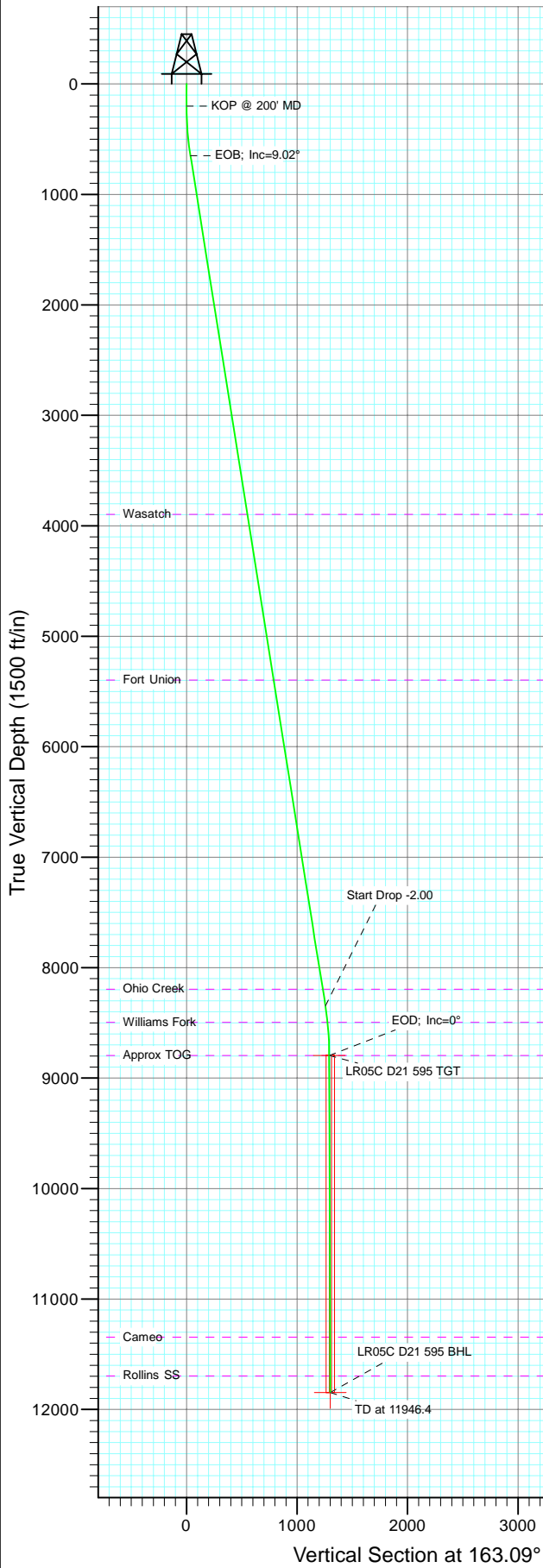
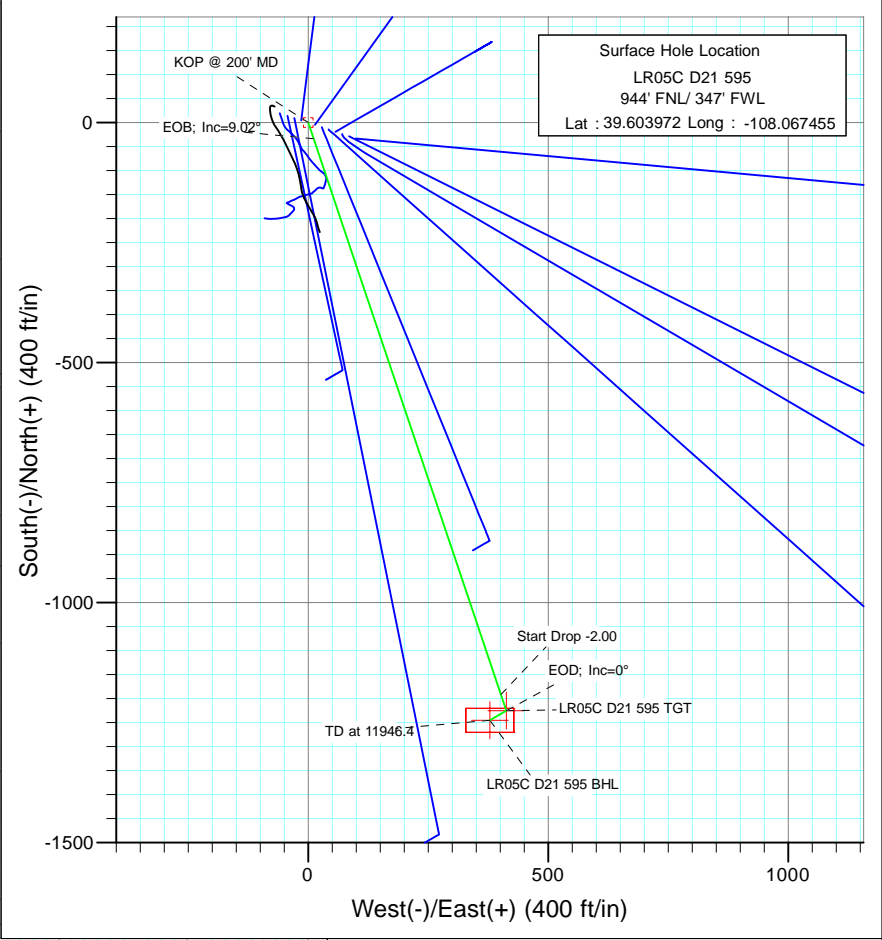


Project: Garfield County
 Site: D21 595 Pad
 Well: LR05C D21 595
 Wellbore: DD
 Design: Plan #2



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	651.0	9.02	161.37	649.1	-33.6	11.3	2.00	161.37	35.4	
4	8445.1	9.02	161.37	8346.9	-1191.4	401.7	0.00	0.00	1256.8	
5	8896.1	0.00	0.00	8796.0	-1225.0	413.0	2.00	180.00	1292.2	LR05C D21 595 TGT
6	9213.0	0.79	239.97	9112.9	-1226.1	411.2	0.25	239.97	1292.7	
7	11946.4	0.79	239.97	11846.0	-1245.0	378.4	0.00	0.00	1301.3	LR05C D21 595 BHL



Bottom Hole Location
 LR05C D21 595
 2189' FNL/ 722' FWL
 Lat : 39.600554
 Long. : -108.066112

Azimuths to True North
 Magnetic North: 10.45°

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

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3896.0	3938.5	Wasatch
5396.0	5457.3	Fort Union
8196.0	8292.3	Ohio Creek
8496.0	8595.5	Williams Fork
8796.0	8896.1	Approx TOG
11346.0	11446.3	Cameo
11696.0	11796.4	Rollins SS

DESIGN DETAILS: Plan #2					
1055XX; BH					
KBE @ 8278.0ft (Original Well Elev)					
Target	Azimuth	Origin	N/S	E/W	From TVD
LR05C D21 595 BHL	163.09	Slot	0.0	0.0	0.0

Cathedral Energy Services

Planning Report

Database: EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference: Well LR05C D21 595
Company: Berry Petroleum Company (NAD 83)	TVD Reference: KBE @ 8278.0ft (Original Well Elev)
Project: Garfield County	MD Reference: KBE @ 8278.0ft (Original Well Elev)
Site: D21 595 Pad	North Reference: True
Well: LR05C 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 LR05C D21 595					
Well Position	+N/-S	0.0 ft	Northing:	1,655,100.35 ft	Latitude: 39.603972
	+E/-W	0.0 ft	Easting:	2,276,675.32 ft	Longitude: -108.067455
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
	IGRF200510	11/23/2010	(°)	(°)	(nT)
			10.44	65.84	52,369

Design Plan #2					
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	163.09	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
651.0	9.02	161.37	649.1	-33.6	11.3	2.00	2.00	0.00	161.37	
8,445.1	9.02	161.37	8,346.9	-1,191.4	401.7	0.00	0.00	0.00	0.00	
8,896.1	0.00	0.00	8,796.0	-1,225.0	413.0	2.00	-2.00	0.00	180.00	LR05C D21 595 TGT
9,213.0	0.79	239.97	9,112.9	-1,226.1	411.2	0.25	0.25	-37.88	239.97	
11,946.4	0.79	239.97	11,846.0	-1,245.0	378.4	0.00	0.00	0.00	0.00	LR05C D21 595 BHL

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR05C D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	0.0	0.0	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	0.0	0.0	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP @ 200' MD
210.0	0.20	161.37	210.0	0.0	0.0	0.0	2.00	2.00	
240.0	0.80	161.37	240.0	-0.3	0.1	0.3	2.00	2.00	
270.0	1.40	161.37	270.0	-0.8	0.3	0.9	2.00	2.00	
300.0	2.00	161.37	300.0	-1.7	0.6	1.7	2.00	2.00	
330.0	2.60	161.37	330.0	-2.8	0.9	2.9	2.00	2.00	
360.0	3.20	161.37	359.9	-4.2	1.4	4.5	2.00	2.00	
390.0	3.80	161.37	389.9	-6.0	2.0	6.3	2.00	2.00	
420.0	4.40	161.37	419.8	-8.0	2.7	8.4	2.00	2.00	
450.0	5.00	161.37	449.7	-10.3	3.5	10.9	2.00	2.00	
480.0	5.60	161.37	479.6	-13.0	4.4	13.7	2.00	2.00	
510.0	6.20	161.37	509.4	-15.9	5.4	16.7	2.00	2.00	
540.0	6.80	161.37	539.2	-19.1	6.4	20.1	2.00	2.00	
570.0	7.40	161.37	569.0	-22.6	7.6	23.8	2.00	2.00	
600.0	8.00	161.37	598.7	-26.4	8.9	27.9	2.00	2.00	
630.0	8.60	161.37	628.4	-30.5	10.3	32.2	2.00	2.00	
651.0	9.02	161.37	649.1	-33.6	11.3	35.4	2.00	2.00	EOB; Inc=9.02°
660.0	9.02	161.37	658.0	-34.9	11.8	36.8	0.00	0.00	
690.0	9.02	161.37	687.7	-39.4	13.3	41.5	0.00	0.00	
720.0	9.02	161.37	717.3	-43.8	14.8	46.2	0.00	0.00	
750.0	9.02	161.37	746.9	-48.3	16.3	50.9	0.00	0.00	
780.0	9.02	161.37	776.5	-52.7	17.8	55.6	0.00	0.00	
810.0	9.02	161.37	806.2	-57.2	19.3	60.3	0.00	0.00	
840.0	9.02	161.37	835.8	-61.6	20.8	65.0	0.00	0.00	
870.0	9.02	161.37	865.4	-66.1	22.3	69.7	0.00	0.00	
900.0	9.02	161.37	895.1	-70.6	23.8	74.4	0.00	0.00	
930.0	9.02	161.37	924.7	-75.0	25.3	79.1	0.00	0.00	
960.0	9.02	161.37	954.3	-79.5	26.8	83.8	0.00	0.00	
990.0	9.02	161.37	983.9	-83.9	28.3	88.5	0.00	0.00	
1,020.0	9.02	161.37	1,013.6	-88.4	29.8	93.2	0.00	0.00	
1,050.0	9.02	161.37	1,043.2	-92.8	31.3	97.9	0.00	0.00	
1,080.0	9.02	161.37	1,072.8	-97.3	32.8	102.6	0.00	0.00	
1,110.0	9.02	161.37	1,102.5	-101.8	34.3	107.3	0.00	0.00	
1,140.0	9.02	161.37	1,132.1	-106.2	35.8	112.0	0.00	0.00	
1,170.0	9.02	161.37	1,161.7	-110.7	37.3	116.7	0.00	0.00	
1,200.0	9.02	161.37	1,191.4	-115.1	38.8	121.4	0.00	0.00	
1,230.0	9.02	161.37	1,221.0	-119.6	40.3	126.1	0.00	0.00	
1,260.0	9.02	161.37	1,250.6	-124.0	41.8	130.8	0.00	0.00	
1,290.0	9.02	161.37	1,280.2	-128.5	43.3	135.5	0.00	0.00	
1,320.0	9.02	161.37	1,309.9	-133.0	44.8	140.2	0.00	0.00	
1,350.0	9.02	161.37	1,339.5	-137.4	46.3	144.9	0.00	0.00	
1,380.0	9.02	161.37	1,369.1	-141.9	47.8	149.6	0.00	0.00	
1,410.0	9.02	161.37	1,398.8	-146.3	49.3	154.3	0.00	0.00	
1,440.0	9.02	161.37	1,428.4	-150.8	50.8	159.0	0.00	0.00	
1,470.0	9.02	161.37	1,458.0	-155.2	52.3	163.8	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR05C D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
1,500.0	9.02	161.37	1,487.6	-159.7	53.8	168.5	0.00	0.00	
1,530.0	9.02	161.37	1,517.3	-164.2	55.3	173.2	0.00	0.00	
1,560.0	9.02	161.37	1,546.9	-168.6	56.9	177.9	0.00	0.00	
1,590.0	9.02	161.37	1,576.5	-173.1	58.4	182.6	0.00	0.00	
1,620.0	9.02	161.37	1,606.2	-177.5	59.9	187.3	0.00	0.00	
1,650.0	9.02	161.37	1,635.8	-182.0	61.4	192.0	0.00	0.00	
1,680.0	9.02	161.37	1,665.4	-186.4	62.9	196.7	0.00	0.00	
1,710.0	9.02	161.37	1,695.0	-190.9	64.4	201.4	0.00	0.00	
1,740.0	9.02	161.37	1,724.7	-195.3	65.9	206.1	0.00	0.00	
1,770.0	9.02	161.37	1,754.3	-199.8	67.4	210.8	0.00	0.00	
1,800.0	9.02	161.37	1,783.9	-204.3	68.9	215.5	0.00	0.00	
1,830.0	9.02	161.37	1,813.6	-208.7	70.4	220.2	0.00	0.00	
1,860.0	9.02	161.37	1,843.2	-213.2	71.9	224.9	0.00	0.00	
1,890.0	9.02	161.37	1,872.8	-217.6	73.4	229.6	0.00	0.00	
1,920.0	9.02	161.37	1,902.4	-222.1	74.9	234.3	0.00	0.00	
1,950.0	9.02	161.37	1,932.1	-226.5	76.4	239.0	0.00	0.00	
1,980.0	9.02	161.37	1,961.7	-231.0	77.9	243.7	0.00	0.00	
2,010.0	9.02	161.37	1,991.3	-235.5	79.4	248.4	0.00	0.00	
2,040.0	9.02	161.37	2,021.0	-239.9	80.9	253.1	0.00	0.00	
2,070.0	9.02	161.37	2,050.6	-244.4	82.4	257.8	0.00	0.00	
2,100.0	9.02	161.37	2,080.2	-248.8	83.9	262.5	0.00	0.00	
2,130.0	9.02	161.37	2,109.9	-253.3	85.4	267.2	0.00	0.00	
2,160.0	9.02	161.37	2,139.5	-257.7	86.9	271.9	0.00	0.00	
2,190.0	9.02	161.37	2,169.1	-262.2	88.4	276.6	0.00	0.00	
2,220.0	9.02	161.37	2,198.7	-266.7	89.9	281.3	0.00	0.00	
2,250.0	9.02	161.37	2,228.4	-271.1	91.4	286.0	0.00	0.00	
2,280.0	9.02	161.37	2,258.0	-275.6	92.9	290.7	0.00	0.00	
2,310.0	9.02	161.37	2,287.6	-280.0	94.4	295.4	0.00	0.00	
2,340.0	9.02	161.37	2,317.3	-284.5	95.9	300.1	0.00	0.00	
2,370.0	9.02	161.37	2,346.9	-288.9	97.4	304.8	0.00	0.00	
2,400.0	9.02	161.37	2,376.5	-293.4	98.9	309.5	0.00	0.00	
2,430.0	9.02	161.37	2,406.1	-297.9	100.4	314.2	0.00	0.00	
2,460.0	9.02	161.37	2,435.8	-302.3	101.9	318.9	0.00	0.00	
2,490.0	9.02	161.37	2,465.4	-306.8	103.4	323.6	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
LR05C D21 595 BHL	0.00	0.00	11,846.0	-1,245.0	378.4	1,653,845.15	2,277,018.42	39.600554	-108.066112
- hit/miss target - Shape - plan misses target center by 9431.4ft at 2490.0ft MD (2465.4 TVD, -306.8 N, 103.4 E) - Rectangle (sides W50.0 H100.0 D0.0)									
LR05C D21 595 TGT	0.00	0.00	8,796.0	-1,225.0	413.0	1,653,864.17	2,277,053.59	39.600609	-108.065989
- plan misses target center by 6404.3ft at 2490.0ft MD (2465.4 TVD, -306.8 N, 103.4 E) - Point									

