400.0	6,362.2	6,379.0	6,365.3	16.3	12.9	-150.81	175.1	349.9	803.5	778.7	24.74	32.477				
6,500.0	6,461.6	6,478.3	6,464.6	16.5	13.0	-151.23	174.8	349.4	813.0	787.9	25.07	32.431				
6,600.0	6,560.9	6,577.7	6,564.0	16.8	13.1	-151.65	174.5	348.8	822.6	797.2	25.40	32.388				
6,700.0	6,660.3	6,677.1	6,663.4	17.0	13.3	-152.05	174.2	348.3	832.2	806.5	25.73	32.348				
6,800.0	6,759.7	6,776.4	6,762.7	17.3	13.4	-152.45	173.9	347.7	841.9	815.8	26.05	32.312				
6,900.0	6,859.0	6,875.8	6,862.1	17.6	13.6	-152.83	173.6	347.2	851.6	825.2	26.38	32.278				
7,000.0	6,958.4	6,975.2	6,961.4	17.8	13.7	-153.21	173.3	346.7	861.3	834.6	26.71	32.246				
7,100.0	7,057.7	7,074.5	7,060.8	18.1	13.9	-153.58	172.9	346.1	871.1	844.0	27.04	32.217				
7,200.0	7,157.1	7,173.9	7,160.2	18.4	14.0	-153.94	172.6	345.6	880.9	853.5	27.37	32.189				
7,300.0	7,256.5	7,273.3	7,259.5	18.6	14.2	-154.29	172.3	345.0	890.7	863.0	27.69	32.164				
7,400.0	7,355.8	7,372.6	7,358.9	18.9	14.3	-154.64	172.0	344.5	900.6	872.6	28.02	32.141				
7,500.0	7,455.2	7,472.0	7,458.3	19.1	14.5	-154.97	171.7	344.0	910.5	882.2	28.35	32.119				
7,600.0	7,554.5	7,571.4	7,557.6	19.4	14.6	-155.30	171.4	343.4	920.4	891.8	28.68	32.099				
7,700.0	7,653.9	7,670.7	7,657.0	19.7	14.8	-155.63	171.1	342.9	930.4	901.4	29.00	32.081				
7,800.0	7,753.2	7,770.1	7,756.4	19.9	14.9	-155.94	170.8	342.3	940.4	911.1	29.33	32.064				
7,900.0	7,852.6	7,869.5	7,855.7	20.2	15.1	-156.25	170.4	341.8	950.4	920.8	29.66	32.048				
8,000.0	7,952.0	7,968.8	7,955.1	20.5	15.2	-156.56	170.1	341.3	960.5	930.5	29.98	32.033				
8,100.0	8,051.3	8,068.2	8,054.4	20.7	15.4	-156.85	169.8	340.7	970.6	940.3	30.31	32.020				
8,200.0	8,150.7	8,167.6	8,153.8	21.0	15.6	-157.14	169.5	340.2	980.7	950.0	30.64	32.007				
8,300.0	8,250.0	8,266.9	8,253.2	21.3	15.7	-157.43	169.2	339.6	990.8	959.8	30.97	31.996				
8,400.0	8,349.4	8,366.3	8,352.5	21.5	15.9	-157.71	168.9	339.1	1,001.0	969.7	31.29	31.986				
8,500.0	8,448.7	8,465.7	8,451.9	21.8	16.0	-157.98	168.6	338.6	1,011.1	979.5	31.62	31.976				
8,600.0	8,548.2	8,565.1	8,551.4	22.0	16.2	-158.28	168.3	338.0	1,020.2	988.3	31.97	31.910				
8,700.0	8,648.0	8,664.9	8,651.2	22.2	16.3	-158.49	168.0	337.5	1,026.2	993.9	32.31	31.762				
8,800.0	8,747.9	8,764.9	8,751.1	22.3	16.5	-158.61	167.6	336.9	1,028.9	996.3	32.62	31.539				
8,900.0	8,847.9	8,864.9	8,851.1	22.5	16.6	119.26	167.3	336.4	1,028.9	996.0	32.94	31.239				
8,986.8	8,934.8	8,951.7	8,937.9	22.6	16.8	119.25	167.1	335.9	1,028.9	995.7	33.22	30.974				
9,000.0	8,947.9	8,964.9	8,951.1	22.6	16.8	119.25	167.0	335.9	1,028.9	995.6	33.26	30.934				
9,100.0	9,047.9	9,064.9	9,051.1	22.7	17.0	119.26	166.7	335.3	1,029.0	995.4	33.58	30.641				
9,200.0	9,147.9	9,164.9	9,151.1	22.8	17.1	119.29	166.4	334.8	1,029.3	995.4	33.90	30.360				
9,300.0	9,247.9	9,264.9	9,251.1	23.0	17.3	119.33	166.1	334.2	1,029.7	995.5	34.23	30.085				
9,400.0	9,347.9	9,364.8	9,351.1	23.1	17.4	119.37	165.8	333.7	1,030.1	995.5	34.55	29.815				
9,500.0	9,447.9	9,464.8	9,451.1	23.2	17.6	119.40	165.4	333.2	1,030.4	995.6	34.87	29.549				
9,600.0	9,547.9	9,564.8	9,551.1	23.3	17.8	119.44	165.1	332.6	1,030.8	995.6	35.20	29.288				
9,700.0	9,647.9	9,664.8	9,651.1	23.5	17.9	119.48	164.8	332.1	1,031.2	995.7	35.52	29.031				
9,800.0	9,747.9	9,764.8	9,751.1	23.6	18.1	119.51	164.5	331.5	1,031.6	995.7	35.85	28.778				
9,900.0	9,847.9	9,864.8	9,851.0	23.7	18.2	119.55	164.2	331.0	1,031.9	995.8	36.17	28.530				
10,000.0	9,947.8	9,964.8	9,951.0	23.9	18.4	119.59	163.9	330.4	1,032.3	995.8	36.50	28.285				
10,100.0	10,047.8	10,064.8	10,051.0	24.0	18.6	119.62	163.6	329.9	1,032.7	995.9	36.82	28.045				
10,200.0	10,147.8	10,164.8	10,151.0	24.1	18.7	119.66	163.2	329.4	1,033.1	995.9	37.15	27.808				

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 LR05A 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:	LR05A 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		
10,300.0	10,247.8	10,264.8	10,251.0	24.2	18.9	119.70	162.9	328.8	1,033.4	995.9	37.48	27.576		
10,400.0	10,347.8	10,364.8	10,351.0	24.4	19.0	119.73	162.6	328.3	1,033.8	996.0	37.80	27.347		
10,500.0	10,447.8	10,464.8	10,451.0	24.5	19.2	119.77	162.3	327.7	1,034.2	996.0	38.13	27.122		
10,600.0	10,547.8	10,564.8	10,551.0	24.6	19.4	119.80	162.0	327.2	1,034.5	996.1	38.46	26.900		
10,700.0	10,647.8	10,664.8	10,651.0	24.8	19.5	119.84	161.7	326.6	1,034.9	996.1	38.79	26.682		
10,800.0	10,747.8	10,764.8	10,751.0	24.9	19.7	119.88	161.4	326.1	1,035.3	996.2	39.12	26.467		
10,900.0	10,847.8	10,864.8	10,851.0	25.0	19.9	119.91	161.1	325.6	1,035.7	996.2	39.45	26.255		
11,000.0	10,947.8	10,964.8	10,951.0	25.2	20.0	119.95	160.7	325.0	1,036.1	996.3	39.78	26.047		
11,100.0	11,047.7	11,064.8	11,051.0	25.3	20.2	119.99	160.4	324.5	1,036.4	996.3	40.11	25.842		
11,200.0	11,147.7	11,164.8	11,151.0	25.5	20.4	120.02	160.1	323.9	1,036.8	996.4	40.44	25.641		
11,300.0	11,247.7	11,264.8	11,251.0	25.6	20.5	120.06	159.8	323.4	1,037.2	996.4	40.77	25.442		
11,400.0	11,347.7	11,364.8	11,351.0	25.7	20.7	120.09	159.5	322.8	1,037.6	996.5	41.10	25.246		
11,500.0	11,447.7	11,464.8	11,451.0	25.9	20.8	120.13	159.2	322.3	1,037.9	996.5	41.43	25.053		
11,600.0	11,547.7	11,564.8	11,551.0	26.0	21.0	120.17	158.9	321.8	1,038.3	996.6	41.76	24.864		
11,700.0	11,647.7	11,664.8	11,651.0	26.1	21.2	120.20	158.5	321.2	1,038.7	996.6	42.09	24.677		
11,800.0	11,747.7	11,764.8	11,751.0	26.3	21.3	120.24	158.2	320.7	1,039.1	996.7	42.42	24.492		
11,894.0	11,841.7	11,858.8	11,844.9	26.4	21.5	120.27	157.9	320.2	1,039.4	996.7	42.74	24.322		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05B D21 595 (Existing) - DD - DD													Offset Site Error:	0.0 ft
Survey Program: 202-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-66.39	43.0	-98.3	107.4					
100.0	100.0	95.1	95.1	0.1	0.2	-66.38	43.2	-98.7	107.7	107.4	0.31	352.503		
200.0	200.0	194.2	194.2	0.3	0.3	-66.33	43.7	-99.8	108.9	108.3	0.64	169.218		
300.0	300.0	293.9	293.9	0.5	0.5	-66.26	44.6	-101.4	110.8	109.8	0.99	111.667		
400.0	400.0	393.2	393.2	0.7	0.7	136.11	45.0	-103.6	114.3	112.9	1.34	85.260		
500.0	499.8	494.2	494.1	0.9	0.9	136.94	44.2	-106.3	120.2	118.5	1.70	70.712		
600.0	599.5	597.4	597.2	1.1	1.0	138.21	41.4	-107.7	126.7	124.6	2.08	60.989		
700.0	698.8	699.9	699.6	1.3	1.2	139.19	35.5	-107.8	132.6	130.2	2.47	53.675		
800.0	798.2	802.5	801.8	1.6	1.4	139.49	27.2	-106.8	136.6	133.7	2.88	47.441		
900.0	897.5	904.4	903.3	1.8	1.6	139.61	17.9	-104.4	138.9	135.6	3.29	42.190		
1,000.0	996.9	1,005.7	1,004.1	2.1	1.9	139.94	8.5	-100.7	140.0	136.3	3.70	37.829		
1,100.0	1,096.3	1,107.5	1,105.3	2.3	2.1	140.73	-0.4	-95.7	140.3	136.2	4.11	34.160		
1,200.0	1,195.6	1,209.3	1,206.5	2.6	2.3	141.50	-10.1	-89.2	138.8	134.3	4.51	30.800		
1,300.0	1,295.0	1,310.4	1,306.8	2.8	2.6	141.96	-20.8	-82.4	136.6	131.7	4.92	27.786		
1,400.0	1,394.3	1,407.0	1,402.7	3.1	2.8	141.95	-31.7	-76.9	135.0	129.7	5.33	25.352		
1,454.3	1,448.2	1,461.0	1,456.3	3.2	3.0	142.06	-37.2	-74.5	135.0	129.4	5.55	24.338		
1,500.0	1,493.7	1,506.6	1,501.7	3.4	3.1	142.25	-41.6	-72.3	135.0	129.3	5.73	23.561		
1,600.0	1,593.0	1,606.5	1,600.9	3.6	3.3	142.69	-51.1	-67.7	135.1	129.0	6.13	22.040		
1,700.0	1,692.4	1,705.8	1,699.8	3.9	3.5	143.23	-60.2	-63.2	135.6	129.1	6.52	20.785		
1,800.0	1,791.8	1,805.4	1,798.8	4.1	3.8	143.95	-68.7	-58.8	136.5	129.6	6.91	19.762		
1,900.0	1,891.1	1,906.1	1,899.0	4.4	4.0	144.11	-78.5	-55.0	137.2	129.9	7.32	18.745		
2,000.0	1,990.5	2,006.9	1,999.2	4.7	4.3	143.92	-89.3	-51.2	137.6	129.8	7.75	17.746		
2,100.0	2,089.8	2,107.8	2,099.2	4.9	4.6	143.11	-101.9	-47.3	136.8	128.6	8.22	16.645		
2,140.7	2,130.2	2,147.5	2,138.5	5.0	4.7	142.60	-107.2	-46.1	136.7	128.3	8.42	16.232		
2,200.0	2,189.2	2,206.5	2,197.0	5.2	4.9	141.71	-115.1	-44.8	136.9	128.2	8.73	15.688		
2,292.7	2,281.2	2,299.6	2,289.2	5.4	5.1	140.27	-127.9	-42.5	136.9	127.7	9.21	14.859		
2,300.0	2,288.6	2,306.9	2,296.4	5.5	5.2	140.17	-128.8	-42.3	136.9	127.6	9.25	14.798		
2,400.0	2,387.9	2,408.9	2,397.4	5.7	5.4	138.84	-142.3	-39.5	136.9	127.1	9.77	14.013		
2,500.0	2,487.3	2,512.2	2,499.7	6.0	5.8	138.28	-155.8	-32.7	133.7	123.4	10.25	13.044		
2,600.0	2,586.6	2,611.9	2,598.3	6.2	6.0	137.95	-168.6	-25.4	129.8	119.1	10.71	12.128		
2,700.0	2,686.0	2,710.7	2,696.1	6.5	6.3	137.84	-180.6	-18.3	126.5	115.3	11.15	11.345		
2,800.0	2,785.3	2,809.0	2,793.5	6.8	6.6	137.67	-192.1	-12.4	124.4	112.8	11.60	10.720		
2,872.6	2,857.5	2,879.4	2,863.3	7.0	6.8	137.03	-201.0	-9.5	123.8	111.8	11.97	10.340		
2,900.0	2,884.7	2,907.0	2,890.7	7.0	6.9	136.67	-204.5	-8.8	123.9	111.8	12.13	10.219		
3,000.0	2,984.1	3,007.9	2,990.5	7.3	7.2	135.36	-218.2	-4.3	122.5	109.8	12.68	9.659		
3,005.7	2,989.7	3,013.0	2,995.6	7.3	7.2	135.32	-218.8	-4.1	122.5	109.8	12.71	9.637 SF		
3,100.0	3,083.4	3,013.0	2,995.6	7.6	7.2	135.32	-218.8	-4.1	154.6	141.7	12.92	11.964		
3,200.0	3,182.8	3,013.0	2,995.6	7.8	7.2	135.32	-218.8	-4.1	229.7	216.5	13.14	17.475		