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR05C D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR05C 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	9.02	161.37	2,475.3	-308.2	103.9	325.2	0.00	0.00	
2,600.0	9.02	161.37	2,574.0	-323.1	108.9	340.8	0.00	0.00	
2,700.0	9.02	161.37	2,672.8	-338.0	114.0	356.5	0.00	0.00	
2,800.0	9.02	161.37	2,771.6	-352.8	119.0	372.2	0.00	0.00	
2,900.0	9.02	161.37	2,870.3	-367.7	124.0	387.8	0.00	0.00	
3,000.0	9.02	161.37	2,969.1	-382.5	129.0	403.5	0.00	0.00	
3,100.0	9.02	161.37	3,067.9	-397.4	134.0	419.2	0.00	0.00	
3,200.0	9.02	161.37	3,166.6	-412.2	139.0	434.8	0.00	0.00	
3,300.0	9.02	161.37	3,265.4	-427.1	144.0	450.5	0.00	0.00	
3,400.0	9.02	161.37	3,364.1	-442.0	149.0	466.2	0.00	0.00	
3,500.0	9.02	161.37	3,462.9	-456.8	154.0	481.9	0.00	0.00	
3,600.0	9.02	161.37	3,561.7	-471.7	159.0	497.5	0.00	0.00	
3,700.0	9.02	161.37	3,660.4	-486.5	164.0	513.2	0.00	0.00	
3,800.0	9.02	161.37	3,759.2	-501.4	169.1	528.9	0.00	0.00	
3,900.0	9.02	161.37	3,858.0	-516.2	174.1	544.5	0.00	0.00	
3,938.5	9.02	161.37	3,896.0	-521.9	176.0	550.6	0.00	0.00	Wasatch
4,000.0	9.02	161.37	3,956.7	-531.1	179.1	560.2	0.00	0.00	
4,100.0	9.02	161.37	4,055.5	-545.9	184.1	575.9	0.00	0.00	
4,200.0	9.02	161.37	4,154.3	-560.8	189.1	591.5	0.00	0.00	
4,300.0	9.02	161.37	4,253.0	-575.7	194.1	607.2	0.00	0.00	
4,400.0	9.02	161.37	4,351.8	-590.5	199.1	622.9	0.00	0.00	
4,500.0	9.02	161.37	4,450.5	-605.4	204.1	638.6	0.00	0.00	
4,600.0	9.02	161.37	4,549.3	-620.2	209.1	654.2	0.00	0.00	
4,700.0	9.02	161.37	4,648.1	-635.1	214.1	669.9	0.00	0.00	
4,800.0	9.02	161.37	4,746.8	-649.9	219.1	685.6	0.00	0.00	
4,900.0	9.02	161.37	4,845.6	-664.8	224.2	701.2	0.00	0.00	
5,000.0	9.02	161.37	4,944.4	-679.6	229.2	716.9	0.00	0.00	
5,100.0	9.02	161.37	5,043.1	-694.5	234.2	732.6	0.00	0.00	
5,200.0	9.02	161.37	5,141.9	-709.4	239.2	748.3	0.00	0.00	
5,300.0	9.02	161.37	5,240.7	-724.2	244.2	763.9	0.00	0.00	
5,400.0	9.02	161.37	5,339.4	-739.1	249.2	779.6	0.00	0.00	
5,457.3	9.02	161.37	5,396.0	-747.6	252.1	788.6	0.00	0.00	Fort Union
5,500.0	9.02	161.37	5,438.2	-753.9	254.2	795.3	0.00	0.00	
5,600.0	9.02	161.37	5,536.9	-768.8	259.2	810.9	0.00	0.00	
5,700.0	9.02	161.37	5,635.7	-783.6	264.2	826.6	0.00	0.00	
5,800.0	9.02	161.37	5,734.5	-798.5	269.2	842.3	0.00	0.00	
5,900.0	9.02	161.37	5,833.2	-813.3	274.2	857.9	0.00	0.00	
6,000.0	9.02	161.37	5,932.0	-828.2	279.3	873.6	0.00	0.00	
6,100.0	9.02	161.37	6,030.8	-843.1	284.3	889.3	0.00	0.00	
6,200.0	9.02	161.37	6,129.5	-857.9	289.3	905.0	0.00	0.00	
6,300.0	9.02	161.37	6,228.3	-872.8	294.3	920.6	0.00	0.00	
6,400.0	9.02	161.37	6,327.1	-887.6	299.3	936.3	0.00	0.00	
6,500.0	9.02	161.37	6,425.8	-902.5	304.3	952.0	0.00	0.00	
6,600.0	9.02	161.37	6,524.6	-917.3	309.3	967.6	0.00	0.00	
6,700.0	9.02	161.37	6,623.3	-932.2	314.3	983.3	0.00	0.00	
6,800.0	9.02	161.37	6,722.1	-947.0	319.3	999.0	0.00	0.00	
6,900.0	9.02	161.37	6,820.9	-961.9	324.3	1,014.6	0.00	0.00	
7,000.0	9.02	161.37	6,919.6	-976.8	329.3	1,030.3	0.00	0.00	
7,100.0	9.02	161.37	7,018.4	-991.6	334.4	1,046.0	0.00	0.00	
7,200.0	9.02	161.37	7,117.2	-1,006.5	339.4	1,061.7	0.00	0.00	
7,300.0	9.02	161.37	7,215.9	-1,021.3	344.4	1,077.3	0.00	0.00	
7,400.0	9.02	161.37	7,314.7	-1,036.2	349.4	1,093.0	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR05C D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR05C 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	9.02	161.37	7,413.4	-1,051.0	354.4	1,108.7	0.00	0.00	
7,600.0	9.02	161.37	7,512.2	-1,065.9	359.4	1,124.3	0.00	0.00	
7,700.0	9.02	161.37	7,611.0	-1,080.7	364.4	1,140.0	0.00	0.00	
7,800.0	9.02	161.37	7,709.7	-1,095.6	369.4	1,155.7	0.00	0.00	
7,900.0	9.02	161.37	7,808.5	-1,110.5	374.4	1,171.3	0.00	0.00	
8,000.0	9.02	161.37	7,907.3	-1,125.3	379.4	1,187.0	0.00	0.00	
8,100.0	9.02	161.37	8,006.0	-1,140.2	384.4	1,202.7	0.00	0.00	
8,200.0	9.02	161.37	8,104.8	-1,155.0	389.5	1,218.4	0.00	0.00	
8,292.3	9.02	161.37	8,196.0	-1,168.7	394.1	1,232.8	0.00	0.00	Ohio Creek
8,300.0	9.02	161.37	8,203.6	-1,169.9	394.5	1,234.0	0.00	0.00	
8,400.0	9.02	161.37	8,302.3	-1,184.7	399.5	1,249.7	0.00	0.00	
8,445.1	9.02	161.37	8,346.9	-1,191.4	401.7	1,256.8	0.00	0.00	Start Drop -2.00
8,500.0	7.92	161.37	8,401.2	-1,199.1	404.3	1,264.8	2.00	-2.00	
8,595.5	6.01	161.37	8,496.0	-1,210.1	408.0	1,276.4	2.00	-2.00	Williams Fork
8,600.0	5.92	161.37	8,500.4	-1,210.5	408.2	1,276.9	2.00	-2.00	
8,700.0	3.92	161.37	8,600.1	-1,218.6	410.9	1,285.5	2.00	-2.00	
8,800.0	1.92	161.37	8,699.9	-1,223.5	412.5	1,290.6	2.00	-2.00	
8,896.1	0.00	0.00	8,796.0	-1,225.0	413.0	1,292.2	2.00	-2.00	EOD; Inc=0° - Approx TOG - LR05C D21 595 T
8,900.0	0.01	239.97	8,799.9	-1,225.0	413.0	1,292.2	0.25	0.25	
9,000.0	0.26	239.97	8,899.9	-1,225.1	412.8	1,292.2	0.25	0.25	
9,100.0	0.51	239.97	8,999.9	-1,225.5	412.3	1,292.4	0.25	0.25	
9,200.0	0.76	239.97	9,099.9	-1,226.0	411.3	1,292.6	0.25	0.25	
9,213.0	0.79	239.97	9,112.9	-1,226.1	411.2	1,292.7	0.25	0.25	
9,300.0	0.79	239.97	9,199.9	-1,226.7	410.1	1,292.9	0.00	0.00	
9,400.0	0.79	239.97	9,299.9	-1,227.4	408.9	1,293.3	0.00	0.00	
9,500.0	0.79	239.97	9,399.9	-1,228.1	407.7	1,293.6	0.00	0.00	
9,600.0	0.79	239.97	9,499.9	-1,228.8	406.5	1,293.9	0.00	0.00	
9,700.0	0.79	239.97	9,599.8	-1,229.5	405.3	1,294.2	0.00	0.00	
9,800.0	0.79	239.97	9,699.8	-1,230.2	404.1	1,294.5	0.00	0.00	
9,900.0	0.79	239.97	9,799.8	-1,230.8	402.9	1,294.8	0.00	0.00	
10,000.0	0.79	239.97	9,899.8	-1,231.5	401.7	1,295.1	0.00	0.00	
10,100.0	0.79	239.97	9,999.8	-1,232.2	400.5	1,295.5	0.00	0.00	
10,200.0	0.79	239.97	10,099.8	-1,232.9	399.3	1,295.8	0.00	0.00	
10,300.0	0.79	239.97	10,199.8	-1,233.6	398.1	1,296.1	0.00	0.00	
10,400.0	0.79	239.97	10,299.8	-1,234.3	396.9	1,296.4	0.00	0.00	
10,500.0	0.79	239.97	10,399.8	-1,235.0	395.7	1,296.7	0.00	0.00	
10,600.0	0.79	239.97	10,499.8	-1,235.7	394.5	1,297.0	0.00	0.00	
10,700.0	0.79	239.97	10,599.7	-1,236.4	393.4	1,297.3	0.00	0.00	
10,800.0	0.79	239.97	10,699.7	-1,237.1	392.2	1,297.7	0.00	0.00	
10,900.0	0.79	239.97	10,799.7	-1,237.8	391.0	1,298.0	0.00	0.00	
11,000.0	0.79	239.97	10,899.7	-1,238.5	389.8	1,298.3	0.00	0.00	
11,100.0	0.79	239.97	10,999.7	-1,239.2	388.6	1,298.6	0.00	0.00	
11,200.0	0.79	239.97	11,099.7	-1,239.8	387.4	1,298.9	0.00	0.00	
11,300.0	0.79	239.97	11,199.7	-1,240.5	386.2	1,299.2	0.00	0.00	
11,400.0	0.79	239.97	11,299.7	-1,241.2	385.0	1,299.5	0.00	0.00	
11,446.3	0.79	239.97	11,346.0	-1,241.5	384.4	1,299.7	0.00	0.00	Cameo
11,500.0	0.79	239.97	11,399.7	-1,241.9	383.8	1,299.9	0.00	0.00	
11,600.0	0.79	239.97	11,499.7	-1,242.6	382.6	1,300.2	0.00	0.00	
11,700.0	0.79	239.97	11,599.7	-1,243.3	381.4	1,300.5	0.00	0.00	
11,796.4	0.79	239.97	11,696.0	-1,244.0	380.2	1,300.8	0.00	0.00	Rollins SS
11,800.0	0.79	239.97	11,699.6	-1,244.0	380.2	1,300.8	0.00	0.00	
11,900.0	0.79	239.97	11,799.6	-1,244.7	379.0	1,301.1	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR05C D21 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8278.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8278.0ft (Original Well Elev)
Site:	D21 595 Pad	North Reference:	True
Well:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
11,946.4	0.79	239.97	11,846.0	-1,245.0	378.4	1,301.3	0.00	0.00	LR05C D21 595 BHL

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
LR05C D21 595 BHL - hit/miss target - Shape	0.00	0.00	11,846.0	-1,245.0	378.4	1,653,845.15	2,277,018.42	39.600554	-108.066112
- plan hits target center - Rectangle (sides W50.0 H100.0 D0.0)									
LR05C D21 595 TGT - plan hits target center - Point	0.00	0.00	8,796.0	-1,225.0	413.0	1,653,864.17	2,277,053.59	39.600609	-108.065989

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,938.5	3,896.0	Wasatch		0.00		
5,457.3	5,396.0	Fort Union		0.00		
8,292.3	8,196.0	Ohio Creek		0.00		
8,595.5	8,496.0	Williams Fork		0.00		
8,896.1	8,796.0	Approx TOG		0.00		
11,446.3	11,346.0	Cameo		0.00		
11,796.4	11,696.0	Rollins SS		0.00		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP @ 200' MD
651.0	649.1	-33.6	11.3	EOB; Inc=9.02°
8,445.1	8,346.9	-1,191.4	401.7	Start Drop -2.00
8,896.1	8,796.0	-1,225.0	413.0	EOD; Inc=0°
11,946.4	11,846.0	-1,226.1	411.2	TD at 11946.4

Berry Petroleum Company (NAD 83)

Garfield County

D21 595 Pad

LR05C 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 LR05C 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:	LR05C 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	11,946.4	Plan #2 (DD)	MWD	Geolink MWD

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Summary						
Offset Well - Wellbore - Design						
D21 595 Pad						
LR03C D21 595 - DD - Plan #2	200.0	200.0	104.8	104.2	162.351	CC, ES
LR03C D21 595 - DD - Plan #2	8,200.0	8,064.5	1,393.7	1,347.8	30.373	SF
LR04A D21 595 - DD - Plan #2	370.8	370.5	13.0	11.7	10.314	CC, ES
LR04A D21 595 - DD - Plan #2	400.0	399.5	13.3	11.9	9.707	SF
LR04B D21 595 - DD - Plan #2	200.0	200.0	15.1	14.5	23.430	CC, ES
LR04B D21 595 - DD - Plan #2	400.0	399.5	21.0	19.6	15.511	SF
LR04C D21 595 (Existing) - DD - DD	256.9	253.6	60.7	59.8	71.291	CC, ES
LR04C D21 595 (Existing) - DD - DD	1,600.0	1,595.6	142.3	136.7	25.319	SF
LR04D D21 595 - DD - Plan #2	200.0	200.0	60.0	59.3	92.890	CC, ES
LR04D D21 595 - DD - Plan #2	800.0	791.0	89.8	86.7	28.911	SF
LR05A D21 595 - DD - Plan #2	634.1	632.5	25.5	23.1	10.465	CC
LR05A D21 595 - DD - Plan #2	700.0	698.3	25.6	22.8	9.144	ES
LR05A D21 595 - DD - Plan #2	1,100.0	1,097.9	32.5	27.7	6.770	SF
LR05B D21 595 (Existing) - DD - DD	0.0	0.0	77.6	77.6	254.609	ES
LR05B D21 595 (Existing) - DD - DD	100.0	95.4	77.9	77.6	17.282	SF
LR05B D21 595 (Existing) - DD - DD	3,000.0	3,005.8	188.7	177.8	67.152	CC
LR05BDR D21-595 - DD - Plan #2	200.0	200.0	45.1	44.5	44.069	ES
LR05BDR D21-595 - DD - Plan #2	300.0	300.8	45.3	44.3	13.234	SF
LR05BDR D21-595 - DD - Plan #2	5,100.0	5,096.9	263.0	243.1	46.445	CC
LR05D D21 595 - DD - Plan #2	200.0	200.0	30.0	29.3	30.144	ES
LR05D D21 595 - DD - Plan #2	300.0	300.5	30.2	29.2	5.533	SF
LR05D D21 595 - DD - Plan #2	11,946.4	11,975.9	293.8	240.7	32.405	CC, ES
LR06B D21 595 - DD - Plan #2	644.5	639.5	77.6	75.2	18.917	SF
LR06B D21 595 - DD - Plan #2	11,946.4	12,002.0	1,145.0	1,084.5	16.214	ES
LR06C D21 595 - DD - Plan #2	594.0	592.8	35.8	33.6	13.442	SF
LR06C D21 595 - DD - Plan #2	600.0	598.7	35.8	33.6	65.607	CC, ES
LR06C D21 595 - DD - Plan #2	2,200.0	2,198.3	158.4	146.6	26.886	SF
LR06D D21 595 - DD - Plan #2	337.8	335.6	74.5	73.4	13.442	SF
LR06D D21 595 - DD - Plan #2	8,500.0	8,368.5	1,393.1	1,341.2	26.886	SF

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference				Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	108.43	-33.1	99.5	104.8						
100.0	100.0	100.0	100.0	0.1	0.1	108.43	-33.1	99.5	104.8	104.5	0.30	353.353			
200.0	200.0	200.0	200.0	0.3	0.3	108.43	-33.1	99.5	104.8	104.2	0.65	162.351	CC, ES		
300.0	300.0	296.5	296.5	0.5	0.5	-53.86	-33.3	101.1	105.4	104.5	0.99	106.373			
400.0	399.8	392.9	392.7	0.7	0.7	-56.55	-33.7	105.9	107.4	106.1	1.35	79.637			
500.0	499.5	488.8	488.3	0.9	0.9	-60.77	-34.5	113.9	111.2	109.5	1.73	64.237			
600.0	598.7	584.1	583.0	1.2	1.1	-66.12	-35.5	125.1	117.6	115.4	2.16	54.533			
700.0	697.5	679.1	676.9	1.5	1.4	-72.02	-36.8	139.3	127.2	124.6	2.62	48.494			
800.0	796.3	777.6	774.1	1.8	1.7	-77.38	-38.2	155.3	139.4	136.3	3.12	44.610			
900.0	895.1	876.1	871.2	2.1	2.1	-81.86	-39.7	171.3	152.6	148.9	3.65	41.844			
1,000.0	993.8	974.5	968.4	2.4	2.4	-85.62	-41.2	187.3	166.5	162.4	4.18	39.805			
1,100.0	1,092.6	1,073.0	1,065.5	2.7	2.7	-88.79	-42.6	203.3	181.1	176.4	4.73	38.259			
1,200.0	1,191.4	1,171.5	1,162.7	3.1	3.0	-91.49	-44.1	219.4	196.1	190.8	5.29	37.061			
1,300.0	1,290.1	1,270.0	1,259.8	3.4	3.4	-93.80	-45.5	235.4	211.5	205.7	5.86	36.115			
1,400.0	1,388.9	1,368.4	1,357.0	3.7	3.7	-95.79	-47.0	251.4	227.2	220.8	6.43	35.354			
1,500.0	1,487.6	1,466.9	1,454.1	4.0	4.0	-97.53	-48.5	267.4	243.1	236.1	7.00	34.734			
1,600.0	1,586.4	1,565.4	1,551.3	4.3	4.3	-99.06	-49.9	283.4	259.2	251.7	7.57	34.223			
1,700.0	1,685.2	1,663.9	1,648.4	4.7	4.7	-100.40	-51.4	299.4	275.5	267.4	8.15	33.796			
1,800.0	1,783.9	1,762.3	1,745.5	5.0	5.0	-101.60	-52.8	315.5	291.9	283.2	8.73	33.435			
1,900.0	1,882.7	1,860.8	1,842.7	5.3	5.3	-102.67	-54.3	331.5	308.4	299.1	9.31	33.128			
2,000.0	1,981.5	1,959.3	1,939.8	5.6	5.7	-103.63	-55.8	347.5	325.0	315.1	9.89	32.865			
2,100.0	2,080.2	2,057.7	2,037.0	6.0	6.0	-104.49	-57.2	363.5	341.7	331.2	10.47	32.636			
2,200.0	2,179.0	2,156.2	2,134.1	6.3	6.3	-105.28	-58.7	379.5	358.5	347.4	11.05	32.437			
2,300.0	2,277.7	2,254.7	2,231.3	6.6	6.7	-105.99	-60.1	395.6	375.3	363.7	11.63	32.263			
2,400.0	2,376.5	2,353.2	2,328.4	6.9	7.0	-106.65	-61.6	411.6	392.2	379.9	12.21	32.109			
2,500.0	2,475.3	2,451.6	2,425.6	7.3	7.3	-107.25	-63.1	427.6	409.1	396.3	12.79	31.972			
2,600.0	2,574.0	2,550.1	2,522.7	7.6	7.7	-107.80	-64.5	443.6	426.0	412.7	13.38	31.850			
2,700.0	2,672.8	2,648.6	2,619.9	7.9	8.0	-108.31	-66.0	459.6	443.0	429.1	13.96	31.740			
2,800.0	2,771.6	2,747.0	2,717.0	8.2	8.3	-108.79	-67.4	475.6	460.0	445.5	14.54	31.642			
2,900.0	2,870.3	2,845.5	2,814.2	8.5	8.6	-109.22	-68.9	491.7	477.1	462.0	15.12	31.553			
3,000.0	2,969.1	2,944.0	2,911.3	8.9	9.0	-109.63	-70.4	507.7	494.2	478.5	15.70	31.472			
3,100.0	3,067.9	3,042.5	3,008.5	9.2	9.3	-110.02	-71.8	523.7	511.3	495.0	16.28	31.398			
3,200.0	3,166.6	3,140.9	3,105.6	9.5	9.6	-110.37	-73.3	539.7	528.4	511.5	16.86	31.331			
3,300.0	3,265.4	3,239.4	3,202.8	9.8	10.0	-110.71	-74.7	555.7	545.5	528.1	17.45	31.270			
3,400.0	3,364.1	3,337.9	3,299.9	10.2	10.3	-111.02	-76.2	571.8	562.7	544.7	18.03	31.213			
3,500.0	3,462.9	3,436.4	3,397.1	10.5	10.6	-111.32	-77.7	587.8	579.8	561.2	18.61	31.161			
3,600.0	3,561.7	3,534.8	3,494.2	10.8	11.0	-111.59	-79.1	603.8	597.0	577.8	19.19	31.113			
3,700.0	3,660.4	3,633.3	3,591.4	11.1	11.3	-111.86	-80.6	619.8	614.2	594.5	19.77	31.068			
3,800.0	3,759.2	3,731.8	3,688.5	11.5	11.6	-112.11	-82.0	635.8	631.4	611.1	20.35	31.027			
3,900.0	3,858.0	3,830.2	3,785.7	11.8	12.0	-112.34	-83.5	651.8	648.7	627.7	20.93	30.988			
4,000.0	3,956.7	3,928.7	3,882.8	12.1	12.3	-112.56	-84.9	667.9	665.9	644.4	21.51	30.952			
4,100.0	4,055.5	4,027.2	3,980.0	12.4	12.6	-112.78	-86.4	683.9	683.1	661.0	22.09	30.919			
4,200.0	4,154.3	4,125.7	4,077.1	12.8	13.0	-112.98	-87.9	699.9	700.4	677.7	22.68	30.888			
4,300.0	4,253.0	4,224.1	4,174.3	13.1	13.3	-113.17	-89.3	715.9	717.6	694.4	23.26	30.858			
4,400.0	4,351.8	4,322.6	4,271.4	13.4	13.6	-113.35	-90.8	731.9	734.9	711.1	23.84	30.831			
4,500.0	4,450.5	4,421.1	4,368.6	13.7	14.0	-113.53	-92.2	748.0	752.2	727.8	24.42	30.805			
4,600.0	4,549.3	4,519.5	4,465.7	14.1	14.3	-113.69	-93.7	764.0	769.4	744.4	25.00	30.780			
4,700.0	4,648.1	4,618.0	4,562.9	14.4	14.6	-113.85	-95.2	780.0	786.7	761.2	25.58	30.757			
4,800.0	4,746.8	4,716.5	4,660.0	14.7	15.0	-114.01	-96.6	796.0	804.0	777.9	26.16	30.735			
4,900.0	4,845.6	4,815.0	4,757.2	15.0	15.3	-114.15	-98.1	812.0	821.3	794.6	26.74	30.715			
5,000.0	4,944.4	4,913.4	4,854.3	15.4	15.6	-114.29	-99.5	828.0	838.6	811.3	27.32	30.695			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,100.0	5,043.1	5,011.9	4,951.5	15.7	15.9	-114.43	-101.0	844.1	855.9	828.0	27.90	30.677			
5,200.0	5,141.9	5,110.4	5,048.6	16.0	16.3	-114.56	-102.5	860.1	873.2	844.7	28.48	30.659			
5,300.0	5,240.7	5,208.8	5,145.8	16.3	16.6	-114.68	-103.9	876.1	890.5	861.5	29.06	30.643			
5,400.0	5,339.4	5,307.3	5,242.9	16.7	16.9	-114.80	-105.4	892.1	907.9	878.2	29.64	30.627			
5,500.0	5,438.2	5,405.8	5,340.1	17.0	17.3	-114.91	-106.8	908.1	925.2	894.9	30.22	30.612			
5,600.0	5,536.9	5,504.3	5,437.2	17.3	17.6	-115.02	-108.3	924.2	942.5	911.7	30.80	30.597			
5,700.0	5,635.7	5,602.7	5,534.4	17.6	17.9	-115.13	-109.8	940.2	959.8	928.4	31.38	30.584			
5,800.0	5,734.5	5,701.2	5,631.5	18.0	18.3	-115.23	-111.2	956.2	977.2	945.2	31.96	30.570			
5,900.0	5,833.2	5,799.7	5,728.7	18.3	18.6	-115.33	-112.7	972.2	994.5	961.9	32.54	30.558			
6,000.0	5,932.0	5,898.2	5,825.8	18.6	18.9	-115.43	-114.1	988.2	1,011.8	978.7	33.12	30.546			
6,100.0	6,030.8	5,996.6	5,923.0	18.9	19.3	-115.52	-115.6	1,004.2	1,029.2	995.5	33.70	30.534			
6,200.0	6,129.5	6,095.1	6,020.1	19.3	19.6	-115.61	-117.1	1,020.3	1,046.5	1,012.2	34.29	30.524			
6,300.0	6,228.3	6,193.6	6,117.3	19.6	19.9	-115.70	-118.5	1,036.3	1,063.8	1,029.0	34.87	30.513			
6,400.0	6,327.1	6,292.0	6,214.4	19.9	20.3	-115.78	-120.0	1,052.3	1,081.2	1,045.7	35.45	30.503			
6,500.0	6,425.8	6,390.5	6,311.6	20.2	20.6	-115.86	-121.4	1,068.3	1,098.5	1,062.5	36.03	30.493			
6,600.0	6,524.6	6,489.0	6,408.7	20.6	20.9	-115.94	-122.9	1,084.3	1,115.9	1,079.3	36.61	30.484			
6,700.0	6,623.3	6,587.5	6,505.9	20.9	21.3	-116.02	-124.4	1,100.4	1,133.2	1,096.1	37.19	30.475			
6,800.0	6,722.1	6,685.9	6,603.0	21.2	21.6	-116.09	-125.8	1,116.4	1,150.6	1,112.8	37.77	30.466			
6,900.0	6,820.9	6,784.4	6,700.2	21.5	21.9	-116.16	-127.3	1,132.4	1,167.9	1,129.6	38.35	30.458			
7,000.0	6,919.6	6,882.9	6,797.3	21.9	22.3	-116.23	-128.7	1,148.4	1,185.3	1,146.4	38.93	30.450			
7,100.0	7,018.4	6,981.3	6,894.5	22.2	22.6	-116.30	-130.2	1,164.4	1,202.7	1,163.2	39.51	30.442			
7,200.0	7,117.2	7,079.8	6,991.6	22.5	22.9	-116.37	-131.7	1,180.4	1,220.0	1,179.9	40.09	30.435			
7,300.0	7,215.9	7,178.3	7,088.8	22.8	23.3	-116.43	-133.1	1,196.5	1,237.4	1,196.7	40.67	30.427			
7,400.0	7,314.7	7,276.8	7,185.9	23.2	23.6	-116.49	-134.6	1,212.5	1,254.7	1,213.5	41.25	30.421			
7,500.0	7,413.4	7,375.2	7,283.1	23.5	23.9	-116.55	-136.0	1,228.5	1,272.1	1,230.3	41.83	30.414			
7,600.0	7,512.2	7,473.7	7,380.2	23.8	24.3	-116.61	-137.5	1,244.5	1,289.5	1,247.1	42.41	30.407			
7,700.0	7,611.0	7,572.2	7,477.4	24.1	24.6	-116.67	-139.0	1,260.5	1,306.8	1,263.9	42.99	30.401			
7,800.0	7,709.7	7,670.6	7,574.5	24.5	24.9	-116.72	-140.4	1,276.6	1,324.2	1,280.6	43.57	30.395			
7,900.0	7,808.5	7,769.1	7,671.7	24.8	25.3	-116.78	-141.9	1,292.6	1,341.6	1,297.4	44.15	30.389			
8,000.0	7,907.3	7,867.6	7,768.8	25.1	25.6	-116.83	-143.3	1,308.6	1,359.0	1,314.2	44.73	30.383			
8,100.0	8,006.0	7,966.1	7,866.0	25.4	25.9	-116.88	-144.8	1,324.6	1,376.3	1,331.0	45.31	30.378			
8,200.0	8,104.8	8,064.5	7,963.1	25.8	26.2	-116.93	-146.3	1,340.6	1,393.7	1,347.8	45.89	30.373 SF			