3,300.0	3,282.1	3,013.0	2,995.6	8.1	7.2	135.32	-218.8	-4.1	318.8	305.4	13.37	23.849		
3,400.0	3,381.5	3,013.0	2,995.6	8.3	7.2	135.32	-218.8	-4.1	412.9	399.3	13.59	30.383		
3,500.0	3,480.8	3,013.0	2,995.6	8.6	7.2	135.32	-218.8	-4.1	509.2	495.4	13.81	36.870		
3,600.0	3,580.2	3,013.0	2,995.6	8.9	7.2	135.32	-218.8	-4.1	606.8	592.8	14.03	43.235		
3,700.0	3,679.6	3,013.0	2,995.6	9.1	7.2	135.32	-218.8	-4.1	705.0	690.8	14.26	49.448		
3,800.0	3,778.9	3,013.0	2,995.6	9.4	7.2	135.32	-218.8	-4.1	803.7	789.2	14.48	55.501		
3,900.0	3,878.3	3,013.0	2,995.6	9.7	7.2	135.32	-218.8	-4.1	902.6	887.9	14.70	61.390		
4,000.0	3,977.6	3,013.0	2,995.6	9.9	7.2	135.32	-218.8	-4.1	1,001.8	986.9	14.93	67.117		
4,100.0	4,077.0	3,013.0	2,995.6	10.2	7.2	135.32	-218.8	-4.1	1,101.1	1,086.0	15.15	72.685		
4,200.0	4,176.4	3,013.0	2,995.6	10.5	7.2	135.32	-218.8	-4.1	1,200.6	1,185.2	15.37	78.100		
4,300.0	4,275.7	3,013.0	2,995.6	10.7	7.2	135.32	-218.8	-4.1	1,300.1	1,284.5	15.60	83.364		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05BDR D21-595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-71.63	23.7	-71.3	75.1					
100.0	100.0	100.0	100.0	0.1	0.2	-71.63	23.7	-71.3	75.1	74.8	0.32	232.640		
200.0	200.0	200.0	200.0	0.3	0.3	-71.63	23.7	-71.3	75.1	74.4	0.67	111.788		
300.0	300.0	301.3	301.3	0.5	0.5	-72.82	21.9	-70.9	74.2	73.2	1.02	72.436		
400.0	400.0	402.5	402.3	0.7	0.7	126.69	16.7	-69.8	72.8	71.4	1.40	52.161		
500.0	499.8	503.5	502.9	0.9	1.0	123.75	8.0	-67.9	72.0	70.2	1.80	39.986		
526.6	526.3	530.2	529.4	0.9	1.0	122.95	5.1	-67.3	72.0	70.1	1.92	37.515	CC, ES	
600.0	599.5	603.6	602.4	1.1	1.2	121.55	-2.7	-65.6	72.5	70.3	2.24	32.334		
700.0	698.8	703.5	701.8	1.3	1.4	121.06	-13.4	-63.3	74.3	71.6	2.70	27.501		
800.0	798.2	803.5	801.2	1.6	1.7	120.67	-24.1	-60.9	76.2	73.0	3.17	24.007		
900.0	897.5	903.5	900.5	1.8	1.9	120.30	-34.8	-58.6	78.1	74.5	3.65	21.374		
1,000.0	996.9	1,003.5	999.9	2.1	2.2	119.94	-45.5	-56.3	80.0	75.9	4.14	19.328		
1,100.0	1,096.3	1,103.5	1,099.3	2.3	2.5	119.60	-56.2	-54.0	81.9	77.3	4.63	17.696		
1,200.0	1,195.6	1,203.4	1,198.7	2.6	2.7	119.28	-66.9	-51.7	83.8	78.7	5.12	16.367		
1,300.0	1,295.0	1,303.4	1,298.0	2.8	3.0	118.97	-77.6	-49.4	85.7	80.1	5.61	15.265		
1,400.0	1,394.3	1,403.4	1,397.4	3.1	3.2	118.68	-88.3	-47.1	87.6	81.5	6.11	14.336		
1,500.0	1,493.7	1,503.4	1,496.8	3.4	3.5	118.39	-99.0	-44.7	89.5	82.9	6.61	13.544		
1,600.0	1,593.0	1,603.4	1,596.2	3.6	3.7	118.12	-109.7	-42.4	91.4	84.3	7.11	12.860		
1,700.0	1,692.4	1,703.3	1,695.6	3.9	4.0	117.86	-120.4	-40.1	93.3	85.7	7.61	12.265		
1,800.0	1,791.8	1,803.3	1,794.9	4.1	4.3	117.61	-131.1	-37.8	95.2	87.1	8.11	11.741		
1,900.0	1,891.1	1,903.3	1,894.3	4.4	4.5	117.37	-141.8	-35.5	97.1	88.5	8.61	11.278		
2,000.0	1,990.5	2,003.3	1,993.7	4.7	4.8	117.14	-152.6	-33.2	99.0	89.9	9.11	10.865		
2,100.0	2,089.8	2,103.3	2,093.1	4.9	5.0	116.92	-163.3	-30.9	100.9	91.3	9.62	10.494		
2,200.0	2,189.2	2,203.3	2,192.5	5.2	5.3	116.70	-174.0	-28.5	102.8	92.7	10.12	10.159		
2,300.0	2,288.6	2,303.2	2,291.8	5.5	5.5	116.50	-184.7	-26.2	104.8	94.1	10.63	9.856		
2,400.0	2,387.9	2,403.2	2,391.2	5.7	5.8	116.30	-195.4	-23.9	106.7	95.5	11.14	9.580		
2,500.0	2,487.3	2,503.2	2,490.6	6.0	6.1	116.11	-206.1	-21.6	108.6	97.0	11.64	9.328		
2,600.0	2,586.6	2,603.2	2,590.0	6.2	6.3	115.92	-216.8	-19.3	110.5	98.4	12.15	9.096		
2,700.0	2,686.0	2,703.2	2,689.4	6.5	6.6	115.74	-227.5	-17.0	112.4	99.8	12.66	8.883		
2,800.0	2,785.3	2,803.1	2,788.7	6.8	6.8	115.57	-238.2	-14.6	114.4	101.2	13.17	8.686		
2,900.0	2,884.7	2,903.1	2,888.1	7.0	7.1	115.41	-248.9	-12.3	116.3	102.6	13.67	8.504		
3,000.0	2,984.1	3,003.1	2,987.5	7.3	7.3	115.24	-259.6	-10.0	118.2	104.0	14.18	8.334		
3,100.0	3,083.4	3,103.1	3,086.9	7.6	7.6	115.09	-270.3	-7.7	120.1	105.4	14.69	8.176		
3,200.0	3,182.8	3,203.1	3,186.3	7.8	7.9	114.94	-281.0	-5.4	122.1	106.9	15.20	8.029		
3,300.0	3,282.1	3,303.0	3,285.6	8.1	8.1	114.79	-291.7	-3.1	124.0	108.3	15.71	7.891		
3,400.0	3,381.5	3,403.0	3,385.0	8.3	8.4	114.65	-302.4	-0.8	125.9	109.7	16.22	7.761		
3,500.0	3,480.8	3,503.0	3,484.4	8.6	8.6	114.51	-313.1	1.6	127.8	111.1	16.73	7.640		
3,600.0	3,580.2	3,603.0	3,583.8	8.9	8.9	114.38	-323.8	3.9	129.8	112.5	17.24	7.525		
3,700.0	3,679.6	3,703.0	3,683.2	9.1	9.2	114.25	-334.5	6.2	131.7	113.9	17.76	7.417		
3,800.0	3,778.9	3,802.9	3,782.5	9.4	9.4	114.12	-345.2	8.5	133.6	115.4	18.27	7.315		
3,900.0	3,878.3	3,902.9	3,881.9	9.7	9.7	114.00	-355.9	10.8	135.6	116.8	18.78	7.219		
4,000.0	3,977.6	4,002.9	3,981.3	9.9	9.9	113.88	-366.6	13.1	137.5	118.2	19.29	7.127		
4,100.0	4,077.0	4,102.9	4,080.7	10.2	10.2	113.76	-377.3	15.5	139.4	119.6	19.80	7.041		
4,200.0	4,176.4	4,202.9	4,180.1	10.5	10.5	113.65	-388.0	17.8	141.4	121.0	20.31	6.958		
4,300.0	4,275.7	4,302.9	4,279.4	10.7	10.7	113.54	-398.7	20.1	143.3	122.5	20.83	6.880		
4,400.0	4,375.1	4,402.8	4,378.8	11.0	11.0	113.43	-409.4	22.4	145.2	123.9	21.34	6.805		
4,500.0	4,474.4	4,502.8	4,478.2	11.2	11.2	113.33	-420.1	24.7	147.1	125.3	21.85	6.734		
4,600.0	4,573.8	4,602.8	4,577.6	11.5	11.5	113.23	-430.8	27.0	149.1	126.7	22.36	6.666		
4,700.0	4,673.1	4,702.8	4,677.0	11.8	11.7	113.13	-441.5	29.3	151.0	128.1	22.88	6.602		
4,800.0	4,772.5	4,802.8	4,776.3	12.0	12.0	113.03	-452.2	31.7	153.0	129.6	23.39	6.540		
4,900.0	4,871.9	4,902.7	4,875.7	12.3	12.3	112.94	-462.9	34.0	154.9	131.0	23.90	6.480		
5,000.0	4,971.2	5,002.7	4,975.1	12.6	12.5	112.85	-473.6	36.3	156.8	132.4	24.42	6.423		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05BDR D21-595 - DD - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: O-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,070.6	5,102.7	5,074.5	12.8	12.8	112.76	-484.3	38.6	158.8	133.8	24.93	6.369	6.326 SF	
5,200.0	5,169.9	5,202.0	5,173.3	13.1	13.0	112.83	-494.5	40.8	160.8	135.4	25.42	6.326 SF		
5,300.0	5,269.3	5,300.0	5,270.9	13.4	13.2	113.92	-501.7	42.4	163.6	137.8	25.78	6.345		
5,400.0	5,368.7	5,398.9	5,369.7	13.6	13.4	116.10	-505.6	43.2	167.3	141.3	26.00	6.434		
5,500.0	5,468.0	5,497.0	5,467.8	13.9	13.5	119.17	-506.3	43.3	172.4	146.3	26.10	6.603		
5,600.0	5,567.4	5,595.7	5,566.6	14.1	13.6	122.25	-506.5	43.0	178.4	152.3	26.17	6.819		
5,700.0	5,666.7	5,695.0	5,665.9	14.4	13.7	125.07	-506.8	42.5	185.2	159.0	26.23	7.060	7.584	
5,800.0	5,766.1	5,794.4	5,765.2	14.7	13.9	127.69	-507.1	42.0	192.4	166.1	26.30	7.316		
5,900.0	5,865.4	5,893.8	5,864.6	14.9	14.0	130.12	-507.4	41.4	200.0	173.6	26.37	7.584		
6,000.0	5,964.8	5,993.1	5,964.0	15.2	14.1	132.37	-507.8	40.9	207.9	181.4	26.44	7.860		
6,100.0	6,064.2	6,092.5	6,063.3	15.5	14.3	134.45	-508.1	40.3	216.0	189.5	26.53	8.143		
6,200.0	6,163.5	6,191.9	6,162.7	15.7	14.4	136.38	-508.4	39.8	224.5	197.9	26.63	8.431		9.011
6,300.0	6,262.9	6,291.2	6,262.1	16.0	14.5	138.17	-508.7	39.3	233.2	206.5	26.74	8.721		
6,400.0	6,362.2	6,390.6	6,361.4	16.3	14.7	139.83	-509.0	38.7	242.1	215.2	26.87	9.011		
6,500.0	6,461.6	6,490.0	6,460.8	16.5	14.8	141.37	-509.3	38.2	251.2	224.2	27.00	9.302		
6,600.0	6,560.9	6,589.3	6,560.2	16.8	14.9	142.80	-509.6	37.6	260.4	233.3	27.15	9.591		
6,700.0	6,660.3	6,688.7	6,659.5	17.0	15.1	144.14	-509.9	37.1	269.9	242.5	27.32	9.878	10.993	
6,800.0	6,759.7	6,788.1	6,758.9	17.3	15.2	145.38	-510.2	36.6	279.4	251.9	27.49	10.163		
6,900.0	6,859.0	6,887.4	6,858.2	17.6	15.3	146.54	-510.6	36.0	289.1	261.4	27.68	10.444		
7,000.0	6,958.4	6,986.8	6,957.6	17.8	15.5	147.63	-510.9	35.5	298.8	271.0	27.88	10.721		
7,100.0	7,057.7	7,086.2	7,057.0	18.1	15.6	148.64	-511.2	35.0	308.7	280.6	28.08	10.993		
7,200.0	7,157.1	7,185.5	7,156.3	18.4	15.8	149.60	-511.5	34.4	318.7	290.4	28.30	11.262		11.526
7,300.0	7,256.5	7,284.9	7,255.7	18.6	15.9	150.49	-511.8	33.9	328.7	300.2	28.52	11.526		
7,400.0	7,355.8	7,384.3	7,355.1	18.9	16.0	151.34	-512.1	33.3	338.9	310.1	28.75	11.785		
7,500.0	7,455.2	7,483.6	7,454.4	19.1	16.2	152.13	-512.4	32.8	349.1	320.1	28.99	12.039		
7,600.0	7,554.5	7,583.0	7,553.8	19.4	16.3	152.88	-512.7	32.3	359.3	330.1	29.24	12.288		
7,700.0	7,653.9	7,682.4	7,653.2	19.7	16.5	153.58	-513.1	31.7	369.6	340.1	29.49	12.532	13.007	
7,800.0	7,753.2	7,781.7	7,752.5	19.9	16.6	154.25	-513.4	31.2	380.0	350.2	29.75	12.772		
7,900.0	7,852.6	7,881.1	7,851.9	20.2	16.8	154.89	-513.7	30.6	390.4	360.4	30.02	13.007		
8,000.0	7,952.0	7,980.4	7,951.2	20.5	16.9	155.49	-514.0	30.1	400.9	370.6	30.29	13.237		
8,100.0	8,051.3	8,079.8	8,050.6	20.7	17.0	156.06	-514.3	29.6	411.4	380.8	30.56	13.462		
8,200.0	8,150.7	8,179.2	8,150.0	21.0	17.2	156.60	-514.6	29.0	421.9	391.1	30.84	13.682		14.484
8,300.0	8,250.0	8,278.5	8,249.3	21.3	17.3	157.11	-514.9	28.5	432.5	401.4	31.12	13.898		
8,400.0	8,349.4	8,377.9	8,348.7	21.5	17.5	157.60	-515.2	27.9	443.1	411.7	31.40	14.109		
8,500.0	8,448.7	8,477.3	8,448.1	21.8	17.6	158.07	-515.5	27.4	453.7	422.0	31.69	14.317		
8,600.0	8,548.2	8,576.8	8,547.6	22.0	17.8	158.52	-515.9	26.9	463.3	431.3	31.99	14.484		
8,700.0	8,648.0	8,676.5	8,647.3	22.2	17.9	158.79	-516.2	26.3	469.7	437.5	32.28	14.550	14.516	