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	108.58	-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	-58.55	-4.7	14.1	13.9	12.9	1.00	13.913			
370.8	370.7	370.5	370.5	0.6	0.6	-74.85	-4.0	14.6	13.0	11.7	1.26	10.314 CC, ES			
400.0	399.8	399.5	399.5	0.7	0.7	-85.57	-3.3	15.1	13.3	11.9	1.37	9.707 SF			
500.0	499.5	498.2	498.0	0.9	0.9	-121.08	0.8	18.1	20.5	18.7	1.74	11.740			
600.0	598.7	595.5	595.0	1.2	1.1	-138.10	7.6	23.0	37.0	34.9	2.11	17.561			
700.0	697.5	691.8	690.6	1.5	1.3	-145.11	16.8	29.6	60.2	57.7	2.48	24.247			
800.0	796.3	788.6	786.7	1.8	1.6	-148.32	26.5	36.5	84.6	81.8	2.87	29.539			
900.0	895.1	885.5	882.8	2.1	1.8	-150.08	36.2	43.5	109.3	106.0	3.25	33.569			
1,000.0	993.8	982.4	979.0	2.4	2.1	-151.20	45.9	50.5	133.9	130.3	3.65	36.722			
1,100.0	1,092.6	1,079.3	1,075.1	2.7	2.3	-151.97	55.6	57.5	158.6	154.6	4.04	39.249			
1,200.0	1,191.4	1,176.2	1,171.3	3.1	2.6	-152.53	65.3	64.5	183.4	178.9	4.44	41.317			
1,300.0	1,290.1	1,273.0	1,267.4	3.4	2.9	-152.96	75.0	71.4	208.1	203.3	4.84	43.037			
1,400.0	1,388.9	1,369.9	1,363.5	3.7	3.1	-153.29	84.8	78.4	232.9	227.6	5.23	44.491			
1,500.0	1,487.6	1,466.8	1,459.7	4.0	3.4	-153.57	94.5	85.4	257.6	252.0	5.63	45.735			
1,600.0	1,586.4	1,563.7	1,555.8	4.3	3.6	-153.79	104.2	92.4	282.4	276.4	6.03	46.810			
1,700.0	1,685.2	1,660.6	1,652.0	4.7	3.9	-153.98	113.9	99.4	307.2	300.7	6.43	47.749			
1,800.0	1,783.9	1,757.4	1,748.1	5.0	4.2	-154.14	123.6	106.4	331.9	325.1	6.83	48.577			
1,900.0	1,882.7	1,854.3	1,844.2	5.3	4.4	-154.28	133.3	113.3	356.7	349.5	7.23	49.310			
2,000.0	1,981.5	1,951.2	1,940.4	5.6	4.7	-154.40	143.0	120.3	381.5	373.8	7.63	49.966			
2,100.0	2,080.2	2,048.1	2,036.5	6.0	5.0	-154.50	152.7	127.3	406.2	398.2	8.04	50.555			
2,200.0	2,179.0	2,145.0	2,132.7	6.3	5.2	-154.60	162.4	134.3	431.0	422.6	8.44	51.086			
2,300.0	2,277.7	2,241.8	2,228.8	6.6	5.5	-154.68	172.1	141.3	455.8	447.0	8.84	51.569			
2,400.0	2,376.5	2,338.7	2,324.9	6.9	5.8	-154.75	181.9	148.2	480.6	471.3	9.24	52.009			
2,500.0	2,475.3	2,435.6	2,421.1	7.3	6.0	-154.82	191.6	155.2	505.4	495.7	9.64	52.412			
2,600.0	2,574.0	2,532.5	2,517.2	7.6	6.3	-154.88	201.3	162.2	530.1	520.1	10.04	52.783			
2,700.0	2,672.8	2,629.4	2,613.4	7.9	6.6	-154.94	211.0	169.2	554.9	544.5	10.45	53.124			
2,800.0	2,771.6	2,726.2	2,709.5	8.2	6.9	-154.99	220.7	176.2	579.7	568.8	10.85	53.440			
2,900.0	2,870.3	2,823.1	2,805.6	8.5	7.1	-155.04	230.4	183.1	604.5	593.2	11.25	53.732			
3,000.0	2,969.1	2,920.0	2,901.8	8.9	7.4	-155.08	240.1	190.1	629.2	617.6	11.65	54.005			
3,100.0	3,067.9	3,016.9	2,997.9	9.2	7.7	-155.12	249.8	197.1	654.0	642.0	12.05	54.259			
3,200.0	3,166.6	3,113.8	3,094.0	9.5	7.9	-155.16	259.5	204.1	678.8	666.3	12.46	54.496			
3,300.0	3,265.4	3,210.6	3,190.2	9.8	8.2	-155.19	269.2	211.1	703.6	690.7	12.86	54.718			
3,400.0	3,364.1	3,307.5	3,286.3	10.2	8.5	-155.22	278.9	218.1	728.4	715.1	13.26	54.927			
3,500.0	3,462.9	3,404.4	3,382.5	10.5	8.7	-155.25	288.7	225.0	753.1	739.5	13.66	55.123			
3,600.0	3,561.7	3,501.3	3,478.6	10.8	9.0	-155.28	298.4	232.0	777.9	763.9	14.07	55.308			
3,700.0	3,660.4	3,598.2	3,574.7	11.1	9.3	-155.31	308.1	239.0	802.7	788.2	14.47	55.482			
3,800.0	3,759.2	3,695.0	3,670.9	11.5	9.5	-155.33	317.8	246.0	827.5	812.6	14.87	55.647			
3,900.0	3,858.0	3,791.9	3,767.0	11.8	9.8	-155.35	327.5	253.0	852.3	837.0	15.27	55.804			
4,000.0	3,956.7	3,888.8	3,863.2	12.1	10.1	-155.37	337.2	259.9	877.1	861.4	15.68	55.952			
4,100.0	4,055.5	3,985.7	3,959.3	12.4	10.3	-155.40	346.9	266.9	901.8	885.8	16.08	56.092			
4,200.0	4,154.3	4,082.6	4,055.4	12.8	10.6	-155.41	356.6	273.9	926.6	910.1	16.48	56.226			
4,300.0	4,253.0	4,179.4	4,151.6	13.1	10.9	-155.43	366.3	280.9	951.4	934.5	16.88	56.353			
4,400.0	4,351.8	4,276.3	4,247.7	13.4	11.1	-155.45	376.0	287.9	976.2	958.9	17.29	56.474			
4,500.0	4,450.5	4,373.2	4,343.9	13.7	11.4	-155.47	385.8	294.8	1,001.0	983.3	17.69	56.590			
4,600.0	4,549.3	4,470.1	4,440.0	14.1	11.7	-155.48	395.5	301.8	1,025.7	1,007.7	18.09	56.700			
4,700.0	4,648.1	4,567.0	4,536.1	14.4	12.0	-155.50	405.2	308.8	1,050.5	1,032.0	18.49	56.806			
4,800.0	4,746.8	4,663.8	4,632.3	14.7	12.2	-155.51	414.9	315.8	1,075.3	1,056.4	18.90	56.907			
4,900.0	4,845.6	4,760.7	4,728.4	15.0	12.5	-155.53	424.6	322.8	1,100.1	1,080.8	19.30	57.004			
5,000.0	4,944.4	4,857.6	4,824.6	15.4	12.8	-155.54	434.3	329.7	1,124.9	1,105.2	19.70	57.096			

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Cathedral Energy Services

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Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
5,100.0	5,043.1	4,954.5	4,920.7	15.7	13.0	-155.55	444.0	336.7	1,149.7	1,129.6	20.10	57.185			
5,200.0	5,141.9	5,051.4	5,016.8	16.0	13.3	-155.57	453.7	343.7	1,174.4	1,153.9	20.51	57.271			
5,300.0	5,240.7	5,148.6	5,113.3	16.3	13.6	-155.58	463.5	350.7	1,199.2	1,178.3	20.91	57.351			
5,400.0	5,339.4	5,301.9	5,265.8	16.7	13.9	-155.69	475.5	359.4	1,221.7	1,200.3	21.40	57.102			
5,500.0	5,438.2	5,457.9	5,421.7	17.0	14.1	-156.01	480.9	363.2	1,239.7	1,217.9	21.84	56.760			
5,600.0	5,536.9	5,575.4	5,539.2	17.3	14.3	-156.35	481.1	363.3	1,254.2	1,232.0	22.21	56.468			
5,700.0	5,635.7	5,676.4	5,640.2	17.6	14.4	-156.66	480.8	362.9	1,268.3	1,245.8	22.55	56.234			
5,800.0	5,734.5	5,775.2	5,739.0	18.0	14.5	-156.96	480.5	362.3	1,282.4	1,259.5	22.89	56.017			
5,900.0	5,833.2	5,873.9	5,837.8	18.3	14.6	-157.25	480.2	361.8	1,296.5	1,273.3	23.23	55.809			
6,000.0	5,932.0	5,972.7	5,936.5	18.6	14.7	-157.54	479.9	361.3	1,310.7	1,287.1	23.57	55.610			
6,100.0	6,030.8	6,071.5	6,035.3	18.9	14.8	-157.82	479.6	360.7	1,324.9	1,301.0	23.91	55.420			
6,200.0	6,129.5	6,170.3	6,134.1	19.3	15.0	-158.10	479.3	360.2	1,339.1	1,314.8	24.24	55.237			
6,300.0	6,228.3	6,269.1	6,232.9	19.6	15.1	-158.37	479.0	359.7	1,353.3	1,328.8	24.58	55.062			
6,400.0	6,327.1	6,367.8	6,331.7	19.9	15.2	-158.63	478.7	359.1	1,367.6	1,342.7	24.91	54.894			
6,500.0	6,425.8	6,466.6	6,430.4	20.2	15.3	-158.89	478.4	358.6	1,381.9	1,356.7	25.25	54.733			
6,600.0	6,524.6	6,565.4	6,529.2	20.6	15.4	-159.14	478.1	358.1	1,396.2	1,370.7	25.58	54.577			

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													D21 595 Pad - LR04B D21 595 - DD - Plan #2		Offset Site Error:	0.0 ft
Survey Program: 0-MWD															Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-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	CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	131.79	4.7	-14.4	16.2	15.2	1.00	16.291				
400.0	399.8	399.5	399.5	0.7	0.7	147.09	6.4	-14.2	21.0	19.6	1.35	15.511	SF			
500.0	499.5	498.0	497.8	0.9	0.9	163.39	11.5	-13.5	32.3	30.6	1.70	18.992				
600.0	598.7	594.8	594.2	1.2	1.1	173.66	19.8	-12.5	51.1	49.0	2.04	25.022				
700.0	697.5	689.4	688.2	1.5	1.3	179.55	31.0	-11.0	76.5	74.2	2.38	32.111				
800.0	796.3	783.4	781.1	1.8	1.6	-176.80	45.1	-9.3	105.7	103.0	2.73	38.701				
900.0	895.1	877.2	873.5	2.1	1.9	-174.48	60.7	-7.3	136.6	133.5	3.08	44.332				
1,000.0	993.8	972.2	967.2	2.4	2.2	-172.99	76.5	-5.3	167.6	164.2	3.43	48.807				
1,100.0	1,092.6	1,067.1	1,060.8	2.7	2.5	-171.96	92.4	-3.3	198.7	194.9	3.79	52.454				
1,200.0	1,191.4	1,162.1	1,154.5	3.1	2.8	-171.21	108.2	-1.3	229.9	225.7	4.14	55.479				
1,300.0	1,290.1	1,257.1	1,248.1	3.4	3.1	-170.64	124.0	0.7	261.0	256.5	4.50	58.027				
1,400.0	1,388.9	1,352.1	1,341.8	3.7	3.4	-170.19	139.8	2.7	292.2	287.4	4.85	60.202				
1,500.0	1,487.6	1,447.1	1,435.4	4.0	3.8	-169.83	155.7	4.7	323.4	318.2	5.21	62.079				
1,600.0	1,586.4	1,542.1	1,529.0	4.3	4.1	-169.54	171.5	6.8	354.6	349.0	5.57	63.716				
1,700.0	1,685.2	1,637.1	1,622.7	4.7	4.4	-169.29	187.3	8.8	385.8	379.9	5.92	65.155				
1,800.0	1,783.9	1,732.1	1,716.3	5.0	4.7	-169.07	203.1	10.8	417.0	410.8	6.28	66.430				
1,900.0	1,882.7	1,827.1	1,810.0	5.3	5.0	-168.89	219.0	12.8	448.3	441.6	6.63	67.568				
2,000.0	1,981.5	1,922.1	1,903.6	5.6	5.4	-168.73	234.8	14.8	479.5	472.5	6.99	68.589				
2,100.0	2,080.2	2,017.1	1,997.3	6.0	5.7	-168.59	250.6	16.8	510.7	503.4	7.35	69.511				
2,200.0	2,179.0	2,112.1	2,090.9	6.3	6.0	-168.47	266.4	18.8	542.0	534.2	7.70	70.347				
2,300.0	2,277.7	2,207.0	2,184.5	6.6	6.3	-168.36	282.3	20.8	573.2	565.1	8.06	71.109				
2,400.0	2,376.5	2,302.0	2,278.2	6.9	6.6	-168.26	298.1	22.8	604.4	596.0	8.42	71.806				
2,500.0	2,475.3	2,397.0	2,371.8	7.3	7.0	-168.17	313.9	24.8	635.7	626.9	8.77	72.446				
2,600.0	2,574.0	2,492.0	2,465.5	7.6	7.3	-168.09	329.7	26.8	666.9	657.8	9.13	73.036				
2,700.0	2,672.8	2,587.0	2,559.1	7.9	7.6	-168.02	345.6	28.8	698.1	688.6	9.49	73.581				
2,800.0	2,771.6	2,682.0	2,652.8	8.2	7.9	-167.95	361.4	30.8	729.4	719.5	9.84	74.087				
2,900.0	2,870.3	2,777.0	2,746.4	8.5	8.3	-167.89	377.2	32.8	760.6	750.4	10.20	74.557				
3,000.0	2,969.1	2,872.0	2,840.0	8.9	8.6	-167.83	393.0	34.8	791.9	781.3	10.56	74.995				
3,100.0	3,067.9	2,967.0	2,933.7	9.2	8.9	-167.78	408.9	36.8	823.1	812.2	10.92	75.404				
3,200.0	3,166.6	3,062.0	3,027.3	9.5	9.2	-167.73	424.7	38.8	854.3	843.1	11.27	75.788				
3,300.0	3,265.4	3,157.0	3,121.0	9.8	9.5	-167.68	440.5	40.8	885.6	873.9	11.63	76.148				
3,400.0	3,364.1	3,252.0	3,214.6	10.2	9.9	-167.64	456.3	42.8	916.8	904.8	11.99	76.486				
3,500.0	3,462.9	3,347.0	3,308.3	10.5	10.2	-167.60	472.2	44.8	948.1	935.7	12.34	76.805				
3,600.0	3,561.7	3,441.9	3,401.9	10.8	10.5	-167.57	488.0	46.8	979.3	966.6	12.70	77.105				
3,700.0	3,660.4	3,536.9	3,495.5	11.1	10.8	-167.53	503.8	48.8	1,010.6	997.5	13.06	77.389				
3,800.0	3,759.2	3,631.9	3,589.2	11.5	11.2	-167.50	519.6	50.8	1,041.8	1,028.4	13.42	77.658				
3,900.0	3,858.0	3,726.9	3,682.8	11.8	11.5	-167.47	535.5	52.9	1,073.0	1,059.3	13.77	77.913				
4,000.0	3,956.7	3,821.9	3,776.5	12.1	11.8	-167.44	551.3	54.9	1,104.3	1,090.2	14.13	78.155				
4,100.0	4,055.5	3,916.9	3,870.1	12.4	12.1	-167.41	567.1	56.9	1,135.5	1,121.0	14.49	78.386				
4,200.0	4,154.3	4,011.9	3,963.8	12.8	12.5	-167.39	582.9	58.9	1,166.8	1,151.9	14.84	78.605				
4,300.0	4,253.0	4,106.9	4,057.4	13.1	12.8	-167.36	598.8	60.9	1,198.0	1,182.8	15.20	78.813				
4,400.0	4,351.8	4,201.9	4,151.0	13.4	13.1	-167.34	614.6	62.9	1,229.3	1,213.7	15.56	79.012				
4,500.0	4,450.5	4,296.9	4,244.7	13.7	13.4	-167.32	630.4	64.9	1,260.5	1,244.6	15.92	79.203				
4,600.0	4,549.3	4,391.9	4,338.3	14.1	13.7	-167.30	646.2	66.9	1,291.8	1,275.5	16.27	79.384				
4,700.0	4,648.1	4,486.9	4,432.0	14.4	14.1	-167.28	662.1	68.9	1,323.0	1,306.4	16.63	79.558				
4,800.0	4,746.8	4,581.8	4,525.6	14.7	14.4	-167.26	677.9	70.9	1,354.3	1,337.3	16.99	79.725				
4,900.0	4,845.6	4,676.8	4,619.3	15.0	14.7	-167.24	693.7	72.9	1,385.5	1,368.2	17.34	79.884				

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
D21 595 Pad - LR04C D21 595 (Existing) - DD - DD													Offset Well Error:	0.0 ft
Survey Program: 140-MWD														
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	-71.85	19.3	-58.9	62.1					
100.0	100.0	96.3	96.3	0.1	0.2	-72.18	18.9	-58.8	61.7	61.4	0.30	203.216		
200.0	200.0	196.6	196.6	0.3	0.3	-73.20	17.6	-58.4	61.0	60.3	0.65	94.069		
256.9	256.9	253.6	253.6	0.4	0.4	125.02	16.6	-58.0	60.7	59.8	0.85	71.291	CC, ES	
300.0	300.0	296.8	296.8	0.5	0.5	125.13	15.6	-57.8	60.8	59.8	1.00	60.595		
400.0	399.8	396.8	396.8	0.7	0.7	127.22	13.3	-56.9	62.4	61.0	1.37	45.595		
500.0	499.5	496.7	496.6	0.9	0.9	131.74	11.3	-56.1	66.5	64.8	1.75	38.114		
600.0	598.7	596.8	596.6	1.2	1.1	136.78	8.0	-55.2	72.8	70.6	2.13	34.092		
700.0	697.5	697.1	696.8	1.5	1.2	141.73	3.6	-54.0	81.1	78.6	2.52	32.135		
800.0	796.3	798.0	797.5	1.8	1.4	145.75	-2.1	-51.9	88.9	86.0	2.91	30.582		
900.0	895.1	899.1	898.3	2.1	1.7	149.36	-8.6	-48.3	95.4	92.1	3.27	29.143		
1,000.0	993.8	999.9	998.8	2.4	1.9	153.09	-15.1	-43.0	100.9	97.3	3.62	27.873		
1,100.0	1,092.6	1,100.6	1,099.1	2.7	2.1	157.07	-21.7	-36.1	105.7	101.8	3.95	26.781		
1,200.0	1,191.4	1,198.7	1,196.8	3.1	2.3	160.68	-28.1	-29.1	110.8	106.5	4.27	25.970		
1,300.0	1,290.1	1,296.7	1,294.5	3.4	2.5	163.27	-33.9	-24.3	118.1	113.5	4.60	25.702		
1,400.0	1,388.9	1,395.2	1,392.7	3.7	2.7	165.21	-39.2	-20.8	126.7	121.8	4.93	25.698		
1,500.0	1,487.6	1,497.2	1,494.5	4.0	3.0	166.49	-45.9	-17.7	134.8	129.6	5.28	25.550		
1,600.0	1,586.4	1,595.6	1,592.6	4.3	3.2	167.50	-53.1	-14.5	142.3	136.7	5.62	25.319	SF	
1,700.0	1,685.2	1,693.4	1,690.2	4.7	3.4	169.07	-58.0	-10.6	151.2	145.3	5.95	25.410		
1,800.0	1,783.9	1,791.5	1,788.1	5.0	3.6	170.62	-62.1	-6.6	161.2	154.9	6.29	25.646		
1,900.0	1,882.7	1,889.1	1,885.6	5.3	3.7	171.72	-65.6	-3.9	172.2	165.6	6.62	26.006		
2,000.0	1,981.5	1,990.1	1,986.5	5.6	3.9	172.59	-69.4	-1.4	183.4	176.4	6.97	26.320		
2,100.0	2,080.2	2,090.6	2,086.8	6.0	4.1	173.51	-73.7	1.8	193.7	186.4	7.31	26.493		
2,200.0	2,179.0	2,190.0	2,186.1	6.3	4.3	174.35	-78.1	5.3	203.8	196.2	7.66	26.619		
2,300.0	2,277.7	2,288.5	2,284.4	6.6	4.5	175.16	-82.2	8.7	214.3	206.2	8.00	26.779		
2,400.0	2,376.5	2,387.9	2,383.7	6.9	4.7	175.88	-86.2	12.1	225.0	216.6	8.35	26.949		
2,500.0	2,475.3	2,486.7	2,482.3	7.3	4.9	176.57	-90.0	15.5	235.8	227.1	8.69	27.116		
2,600.0	2,574.0	2,584.1	2,579.7	7.6	5.1	177.12	-93.3	18.4	247.2	238.2	9.04	27.344		
2,700.0	2,672.8	2,684.1	2,679.5	7.9	5.3	177.66	-96.3	21.4	259.0	249.6	9.39	27.584		
2,800.0	2,771.6	2,780.6	2,775.9	8.2	5.5	178.10	-98.9	24.0	271.2	261.5	9.74	27.861		
2,900.0	2,870.3	2,878.6	2,873.9	8.5	5.6	178.55	-101.0	26.5	284.0	273.9	10.08	28.166		
3,000.0	2,969.1	2,977.0	2,972.3	8.9	5.8	178.94	-102.7	28.9	297.3	286.9	10.43	28.498		
3,100.0	3,067.9	3,075.1	3,070.4	9.2	6.0	179.26	-104.4	31.0	310.7	299.9	10.78	28.816		
3,200.0	3,166.6	3,174.7	3,169.9	9.5	6.2	179.54	-106.0	33.0	324.2	313.0	11.13	29.123		
3,300.0	3,265.4	3,273.9	3,269.1	9.8	6.3	179.69	-107.9	34.5	337.6	326.1	11.48	29.410		
3,400.0	3,364.1	3,372.7	3,367.8	10.2	6.5	179.73	-109.9	35.3	351.0	339.2	11.82	29.692		
3,500.0	3,462.9	3,471.8	3,466.9	10.5	6.7	179.80	-111.9	36.4	364.5	352.4	12.17	29.954		
3,600.0	3,561.7	3,572.0	3,567.1	10.8	6.9	179.90	-113.8	37.7	378.0	365.5	12.52	30.197		
3,700.0	3,660.4	3,674.4	3,669.5	11.1	7.0	179.75	-117.1	37.7	390.7	377.8	12.87	30.366		
3,800.0	3,759.2	3,772.7	3,767.7	11.5	7.2	179.52	-120.7	37.1	403.1	389.9	13.21	30.527		
3,900.0	3,858.0	3,870.5	3,865.4	11.8	7.4	179.29	-123.9	36.4	415.9	402.4	13.54	30.708		
4,000.0	3,956.7	3,968.1	3,963.0	12.1	7.6	179.09	-126.9	35.7	429.0	415.1	13.89	30.896		
4,100.0	4,055.5	4,064.8	4,059.6	12.4	7.7	178.93	-129.3	35.0	442.6	428.4	14.23	31.113		
4,200.0	4,154.3	4,162.7	4,157.5	12.8	7.9	178.78	-131.3	34.1	456.6	442.1	14.57	31.346		
4,300.0	4,253.0	4,260.8	4,255.6	13.1	8.0	178.68	-133.1	33.6	470.8	455.9	14.91	31.573		
4,400.0	4,351.8	4,358.0	4,352.8	13.4	8.2	178.61	-134.6	33.1	485.3	470.0	15.25	31.814		
4,500.0	4,450.5	4,455.8	4,450.6	13.7	8.4	178.56	-135.7	32.6	500.0	484.4	15.60	32.062		
4,600.0	4,549.3	4,553.0	4,547.8	14.1	8.5	178.49	-136.7	31.9	515.0	499.1	15.94	32.314		
4,700.0	4,648.1	4,647.9	4,642.6	14.4	8.7	178.44	-137.0	31.1	530.6	514.3	16.28	32.598		
4,800.0	4,746.8	4,745.5	4,740.2	14.7	8.8	178.42	-136.9	30.4	546.6	530.0	16.62	32.890		
4,900.0	4,845.6	4,844.1	4,838.9	15.0	9.0	178.40	-136.6	29.7	562.8	545.9	16.97	33.175		
5,000.0	4,944.4	4,942.9	4,937.7	15.4	9.2	178.38	-136.4	29.0	578.9	561.6	17.31	33.444		

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft		
Survey Program: 140-MWD													Offset Well Error:		0.0 ft	
Reference													Distance		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning			
		Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)								
5,100.0	5,043.1	5,041.0	5,035.8	15.7	9.3	178.35	-136.2	28.1	595.1	577.5	17.65	33.708				
5,200.0	5,141.9	5,138.0	5,132.7	16.0	9.5	178.31	-135.9	27.1	611.5	593.5	18.00	33.977				
5,300.0	5,240.7	5,236.3	5,231.0	16.3	9.6	178.27	-135.4	25.9	628.0	609.7	18.34	34.241				
5,400.0	5,339.4	5,337.2	5,331.9	16.7	9.8	178.22	-135.0	24.6	644.5	625.8	18.69	34.483				
5,500.0	5,438.2	5,440.5	5,435.2	17.0	10.0	178.10	-135.4	22.8	660.4	641.3	19.04	34.676				
5,600.0	5,536.9	5,535.3	5,530.0	17.3	10.1	177.96	-136.1	20.8	676.1	656.7	19.38	34.880				
5,700.0	5,635.7	5,647.3	5,642.0	17.6	10.3	177.77	-137.6	18.3	691.4	671.6	19.75	35.000				
5,800.0	5,734.5	5,745.0	5,739.6	18.0	10.5	177.59	-139.8	16.2	705.6	685.5	20.10	35.107				
5,900.0	5,833.2	5,839.3	5,833.9	18.3	10.6	177.44	-141.6	14.2	720.4	699.9	20.44	35.243				
6,000.0	5,932.0	5,939.1	5,933.6	18.6	10.8	177.31	-143.1	12.2	735.3	714.5	20.79	35.369				
6,100.0	6,030.8	6,038.6	6,033.1	18.9	11.0	177.21	-144.6	10.6	750.2	729.0	21.14	35.486				
6,200.0	6,129.5	6,136.1	6,130.6	19.3	11.1	177.15	-145.8	9.5	765.1	743.6	21.49	35.610				
6,300.0	6,228.3	6,233.4	6,227.9	19.6	11.3	177.13	-146.8	8.7	780.2	758.3	21.83	35.738				
6,400.0	6,327.1	6,329.9	6,324.4	19.9	11.5	177.12	-147.4	8.0	795.5	773.4	22.17	35.878				
6,500.0	6,425.8	6,427.1	6,421.6	20.2	11.6	177.10	-147.8	7.0	811.1	788.6	22.52	36.022				
6,600.0	6,524.6	6,524.6	6,519.1	20.6	11.8	177.05	-148.2	5.6	826.9	804.0	22.86	36.167				
6,700.0	6,623.3	6,621.9	6,616.3	20.9	12.0	176.97	-148.7	3.8	842.8	819.6	23.21	36.314				
6,800.0	6,722.1	6,720.0	6,714.5	21.2	12.1	176.91	-148.9	2.0	858.9	835.3	23.56	36.462				
6,900.0	6,820.9	6,820.4	6,814.9	21.5	12.3	176.83	-149.4	0.0	874.8	850.9	23.91	36.592				
7,000.0	6,919.6	6,920.4	6,914.8	21.9	12.5	176.76	-149.9	-1.9	890.7	866.4	24.26	36.716				
7,100.0	7,018.4	7,019.6	7,014.0	22.2	12.6	176.68	-150.7	-3.9	906.4	881.8	24.61	36.829				
7,200.0	7,117.2	7,117.2	7,111.6	22.5	12.8	176.58	-151.5	-6.2	922.1	897.2	24.96	36.946				
7,300.0	7,215.9	7,214.1	7,208.4	22.8	13.0	176.48	-152.3	-8.7	938.0	912.7	25.31	37.067				
7,400.0	7,314.7	7,312.7	7,307.0	23.2	13.1	176.37	-152.9	-11.4	954.1	928.4	25.66	37.186				
7,500.0	7,413.4	7,411.8	7,406.0	23.5	13.3	176.27	-153.6	-14.0	970.1	944.1	26.01	37.296				
7,600.0	7,512.2	7,511.9	7,506.1	23.8	13.5	176.16	-154.4	-16.8	986.0	959.7	26.36	37.400				
7,700.0	7,611.0	7,613.0	7,607.1	24.1	13.6	176.04	-155.5	-19.6	1,001.8	975.1	26.72	37.489				
7,800.0	7,709.7	7,715.5	7,709.6	24.5	13.8	175.94	-156.8	-22.3	1,017.2	990.2	27.08	37.561				
7,900.0	7,808.5	7,814.2	7,808.2	24.8	14.0	175.84	-158.3	-24.8	1,032.5	1,005.0	27.44	37.633				
8,000.0	7,907.3	7,912.4	7,906.4	25.1	14.2	175.74	-159.7	-27.4	1,047.8	1,020.0	27.79	37.706				
8,100.0	8,006.0	8,007.4	8,001.4	25.4	14.3	175.63	-161.0	-30.1	1,063.3	1,035.1	28.14	37.790				
8,200.0	8,104.8	8,105.0	8,098.9	25.8	14.5	175.51	-162.3	-33.4	1,079.0	1,050.6	28.49	37.873				
8,300.0	8,203.6	8,212.4	8,206.2	26.1	14.7	175.34	-164.1	-37.4	1,094.6	1,065.7	28.87	37.919				
8,400.0	8,302.3	8,306.0	8,299.7	26.4	14.8	175.22	-165.9	-40.6	1,109.8	1,080.5	29.21	37.987				
8,500.0	8,401.2	8,393.1	8,386.8	26.7	15.0	175.14	-166.7	-43.2	1,125.2	1,095.7	29.57	38.052				
8,600.0	8,500.4	8,520.7	8,514.4	27.0	15.2	175.16	-167.4	-44.5	1,137.2	1,107.2	29.99	37.919				
8,700.0	8,600.1	8,626.6	8,620.2	27.2	15.4	175.27	-168.8	-42.5	1,143.9	1,113.5	30.34	37.698				
8,800.0	8,699.9	8,724.8	8,718.4	27.3	15.6	175.36	-170.1	-40.6	1,146.9	1,116.2	30.66	37.409				
8,900.0	8,799.9	8,822.5	8,816.1	27.4	15.7	96.83	-171.2	-38.5	1,146.7	1,115.7	30.95	37.049				
9,000.0	8,899.9	8,923.7	8,917.2	27.5	15.9	96.93	-172.2	-36.3	1,144.9	1,113.6	31.30	36.583				
9,100.0	8,999.9	9,025.8	9,019.4	27.6	16.1	97.05	-173.4	-33.9	1,143.0	1,111.4	31.64	36.122				
9,200.0	9,099.9	9,127.7	9,121.2	27.7	16.3	97.19	-174.8	-31.6	1,141.0	1,109.0	31.99	35.667				
9,300.0	9,199.9	9,224.7	9,218.2	27.8	16.5	97.32	-176.3	-29.7	1,139.0	1,106.7	32.33	35.230				
9,400.0	9,299.9	9,324.0	9,317.5	27.9	16.6	97.38	-178.0	-29.3	1,137.4	1,104.7	32.68	34.805				
9,500.0	9,399.9	9,422.3	9,415.7	28.0	16.8	97.41	-180.0	-29.2	1,135.6	1,102.6	33.03	34.386				
9,600.0	9,499.9	9,515.1	9,508.5	28.1	17.0	97.44	-181.6	-29.3	1,134.3	1,101.0	33.36	33.999				
9,700.0	9,599.8	9,614.9	9,608.3	28.2	17.1	97.43	-183.0	-30.4	1,133.6	1,099.9	33.72	33.621				
9,800.0	9,699.8	9,714.7	9,708.1	28.4	17.3	97.40	-184.9	-31.7	1,132.6	1,098.5	34.07	33.243				
9,900.0	9,799.8	9,811.8	9,805.1	28.5	17.5	97.38	-186.4	-32.9	1,131.8	1,097.4	34.42	32.885				
10,000.0	9,899.8	9,908.8	9,902.2	28.6	17.6	97.37	-187.6	-34.1	1,131.3	1,096.5	34.76	32.541				
10,100.0	9,999.8	10,005.9	9,999.3	28.7	17.8	97.38	-188.4	-35.1	1,131.0	1,095.9	35.11	32.213				
10,144.5	10,044.3	10,049.1	10,042.5	28.7	17.9	97.38	-188.7	-35.5	1,131.0	1,095.7	35.27	32.071				