8,800.0	8,747.9	8,776.5	8,747.3	22.3	18.1	158.88	-516.5	25.8	472.9	440.3	32.58	14.516		
8,900.0	8,847.9	8,876.5	8,847.3	22.5	18.2	76.73	-516.8	25.2	473.3	440.4	32.90	14.387		
9,000.0	8,947.9	8,976.5	8,947.3	22.6	18.4	76.71	-517.1	24.7	473.4	440.1	33.24	14.242		
9,100.0	9,047.9	9,076.5	9,047.3	22.7	18.5	76.75	-517.4	24.1	473.3	439.7	33.57	14.099		
9,200.0	9,147.9	9,176.5	9,147.2	22.8	18.7	76.83	-517.7	23.6	473.2	439.3	33.90	13.957		13.547
9,300.0	9,247.9	9,276.5	9,247.2	23.0	18.8	76.92	-518.1	23.1	473.0	438.8	34.23	13.818		
9,400.0	9,347.9	9,376.5	9,347.2	23.1	19.0	77.01	-518.4	22.5	472.8	438.3	34.56	13.681		
9,500.0	9,447.9	9,476.5	9,447.2	23.2	19.1	77.09	-518.7	22.0	472.6	437.8	34.89	13.547		
9,600.0	9,547.9	9,576.5	9,547.2	23.3	19.3	77.18	-519.0	21.4	472.5	437.3	35.22	13.415		
9,700.0	9,647.9	9,676.5	9,647.2	23.5	19.4	77.27	-519.3	20.9	472.3	436.8	35.55	13.285	13.033	
9,800.0	9,747.9	9,776.5	9,747.2	23.6	19.6	77.36	-519.6	20.3	472.1	436.3	35.88	13.158		
9,900.0	9,847.9	9,876.5	9,847.2	23.7	19.7	77.45	-519.9	19.8	472.0	435.8	36.21	13.033		
10,000.0	9,947.8	9,976.4	9,947.2	23.9	19.9	77.54	-520.3	19.3	471.8	435.3	36.55	12.910		
10,100.0	10,047.8	10,076.4	10,047.2	24.0	20.1	77.63	-520.6	18.7	471.6	434.8	36.88	12.789		
10,200.0	10,147.8	10,176.4	10,147.2	24.1	20.2	77.72	-520.9	18.2	471.5	434.3	37.21	12.671		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05BDR D21-595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
10,300.0	10,247.8	10,276.4	10,247.2	24.2	20.4	77.81	-521.2	17.6	471.3	433.8	37.54	12.554		
10,400.0	10,347.8	10,376.4	10,347.2	24.4	20.5	77.90	-521.5	17.1	471.2	433.3	37.88	12.439		
10,500.0	10,447.8	10,476.4	10,447.2	24.5	20.7	77.99	-521.8	16.5	471.0	432.8	38.21	12.327		
10,600.0	10,547.8	10,576.4	10,547.2	24.6	20.8	78.08	-522.1	16.0	470.9	432.3	38.54	12.216		
10,700.0	10,647.8	10,676.4	10,647.2	24.8	21.0	78.17	-522.4	15.5	470.7	431.8	38.88	12.107		
10,800.0	10,747.8	10,776.4	10,747.2	24.9	21.1	78.26	-522.8	14.9	470.5	431.3	39.21	12.000		
10,900.0	10,847.8	10,876.4	10,847.2	25.0	21.3	78.35	-523.1	14.4	470.4	430.8	39.55	11.895		
11,000.0	10,947.8	10,976.4	10,947.2	25.2	21.5	78.44	-523.4	13.8	470.2	430.4	39.88	11.791		
11,100.0	11,047.7	11,076.4	11,047.2	25.3	21.6	78.53	-523.7	13.3	470.1	429.9	40.22	11.689		
11,200.0	11,147.7	11,176.4	11,147.2	25.5	21.8	78.62	-524.0	12.7	469.9	429.4	40.55	11.589		
11,300.0	11,247.7	11,276.4	11,247.1	25.6	21.9	78.71	-524.3	12.2	469.8	428.9	40.89	11.490		
11,400.0	11,347.7	11,376.4	11,347.1	25.7	22.1	78.80	-524.6	11.7	469.6	428.4	41.22	11.393		
11,500.0	11,447.7	11,476.4	11,447.1	25.9	22.3	78.89	-525.0	11.1	469.5	427.9	41.56	11.297		
11,600.0	11,547.7	11,576.4	11,547.1	26.0	22.4	78.98	-525.3	10.6	469.3	427.5	41.89	11.203		
11,700.0	11,647.7	11,676.4	11,647.1	26.1	22.6	79.07	-525.6	10.0	469.2	427.0	42.23	11.110		
11,800.0	11,747.7	11,776.4	11,747.1	26.3	22.7	79.16	-525.9	9.5	469.1	426.5	42.57	11.019		
11,894.0	11,841.7	11,870.4	11,841.1	26.4	22.9	79.25	-526.2	9.0	468.9	426.0	42.88	10.935		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05C D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-71.59	9.5	-28.5	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	-71.59	9.5	-28.5	30.0	29.7	0.30	101.087		
200.0	200.0	200.0	200.0	0.3	0.3	-71.59	9.5	-28.5	30.0	29.3	0.65	46.445		
300.0	300.0	300.6	300.6	0.5	0.5	-74.38	7.8	-27.9	29.0	28.0	1.00	29.054		
400.0	400.0	401.0	400.9	0.7	0.7	121.45	2.8	-26.2	27.2	25.9	1.37	19.921		
500.0	499.8	501.4	500.8	0.9	0.9	114.22	-5.5	-23.4	26.1	24.3	1.78	14.649		
600.0	599.5	601.6	600.2	1.1	1.2	106.31	-17.2	-19.5	25.5	23.3	2.26	11.274		
643.1	642.3	644.7	642.9	1.2	1.3	102.26	-23.2	-17.5	25.5	23.0	2.50	10.196 CC		
700.0	698.8	701.6	699.1	1.3	1.5	96.98	-31.6	-14.6	25.6	22.8	2.81	9.117 ES		
800.0	798.2	801.5	797.7	1.6	1.8	87.27	-46.5	-9.6	26.4	23.0	3.36	7.858		
900.0	897.5	901.4	896.4	1.8	2.1	78.35	-61.3	-4.6	27.9	24.0	3.88	7.182		
1,000.0	996.9	1,001.3	995.1	2.1	2.4	70.51	-76.1	0.4	30.0	25.6	4.37	6.865		
1,100.0	1,096.3	1,101.2	1,093.7	2.3	2.7	63.79	-91.0	5.4	32.6	27.7	4.81	6.767 SF		
1,200.0	1,195.6	1,201.1	1,192.4	2.6	3.1	58.13	-105.8	10.4	35.5	30.3	5.22	6.800		
1,300.0	1,295.0	1,301.0	1,291.1	2.8	3.4	53.37	-120.7	15.4	38.8	33.2	5.61	6.909		
1,400.0	1,394.3	1,400.9	1,389.7	3.1	3.7	49.37	-135.5	20.4	42.2	36.3	5.98	7.061		
1,500.0	1,493.7	1,500.8	1,488.4	3.4	4.0	45.99	-150.3	25.4	45.9	39.5	6.34	7.234		
1,600.0	1,593.0	1,600.7	1,587.1	3.6	4.3	43.12	-165.2	30.4	49.7	43.0	6.70	7.417		
1,700.0	1,692.4	1,700.6	1,685.7	3.9	4.7	40.66	-180.0	35.4	53.6	46.5	7.05	7.601		
1,800.0	1,791.8	1,800.5	1,784.4	4.1	5.0	38.53	-194.9	40.4	57.5	50.1	7.39	7.781		
1,900.0	1,891.1	1,900.4	1,883.0	4.4	5.3	36.68	-209.7	45.4	61.6	53.8	7.74	7.956		
2,000.0	1,990.5	2,000.3	1,981.7	4.7	5.6	35.06	-224.5	50.4	65.7	57.6	8.09	8.123		
2,100.0	2,089.8	2,100.2	2,080.4	4.9	6.0	33.64	-239.4	55.4	69.8	61.4	8.43	8.282		
2,200.0	2,189.2	2,200.1	2,179.0	5.2	6.3	32.37	-254.2	60.5	74.0	65.2	8.78	8.433		
2,300.0	2,288.6	2,300.0	2,277.7	5.5	6.6	31.24	-269.1	65.5	78.2	69.1	9.12	8.575		
2,400.0	2,387.9	2,399.9	2,376.4	5.7	6.9	30.22	-283.9	70.5	82.5	73.0	9.47	8.709		
2,500.0	2,487.3	2,499.8	2,475.0	6.0	7.3	29.31	-298.7	75.5	86.7	76.9	9.82	8.836		
2,600.0	2,586.6	2,599.7	2,573.7	6.2	7.6	28.48	-313.6	80.5	91.0	80.9	10.16	8.956		
2,700.0	2,686.0	2,699.6	2,672.4	6.5	7.9	27.73	-328.4	85.5	95.3	84.8	10.51	9.069		
2,800.0	2,785.3	2,799.5	2,771.0	6.8	8.2	27.04	-343.3	90.5	99.7	88.8	10.86	9.175		
2,900.0	2,884.7	2,899.4	2,869.7	7.0	8.5	26.40	-358.1	95.5	104.0	92.8	11.21	9.276		
3,000.0	2,984.1	2,999.3	2,968.4	7.3	8.9	25.82	-372.9	100.5	108.3	96.8	11.56	9.371		
3,100.0	3,083.4	3,099.2	3,067.0	7.6	9.2	25.29	-387.8	105.5	112.7	100.8	11.91	9.461		
3,200.0	3,182.8	3,199.0	3,165.7	7.8	9.5	24.79	-402.6	110.5	117.1	104.8	12.26	9.546		
3,300.0	3,282.1	3,298.9	3,264.3	8.1	9.8	24.33	-417.5	115.5	121.4	108.8	12.61	9.627		
3,400.0	3,381.5	3,398.8	3,363.0	8.3	10.2	23.90	-432.3	120.5	125.8	112.8	12.97	9.703		
3,500.0	3,480.8	3,498.7	3,461.7	8.6	10.5	23.50	-447.1	125.5	130.2	116.9	13.32	9.776		
3,600.0	3,580.2	3,598.6	3,560.3	8.9	10.8	23.13	-462.0	130.5	134.6	120.9	13.67	9.845		
3,700.0	3,679.6	3,698.5	3,659.0	9.1	11.1	22.78	-476.8	135.5	139.0	125.0	14.02	9.911		
3,800.0	3,778.9	3,798.4	3,757.7	9.4	11.5	22.45	-491.7	140.5	143.4	129.0	14.38	9.974		
3,900.0	3,878.3	3,898.3	3,856.3	9.7	11.8	22.14	-506.5	145.5	147.8	133.1	14.73	10.034		
4,000.0	3,977.6	3,998.2	3,955.0	9.9	12.1	21.85	-521.4	150.5	152.2	137.1	15.08	10.091		
4,100.0	4,077.0	4,098.1	4,053.7	10.2	12.4	21.57	-536.2	155.5	156.6	141.2	15.44	10.146		
4,200.0	4,176.4	4,198.0	4,152.3	10.5	12.8	21.31	-551.0	160.5	161.0	145.2	15.79	10.198		
4,300.0	4,275.7	4,297.9	4,251.0	10.7	13.1	21.07	-565.9	165.5	165.5	149.3	16.15	10.248		
4,400.0	4,375.1	4,397.8	4,349.7	11.0	13.4	20.84	-580.7	170.5	169.9	153.4	16.50	10.296		
4,500.0	4,474.4	4,497.7	4,448.3	11.2	13.7	20.61	-595.6	175.5	174.3	157.5	16.86	10.342		
4,600.0	4,573.8	4,597.6	4,547.0	11.5	14.1	20.40	-610.4	180.6	178.7	161.5	17.21	10.386		
4,700.0	4,673.1	4,697.5	4,645.6	11.8	14.4	20.20	-625.2	185.6	183.2	165.6	17.57	10.428		
4,800.0	4,772.5	4,797.4	4,744.3	12.0	14.7	20.01	-640.1	190.6	187.6	169.7	17.92	10.469		
4,900.0	4,871.9	4,897.3	4,843.0	12.3	15.0	19.83	-654.9	195.6	192.0	173.8	18.28	10.508		
5,000.0	4,971.2	4,997.2	4,941.6	12.6	15.4	19.66	-669.8	200.6	196.5	177.8	18.63	10.545		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05C D21 595 - DD - Plan #2													Offset Site Error: 0.0 ft	
Survey Program: O-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,070.6	5,097.1	5,040.3	12.8	15.7	19.49	-684.6	205.6	200.9	181.9	18.99	10.581		
5,200.0	5,169.9	5,197.0	5,139.0	13.1	16.0	19.33	-699.4	210.6	205.4	186.0	19.34	10.616		
5,300.0	5,269.3	5,296.9	5,237.6	13.4	16.3	19.18	-714.3	215.6	209.8	190.1	19.70	10.650		
5,400.0	5,368.7	5,396.8	5,336.3	13.6	16.7	19.04	-729.1	220.6	214.2	194.2	20.06	10.682		
5,500.0	5,468.0	5,496.7	5,435.0	13.9	17.0	18.90	-744.0	225.6	218.7	198.3	20.41	10.713		
5,600.0	5,567.4	5,596.6	5,533.6	14.1	17.3	18.76	-758.8	230.6	223.1	202.4	20.77	10.744		
5,700.0	5,666.7	5,696.5	5,632.3	14.4	17.6	18.63	-773.6	235.6	227.6	206.5	21.13	10.773		
5,800.0	5,766.1	5,796.4	5,731.0	14.7	17.9	18.51	-788.5	240.6	232.0	210.6	21.48	10.801		
5,900.0	5,865.4	5,896.3	5,829.6	14.9	18.3	18.39	-803.3	245.6	236.5	214.6	21.84	10.828		
6,000.0	5,964.8	5,996.2	5,928.3	15.2	18.6	18.28	-818.2	250.6	240.9	218.7	22.20	10.855		
6,100.0	6,064.2	6,096.1	6,027.0	15.5	18.9	18.16	-833.0	255.6	245.4	222.8	22.55	10.881		
6,200.0	6,163.5	6,196.0	6,125.6	15.7	19.2	18.06	-847.8	260.6	249.8	226.9	22.91	10.905		
6,300.0	6,262.9	6,295.9	6,224.3	16.0	19.6	17.95	-862.7	265.6	254.3	231.0	23.27	10.929		
6,400.0	6,362.2	6,395.8	6,322.9	16.3	19.9	17.85	-877.5	270.6	258.8	235.1	23.62	10.953		
6,500.0	6,461.6	6,495.7	6,421.6	16.5	20.2	17.76	-892.4	275.6	263.2	239.2	23.98	10.975		