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 140-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
10,200.0	10,099.8	10,104.6	10,097.9	28.8	18.0	97.39	-189.0	-35.9	1,131.0	1,095.6	35.46	31.896			
10,300.0	10,199.8	10,207.7	10,201.1	28.9	18.2	97.41	-189.8	-36.7	1,130.8	1,095.0	35.82	31.572			
10,400.0	10,299.8	10,307.8	10,301.1	29.0	18.3	97.43	-190.6	-37.5	1,130.6	1,094.4	36.17	31.259			
10,500.0	10,399.8	10,410.0	10,403.3	29.1	18.5	97.44	-191.6	-38.3	1,130.1	1,093.6	36.52	30.943			
10,600.0	10,499.8	10,509.8	10,503.1	29.2	18.7	97.44	-192.7	-39.4	1,129.7	1,092.8	36.88	30.634			
10,700.0	10,599.7	10,607.9	10,601.2	29.4	18.9	97.42	-194.0	-40.8	1,129.2	1,092.0	37.23	30.334			
10,800.0	10,699.7	10,705.2	10,698.4	29.5	19.0	97.38	-195.1	-42.6	1,129.1	1,091.5	37.58	30.047			
10,845.3	10,745.1	10,750.0	10,743.2	29.5	19.1	97.35	-195.6	-43.7	1,129.1	1,091.3	37.74	29.919			
10,900.0	10,799.7	10,801.9	10,795.1	29.6	19.2	97.31	-196.2	-45.1	1,129.1	1,091.2	37.93	29.770			
11,000.0	10,899.7	10,898.6	10,891.8	29.7	19.4	97.24	-197.1	-47.7	1,129.5	1,091.3	38.28	29.508			
11,100.0	10,999.7	10,995.7	10,988.9	29.8	19.5	97.18	-197.7	-50.2	1,130.1	1,091.5	38.63	29.255			
11,200.0	11,099.7	11,092.3	11,085.4	29.9	19.7	97.10	-198.0	-53.1	1,131.1	1,092.1	38.98	29.016			
11,300.0	11,199.7	11,192.4	11,185.4	30.1	19.9	97.00	-198.5	-56.5	1,132.2	1,092.9	39.34	28.777			
11,400.0	11,299.7	11,291.2	11,284.2	30.2	20.0	96.88	-199.1	-60.3	1,133.3	1,093.6	39.70	28.545			
11,500.0	11,399.7	11,389.5	11,382.4	30.3	20.2	96.76	-199.6	-64.1	1,134.6	1,094.5	40.06	28.321			
11,600.0	11,499.7	11,487.7	11,480.5	30.4	20.4	96.62	-200.1	-68.4	1,136.0	1,095.6	40.42	28.102			
11,700.0	11,599.7	11,585.5	11,578.2	30.5	20.6	96.46	-200.6	-73.2	1,137.6	1,096.8	40.79	27.892			
11,800.0	11,699.6	11,681.6	11,674.2	30.7	20.7	96.31	-200.9	-77.7	1,139.4	1,098.2	41.14	27.693			
11,900.0	11,799.6	11,778.0	11,770.5	30.8	20.9	96.20	-200.4	-81.8	1,141.7	1,100.2	41.50	27.510			
11,946.4	11,846.0	11,824.5	11,817.0	30.8	21.0	96.15	-200.1	-83.6	1,142.7	1,101.1	41.67	27.426			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	108.41	-18.9	56.9	60.0						
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	92.890 CC, ES			
300.0	300.0	298.2	298.2	0.5	0.5	-55.74	-17.9	58.7	60.4	59.4	1.00	60.615			
400.0	399.8	396.4	396.2	0.7	0.7	-63.64	-14.8	64.1	62.5	61.1	1.37	45.671			
500.0	499.5	495.6	495.1	0.9	0.9	-74.28	-11.2	70.4	65.6	63.9	1.77	37.112			
600.0	598.7	594.4	593.7	1.2	1.1	-86.36	-7.6	76.7	70.6	68.3	2.21	31.983			
700.0	697.5	692.8	691.7	1.5	1.3	-98.65	-4.0	83.0	78.6	76.0	2.66	29.544			
800.0	796.3	791.0	789.8	1.8	1.5	-108.66	-0.4	89.3	89.8	86.7	3.11	28.911 SF			
900.0	895.1	889.3	887.8	2.1	1.7	-116.31	3.2	95.5	103.2	99.6	3.54	29.136			
1,000.0	993.8	987.6	985.8	2.4	2.0	-122.16	6.8	101.8	117.9	114.0	3.97	29.736			
1,100.0	1,092.6	1,085.9	1,083.8	2.7	2.2	-126.69	10.4	108.1	133.6	129.2	4.38	30.482			
1,200.0	1,191.4	1,184.1	1,181.8	3.1	2.4	-130.26	14.0	114.4	149.9	145.1	4.80	31.261			
1,300.0	1,290.1	1,282.4	1,279.8	3.4	2.6	-133.12	17.6	120.6	166.7	161.5	5.21	32.022			
1,400.0	1,388.9	1,380.7	1,377.8	3.7	2.8	-135.45	21.3	126.9	183.9	178.2	5.62	32.743			
1,500.0	1,487.6	1,478.9	1,475.8	4.0	3.0	-137.39	24.9	133.2	201.2	195.2	6.02	33.415			
1,600.0	1,586.4	1,577.2	1,573.8	4.3	3.2	-139.02	28.5	139.4	218.8	212.4	6.43	34.035			
1,700.0	1,685.2	1,675.5	1,671.8	4.7	3.4	-140.41	32.1	145.7	236.5	229.7	6.83	34.607			
1,800.0	1,783.9	1,773.8	1,769.8	5.0	3.6	-141.60	35.7	152.0	254.3	247.1	7.24	35.133			
1,900.0	1,882.7	1,872.0	1,867.8	5.3	3.9	-142.64	39.3	158.3	272.2	264.6	7.64	35.618			
2,000.0	1,981.5	1,970.3	1,965.8	5.6	4.1	-143.55	42.9	164.5	290.2	282.2	8.05	36.064			
2,100.0	2,080.2	2,068.6	2,063.8	6.0	4.3	-144.35	46.5	170.8	308.3	299.8	8.45	36.476			
2,200.0	2,179.0	2,166.8	2,161.8	6.3	4.5	-145.06	50.1	177.1	326.4	317.5	8.86	36.856			
2,300.0	2,277.7	2,265.1	2,259.8	6.6	4.7	-145.70	53.7	183.4	344.5	335.3	9.26	37.209			
2,400.0	2,376.5	2,363.4	2,357.8	6.9	4.9	-146.28	57.3	189.6	362.7	353.0	9.66	37.536			
2,500.0	2,475.3	2,461.6	2,455.8	7.3	5.1	-146.80	60.9	195.9	380.9	370.9	10.07	37.841			
2,600.0	2,574.0	2,559.9	2,553.8	7.6	5.4	-147.27	64.5	202.2	399.2	388.7	10.47	38.125			
2,700.0	2,672.8	2,658.2	2,651.8	7.9	5.6	-147.70	68.1	208.5	417.4	406.6	10.87	38.390			
2,800.0	2,771.6	2,756.5	2,749.8	8.2	5.8	-148.10	71.7	214.7	435.7	424.4	11.28	38.638			
2,900.0	2,870.3	2,854.7	2,847.8	8.5	6.0	-148.46	75.3	221.0	454.0	442.3	11.68	38.871			
3,000.0	2,969.1	2,953.0	2,945.8	8.9	6.2	-148.80	78.9	227.3	472.4	460.3	12.08	39.089			
3,100.0	3,067.9	3,051.3	3,043.8	9.2	6.4	-149.11	82.5	233.5	490.7	478.2	12.49	39.295			
3,200.0	3,166.6	3,149.5	3,141.8	9.5	6.6	-149.39	86.1	239.8	509.0	496.2	12.89	39.489			
3,300.0	3,265.4	3,247.8	3,239.8	9.8	6.8	-149.66	89.7	246.1	527.4	514.1	13.29	39.672			
3,400.0	3,364.1	3,346.1	3,337.9	10.2	7.1	-149.91	93.3	252.4	545.8	532.1	13.70	39.845			
3,500.0	3,462.9	3,444.4	3,435.9	10.5	7.3	-150.15	96.9	258.6	564.2	550.1	14.10	40.008			
3,600.0	3,561.7	3,542.6	3,533.9	10.8	7.5	-150.36	100.5	264.9	582.6	568.1	14.50	40.164			
3,700.0	3,660.4	3,640.9	3,631.9	11.1	7.7	-150.57	104.1	271.2	601.0	586.0	14.91	40.311			
3,800.0	3,759.2	3,739.2	3,729.9	11.5	7.9	-150.76	107.7	277.5	619.4	604.1	15.31	40.451			
3,900.0	3,858.0	3,837.4	3,827.9	11.8	8.1	-150.95	111.3	283.7	637.8	622.1	15.71	40.584			
4,000.0	3,956.7	3,935.7	3,925.9	12.1	8.3	-151.12	114.9	290.0	656.2	640.1	16.12	40.711			
4,100.0	4,055.5	4,034.0	4,023.9	12.4	8.5	-151.28	118.5	296.3	674.6	658.1	16.52	40.832			
4,200.0	4,154.3	4,132.2	4,121.9	12.8	8.8	-151.43	122.1	302.6	693.0	676.1	16.93	40.948			
4,300.0	4,253.0	4,230.5	4,219.9	13.1	9.0	-151.58	125.7	308.8	711.5	694.2	17.33	41.058			
4,400.0	4,351.8	4,328.8	4,317.9	13.4	9.2	-151.72	129.3	315.1	729.9	712.2	17.73	41.164			
4,500.0	4,450.5	4,427.1	4,415.9	13.7	9.4	-151.85	132.9	321.4	748.4	730.2	18.14	41.265			
4,600.0	4,549.3	4,525.3	4,513.9	14.1	9.6	-151.98	136.5	327.6	766.8	748.3	18.54	41.362			
4,700.0	4,648.1	4,623.6	4,611.9	14.4	9.8	-152.09	140.1	333.9	785.3	766.3	18.94	41.455			
4,800.0	4,746.8	4,721.9	4,709.9	14.7	10.0	-152.21	143.8	340.2	803.7	784.4	19.35	41.544			
4,900.0	4,845.6	4,820.1	4,807.9	15.0	10.3	-152.32	147.4	346.5	822.2	802.4	19.75	41.630			
5,000.0	4,944.4	4,918.4	4,905.9	15.4	10.5	-152.42	151.0	352.7	840.6	820.5	20.15	41.713			
5,100.0	5,043.1	5,016.7	5,003.9	15.7	10.7	-152.52	154.6	359.0	859.1	838.5	20.56	41.792			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,200.0	5,141.9	5,115.0	5,101.9	16.0	10.9	-152.62	158.2	365.3	877.5	856.6	20.96	41.868			
5,300.0	5,240.7	5,213.2	5,199.9	16.3	11.1	-152.71	161.8	371.6	896.0	874.6	21.36	41.942			
5,400.0	5,339.4	5,313.3	5,299.8	16.7	11.3	-152.80	165.4	377.9	914.5	892.7	21.77	42.010			
5,500.0	5,438.2	5,444.3	5,430.6	17.0	11.5	-153.11	168.2	382.7	931.0	908.8	22.17	41.990			
5,600.0	5,536.9	5,552.6	5,538.9	17.3	11.7	-153.58	168.2	382.8	945.1	922.6	22.51	41.988			
5,700.0	5,635.7	5,653.0	5,639.3	17.6	11.8	-154.03	167.9	382.3	958.9	936.0	22.83	42.000			
5,800.0	5,734.5	5,751.8	5,738.1	18.0	12.0	-154.46	167.6	381.8	972.6	949.5	23.15	42.016			
5,900.0	5,833.2	5,850.6	5,836.9	18.3	12.1	-154.88	167.3	381.2	986.5	963.0	23.47	42.034			
6,000.0	5,932.0	5,949.4	5,935.7	18.6	12.2	-155.29	167.0	380.7	1,000.4	976.6	23.79	42.055			
6,100.0	6,030.8	6,048.2	6,034.4	18.9	12.4	-155.69	166.7	380.1	1,014.3	990.2	24.10	42.078			
6,200.0	6,129.5	6,146.9	6,133.2	19.3	12.5	-156.08	166.4	379.6	1,028.3	1,003.8	24.42	42.103			
6,300.0	6,228.3	6,245.7	6,232.0	19.6	12.7	-156.45	166.1	379.1	1,042.3	1,017.6	24.74	42.128			
6,400.0	6,327.1	6,344.5	6,330.8	19.9	12.8	-156.82	165.8	378.5	1,056.4	1,031.3	25.06	42.155			
6,500.0	6,425.8	6,443.3	6,429.6	20.2	13.0	-157.18	165.4	378.0	1,070.5	1,045.1	25.38	42.184			
6,600.0	6,524.6	6,542.1	6,528.3	20.6	13.1	-157.53	165.1	377.5	1,084.6	1,058.9	25.69	42.213			
6,700.0	6,623.3	6,640.8	6,627.1	20.9	13.2	-157.86	164.8	376.9	1,098.8	1,072.8	26.01	42.243			
6,800.0	6,722.1	6,739.6	6,725.9	21.2	13.4	-158.19	164.5	376.4	1,113.0	1,086.7	26.33	42.273			
6,900.0	6,820.9	6,838.4	6,824.7	21.5	13.5	-158.52	164.2	375.9	1,127.3	1,100.6	26.65	42.304			
7,000.0	6,919.6	6,937.2	6,923.5	21.9	13.7	-158.83	163.9	375.3	1,141.6	1,114.6	26.97	42.335			
7,100.0	7,018.4	7,036.0	7,022.2	22.2	13.8	-159.14	163.6	374.8	1,155.9	1,128.6	27.28	42.367			
7,200.0	7,117.2	7,134.7	7,121.0	22.5	14.0	-159.44	163.3	374.3	1,170.3	1,142.7	27.60	42.399			
7,300.0	7,215.9	7,233.5	7,219.8	22.8	14.1	-159.73	163.0	373.7	1,184.7	1,156.7	27.92	42.431			
7,400.0	7,314.7	7,332.3	7,318.6	23.2	14.3	-160.01	162.7	373.2	1,199.1	1,170.8	28.24	42.463			
7,500.0	7,413.4	7,431.1	7,417.4	23.5	14.4	-160.29	162.4	372.6	1,213.5	1,185.0	28.56	42.495			
7,600.0	7,512.2	7,529.9	7,516.1	23.8	14.6	-160.56	162.0	372.1	1,228.0	1,199.1	28.88	42.527			
7,700.0	7,611.0	7,628.7	7,614.9	24.1	14.7	-160.83	161.7	371.6	1,242.5	1,213.3	29.19	42.559			
7,800.0	7,709.7	7,727.4	7,713.7	24.5	14.9	-161.08	161.4	371.0	1,257.0	1,227.5	29.51	42.591			
7,900.0	7,808.5	7,826.2	7,812.5	24.8	15.0	-161.34	161.1	370.5	1,271.6	1,241.7	29.83	42.623			
8,000.0	7,907.3	7,925.0	7,911.2	25.1	15.2	-161.58	160.8	370.0	1,286.2	1,256.0	30.15	42.654			
8,100.0	8,006.0	8,023.8	8,010.0	25.4	15.3	-161.83	160.5	369.4	1,300.7	1,270.3	30.47	42.686			
8,200.0	8,104.8	8,122.6	8,108.8	25.8	15.5	-162.06	160.2	368.9	1,315.4	1,284.6	30.79	42.717			
8,300.0	8,203.6	8,221.3	8,207.6	26.1	15.6	-162.29	159.9	368.4	1,330.0	1,298.9	31.11	42.747			
8,400.0	8,302.3	8,320.1	8,306.4	26.4	15.8	-162.52	159.6	367.8	1,344.7	1,313.2	31.43	42.778			
8,500.0	8,401.2	8,419.0	8,405.2	26.7	15.9	-162.78	159.3	367.3	1,358.9	1,327.1	31.78	42.758			
8,600.0	8,500.4	8,518.3	8,504.5	27.0	16.1	-163.02	158.9	366.7	1,370.1	1,338.0	32.13	42.642			
8,700.0	8,600.1	8,617.9	8,604.1	27.2	16.3	-163.19	158.6	366.2	1,378.0	1,345.5	32.46	42.452			
8,800.0	8,699.9	8,717.8	8,704.0	27.3	16.4	-163.30	158.3	365.7	1,382.6	1,349.8	32.77	42.191			
8,900.0	8,799.9	8,817.7	8,804.0	27.4	16.6	118.04	158.0	365.1	1,383.8	1,350.8	33.06	41.860			
9,000.0	8,899.9	8,917.7	8,904.0	27.5	16.7	118.03	157.7	364.6	1,383.7	1,350.3	33.38	41.452			
9,039.7	8,939.6	8,957.4	8,943.7	27.5	16.8	118.03	157.6	364.4	1,383.6	1,350.1	33.51	41.294			
9,100.0	8,999.9	9,017.7	9,004.0	27.6	16.9	118.03	157.4	364.0	1,383.7	1,350.0	33.70	41.058			
9,200.0	9,099.9	9,117.7	9,104.0	27.7	17.0	118.05	157.1	363.5	1,383.9	1,349.9	34.02	40.677			
9,300.0	9,199.9	9,217.7	9,204.0	27.8	17.2	118.07	156.7	363.0	1,384.3	1,349.9	34.34	40.308			
9,400.0	9,299.9	9,317.7	9,304.0	27.9	17.4	118.10	156.4	362.4	1,384.6	1,350.0	34.66	39.945			
9,500.0	9,399.9	9,417.7	9,404.0	28.0	17.5	118.13	156.1	361.9	1,385.0	1,350.0	34.98	39.589			
9,600.0	9,499.9	9,517.7	9,504.0	28.1	17.7	118.16	155.8	361.3	1,385.3	1,350.0	35.31	39.238			
9,700.0	9,599.8	9,617.7	9,603.9	28.2	17.8	118.18	155.5	360.8	1,385.7	1,350.1	35.63	38.893			
9,800.0	9,699.8	9,717.7	9,703.9	28.4	18.0	118.21	155.2	360.2	1,386.0	1,350.1	35.95	38.553			
9,900.0	9,799.8	9,817.7	9,803.9	28.5	18.2	118.24	154.9	359.7	1,386.4	1,350.1	36.27	38.220			
10,000.0	9,899.8	9,917.7	9,903.9	28.6	18.3	118.27	154.6	359.2	1,386.8	1,350.2	36.60	37.891			
10,100.0	9,999.8	10,017.7	10,003.9	28.7	18.5	118.29	154.2	358.6	1,387.1	1,350.2	36.92	37.568			
10,200.0	10,099.8	10,117.7	10,103.9	28.8	18.6	118.32	153.9	358.1	1,387.5	1,350.2	37.25	37.250			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
10,300.0	10,199.8	10,217.7	10,203.9	28.9	18.8	118.35	153.6	357.5	1,387.8	1,350.3	37.57	36.937			
10,400.0	10,299.8	10,317.7	10,303.9	29.0	19.0	118.38	153.3	357.0	1,388.2	1,350.3	37.90	36.629			
10,500.0	10,399.8	10,417.7	10,403.9	29.1	19.1	118.40	153.0	356.4	1,388.5	1,350.3	38.22	36.326			
10,600.0	10,499.8	10,517.7	10,503.9	29.2	19.3	118.43	152.7	355.9	1,388.9	1,350.4	38.55	36.027			
10,700.0	10,599.7	10,617.7	10,603.9	29.4	19.5	118.46	152.4	355.4	1,389.3	1,350.4	38.88	35.734			
10,800.0	10,699.7	10,717.7	10,703.9	29.5	19.6	118.49	152.0	354.8	1,389.6	1,350.4	39.21	35.445			
10,900.0	10,799.7	10,817.7	10,803.9	29.6	19.8	118.51	151.7	354.3	1,390.0	1,350.5	39.53	35.160			
11,000.0	10,899.7	10,917.7	10,903.9	29.7	19.9	118.54	151.4	353.7	1,390.4	1,350.5	39.86	34.879			
11,100.0	10,999.7	11,017.7	11,003.9	29.8	20.1	118.57	151.1	353.2	1,390.7	1,350.5	40.19	34.603			
11,200.0	11,099.7	11,117.7	11,103.9	29.9	20.3	118.60	150.8	352.6	1,391.1	1,350.6	40.52	34.331			
11,300.0	11,199.7	11,217.7	11,203.9	30.1	20.4	118.62	150.5	352.1	1,391.4	1,350.6	40.85	34.064			
11,400.0	11,299.7	11,317.7	11,303.9	30.2	20.6	118.65	150.2	351.6	1,391.8	1,350.6	41.18	33.800			
11,500.0	11,399.7	11,417.7	11,403.9	30.3	20.8	118.68	149.9	351.0	1,392.2	1,350.7	41.51	33.540			
11,600.0	11,499.7	11,517.7	11,503.9	30.4	20.9	118.71	149.5	350.5	1,392.5	1,350.7	41.84	33.284			
11,700.0	11,599.7	11,617.7	11,603.8	30.5	21.1	118.73	149.2	349.9	1,392.9	1,350.7	42.17	33.032			
11,800.0	11,699.6	11,717.7	11,703.8	30.7	21.3	118.76	148.9	349.4	1,393.3	1,350.8	42.50	32.783			
11,900.0	11,799.6	11,817.7	11,803.8	30.8	21.4	118.79	148.6	348.8	1,393.6	1,350.8	42.83	32.538			
11,946.4	11,846.0	11,864.0	11,850.2	30.8	21.5	118.80	148.5	348.6	1,393.8	1,350.8	42.98	32.426			

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	108.41	-9.5	28.5	30.0						
100.0	100.0	100.0	100.0	0.1	0.1	108.41	-9.5	28.5	30.0	29.7	0.30	101.087			
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-9.5	28.5	30.0	29.3	0.65	46.445			
300.0	300.0	300.0	300.0	0.5	0.5	-55.73	-9.5	28.5	29.0	28.0	1.00	29.056			
400.0	399.8	399.4	399.3	0.7	0.7	-61.95	-11.1	29.1	27.2	25.9	1.36	19.984			
500.0	499.5	498.9	498.7	0.9	0.9	-69.13	-15.9	31.1	26.1	24.3	1.77	14.705			
600.0	598.7	598.5	598.0	1.2	1.1	-77.00	-23.9	34.3	25.5	23.3	2.26	11.315			
634.1	632.4	632.5	631.7	1.3	1.2	-79.57	-27.3	35.7	25.5	23.1	2.44	10.465	CC		
700.0	697.5	698.3	697.2	1.5	1.3	-86.29	-34.2	38.5	25.6	22.8	2.80	9.144	ES		
800.0	796.3	798.2	796.4	1.8	1.6	-96.01	-44.7	42.8	26.4	23.0	3.35	7.873			
900.0	895.1	898.1	895.7	2.1	1.8	-104.94	-55.2	47.0	27.9	24.0	3.87	7.190			
1,000.0	993.8	998.0	994.9	2.4	2.1	-112.80	-65.6	51.3	29.9	25.6	4.36	6.870			
1,100.0	1,092.6	1,097.9	1,094.2	2.7	2.3	-119.53	-76.1	55.5	32.5	27.7	4.80	6.770	SF		
1,200.0	1,191.4	1,197.8	1,193.5	3.1	2.6	-125.22	-86.6	59.8	35.5	30.2	5.21	6.801			
1,300.0	1,290.1	1,297.7	1,292.7	3.4	2.8	-129.99	-97.1	64.0	38.7	33.1	5.60	6.910			
1,400.0	1,388.9	1,397.6	1,392.0	3.7	3.1	-134.00	-107.5	68.3	42.2	36.2	5.97	7.061			
1,500.0	1,487.6	1,497.5	1,491.2	4.0	3.4	-137.39	-118.0	72.5	45.8	39.5	6.33	7.235			
1,600.0	1,586.4	1,597.4	1,590.5	4.3	3.6	-140.27	-128.5	76.8	49.6	42.9	6.69	7.417			
1,700.0	1,685.2	1,697.3	1,689.8	4.7	3.9	-142.73	-138.9	81.0	53.5	46.5	7.04	7.601			
1,800.0	1,783.9	1,797.2	1,789.0	5.0	4.1	-144.86	-149.4	85.3	57.5	50.1	7.38	7.782			
1,900.0	1,882.7	1,897.1	1,888.3	5.3	4.4	-146.72	-159.9	89.5	61.5	53.8	7.73	7.957			
2,000.0	1,981.5	1,997.0	1,987.5	5.6	4.7	-148.34	-170.4	93.8	65.6	57.5	8.08	8.124			
2,100.0	2,080.2	2,096.9	2,086.8	6.0	4.9	-149.77	-180.8	98.0	69.8	61.3	8.42	8.284			
2,200.0	2,179.0	2,196.8	2,186.1	6.3	5.2	-151.04	-191.3	102.3	73.9	65.2	8.77	8.434			
2,300.0	2,277.7	2,296.7	2,285.3	6.6	5.4	-152.17	-201.8	106.5	78.2	69.0	9.11	8.577			
2,400.0	2,376.5	2,396.6	2,384.6	6.9	5.7	-153.19	-212.2	110.8	82.4	72.9	9.46	8.712			
2,500.0	2,475.3	2,496.5	2,483.8	7.3	6.0	-154.10	-222.7	115.0	86.7	76.9	9.81	8.838			
2,600.0	2,574.0	2,596.4	2,583.1	7.6	6.2	-154.93	-233.2	119.3	91.0	80.8	10.15	8.958			
2,700.0	2,672.8	2,696.3	2,682.3	7.9	6.5	-155.69	-243.7	123.5	95.3	84.8	10.50	9.071			
2,800.0	2,771.6	2,796.2	2,781.6	8.2	6.8	-156.38	-254.1	127.8	99.6	88.7	10.85	9.178			
2,900.0	2,870.3	2,896.1	2,880.9	8.5	7.0	-157.01	-264.6	132.0	103.9	92.7	11.20	9.278			
3,000.0	2,969.1	2,996.0	2,980.1	8.9	7.3	-157.59	-275.1	136.3	108.3	96.7	11.55	9.373			
3,100.0	3,067.9	3,095.9	3,079.4	9.2	7.5	-158.13	-285.5	140.5	112.6	100.7	11.90	9.463			
3,200.0	3,166.6	3,195.8	3,178.6	9.5	7.8	-158.63	-296.0	144.8	117.0	104.7	12.25	9.549			
3,300.0	3,265.4	3,295.7	3,277.9	9.8	8.1	-159.09	-306.5	149.0	121.4	108.8	12.60	9.629			
3,400.0	3,364.1	3,395.6	3,377.2	10.2	8.3	-159.52	-317.0	153.3	125.7	112.8	12.95	9.706			
3,500.0	3,462.9	3,495.5	3,476.4	10.5	8.6	-159.92	-327.4	157.5	130.1	116.8	13.31	9.779			
3,600.0	3,561.7	3,595.4	3,575.7	10.8	8.9	-160.29	-337.9	161.8	134.5	120.9	13.66	9.848			
3,700.0	3,660.4	3,695.3	3,674.9	11.1	9.1	-160.64	-348.4	166.0	138.9	124.9	14.01	9.914			
3,800.0	3,759.2	3,795.2	3,774.2	11.5	9.4	-160.97	-358.8	170.3	143.3	129.0	14.37	9.977			
3,900.0	3,858.0	3,895.1	3,873.4	11.8	9.7	-161.28	-369.3	174.5	147.7	133.0	14.72	10.037			
4,000.0	3,956.7	3,995.0	3,972.7	12.1	9.9	-161.57	-379.8	178.8	152.1	137.1	15.07	10.094			
4,100.0	4,055.5	4,094.9	4,072.0	12.4	10.2	-161.85	-390.3	183.0	156.6	141.1	15.43	10.148			
4,200.0	4,154.3	4,194.8	4,171.2	12.8	10.4	-162.11	-400.7	187.3	161.0	145.2	15.78	10.201			
4,300.0	4,253.0	4,294.7	4,270.5	13.1	10.7	-162.35	-411.2	191.5	165.4	149.3	16.13	10.251			
4,400.0	4,351.8	4,394.6	4,369.7	13.4	11.0	-162.59	-421.7	195.8	169.8	153.3	16.49	10.298			
4,500.0	4,450.5	4,494.5	4,469.0	13.7	11.2	-162.81	-432.1	200.0	174.2	157.4	16.84	10.344			
4,600.0	4,549.3	4,594.4	4,568.3	14.1	11.5	-163.02	-442.6	204.3	178.7	161.5	17.20	10.388			
4,700.0	4,648.1	4,694.3	4,667.5	14.4	11.8	-163.22	-453.1	208.5	183.1	165.5	17.55	10.430			
4,800.0	4,746.8	4,794.2	4,766.8	14.7	12.0	-163.41	-463.6	212.8	187.5	169.6	17.91	10.471			
4,900.0	4,845.6	4,894.1	4,866.0	15.0	12.3	-163.59	-474.0	217.0	192.0	173.7	18.27	10.510			
5,000.0	4,944.4	4,994.0	4,965.3	15.4	12.5	-163.77	-484.5	221.3	196.4	177.8	18.62	10.548			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,100.0	5,043.1	5,093.9	5,064.5	15.7	12.8	-163.93	-495.0	225.5	200.8	181.9	18.98	10.584			
5,200.0	5,141.9	5,193.8	5,163.8	16.0	13.1	-164.09	-505.5	229.8	205.3	186.0	19.33	10.619			
5,300.0	5,240.7	5,293.7	5,263.1	16.3	13.3	-164.24	-515.9	234.0	209.7	190.0	19.69	10.652			
5,400.0	5,339.4	5,393.6	5,362.3	16.7	13.6	-164.39	-526.4	238.3	214.2	194.1	20.05	10.685			
5,500.0	5,438.2	5,493.5	5,461.6	17.0	13.9	-164.53	-536.9	242.5	218.6	198.2	20.40	10.716			
5,600.0	5,536.9	5,593.4	5,560.8	17.3	14.1	-164.66	-547.3	246.8	223.1	202.3	20.76	10.746			
5,700.0	5,635.7	5,693.3	5,660.1	17.6	14.4	-164.79	-557.8	251.0	227.5	206.4	21.11	10.775			
5,800.0	5,734.5	5,793.2	5,759.4	18.0	14.7	-164.92	-568.3	255.3	232.0	210.5	21.47	10.803			
5,900.0	5,833.2	5,893.1	5,858.6	18.3	14.9	-165.03	-578.8	259.5	236.4	214.6	21.83	10.831			
6,000.0	5,932.0	5,993.0	5,957.9	18.6	15.2	-165.15	-589.2	263.8	240.9	218.7	22.18	10.857			
6,100.0	6,030.8	6,092.9	6,057.1	18.9	15.4	-165.26	-599.7	268.0	245.3	222.8	22.54	10.883			
6,200.0	6,129.5	6,192.8	6,156.4	19.3	15.7	-165.37	-610.2	272.3	249.8	226.9	22.90	10.908			
6,300.0	6,228.3	6,292.7	6,255.6	19.6	16.0	-165.47	-620.6	276.5	254.2	231.0	23.26	10.932			
6,400.0	6,327.1	6,392.6	6,354.9	19.9	16.2	-165.57	-631.1	280.8	258.7	235.1	23.61	10.955			
6,500.0	6,425.8	6,492.5	6,454.2	20.2	16.5	-165.67	-641.6	285.0	263.1	239.2	23.97	10.978			
6,600.0	6,524.6	6,592.4	6,553.4	20.6	16.8	-165.76	-652.1	289.3	267.6	243.3	24.33	10.999			
6,700.0	6,623.3	6,692.3	6,652.7	20.9	17.0	-165.85	-662.5	293.5	272.0	247.4	24.68	11.021			
6,800.0	6,722.1	6,792.2	6,751.9	21.2	17.3	-165.94	-673.0	297.8	276.5	251.5	25.04	11.041			
6,900.0	6,820.9	6,892.1	6,851.2	21.5	17.5	-166.02	-683.5	302.0	281.0	255.6	25.40	11.062			
7,000.0	6,919.6	6,992.0	6,950.5	21.9	17.8	-166.10	-693.9	306.3	285.4	259.7	25.76	11.081			
7,100.0	7,018.4	7,091.9	7,049.7	22.2	18.1	-166.18	-704.4	310.5	289.9	263.8	26.11	11.100			
7,200.0	7,117.2	7,191.8	7,149.0	22.5	18.3	-166.26	-714.9	314.8	294.3	267.9	26.47	11.119			
7,300.0	7,215.9	7,291.7	7,248.2	22.8	18.6	-166.33	-725.4	319.0	298.8	272.0	26.83	11.137			
7,400.0	7,314.7	7,391.6	7,347.5	23.2	18.9	-166.40	-735.8	323.3	303.3	276.1	27.19	11.154			
7,500.0	7,413.4	7,491.5	7,446.7	23.5	19.1	-166.47	-746.3	327.5	307.7	280.2	27.55	11.171			
7,600.0	7,512.2	7,591.4	7,546.0	23.8	19.4	-166.54	-756.8	331.8	312.2	284.3	27.90	11.188			
7,700.0	7,611.0	7,691.3	7,645.3	24.1	19.7	-166.61	-767.2	336.0	316.6	288.4	28.26	11.204			
7,800.0	7,709.7	7,791.2	7,744.5	24.5	19.9	-166.67	-777.7	340.3	321.1	292.5	28.62	11.220			
7,900.0	7,808.5	7,891.1	7,843.8	24.8	20.2	-166.74	-788.2	344.5	325.6	296.6	28.98	11.235			
8,000.0	7,907.3	7,991.0	7,943.0	25.1	20.4	-166.80	-798.7	348.8	330.0	300.7	29.33	11.250			
8,100.0	8,006.0	8,090.9	8,042.3	25.4	20.7	-166.86	-809.1	353.0	334.5	304.8	29.69	11.265			
8,200.0	8,104.8	8,190.8	8,141.6	25.8	21.0	-166.91	-819.6	357.3	339.0	308.9	30.05	11.279			
8,300.0	8,203.6	8,290.7	8,240.8	26.1	21.2	-166.97	-830.1	361.5	343.4	313.0	30.41	11.293			
8,400.0	8,302.3	8,390.6	8,340.1	26.4	21.5	-167.03	-840.5	365.8	347.9	317.1	30.77	11.307			
8,500.0	8,401.2	8,490.5	8,439.4	26.7	21.8	-167.07	-851.0	370.0	351.8	320.7	31.13	11.301			
8,600.0	8,500.4	8,582.9	8,531.2	27.0	22.0	-167.04	-860.0	373.7	355.5	322.0	31.48	11.229			
8,700.0	8,600.1	8,672.3	8,620.3	27.2	22.2	-167.01	-866.3	376.2	354.7	322.9	31.79	11.156			
8,800.0	8,699.9	8,761.7	8,709.6	27.3	22.3	-167.00	-869.9	377.7	355.4	323.4	32.07	11.083			
8,900.0	8,799.9	8,852.0	8,800.0	27.4	22.4	-167.00	-871.0	378.1	355.7	323.4	32.32	11.008			
9,000.0	8,899.9	8,952.7	8,900.6	27.5	22.5	-167.00	-871.1	377.9	355.7	323.1	32.65	10.895			
9,100.0	8,999.9	9,053.3	9,001.2	27.6	22.6	-167.00	-871.5	377.3	355.7	322.7	32.98	10.785			
9,200.0	9,099.9	9,154.0	9,101.9	27.7	22.8	-167.00	-872.0	376.3	355.7	322.4	33.31	10.679			
9,241.3	9,141.1	9,195.2	9,143.2	27.8	22.8	-167.00	-872.3	375.8	355.7	322.3	33.44	10.636			
9,300.0	9,199.9	9,254.0	9,201.9	27.8	22.9	-167.00	-872.7	375.1	355.7	322.1	33.63	10.576			
9,400.0	9,299.9	9,354.0	9,301.9	27.9	23.0	-167.00	-873.4	373.9	355.7	321.8	33.96	10.475			
9,500.0	9,399.9	9,454.0	9,401.9	28.0	23.2	-167.00	-874.1	372.7	355.7	321.4	34.28	10.376			
9,600.0	9,499.9	9,554.0	9,501.9	28.1	23.3	-167.00	-874.8	371.5	355.7	321.1	34.61	10.279			
9,700.0	9,599.8	9,654.0	9,601.9	28.2	23.4	-167.00	-875.5	370.3	355.7	320.8	34.93	10.184			
9,800.0	9,699.8	9,754.0	9,701.9	28.4	23.5	-167.00	-876.2	369.1	355.7	320.5	35.26	10.090			
9,900.0	9,799.8	9,854.0	9,801.9	28.5	23.7	-167.00	-876.9	367.9	355.7	320.1	35.58	9.997			
10,000.0	9,899.8	9,954.0	9,901.8	28.6	23.8	-167.00	-877.6	366.7	355.7	319.8	35.91	9.906			
10,100.0	9,999.8	10,054.0	10,001.8	28.7	23.9	-167.00	-878.2	365.5	355.7	319.5	36.24	9.817			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
10,200.0	10,099.8	10,154.0	10,101.8	28.8	24.1	114.38	-878.9	364.3	355.7	319.2	36.56	9.729			
10,300.0	10,199.8	10,254.0	10,201.8	28.9	24.2	114.38	-879.6	363.1	355.7	318.8	36.89	9.642			
10,400.0	10,299.8	10,354.0	10,301.8	29.0	24.3	114.38	-880.3	361.9	355.7	318.5	37.22	9.557			
10,500.0	10,399.8	10,454.0	10,401.8	29.1	24.4	114.38	-881.0	360.7	355.7	318.2	37.55	9.474			
10,600.0	10,499.8	10,554.0	10,501.8	29.2	24.6	114.38	-881.7	359.5	355.7	317.9	37.88	9.391			
10,700.0	10,599.7	10,654.0	10,601.8	29.4	24.7	114.38	-882.4	358.3	355.7	317.5	38.21	9.310			
10,800.0	10,699.7	10,754.0	10,701.8	29.5	24.8	114.38	-883.1	357.1	355.7	317.2	38.54	9.231			
10,900.0	10,799.7	10,854.0	10,801.8	29.6	25.0	114.38	-883.8	355.9	355.7	316.9	38.87	9.152			
11,000.0	10,899.7	10,954.0	10,901.7	29.7	25.1	114.38	-884.5	354.7	355.7	316.5	39.20	9.075			
11,100.0	10,999.7	11,054.0	11,001.7	29.8	25.3	114.38	-885.2	353.5	355.7	316.2	39.53	8.999			
11,200.0	11,099.7	11,154.0	11,101.7	29.9	25.4	114.38	-885.8	352.3	355.7	315.9	39.86	8.924			
11,300.0	11,199.7	11,254.0	11,201.7	30.1	25.5	114.38	-886.5	351.1	355.7	315.5	40.19	8.851			
11,400.0	11,299.7	11,354.0	11,301.7	30.2	25.7	114.38	-887.2	349.9	355.7	315.2	40.53	8.778			
11,500.0	11,399.7	11,454.0	11,401.7	30.3	25.8	114.38	-887.9	348.7	355.7	314.9	40.86	8.707			
11,600.0	11,499.7	11,554.0	11,501.7	30.4	25.9	114.38	-888.6	347.6	355.7	314.5	41.19	8.636			
11,700.0	11,599.7	11,654.0	11,601.7	30.5	26.1	114.38	-889.3	346.4	355.7	314.2	41.52	8.567			
11,800.0	11,699.6	11,754.0	11,701.7	30.7	26.2	114.38	-890.0	345.2	355.7	313.9	41.86	8.499			
11,900.0	11,799.6	11,854.0	11,801.7	30.8	26.4	114.38	-890.7	344.0	355.7	313.6	42.19	8.432			
11,922.9	11,822.5	11,876.9	11,824.5	30.8	26.4	114.38	-890.8	343.7	355.7	313.5	42.27	8.417			
11,946.4	11,846.0	11,894.0	11,841.7	30.8	26.4	114.38	-891.0	343.5	355.8	313.5	42.34	8.404			