6,600.0	6,560.9	6,595.6	6,520.3	16.8	20.5	17.67	-907.2	280.6	267.7	243.3	24.34	10.997		
6,700.0	6,660.3	6,695.5	6,618.9	17.0	20.9	17.58	-922.1	285.6	272.1	247.4	24.70	11.019		
6,800.0	6,759.7	6,795.4	6,717.6	17.3	21.2	17.49	-936.9	290.6	276.6	251.5	25.05	11.039		
6,900.0	6,859.0	6,895.3	6,816.3	17.6	21.5	17.40	-951.7	295.6	281.0	255.6	25.41	11.059		
7,000.0	6,958.4	6,995.2	6,914.9	17.8	21.8	17.32	-966.6	300.6	285.5	259.7	25.77	11.079		
7,100.0	7,057.7	7,095.1	7,013.6	18.1	22.2	17.24	-981.4	305.7	289.9	263.8	26.13	11.098		
7,200.0	7,157.1	7,195.0	7,112.3	18.4	22.5	17.17	-996.3	310.7	294.4	267.9	26.48	11.117		
7,300.0	7,256.5	7,294.9	7,210.9	18.6	22.8	17.09	-1,011.1	315.7	298.9	272.0	26.84	11.135		
7,400.0	7,355.8	7,394.8	7,309.6	18.9	23.1	17.02	-1,025.9	320.7	303.3	276.1	27.20	11.152		
7,500.0	7,455.2	7,494.7	7,408.3	19.1	23.5	16.95	-1,040.8	325.7	307.8	280.2	27.56	11.169		
7,600.0	7,554.5	7,594.6	7,506.9	19.4	23.8	16.88	-1,055.6	330.7	312.3	284.3	27.91	11.186		
7,700.0	7,653.9	7,694.5	7,605.6	19.7	24.1	16.82	-1,070.5	335.7	316.7	288.4	28.27	11.202		
7,800.0	7,753.2	7,794.4	7,704.2	19.9	24.4	16.75	-1,085.3	340.7	321.2	292.5	28.63	11.218		
7,900.0	7,852.6	7,894.3	7,802.9	20.2	24.8	16.69	-1,100.1	345.7	325.6	296.6	28.99	11.233		
8,000.0	7,952.0	7,994.2	7,901.6	20.5	25.1	16.63	-1,115.0	350.7	330.1	300.8	29.35	11.249		
8,100.0	8,051.3	8,094.1	8,000.2	20.7	25.4	16.57	-1,129.8	355.7	334.6	304.9	29.70	11.263		
8,200.0	8,150.7	8,194.0	8,098.9	21.0	25.7	16.51	-1,144.7	360.7	339.0	309.0	30.06	11.278		
8,300.0	8,250.0	8,293.9	8,197.6	21.3	26.1	16.45	-1,159.5	365.7	343.5	313.1	30.42	11.292		
8,400.0	8,349.4	8,393.8	8,296.2	21.5	26.4	16.40	-1,174.3	370.7	348.0	317.2	30.78	11.305		
8,500.0	8,448.7	8,500.4	8,401.5	21.8	26.7	16.36	-1,189.7	375.9	352.0	320.8	31.15	11.299		
8,600.0	8,548.2	8,614.0	8,514.3	22.0	27.0	16.41	-1,202.4	380.2	353.7	322.2	31.53	11.220		
8,700.0	8,648.0	8,727.7	8,627.7	22.2	27.2	16.44	-1,210.8	383.0	354.9	323.1	31.86	11.139		
8,800.0	8,747.9	8,841.4	8,741.3	22.3	27.3	16.46	-1,215.0	384.4	355.6	323.4	32.17	11.055		
8,900.0	8,847.9	8,947.7	8,847.6	22.5	27.4	-65.65	-1,215.6	384.5	355.7	323.3	32.48	10.953		
9,000.0	8,947.9	9,047.1	8,947.0	22.6	27.6	-65.65	-1,215.8	384.2	355.7	322.9	32.81	10.843		
9,100.0	9,047.9	9,146.4	9,046.3	22.7	27.7	-65.66	-1,216.2	383.4	355.7	322.6	33.14	10.735		
9,195.8	9,143.7	9,241.8	9,141.7	22.8	27.8	-65.65	-1,216.8	382.4	355.7	322.3	33.45	10.636		
9,200.0	9,147.9	9,246.0	9,145.9	22.8	27.8	-65.66	-1,216.9	382.3	355.7	322.3	33.46	10.631		
9,300.0	9,247.9	9,346.0	9,245.9	23.0	27.9	-65.66	-1,217.5	381.1	355.7	321.9	33.78	10.530		
9,400.0	9,347.9	9,446.0	9,345.9	23.1	28.0	-65.66	-1,218.2	379.9	355.7	321.6	34.11	10.430		
9,500.0	9,447.9	9,546.0	9,445.9	23.2	28.1	-65.66	-1,218.9	378.7	355.7	321.3	34.43	10.331		
9,600.0	9,547.9	9,646.0	9,545.9	23.3	28.2	-65.66	-1,219.6	377.5	355.7	321.0	34.76	10.235		
9,700.0	9,647.9	9,746.0	9,645.8	23.5	28.3	-65.66	-1,220.3	376.3	355.7	320.6	35.08	10.140		
9,800.0	9,747.9	9,846.0	9,745.8	23.6	28.4	-65.66	-1,221.0	375.1	355.7	320.3	35.41	10.047		
9,900.0	9,847.9	9,946.0	9,845.8	23.7	28.5	-65.66	-1,221.7	373.9	355.7	320.0	35.73	9.955		
10,000.0	9,947.8	10,046.0	9,945.8	23.9	28.6	-65.66	-1,222.4	372.7	355.7	319.7	36.06	9.865		
10,100.0	10,047.8	10,146.0	10,045.8	24.0	28.7	-65.66	-1,223.1	371.5	355.7	319.3	36.39	9.776		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design												D21 595 Pad - LR05C D21 595 - DD - Plan #2		Offset Site Error:		0.0 ft
Survey Program: 0-MWD														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance									
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			
10,200.0	10,147.8	10,246.0	10,145.8	24.1	28.8	-65.66	-1,223.8	370.3	355.7	319.0	36.71	9.689				
10,300.0	10,247.8	10,346.0	10,245.8	24.2	29.0	-65.66	-1,224.5	369.1	355.7	318.7	37.04	9.603				
10,400.0	10,347.8	10,446.0	10,345.8	24.4	29.1	-65.66	-1,225.2	367.9	355.7	318.4	37.37	9.519				
10,500.0	10,447.8	10,546.0	10,445.8	24.5	29.2	-65.66	-1,225.8	366.7	355.7	318.0	37.70	9.436				
10,600.0	10,547.8	10,646.0	10,545.8	24.6	29.3	-65.66	-1,226.5	365.5	355.7	317.7	38.03	9.354				
10,700.0	10,647.8	10,746.0	10,645.7	24.8	29.4	-65.66	-1,227.2	364.3	355.7	317.4	38.36	9.274				
10,800.0	10,747.8	10,846.0	10,745.7	24.9	29.5	-65.66	-1,227.9	363.1	355.7	317.0	38.69	9.195				
10,900.0	10,847.8	10,946.0	10,845.7	25.0	29.6	-65.66	-1,228.6	361.9	355.7	316.7	39.02	9.117				
11,000.0	10,947.8	11,046.0	10,945.7	25.2	29.8	-65.66	-1,229.3	360.8	355.7	316.4	39.35	9.040				
11,100.0	11,047.7	11,146.0	11,045.7	25.3	29.9	-65.66	-1,230.0	359.6	355.7	316.1	39.68	8.965				
11,200.0	11,147.7	11,246.0	11,145.7	25.5	30.0	-65.66	-1,230.7	358.4	355.7	315.7	40.01	8.890				
11,300.0	11,247.7	11,346.0	11,245.7	25.6	30.1	-65.66	-1,231.4	357.2	355.7	315.4	40.35	8.817				
11,400.0	11,347.7	11,446.0	11,345.7	25.7	30.2	-65.66	-1,232.1	356.0	355.7	315.1	40.68	8.745				
11,500.0	11,447.7	11,546.0	11,445.7	25.9	30.4	-65.66	-1,232.8	354.8	355.7	314.7	41.01	8.674				
11,600.0	11,547.7	11,646.0	11,545.7	26.0	30.5	-65.66	-1,233.5	353.6	355.7	314.4	41.34	8.604				
11,700.0	11,647.7	11,746.0	11,645.7	26.1	30.6	-65.66	-1,234.2	352.4	355.7	314.1	41.68	8.536				
11,800.0	11,747.7	11,846.0	11,745.6	26.3	30.7	-65.66	-1,234.8	351.2	355.7	313.7	42.01	8.468				
11,894.0	11,841.7	11,940.0	11,839.6	26.4	30.8	-65.66	-1,235.5	350.1	355.7	313.4	42.32	8.405				

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05D D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-71.59	18.9	-56.9	60.0					
100.0	100.0	100.0	100.0	0.1	0.1	-71.59	18.9	-56.9	60.0	59.7	0.30	202.173		
200.0	200.0	200.0	200.0	0.3	0.3	-71.59	18.9	-56.9	60.0	59.3	0.65	92.890		
300.0	300.0	301.0	301.0	0.5	0.5	-73.09	17.2	-56.6	59.1	58.1	1.00	59.235		
400.0	400.0	401.9	401.7	0.7	0.7	125.72	12.0	-55.5	57.8	56.4	1.37	42.207		
500.0	499.8	502.6	502.0	0.9	0.9	121.98	3.3	-53.8	57.3	55.5	1.78	32.187		
516.9	516.7	519.6	518.9	0.9	1.0	121.31	1.5	-53.4	57.3	55.4	1.86	30.806 CC		
600.0	599.5	603.2	601.8	1.1	1.2	117.89	-8.8	-51.3	57.5	55.3	2.25	25.529 ES		
700.0	698.8	703.6	701.0	1.3	1.5	112.77	-24.3	-48.2	58.3	55.5	2.81	20.795		
800.0	798.2	803.4	799.1	1.6	1.9	105.38	-42.3	-44.5	59.3	55.9	3.41	17.411		
900.0	897.5	903.1	897.1	1.8	2.2	98.19	-60.5	-40.9	61.3	57.3	4.02	15.251		
1,000.0	996.9	1,002.8	995.0	2.1	2.6	91.53	-78.7	-37.2	64.1	59.5	4.61	13.896		
1,100.0	1,096.3	1,102.5	1,093.0	2.3	2.9	85.51	-96.8	-33.5	67.8	62.6	5.19	13.066		
1,200.0	1,195.6	1,202.2	1,190.9	2.6	3.3	80.16	-115.0	-29.9	72.1	66.3	5.73	12.583		
1,300.0	1,295.0	1,301.9	1,288.9	2.8	3.6	75.44	-133.2	-26.2	76.9	70.7	6.24	12.330		
1,400.0	1,394.3	1,401.6	1,386.8	3.1	4.0	71.30	-151.3	-22.5	82.3	75.5	6.73	12.230 SF		
1,500.0	1,493.7	1,501.2	1,484.8	3.4	4.4	67.69	-169.5	-18.9	88.0	80.8	7.19	12.232		
1,600.0	1,593.0	1,600.9	1,582.7	3.6	4.7	64.52	-187.6	-15.2	94.0	86.3	7.64	12.303		
1,700.0	1,692.4	1,700.6	1,680.7	3.9	5.1	61.74	-205.8	-11.5	100.2	92.2	8.07	12.418		
1,800.0	1,791.8	1,800.3	1,778.7	4.1	5.5	59.29	-224.0	-7.9	106.7	98.2	8.49	12.562		
1,900.0	1,891.1	1,900.0	1,876.6	4.4	5.8	57.13	-242.1	-4.2	113.3	104.4	8.91	12.724		
2,000.0	1,990.5	1,999.7	1,974.6	4.7	6.2	55.20	-260.3	-0.6	120.1	110.8	9.31	12.896		
2,100.0	2,089.8	2,099.4	2,072.5	4.9	6.6	53.48	-278.5	3.1	127.0	117.3	9.72	13.072		
2,200.0	2,189.2	2,199.1	2,170.5	5.2	6.9	51.95	-296.6	6.8	134.0	123.9	10.11	13.250		
2,300.0	2,288.6	2,298.8	2,268.4	5.5	7.3	50.56	-314.8	10.4	141.1	130.6	10.51	13.427		
2,400.0	2,387.9	2,398.5	2,366.4	5.7	7.7	49.31	-332.9	14.1	148.3	137.4	10.90	13.600		
2,500.0	2,487.3	2,498.2	2,464.4	6.0	8.0	48.17	-351.1	17.8	155.5	144.2	11.29	13.769		
2,600.0	2,586.6	2,597.9	2,562.3	6.2	8.4	47.14	-369.3	21.4	162.8	151.1	11.68	13.933		
2,700.0	2,686.0	2,697.6	2,660.3	6.5	8.8	46.19	-387.4	25.1	170.1	158.1	12.07	14.092		
2,800.0	2,785.3	2,797.3	2,758.2	6.8	9.1	45.32	-405.6	28.8	177.5	165.0	12.46	14.246		
2,900.0	2,884.7	2,896.9	2,856.2	7.0	9.5	44.52	-423.8	32.4	184.9	172.1	12.85	14.393		
3,000.0	2,984.1	2,996.6	2,954.1	7.3	9.9	43.79	-441.9	36.1	192.4	179.1	13.23	14.535		
3,100.0	3,083.4	3,096.3	3,052.1	7.6	10.2	43.10	-460.1	39.8	199.8	186.2	13.62	14.672		
3,200.0	3,182.8	3,196.0	3,150.0	7.8	10.6	42.47	-478.3	43.4	207.3	193.3	14.01	14.803		
3,300.0	3,282.1	3,295.7	3,248.0	8.1	11.0	41.88	-496.4	47.1	214.9	200.5	14.39	14.929		
3,400.0	3,381.5	3,395.4	3,346.0	8.3	11.3	41.33	-514.6	50.8	222.4	207.6	14.78	15.050		
3,500.0	3,480.8	3,495.1	3,443.9	8.6	11.7	40.82	-532.7	54.4	230.0	214.8	15.16	15.166		
3,600.0	3,580.2	3,594.8	3,541.9	8.9	12.1	40.34	-550.9	58.1	237.6	222.0	15.55	15.277		
3,700.0	3,679.6	3,694.5	3,639.8	9.1	12.4	39.89	-569.1	61.8	245.2	229.2	15.94	15.384		
3,800.0	3,778.9	3,794.2	3,737.8	9.4	12.8	39.47	-587.2	65.4	252.8	236.4	16.32	15.487		
3,900.0	3,878.3	3,893.9	3,835.7	9.7	13.2	39.07	-605.4	69.1	260.4	243.7	16.71	15.586		
4,000.0	3,977.6	3,993.6	3,933.7	9.9	13.5	38.69	-623.6	72.8	268.0	250.9	17.09	15.681		
4,100.0	4,077.0	4,093.3	4,031.6	10.2	13.9	38.34	-641.7	76.4	275.7	258.2	17.48	15.772		
4,200.0	4,176.4	4,193.0	4,129.6	10.5	14.3	38.00	-659.9	80.1	283.3	265.5	17.86	15.860		
4,300.0	4,275.7	4,292.7	4,227.6	10.7	14.6	37.68	-678.0	83.8	291.0	272.7	18.25	15.945		
4,400.0	4,375.1	4,392.3	4,325.5	11.0	15.0	37.38	-696.2	87.4	298.7	280.0	18.64	16.026		
4,500.0	4,474.4	4,492.0	4,423.5	11.2	15.4	37.10	-714.4	91.1	306.4	287.3	19.02	16.105		
4,600.0	4,573.8	4,591.7	4,521.4	11.5	15.7	36.82	-732.5	94.8	314.0	294.6	19.41	16.181		
4,700.0	4,673.1	4,691.4	4,619.4	11.8	16.1	36.56	-750.7	98.4	321.7	301.9	19.79	16.254		
4,800.0	4,772.5	4,791.1	4,717.3	12.0	16.5	36.32	-768.9	102.1	329.4	309.3	20.18	16.324		
4,900.0	4,871.9	4,890.8	4,815.3	12.3	16.8	36.08	-787.0	105.8	337.2	316.6	20.57	16.392		
5,000.0	4,971.2	4,990.5	4,913.2	12.6	17.2	35.86	-805.2	109.4	344.9	323.9	20.95	16.458		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05D D21 595 - DD - Plan #2													Offset Site Error: 0.0 ft			
Survey Program: O-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance									
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	5,070.6	5,090.2	5,011.2	12.8	17.6	35.64	-823.3	113.1	352.6	331.2	21.34	16.522				
5,200.0	5,169.9	5,189.9	5,109.2	13.1	17.9	35.43	-841.5	116.8	360.3	338.6	21.73	16.583				
5,300.0	5,269.3	5,289.6	5,207.1	13.4	18.3	35.24	-859.7	120.4	368.0	345.9	22.11	16.643				
5,400.0	5,368.7	5,389.3	5,305.1	13.6	18.7	35.05	-877.8	124.1	375.8	353.3	22.50	16.700				
5,500.0	5,468.0	5,489.0	5,403.0	13.9	19.0	34.86	-896.0	127.8	383.5	360.6	22.89	16.756				
5,600.0	5,567.4	5,588.7	5,501.0	14.1	19.4	34.69	-914.2	131.4	391.3	368.0	23.27	16.810				
5,700.0	5,666.7	5,688.4	5,598.9	14.4	19.8	34.52	-932.3	135.1	399.0	375.3	23.66	16.862				
5,800.0	5,766.1	5,788.0	5,696.9	14.7	20.1	34.36	-950.5	138.8	406.7	382.7	24.05	16.913				
5,900.0	5,865.4	5,887.7	5,794.9	14.9	20.5	34.20	-968.6	142.4	414.5	390.1	24.44	16.962				
6,000.0	5,964.8	5,987.4	5,892.8	15.2	20.9	34.05	-986.8	146.1	422.2	397.4	24.82	17.010				
6,100.0	6,064.2	6,087.1	5,990.8	15.5	21.2	33.91	-1,005.0	149.8	430.0	404.8	25.21	17.056				
6,200.0	6,163.5	6,186.8	6,088.7	15.7	21.6	33.77	-1,023.1	153.4	437.8	412.2	25.60	17.101				
6,300.0	6,262.9	6,286.5	6,186.7	16.0	22.0	33.64	-1,041.3	157.1	445.5	419.5	25.99	17.145				
6,400.0	6,362.2	6,386.2	6,284.6	16.3	22.3	33.51	-1,059.5	160.8	453.3	426.9	26.37	17.187				
6,500.0	6,461.6	6,485.9	6,382.6	16.5	22.7	33.38	-1,077.6	164.4	461.0	434.3	26.76	17.229				
6,600.0	6,560.9	6,585.6	6,480.5	16.8	23.1	33.26	-1,095.8	168.1	468.8	441.7	27.15	17.269				
6,700.0	6,660.3	6,685.3	6,578.5	17.0	23.4	33.14	-1,113.9	171.8	476.6	449.1	27.54	17.308				
6,800.0	6,759.7	6,785.0	6,676.5	17.3	23.8	33.03	-1,132.1	175.4	484.4	456.4	27.92	17.346				
6,900.0	6,859.0	6,884.7	6,774.4	17.6	24.2	32.92	-1,150.3	179.1	492.1	463.8	28.31	17.383				
7,000.0	6,958.4	6,984.4	6,872.4	17.8	24.5	32.81	-1,168.4	182.8	499.9	471.2	28.70	17.419				
7,100.0	7,057.7	7,084.1	6,970.3	18.1	24.9	32.71	-1,186.6	186.4	507.7	478.6	29.09	17.454				
7,200.0	7,157.1	7,183.7	7,068.3	18.4	25.3	32.61	-1,204.8	190.1	515.5	486.0	29.47	17.488				
7,300.0	7,256.5	7,283.4	7,166.2	18.6	25.6	32.51	-1,222.9	193.8	523.2	493.4	29.86	17.522				
7,400.0	7,355.8	7,383.1	7,264.2	18.9	26.0	32.42	-1,241.1	197.4	531.0	500.8	30.25	17.554				
7,500.0	7,455.2	7,482.8	7,362.1	19.1	26.4	32.32	-1,259.2	201.1	538.8	508.2	30.64	17.586				
7,600.0	7,554.5	7,582.5	7,460.1	19.4	26.7	32.24	-1,277.4	204.8	546.6	515.6	31.03	17.617				
7,700.0	7,653.9	7,682.2	7,558.1	19.7	27.1	32.15	-1,295.6	208.4	554.4	523.0	31.41	17.647				
7,800.0	7,753.2	7,781.9	7,656.0	19.9	27.5	32.07	-1,313.7	212.1	562.2	530.4	31.80	17.677				
7,900.0	7,852.6	7,881.6	7,754.0	20.2	27.8	31.98	-1,331.9	215.8	570.0	537.8	32.19	17.705				
8,000.0	7,952.0	7,981.3	7,851.9	20.5	28.2	31.90	-1,350.1	219.4	577.7	545.2	32.58	17.734				
8,100.0	8,051.3	8,081.0	7,949.9	20.7	28.6	31.83	-1,368.2	223.1	585.5	552.6	32.97	17.761				
8,200.0	8,150.7	8,180.7	8,047.8	21.0	28.9	31.75	-1,386.4	226.8	593.3	560.0	33.36	17.788				
8,300.0	8,250.0	8,280.4	8,145.8	21.3	29.3	31.68	-1,404.6	230.4	601.1	567.4	33.74	17.814				
8,400.0	8,349.4	8,380.1	8,243.8	21.5	29.7	31.61	-1,422.7	234.1	608.9	574.8	34.13	17.840				
8,500.0	8,448.7	8,502.3	8,364.2	21.8	30.1	31.59	-1,442.9	238.2	615.1	580.5	34.57	17.790				
8,600.0	8,548.2	8,627.4	8,488.3	22.0	30.4	31.71	-1,458.3	241.3	618.2	583.1	35.01	17.655				
8,700.0	8,648.0	8,752.6	8,613.1	22.2	30.6	31.80	-1,468.3	243.3	620.1	584.7	35.39	17.522				
8,800.0	8,747.9	8,877.9	8,738.3	22.3	30.8	31.85	-1,473.1	244.3	620.9	585.2	35.71	17.391				
8,900.0	8,847.9	8,986.5	8,846.9	22.5	30.9	-50.25	-1,473.5	244.3	621.0	585.0	36.00	17.250				
9,000.0	8,947.9	9,084.8	8,945.2	22.6	31.0	-50.24	-1,473.7	243.9	621.0	584.7	36.29	17.109				
9,100.0	9,047.9	9,183.1	9,043.5	22.7	31.0	-50.24	-1,474.2	243.1	621.0	584.4	36.59	16.973				
9,200.0	9,147.9	9,282.0	9,142.4	22.8	31.1	-50.24	-1,474.8	242.0	621.0	584.1	36.87	16.840				
9,300.0	9,247.9	9,382.0	9,242.4	23.0	31.2	-50.24	-1,475.5	240.8	621.0	583.8	37.16	16.710				
9,400.0	9,347.9	9,482.0	9,342.4	23.1	31.3	-50.24	-1,476.2	239.6	621.0	583.5	37.45	16.581				
9,500.0	9,447.9	9,582.0	9,442.4	23.2	31.4	-50.24	-1,476.9	238.4	621.0	583.2	37.74	16.454				
9,600.0	9,547.9	9,682.0	9,542.4	23.3	31.5	-50.24	-1,477.6	237.2	621.0	582.9	38.03	16.328				
9,700.0	9,647.9	9,782.0	9,642.4	23.5	31.6	-50.24	-1,478.3	236.0	621.0	582.7	38.32	16.204				
9,800.0	9,747.9	9,882.0	9,742.4	23.6	31.7	-50.24	-1,479.0	234.8	621.0	582.4	38.61	16.081				
9,900.0	9,847.9	9,982.0	9,842.4	23.7	31.8	-50.24	-1,479.7	233.6	621.0	582.1	38.91	15.960				
10,000.0	9,947.8	10,082.0	9,942.4	23.9	31.9	-50.24	-1,480.3	232.4	621.0	581.8	39.20	15.840				
10,100.0	10,047.8	10,182.0	10,042.3	24.0	32.0	-50.24	-1,481.0	231.2	621.0	581.5	39.50	15.722				
10,200.0	10,147.8	10,282.0	10,142.3	24.1	32.1	-50.24	-1,481.7	230.0	621.0	581.2	39.79	15.605				

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR05D D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
10,300.0	10,247.8	10,382.0	10,242.3	24.2	32.3	-50.24	-1,482.4	228.8	621.0	580.9	40.09	15.489		
10,400.0	10,347.8	10,482.0	10,342.3	24.4	32.4	-50.24	-1,483.1	227.6	621.0	580.6	40.39	15.375		
10,500.0	10,447.8	10,582.0	10,442.3	24.5	32.5	-50.24	-1,483.8	226.4	621.0	580.3	40.69	15.262		
10,600.0	10,547.8	10,682.0	10,542.3	24.6	32.6	-50.24	-1,484.5	225.2	621.0	580.0	40.99	15.150		
10,700.0	10,647.8	10,782.0	10,642.3	24.8	32.7	-50.24	-1,485.2	224.0	621.0	579.7	41.29	15.040		
10,800.0	10,747.8	10,882.0	10,742.3	24.9	32.8	-50.24	-1,485.9	222.8	621.0	579.4	41.59	14.931		
10,900.0	10,847.8	10,982.0	10,842.3	25.0	32.9	-50.24	-1,486.6	221.6	621.0	579.1	41.89	14.823		
11,000.0	10,947.8	11,082.0	10,942.3	25.2	33.0	-50.24	-1,487.3	220.4	621.0	578.8	42.19	14.717		
11,100.0	11,047.7	11,182.0	11,042.3	25.3	33.1	-50.24	-1,487.9	219.2	621.0	578.5	42.50	14.612		
11,200.0	11,147.7	11,282.0	11,142.2	25.5	33.2	-50.24	-1,488.6	218.0	621.0	578.2	42.80	14.508		
11,300.0	11,247.7	11,382.0	11,242.2	25.6	33.3	-50.24	-1,489.3	216.8	621.0	577.9	43.11	14.405		
11,400.0	11,347.7	11,482.0	11,342.2	25.7	33.4	-50.24	-1,490.0	215.6	621.0	577.6	43.41	14.304		
11,500.0	11,447.7	11,582.0	11,442.2	25.9	33.5	-50.24	-1,490.7	214.4	621.0	577.3	43.72	14.203		
11,600.0	11,547.7	11,682.0	11,542.2	26.0	33.7	-50.24	-1,491.4	213.2	621.0	576.9	44.03	14.104		
11,700.0	11,647.7	11,782.0	11,642.2	26.1	33.8	-50.24	-1,492.1	212.0	621.0	576.6	44.33	14.006		
11,800.0	11,747.7	11,882.0	11,742.2	26.3	33.9	-50.24	-1,492.8	210.8	621.0	576.3	44.64	13.910		
11,862.8	11,810.4	11,944.8	11,805.0	26.4	34.0	-50.24	-1,493.2	210.0	621.0	576.1	44.84	13.849		
11,894.0	11,841.7	11,975.9	11,836.0	26.4	34.0	-50.24	-1,493.4	209.7	621.0	576.0	44.93	13.820		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06B D21 595 - DD - Plan #2														Offset Site Error:	0.0 ft
Survey Program: O-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total 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						
100.0	100.0	100.0	100.0	0.1	0.1	108.41	-18.9	56.9	60.0	59.7	0.30	202.173			
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-18.9	56.9	60.0	59.3	0.65	92.891			
300.0	300.0	300.0	300.0	0.5	0.5	108.41	-18.9	56.9	60.0	59.0	0.99	60.297			
400.0	400.0	400.0	400.0	0.7	0.7	-50.81	-18.9	56.9	58.9	57.5	1.35	43.757			
500.0	499.8	499.8	499.8	0.9	0.8	-55.03	-18.9	56.9	55.7	54.0	1.71	32.672			
600.0	599.5	597.8	597.8	1.1	1.0	-62.27	-19.7	58.4	52.8	50.7	2.09	25.291			
642.3	641.6	639.3	639.2	1.2	1.1	-65.88	-20.5	59.9	52.4	50.2	2.26	23.198 CC, ES			
700.0	698.8	695.8	695.7	1.3	1.2	-70.91	-21.9	62.9	53.0	50.5	2.50	21.191			
800.0	798.2	794.0	793.5	1.6	1.4	-77.32	-25.7	70.4	57.1	54.1	2.93	19.453			
900.0	897.5	892.0	890.8	1.8	1.6	-80.83	-30.9	80.9	64.4	61.0	3.39	19.008 SF			
1,000.0	996.9	989.7	987.3	2.1	1.9	-81.87	-37.6	94.3	74.5	70.6	3.86	19.282			
1,100.0	1,096.3	1,087.7	1,083.7	2.3	2.2	-81.31	-45.6	110.4	86.9	82.5	4.35	19.988			
1,200.0	1,195.6	1,186.9	1,181.0	2.6	2.6	-80.67	-54.0	127.3	99.8	94.9	4.84	20.611			
1,300.0	1,295.0	1,286.0	1,278.4	2.8	2.9	-80.17	-62.5	144.2	112.7	107.3	5.34	21.101			
1,400.0	1,394.3	1,385.2	1,375.7	3.1	3.3	-79.77	-70.9	161.0	125.6	119.7	5.84	21.495			
1,500.0	1,493.7	1,484.4	1,473.1	3.4	3.6	-79.45	-79.3	177.9	138.5	132.2	6.35	21.819			
1,600.0	1,593.0	1,583.5	1,570.4	3.6	4.0	-79.19	-87.7	194.8	151.4	144.6	6.86	22.089			
1,700.0	1,692.4	1,682.7	1,667.8	3.9	4.3	-78.96	-96.1	211.6	164.3	157.0	7.36	22.318			
1,800.0	1,791.8	1,781.8	1,765.1	4.1	4.7	-78.77	-104.5	228.5	177.3	169.4	7.87	22.514			
1,900.0	1,891.1	1,881.0	1,862.5	4.4	5.1	-78.60	-112.9	245.4	190.2	181.8	8.38	22.683			
2,000.0	1,990.5	1,980.2	1,959.8	4.7	5.4	-78.46	-121.3	262.2	203.1	194.2	8.90	22.832			
2,100.0	2,089.8	2,079.3	2,057.2	4.9	5.8	-78.33	-129.7	279.1	216.1	206.6	9.41	22.963			
2,200.0	2,189.2	2,178.5	2,154.5	5.2	6.2	-78.22	-138.2	296.0	229.0	219.1	9.92	23.079			
2,300.0	2,288.6	2,277.6	2,251.9	5.5	6.5	-78.12	-146.6	312.8	241.9	231.5	10.44	23.183			
2,400.0	2,387.9	2,376.8	2,349.2	5.7	6.9	-78.02	-155.0	329.7	254.8	243.9	10.95	23.276			
2,500.0	2,487.3	2,476.0	2,446.6	6.0	7.3	-77.94	-163.4	346.6	267.8	256.3	11.46	23.360			
2,600.0	2,586.6	2,575.1	2,543.9	6.2	7.7	-77.87	-171.8	363.4	280.7	268.7	11.98	23.437			
2,700.0	2,686.0	2,674.3	2,641.3	6.5	8.0	-77.80	-180.2	380.3	293.6	281.1	12.49	23.507			
2,800.0	2,785.3	2,773.4	2,738.6	6.8	8.4	-77.74	-188.6	397.2	306.6	293.6	13.01	23.571			
2,900.0	2,884.7	2,872.6	2,836.0	7.0	8.8	-77.68	-197.0	414.0	319.5	306.0	13.52	23.630			
3,000.0	2,984.1	2,971.7	2,933.3	7.3	9.1	-77.63	-205.4	430.9	332.4	318.4	14.04	23.684			
3,100.0	3,083.4	3,070.9	3,030.7	7.6	9.5	-77.58	-213.9	447.8	345.4	330.8	14.55	23.734			
3,200.0	3,182.8	3,170.1	3,128.1	7.8	9.9	-77.53	-222.3	464.6	358.3	343.2	15.07	23.780			
3,300.0	3,282.1	3,269.2	3,225.4	8.1	10.3	-77.49	-230.7	481.5	371.2	355.7	15.58	23.824			
3,400.0	3,381.5	3,368.4	3,322.8	8.3	10.6	-77.45	-239.1	498.3	384.2	368.1	16.10	23.864			
3,500.0	3,480.8	3,467.5	3,420.1	8.6	11.0	-77.42	-247.5	515.2	397.1	380.5	16.61	23.902			
3,600.0	3,580.2	3,566.7	3,517.5	8.9	11.4	-77.38	-255.9	532.1	410.0	392.9	17.13	23.937			
3,700.0	3,679.6	3,665.9	3,614.8	9.1	11.8	-77.35	-264.3	548.9	423.0	405.3	17.65	23.970			
3,800.0	3,778.9	3,765.0	3,712.2	9.4	12.1	-77.32	-272.7	565.8	435.9	417.8	18.16	24.001			
3,900.0	3,878.3	3,864.2	3,809.5	9.7	12.5	-77.29	-281.1	582.7	448.9	430.2	18.68	24.031			
4,000.0	3,977.6	3,963.3	3,906.9	9.9	12.9	-77.26	-289.6	599.5	461.8	442.6	19.19	24.059			
4,100.0	4,077.0	4,062.5	4,004.2	10.2	13.3	-77.24	-298.0	616.4	474.7	455.0	19.71	24.085			
4,200.0	4,176.4	4,161.7	4,101.6	10.5	13.6	-77.21	-306.4	633.3	487.7	467.4	20.23	24.110			
4,300.0	4,275.7	4,260.8	4,198.9	10.7	14.0	-77.19	-314.8	650.1	500.6	479.8	20.74	24.133			
4,400.0	4,375.1	4,360.0	4,296.3	11.0	14.4	-77.17	-323.2	667.0	513.5	492.3	21.26	24.155			
4,500.0	4,474.4	4,459.1	4,393.6	11.2	14.8	-77.15	-331.6	683.9	526.5	504.7	21.78	24.177			
4,600.0	4,573.8	4,558.3	4,491.0	11.5	15.1	-77.13	-340.0	700.7	539.4	517.1	22.29	24.197			
4,700.0	4,673.1	4,657.5	4,588.3	11.8	15.5	-77.11	-348.4	717.6	552.3	529.5	22.81	24.216			
4,800.0	4,772.5	4,756.6	4,685.7	12.0	15.9	-77.09	-356.8	734.5	565.3	541.9	23.33	24.234			
4,900.0	4,871.9	4,855.8	4,783.0	12.3	16.3	-77.07	-365.3	751.3	578.2	554.4	23.84	24.252			
5,000.0	4,971.2	4,954.9	4,880.4	12.6	16.6	-77.06	-373.7	768.2	591.1	566.8	24.36	24.269			

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 LR05A D21 595
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Reference Site:	D21 595 Pad	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06B D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total 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	5,070.6	5,054.1	4,977.7	12.8	17.0	-77.04	-382.1	785.1	604.1	579.2	24.87	24.285		
5,200.0	5,169.9	5,153.3	5,075.1	13.1	17.4	-77.03	-390.5	801.9	617.0	591.6	25.39	24.300		
5,300.0	5,269.3	5,252.4	5,172.4	13.4	17.8	-77.01	-398.9	818.8	629.9	604.0	25.91	24.315		
5,400.0	5,368.7	5,351.6	5,269.8	13.6	18.1	-77.00	-407.3	835.7	642.9	616.5	26.42	24.329		
5,500.0	5,468.0	5,450.7	5,367.1	13.9	18.5	-76.99	-415.7	852.5	655.8	628.9	26.94	24.343		
5,600.0	5,567.4	5,549.9	5,464.5	14.1	18.9	-76.97	-424.1	869.4	668.8	641.3	27.46	24.356		
5,700.0	5,666.7	5,649.1	5,561.9	14.4	19.3	-76.96	-432.6	886.3	681.7	653.7	27.97	24.368		
5,800.0	5,766.1	5,748.2	5,659.2	14.7	19.6	-76.95	-441.0	903.1	694.6	666.1	28.49	24.380		
5,900.0	5,865.4	5,847.4	5,756.6	14.9	20.0	-76.94	-449.4	920.0	707.6	678.6	29.01	24.392		
6,000.0	5,964.8	5,946.5	5,853.9	15.2	20.4	-76.93	-457.8	936.9	720.5	691.0	29.52	24.403		
6,100.0	6,064.2	6,045.7	5,951.3	15.5	20.8	-76.92	-466.2	953.7	733.4	703.4	30.04	24.414		
6,200.0	6,163.5	6,144.9	6,048.6	15.7	21.1	-76.91	-474.6	970.6	746.4	715.8	30.56	24.425		
6,300.0	6,262.9	6,244.0	6,146.0	16.0	21.5	-76.90	-483.0	987.5	759.3	728.2	31.08	24.435		
6,400.0	6,362.2	6,343.2	6,243.3	16.3	21.9	-76.89	-491.4	1,004.3	772.2	740.7	31.59	24.444		
6,500.0	6,461.6	6,442.3	6,340.7	16.5	22.3	-76.88	-499.8	1,021.2	785.2	753.1	32.11	24.454		
6,600.0	6,560.9	6,541.5	6,438.0	16.8	22.6	-76.87	-508.3	1,038.1	798.1	765.5	32.63	24.463		
6,700.0	6,660.3	6,640.7	6,535.4	17.0	23.0	-76.86	-516.7	1,054.9	811.1	777.9	33.14	24.472		
6,800.0	6,759.7	6,739.8	6,632.7	17.3	23.4	-76.85	-525.1	1,071.8	824.0	790.3	33.66	24.480		
6,900.0	6,859.0	6,839.0	6,730.1	17.6	23.8	-76.84	-533.5	1,088.7	836.9	802.8	34.18	24.489		
7,000.0	6,958.4	6,938.1	6,827.4	17.8	24.1	-76.83	-541.9	1,105.5	849.9	815.2	34.69	24.497		
7,100.0	7,057.7	7,037.3	6,924.8	18.1	24.5	-76.83	-550.3	1,122.4	862.8	827.6	35.21	24.504		
7,200.0	7,157.1	7,136.5	7,022.1	18.4	24.9	-76.82	-558.7	1,139.3	875.7	840.0	35.73	24.512		
7,300.0	7,256.5	7,235.6	7,119.5	18.6	25.3	-76.81	-567.1	1,156.1	888.7	852.4	36.24	24.519		
7,400.0	7,355.8	7,334.8	7,216.8	18.9	25.6	-76.81	-575.5	1,173.0	901.6	864.8	36.76	24.526		
7,500.0	7,455.2	7,433.9	7,314.2	19.1	26.0	-76.80	-584.0	1,189.9	914.5	877.3	37.28	24.533		
7,600.0	7,554.5	7,533.1	7,411.5	19.4	26.4	-76.79	-592.4	1,206.7	927.5	889.7	37.79	24.540		
7,700.0	7,653.9	7,632.3	7,508.9	19.7	26.8	-76.79	-600.8	1,223.6	940.4	902.1	38.31	24.547		
7,800.0	7,753.2	7,731.4	7,606.2	19.9	27.1	-76.78	-609.2	1,240.4	953.4	914.5	38.83	24.553		
7,900.0	7,852.6	7,830.6	7,703.6	20.2	27.5	-76.77	-617.6	1,257.3	966.3	926.9	39.35	24.559		
8,000.0	7,952.0	7,929.7	7,801.0	20.5	27.9	-76.77	-626.0	1,274.2	979.2	939.4	39.86	24.565		
8,100.0	8,051.3	8,028.9	7,898.3	20.7	28.3	-76.76	-634.4	1,291.0	992.2	951.8	40.38	24.571		
8,200.0	8,150.7	8,128.1	7,995.7	21.0	28.6	-76.76	-642.8	1,307.9	1,005.1	964.2	40.90	24.577		
8,300.0	8,250.0	8,227.2	8,093.0	21.3	29.0	-76.75	-651.2	1,324.8	1,018.0	976.6	41.41	24.582		
8,400.0	8,349.4	8,326.4	8,190.4	21.5	29.4	-76.75	-659.7	1,341.6	1,031.0	989.0	41.93	24.588		
8,500.0	8,448.7	8,434.6	8,296.6	21.8	29.8	-76.74	-668.8	1,359.9	1,043.8	1,001.4	42.46	24.581		
8,600.0	8,548.2	8,576.1	8,436.4	22.0	30.2	-76.97	-678.6	1,379.6	1,054.2	1,011.1	43.07	24.477		
8,700.0	8,648.0	8,718.5	8,578.0	22.2	30.5	-77.14	-685.3	1,393.1	1,061.3	1,017.7	43.55	24.367		
8,800.0	8,747.9	8,861.5	8,720.7	22.3	30.7	-77.20	-688.9	1,400.3	1,065.1	1,021.2	43.92	24.254		
8,900.0	8,847.9	8,990.4	8,849.6	22.5	30.9	-159.30	-689.6	1,401.5	1,065.9	1,021.7	44.19	24.119		
9,000.0	8,947.9	9,094.9	8,954.2	22.6	30.9	-159.30	-689.8	1,401.2	1,066.0	1,021.5	44.45	23.983		
9,100.0	9,047.9	9,199.5	9,058.7	22.7	31.0	-159.30	-690.2	1,400.4	1,066.0	1,021.3	44.70	23.846		
9,200.0	9,147.9	9,302.5	9,161.7	22.8	31.1	-159.30	-690.9	1,399.3	1,066.0	1,021.1	44.97	23.708		
9,300.0	9,247.9	9,402.5	9,261.7	23.0	31.2	-159.30	-691.6	1,398.1	1,066.0	1,020.8	45.23	23.570		
9,400.0	9,347.9	9,502.5	9,361.7	23.1	31.3	-159.30	-692.3	1,396.9	1,066.0	1,020.5	45.49	23.433		
9,500.0	9,447.9	9,602.5	9,461.7	23.2	31.4	-159.30	-692.9	1,395.7	1,066.0	1,020.3	45.76	23.298		
9,600.0	9,547.9	9,702.5	9,561.7	23.3	31.4	-159.30	-693.6	1,394.5	1,066.0	1,020.0	46.02	23.163		
9,700.0	9,647.9	9,802.5	9,661.7	23.5	31.5	-159.30	-694.3	1,393.3	1,066.0	1,019.7	46.29	23.029		
9,800.0	9,747.9	9,902.5	9,761.7	23.6	31.6	-159.30	-695.0	1,392.1	1,066.0	1,019.5	46.56	22.896		
9,900.0	9,847.9	10,002.5	9,861.7	23.7	31.7	-159.30	-695.7	1,390.9	1,066.0	1,019.2	46.83	22.765		
10,000.0	9,947.8	10,102.5	9,961.7	23.9	31.8	-159.30	-696.4	1,389.7	1,066.0	1,018.9	47.10	22.634		
10,100.0	10,047.8	10,202.5	10,061.6	24.0	31.9	-159.30	-697.1	1,388.5	1,066.0	1,018.7	47.37	22.504		
10,200.0	10,147.8	10,302.5	10,161.6	24.1	31.9	-159.30	-697.8	1,387.3	1,066.0	1,018.4	47.64	22.375		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06B D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
10,300.0	10,247.8	10,402.5	10,261.6	24.2	32.0	-159.30	-698.5	1,386.1	1,066.0	1,018.1	47.92	22.248		
10,400.0	10,347.8	10,502.5	10,361.6	24.4	32.1	-159.30	-699.2	1,384.9	1,066.0	1,017.8	48.19	22.121		
10,500.0	10,447.8	10,602.5	10,461.6	24.5	32.2	-159.30	-699.9	1,383.7	1,066.0	1,017.6	48.47	21.995		
10,600.0	10,547.8	10,702.5	10,561.6	24.6	32.3	-159.30	-700.5	1,382.5	1,066.0	1,017.3	48.74	21.870		
10,700.0	10,647.8	10,802.5	10,661.6	24.8	32.4	-159.30	-701.2	1,381.3	1,066.0	1,017.0	49.02	21.747		
10,800.0	10,747.8	10,902.5	10,761.6	24.9	32.5	-159.30	-701.9	1,380.1	1,066.0	1,016.7	49.30	21.624		
10,900.0	10,847.8	11,002.5	10,861.6	25.0	32.6	-159.30	-702.6	1,378.9	1,066.0	1,016.4	49.58	21.502		
11,000.0	10,947.8	11,102.5	10,961.6	25.2	32.7	-159.30	-703.3	1,377.7	1,066.0	1,016.2	49.86	21.381		
11,100.0	11,047.7	11,202.5	11,061.5	25.3	32.8	-159.30	-704.0	1,376.5	1,066.0	1,015.9	50.14	21.262		
11,200.0	11,147.7	11,302.5	11,161.5	25.5	32.9	-159.30	-704.7	1,375.3	1,066.0	1,015.6	50.42	21.143		
11,300.0	11,247.7	11,402.5	11,261.5	25.6	33.0	-159.30	-705.4	1,374.1	1,066.0	1,015.3	50.70	21.025		
11,400.0	11,347.7	11,502.5	11,361.5	25.7	33.0	-159.30	-706.1	1,372.9	1,066.0	1,015.0	50.99	20.908		
11,500.0	11,447.7	11,602.5	11,461.5	25.9	33.1	-159.30	-706.8	1,371.7	1,066.0	1,014.7	51.27	20.792		
11,600.0	11,547.7	11,702.5	11,561.5	26.0	33.2	-159.30	-707.5	1,370.5	1,066.0	1,014.4	51.56	20.677		
11,700.0	11,647.7	11,802.5	11,661.5	26.1	33.3	-159.30	-708.1	1,369.3	1,066.0	1,014.2	51.84	20.563		
11,800.0	11,747.7	11,902.5	11,761.5	26.3	33.4	-159.30	-708.8	1,368.1	1,066.0	1,013.9	52.13	20.450		
11,894.0	11,841.7	11,996.5	11,855.5	26.4	33.5	-159.30	-709.5	1,367.0	1,066.0	1,013.6	52.40	20.344		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06C D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	108.58	-4.7	14.1	14.9					
100.0	100.0	100.0	100.0	0.1	0.1	108.58	-4.7	14.1	14.9	14.6	0.30	50.093		
200.0	200.0	200.0	200.0	0.3	0.3	108.58	-4.7	14.1	14.9	14.2	0.65	23.016		
300.0	300.0	300.0	300.0	0.5	0.5	108.58	-4.7	14.1	14.9	13.9	0.99	14.940		
400.0	400.0	400.0	400.0	0.7	0.7	-54.86	-4.7	14.1	13.8	12.4	1.35	10.248		
500.0	499.8	499.8	499.8	0.9	0.8	-76.53	-4.7	14.1	11.6	9.9	1.71	6.776		
535.6	535.3	535.3	535.3	0.9	0.9	-89.98	-4.7	14.1	11.3	9.4	1.85	6.089 CC, ES, SF		
600.0	599.5	599.5	599.5	1.1	1.0	-117.92	-4.7	14.1	12.8	10.7	2.09	6.113		
700.0	698.8	698.8	698.8	1.3	1.2	-146.61	-4.7	14.1	20.6	18.2	2.42	8.490		
800.0	798.2	798.2	798.2	1.6	1.4	-158.31	-4.7	14.1	30.7	27.9	2.76	11.117		
900.0	897.5	897.5	897.5	1.8	1.5	-164.10	-4.7	14.1	41.4	38.3	3.10	13.356		
1,000.0	996.9	996.9	996.9	2.1	1.7	-167.49	-4.7	14.1	52.4	48.9	3.44	15.212		
1,100.0	1,096.3	1,098.0	1,097.9	2.3	1.9	-168.82	-5.8	15.3	62.2	58.4	3.79	16.382		
1,200.0	1,195.6	1,199.6	1,199.4	2.6	2.1	-168.01	-9.4	19.3	69.2	65.0	4.16	16.640		
1,300.0	1,295.0	1,301.4	1,300.8	2.8	2.3	-165.59	-15.3	25.9	73.4	68.9	4.54	16.191		
1,400.0	1,394.3	1,403.2	1,401.9	3.1	2.5	-161.57	-23.6	35.2	75.2	70.3	4.95	15.202		
1,500.0	1,493.7	1,504.7	1,502.1	3.4	2.8	-155.73	-34.2	47.2	75.1	69.7	5.43	13.828		
1,600.0	1,593.0	1,605.7	1,601.2	3.6	3.1	-147.67	-47.2	61.7	73.8	67.7	6.02	12.245		
1,700.0	1,692.4	1,705.9	1,698.8	3.9	3.4	-137.01	-62.3	78.7	72.6	65.8	6.78	10.707		
1,724.6	1,716.8	1,730.4	1,722.5	3.9	3.5	-133.99	-66.3	83.2	72.5	65.5	6.99	10.369		
1,800.0	1,791.8	1,805.1	1,794.6	4.1	3.8	-123.86	-79.5	98.0	73.4	65.7	7.68	9.555		
1,900.0	1,891.1	1,903.2	1,888.4	4.4	4.3	-109.42	-98.6	119.4	78.2	69.6	8.58	9.117		
2,000.0	1,990.5	2,001.0	1,981.7	4.7	4.8	-96.80	-118.1	141.3	87.7	78.4	9.30	9.433		
2,100.0	2,089.8	2,098.8	2,075.0	4.9	5.3	-86.95	-137.6	163.2	100.6	90.8	9.85	10.216		
2,200.0	2,189.2	2,196.7	2,168.3	5.2	5.8	-79.47	-157.2	185.1	115.9	105.6	10.31	11.244		
2,300.0	2,288.6	2,294.5	2,261.6	5.5	6.3	-73.76	-176.7	207.1	132.6	121.9	10.71	12.379		
2,400.0	2,387.9	2,392.3	2,354.9	5.7	6.8	-69.36	-196.2	229.0	150.3	139.2	11.10	13.546		
2,500.0	2,487.3	2,490.1	2,448.3	6.0	7.3	-65.88	-215.8	250.9	168.8	157.3	11.48	14.703		
2,600.0	2,586.6	2,588.0	2,541.6	6.2	7.8	-63.10	-235.3	272.8	187.7	175.8	11.86	15.825		
2,700.0	2,686.0	2,685.8	2,634.9	6.5	8.4	-60.82	-254.8	294.7	206.9	194.7	12.24	16.903		
2,800.0	2,785.3	2,783.6	2,728.2	6.8	8.9	-58.94	-274.3	316.6	226.5	213.8	12.63	17.932		
2,900.0	2,884.7	2,881.4	2,821.5	7.0	9.4	-57.35	-293.9	338.5	246.2	233.2	13.02	18.909		
3,000.0	2,984.1	2,979.3	2,914.8	7.3	10.0	-56.00	-313.4	360.5	266.1	252.6	13.41	19.836		
3,100.0	3,083.4	3,077.1	3,008.2	7.6	10.5	-54.83	-332.9	382.4	286.1	272.2	13.81	20.714		
3,200.0	3,182.8	3,174.9	3,101.5	7.8	11.0	-53.82	-352.5	404.3	306.2	291.9	14.21	21.545		
3,300.0	3,282.1	3,272.7	3,194.8	8.1	11.6	-52.93	-372.0	426.2	326.3	311.7	14.61	22.333		
3,400.0	3,381.5	3,370.6	3,288.1	8.3	12.1	-52.15	-391.5	448.1	346.6	331.6	15.02	23.079		
3,500.0	3,480.8	3,468.4	3,381.4	8.6	12.7	-51.45	-411.0	470.0	366.9	351.5	15.42	23.787		
3,600.0	3,580.2	3,566.2	3,474.7	8.9	13.2	-50.83	-430.6	491.9	387.2	371.4	15.83	24.459		
3,700.0	3,679.6	3,664.0	3,568.1	9.1	13.8	-50.27	-450.1	513.9	407.6	391.4	16.24	25.097		
3,800.0	3,778.9	3,761.9	3,661.4	9.4	14.3	-49.76	-469.6	535.8	428.0	411.4	16.65	25.704		
3,900.0	3,878.3	3,859.7	3,754.7	9.7	14.9	-49.29	-489.2	557.7	448.5	431.4	17.06	26.281		
4,000.0	3,977.6	3,957.5	3,848.0	9.9	15.4	-48.87	-508.7	579.6	469.0	451.5	17.48	26.832		
4,100.0	4,077.0	4,055.4	3,941.3	10.2	15.9	-48.49	-528.2	601.5	489.5	471.6	17.89	27.356		
4,200.0	4,176.4	4,153.2	4,034.7	10.5	16.5	-48.13	-547.8	623.4	510.0	491.7	18.31	27.856		
4,300.0	4,275.7	4,251.0	4,128.0	10.7	17.0	-47.80	-567.3	645.3	530.5	511.8	18.72	28.335		
4,400.0	4,375.1	4,348.8	4,221.3	11.0	17.6	-47.50	-586.8	667.3	551.1	531.9	19.14	28.792		
4,500.0	4,474.4	4,446.7	4,314.6	11.2	18.1	-47.22	-606.3	689.2	571.6	552.1	19.56	29.229		
4,600.0	4,573.8	4,544.5	4,407.9	11.5	18.7	-46.95	-625.9	711.1	592.2	572.2	19.97	29.648		
4,700.0	4,673.1	4,642.3	4,501.2	11.8	19.2	-46.71	-645.4	733.0	612.8	592.4	20.39	30.049		
4,800.0	4,772.5	4,740.1	4,594.6	12.0	19.8	-46.48	-664.9	754.9	633.4	612.6	20.81	30.435		
4,900.0	4,871.9	4,838.0	4,687.9	12.3	20.3	-46.27	-684.5	776.8	654.0	632.8	21.23	30.805		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06C D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,000.0	4,971.2	4,935.8	4,781.2	12.6	20.9	-46.06	-704.0	798.7	674.6	653.0	21.65	31.160		
5,100.0	5,070.6	5,033.6	4,874.5	12.8	21.4	-45.87	-723.5	820.7	695.2	673.2	22.07	31.502		
5,200.0	5,169.9	5,131.4	4,967.8	13.1	22.0	-45.70	-743.0	842.6	715.9	693.4	22.49	31.830		
5,300.0	5,269.3	5,229.3	5,061.1	13.4	22.5	-45.53	-762.6	864.5	736.5	713.6	22.91	32.147		
5,400.0	5,368.7	5,327.1	5,154.5	13.6	23.1	-45.37	-782.1	886.4	757.1	733.8	23.33	32.452		
5,500.0	5,468.0	5,424.9	5,247.8	13.9	23.6	-45.22	-801.6	908.3	777.8	754.0	23.75	32.746		
5,600.0	5,567.4	5,522.7	5,341.1	14.1	24.2	-45.07	-821.2	930.2	798.4	774.3	24.17	33.030		
5,700.0	5,666.7	5,620.6	5,434.4	14.4	24.7	-44.94	-840.7	952.2	819.1	794.5	24.60	33.304		
5,800.0	5,766.1	5,718.4	5,527.7	14.7	25.3	-44.81	-860.2	974.1	839.8	814.8	25.02	33.568		
5,900.0	5,865.4	5,816.2	5,621.0	14.9	25.8	-44.69	-879.8	996.0	860.4	835.0	25.44	33.824		
6,000.0	5,964.8	5,914.0	5,714.4	15.2	26.4	-44.57	-899.3	1,017.9	881.1	855.2	25.86	34.071		
6,100.0	6,064.2	6,011.9	5,807.7	15.5	26.9	-44.46	-918.8	1,039.8	901.8	875.5	26.28	34.310		
6,200.0	6,163.5	6,109.7	5,901.0	15.7	27.5	-44.35	-938.3	1,061.7	922.4	895.7	26.71	34.542		
6,300.0	6,262.9	6,207.5	5,994.3	16.0	28.0	-44.25	-957.9	1,083.6	943.1	916.0	27.13	34.766		
6,400.0	6,362.2	6,305.3	6,087.6	16.3	28.6	-44.15	-977.4	1,105.6	963.8	936.3	27.55	34.984		
6,500.0	6,461.6	6,403.2	6,181.0	16.5	29.1	-44.06	-996.9	1,127.5	984.5	956.5	27.97	35.194		
6,600.0	6,560.9	6,501.0	6,274.3	16.8	29.7	-43.97	-1,016.5	1,149.4	1,005.2	976.8	28.40	35.399		
6,700.0	6,660.3	6,598.8	6,367.6	17.0	30.2	-43.88	-1,036.0	1,171.3	1,025.9	997.0	28.82	35.597		
6,800.0	6,759.7	6,696.6	6,460.9	17.3	30.8	-43.80	-1,055.5	1,193.2	1,046.6	1,017.3	29.24	35.790		
6,900.0	6,859.0	6,794.5	6,554.2	17.6	31.3	-43.72	-1,075.0	1,215.1	1,067.2	1,037.6	29.67	35.976		
7,000.0	6,958.4	6,892.3	6,647.5	17.8	31.9	-43.64	-1,094.6	1,237.0	1,087.9	1,057.9	30.09	36.158		
7,100.0	7,057.7	6,990.1	6,740.9	18.1	32.4	-43.57	-1,114.1	1,259.0	1,108.6	1,078.1	30.51	36.335		
7,200.0	7,157.1	7,087.9	6,834.2	18.4	33.0	-43.50	-1,133.6	1,280.9	1,129.3	1,098.4	30.94	36.506		
7,300.0	7,256.5	7,185.8	6,927.5	18.6	33.5	-43.43	-1,153.2	1,302.8	1,150.0	1,118.7	31.36	36.673		
7,400.0	7,355.8	7,283.6	7,020.8	18.9	34.1	-43.36	-1,172.7	1,324.7	1,170.7	1,139.0	31.78	36.836		
7,500.0	7,455.2	7,381.4	7,114.1	19.1	34.6	-43.30	-1,192.2	1,346.6	1,191.4	1,159.2	32.21	36.994		
7,600.0	7,554.5	7,479.2	7,207.4	19.4	35.2	-43.24	-1,211.8	1,368.5	1,212.1	1,179.5	32.63	37.148		
7,700.0	7,653.9	7,577.1	7,300.8	19.7	35.7	-43.18	-1,231.3	1,390.4	1,232.8	1,199.8	33.05	37.298		
7,800.0	7,753.2	7,674.9	7,394.1	19.9	36.3	-43.12	-1,250.8	1,412.4	1,253.6	1,220.1	33.48	37.444		
7,900.0	7,852.6	7,772.7	7,487.4	20.2	36.8	-43.07	-1,270.3	1,434.3	1,274.3	1,240.4	33.90	37.587		
8,000.0	7,952.0	7,870.5	7,580.7	20.5	37.4	-43.01	-1,289.9	1,456.2	1,295.0	1,260.6	34.33	37.726		
8,100.0	8,051.3	7,968.4	7,674.0	20.7	37.9	-42.96	-1,309.4	1,478.1	1,315.7	1,280.9	34.75	37.861		
8,200.0	8,150.7	8,066.2	7,767.3	21.0	38.5	-42.91	-1,328.9	1,500.0	1,336.4	1,301.2	35.17	37.994		
8,300.0	8,250.0	8,164.0	7,860.7	21.3	39.0	-42.86	-1,348.5	1,521.9	1,357.1	1,321.5	35.60	38.123		
8,400.0	8,349.4	8,261.8	7,954.0	21.5	39.6	-42.81	-1,368.0	1,543.9	1,377.8	1,341.8	36.02	38.249		
8,500.0	8,448.7	8,401.8	8,087.9	21.8	40.3	-42.76	-1,395.0	1,574.2	1,397.8	1,361.3	36.53	38.260		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06D D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	108.46	-14.2	42.5	44.9					
100.0	100.0	100.0	100.0	0.1	0.1	108.46	-14.2	42.5	44.9	44.6	0.30	151.180		
200.0	200.0	200.0	200.0	0.3	0.3	108.46	-14.2	42.5	44.9	44.2	0.65	69.461 CC, ES		
300.0	300.0	299.2	299.2	0.5	0.5	110.36	-15.9	42.8	45.7	44.7	0.99	45.943		
400.0	400.0	397.6	397.4	0.7	0.7	-45.37	-20.0	45.0	48.0	46.7	1.35	35.596		
500.0	499.8	495.8	495.4	0.9	0.9	-46.04	-25.4	50.1	51.3	49.6	1.71	30.014		
600.0	599.5	593.8	592.8	1.1	1.1	-49.00	-32.1	58.4	55.7	53.6	2.10	26.600		
700.0	698.8	691.6	689.6	1.3	1.4	-52.92	-40.2	69.6	62.1	59.6	2.51	24.726		
800.0	798.2	788.8	785.3	1.6	1.8	-55.60	-49.5	83.8	72.0	69.1	2.95	24.397 SF		
900.0	897.5	885.3	879.7	1.8	2.1	-57.10	-60.1	100.8	85.3	81.9	3.40	25.055		
1,000.0	996.9	981.3	972.9	2.1	2.6	-57.73	-71.9	120.6	101.8	97.9	3.86	26.366		
1,100.0	1,096.3	1,079.7	1,068.1	2.3	3.0	-58.05	-84.4	142.0	119.6	115.2	4.33	27.634		
1,200.0	1,195.6	1,178.1	1,163.3	2.6	3.5	-58.28	-97.0	163.4	137.4	132.6	4.80	28.635		
1,300.0	1,295.0	1,276.5	1,258.5	2.8	3.9	-58.46	-109.5	184.9	155.1	149.9	5.27	29.443		
1,400.0	1,394.3	1,374.9	1,353.7	3.1	4.4	-58.60	-122.1	206.3	172.9	167.2	5.74	30.107		
1,500.0	1,493.7	1,473.3	1,449.0	3.4	4.9	-58.71	-134.6	227.7	190.7	184.5	6.22	30.662		
1,600.0	1,593.0	1,571.7	1,544.2	3.6	5.3	-58.81	-147.2	249.1	208.5	201.8	6.70	31.133		
1,700.0	1,692.4	1,670.1	1,639.4	3.9	5.8	-58.89	-159.8	270.6	226.3	219.1	7.17	31.536		
1,800.0	1,791.8	1,768.5	1,734.6	4.1	6.3	-58.96	-172.3	292.0	244.1	236.4	7.65	31.885		
1,900.0	1,891.1	1,866.9	1,829.8	4.4	6.7	-59.02	-184.9	313.4	261.8	253.7	8.13	32.191		
2,000.0	1,990.5	1,965.3	1,925.1	4.7	7.2	-59.07	-197.4	334.9	279.6	271.0	8.61	32.461		
2,100.0	2,089.8	2,063.7	2,020.3	4.9	7.7	-59.12	-210.0	356.3	297.4	288.3	9.09	32.700		
2,200.0	2,189.2	2,162.1	2,115.5	5.2	8.2	-59.16	-222.5	377.7	315.2	305.6	9.58	32.914		
2,300.0	2,288.6	2,260.5	2,210.7	5.5	8.6	-59.19	-235.1	399.1	333.0	322.9	10.06	33.106		
2,400.0	2,387.9	2,358.9	2,305.9	5.7	9.1	-59.22	-247.7	420.6	350.8	340.2	10.54	33.280		
2,500.0	2,487.3	2,457.4	2,401.2	6.0	9.6	-59.25	-260.2	442.0	368.5	357.5	11.02	33.438		
2,600.0	2,586.6	2,555.8	2,496.4	6.2	10.0	-59.28	-272.8	463.4	386.3	374.8	11.50	33.582		
2,700.0	2,686.0	2,654.2	2,591.6	6.5	10.5	-59.31	-285.3	484.9	404.1	392.1	11.99	33.713		
2,800.0	2,785.3	2,752.6	2,686.8	6.8	11.0	-59.33	-297.9	506.3	421.9	409.4	12.47	33.835		
2,900.0	2,884.7	2,851.0	2,782.0	7.0	11.5	-59.35	-310.4	527.7	439.7	426.7	12.95	33.946		
3,000.0	2,984.1	2,949.4	2,877.3	7.3	11.9	-59.37	-323.0	549.1	457.5	444.0	13.44	34.050		
3,100.0	3,083.4	3,047.8	2,972.5	7.6	12.4	-59.38	-335.6	570.6	475.3	461.3	13.92	34.145		
3,200.0	3,182.8	3,146.2	3,067.7	7.8	12.9	-59.40	-348.1	592.0	493.0	478.6	14.40	34.234		
3,300.0	3,282.1	3,244.6	3,162.9	8.1	13.4	-59.42	-360.7	613.4	510.8	495.9	14.89	34.318		
3,400.0	3,381.5	3,343.0	3,258.1	8.3	13.8	-59.43	-373.2	634.8	528.6	513.2	15.37	34.395		
3,500.0	3,480.8	3,441.4	3,353.4	8.6	14.3	-59.44	-385.8	656.3	546.4	530.6	15.85	34.468		
3,600.0	3,580.2	3,539.8	3,448.6	8.9	14.8	-59.46	-398.3	677.7	564.2	547.9	16.34	34.536		
3,700.0	3,679.6	3,638.2	3,543.8	9.1	15.3	-59.47	-410.9	699.1	582.0	565.2	16.82	34.600		
3,800.0	3,778.9	3,736.6	3,639.0	9.4	15.7	-59.48	-423.5	720.6	599.8	582.5	17.30	34.661		
3,900.0	3,878.3	3,835.0	3,734.2	9.7	16.2	-59.49	-436.0	742.0	617.5	599.8	17.79	34.718		
4,000.0	3,977.6	3,933.4	3,829.5	9.9	16.7	-59.50	-448.6	763.4	635.3	617.1	18.27	34.772		
4,100.0	4,077.0	4,031.8	3,924.7	10.2	17.2	-59.51	-461.1	784.8	653.1	634.4	18.76	34.823		
4,200.0	4,176.4	4,130.2	4,019.9	10.5	17.6	-59.52	-473.7	806.3	670.9	651.7	19.24	34.872		
4,300.0	4,275.7	4,228.7	4,115.1	10.7	18.1	-59.52	-486.2	827.7	688.7	669.0	19.72	34.918		
4,400.0	4,375.1	4,327.1	4,210.3	11.0	18.6	-59.53	-498.8	849.1	706.5	686.3	20.21	34.961		
4,500.0	4,474.4	4,425.5	4,305.6	11.2	19.1	-59.54	-511.4	870.6	724.3	703.6	20.69	35.003		
4,600.0	4,573.8	4,523.9	4,400.8	11.5	19.5	-59.55	-523.9	892.0	742.1	720.9	21.18	35.042		
4,700.0	4,673.1	4,622.3	4,496.0	11.8	20.0	-59.55	-536.5	913.4	759.8	738.2	21.66	35.080		
4,800.0	4,772.5	4,720.7	4,591.2	12.0	20.5	-59.56	-549.0	934.8	777.6	755.5	22.14	35.116		
4,900.0	4,871.9	4,819.1	4,686.4	12.3	21.0	-59.57	-561.6	956.3	795.4	772.8	22.63	35.151		
5,000.0	4,971.2	4,917.5	4,781.7	12.6	21.4	-59.57	-574.1	977.7	813.2	790.1	23.11	35.184		
5,100.0	5,070.6	5,015.9	4,876.9	12.8	21.9	-59.58	-586.7	999.1	831.0	807.4	23.60	35.216		

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 LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design D21 595 Pad - LR06D D21 595 - DD - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,200.0	5,169.9	5,114.3	4,972.1	13.1	22.4	-59.58	-599.3	1,020.5	848.8	824.7	24.08	35.246		
5,300.0	5,269.3	5,212.7	5,067.3	13.4	22.9	-59.59	-611.8	1,042.0	866.6	842.0	24.57	35.275		
5,400.0	5,368.7	5,311.1	5,162.5	13.6	23.3	-59.59	-624.4	1,063.4	884.3	859.3	25.05	35.303		
5,500.0	5,468.0	5,409.5	5,257.8	13.9	23.8	-59.60	-636.9	1,084.8	902.1	876.6	25.53	35.330		
5,600.0	5,567.4	5,507.9	5,353.0	14.1	24.3	-59.60	-649.5	1,106.3	919.9	893.9	26.02	35.356		
5,700.0	5,666.7	5,606.3	5,448.2	14.4	24.8	-59.61	-662.0	1,127.7	937.7	911.2	26.50	35.381		
5,800.0	5,766.1	5,704.7	5,543.4	14.7	25.2	-59.61	-674.6	1,149.1	955.5	928.5	26.99	35.405		
5,900.0	5,865.4	5,803.1	5,638.6	14.9	25.7	-59.61	-687.2	1,170.5	973.3	945.8	27.47	35.428		
6,000.0	5,964.8	5,901.5	5,733.9	15.2	26.2	-59.62	-699.7	1,192.0	991.1	963.1	27.96	35.450		
6,100.0	6,064.2	6,000.0	5,829.1	15.5	26.7	-59.62	-712.3	1,213.4	1,008.8	980.4	28.44	35.471		
6,200.0	6,163.5	6,098.4	5,924.3	15.7	27.1	-59.63	-724.8	1,234.8	1,026.6	997.7	28.93	35.492		
6,300.0	6,262.9	6,196.8	6,019.5	16.0	27.6	-59.63	-737.4	1,256.3	1,044.4	1,015.0	29.41	35.512		
6,400.0	6,362.2	6,295.2	6,114.7	16.3	28.1	-59.63	-749.9	1,277.7	1,062.2	1,032.3	29.89	35.532		
6,500.0	6,461.6	6,393.6	6,210.0	16.5	28.6	-59.64	-762.5	1,299.1	1,080.0	1,049.6	30.38	35.550		
6,600.0	6,560.9	6,492.0	6,305.2	16.8	29.0	-59.64	-775.1	1,320.5	1,097.8	1,066.9	30.86	35.569		
6,700.0	6,660.3	6,590.4	6,400.4	17.0	29.5	-59.64	-787.6	1,342.0	1,115.6	1,084.2	31.35	35.586		
6,800.0	6,759.7	6,688.8	6,495.6	17.3	30.0	-59.65	-800.2	1,363.4	1,133.3	1,101.5	31.83	35.603		
6,900.0	6,859.0	6,787.2	6,590.8	17.6	30.5	-59.65	-812.7	1,384.8	1,151.1	1,118.8	32.32	35.620		
7,000.0	6,958.4	6,885.6	6,686.1	17.8	31.0	-59.65	-825.3	1,406.3	1,168.9	1,136.1	32.80	35.636		
7,100.0	7,057.7	6,984.0	6,781.3	18.1	31.4	-59.65	-837.8	1,427.7	1,186.7	1,153.4	33.29	35.651		
7,200.0	7,157.1	7,082.4	6,876.5	18.4	31.9	-59.66	-850.4	1,449.1	1,204.5	1,170.7	33.77	35.667		
7,300.0	7,256.5	7,180.8	6,971.7	18.6	32.4	-59.66	-863.0	1,470.5	1,222.3	1,188.0	34.26	35.681		
7,400.0	7,355.8	7,279.2	7,066.9	18.9	32.9	-59.66	-875.5	1,492.0	1,240.1	1,205.3	34.74	35.695		
7,500.0	7,455.2	7,377.6	7,162.2	19.1	33.3	-59.66	-888.1	1,513.4	1,257.9	1,222.6	35.22	35.709		
7,600.0	7,554.5	7,476.0	7,257.4	19.4	33.8	-59.67	-900.6	1,534.8	1,275.6	1,239.9	35.71	35.723		
7,700.0	7,653.9	7,574.4	7,352.6	19.7	34.3	-59.67	-913.2	1,556.2	1,293.4	1,257.2	36.19	35.736		
7,800.0	7,753.2	7,672.8	7,447.8	19.9	34.8	-59.67	-925.7	1,577.7	1,311.2	1,274.5	36.68	35.749		
7,900.0	7,852.6	7,771.2	7,543.0	20.2	35.2	-59.67	-938.3	1,599.1	1,329.0	1,291.8	37.16	35.761		
8,000.0	7,952.0	7,869.7	7,638.3	20.5	35.7	-59.68	-950.9	1,620.5	1,346.8	1,309.1	37.65	35.773		
8,100.0	8,051.3	7,968.1	7,733.5	20.7	36.2	-59.68	-963.4	1,642.0	1,364.6	1,326.4	38.13	35.785		
8,200.0	8,150.7	8,066.5	7,828.7	21.0	36.7	-59.68	-976.0	1,663.4	1,382.4	1,343.7	38.62	35.796		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05A 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:	LR05A D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

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

Coordinates are relative to: LR05A D21 595
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.62°