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 202-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	-64.38	33.5	-69.9	77.6						
100.0	100.0	95.4	95.4	0.1	0.2	-64.37	33.7	-70.2	77.9	77.6	0.31	254.609 ES			
200.0	200.0	194.7	194.7	0.3	0.3	-64.34	34.3	-71.3	79.1	78.5	0.64	122.768			
300.0	300.0	294.4	294.4	0.5	0.5	135.17	35.1	-72.9	82.2	81.2	0.99	82.701			
400.0	399.8	393.8	393.8	0.7	0.7	137.05	35.5	-75.2	88.2	86.8	1.35	65.265			
500.0	499.5	494.4	494.3	0.9	0.9	139.35	34.8	-77.9	96.6	94.9	1.72	56.067			
600.0	598.7	596.9	596.7	1.2	1.0	141.96	32.0	-79.3	105.8	103.7	2.11	50.048			
700.0	697.5	698.9	698.6	1.5	1.2	144.24	26.1	-79.4	114.8	112.3	2.52	45.620			
800.0	796.3	801.1	800.5	1.8	1.4	145.79	17.9	-78.4	122.1	119.2	2.93	41.685			
900.0	895.1	902.6	901.5	2.1	1.6	147.13	8.6	-76.0	127.8	124.5	3.34	38.285			
1,000.0	993.8	1,003.4	1,001.8	2.4	1.9	148.67	-0.8	-72.3	132.4	128.7	3.73	35.499			
1,100.0	1,092.6	1,104.6	1,102.5	2.7	2.1	150.65	-9.6	-67.4	136.6	132.5	4.11	33.254			
1,200.0	1,191.4	1,206.5	1,203.7	3.1	2.3	152.70	-19.3	-60.9	139.3	134.8	4.47	31.162			
1,300.0	1,290.1	1,308.1	1,304.5	3.4	2.6	154.47	-30.0	-54.1	141.1	136.3	4.83	29.219			
1,400.0	1,388.9	1,404.7	1,400.3	3.7	2.8	155.61	-41.0	-48.6	143.2	138.1	5.19	27.600			
1,500.0	1,487.6	1,503.7	1,498.7	4.0	3.1	156.80	-50.8	-44.0	147.2	141.7	5.54	26.549			
1,600.0	1,586.4	1,603.5	1,597.9	4.3	3.3	158.07	-60.3	-39.3	151.5	145.6	5.89	25.704			
1,700.0	1,685.2	1,702.3	1,696.2	4.7	3.5	159.28	-69.3	-34.9	156.2	149.9	6.23	25.051			
1,800.0	1,783.9	1,801.5	1,795.0	5.0	3.8	160.52	-77.8	-30.5	161.5	155.0	6.57	24.586			
1,900.0	1,882.7	1,903.4	1,896.3	5.3	4.0	161.32	-87.7	-26.6	166.3	159.4	6.93	24.015			
2,000.0	1,981.5	2,004.4	1,996.7	5.6	4.3	161.84	-98.5	-22.8	170.5	163.2	7.29	23.387			
2,100.0	2,080.2	2,106.7	2,098.1	6.0	4.6	162.03	-111.2	-18.9	173.1	165.4	7.67	22.568			
2,200.0	2,179.0	2,205.8	2,196.3	6.3	4.9	161.66	-124.5	-16.4	175.8	167.7	8.07	21.775			
2,300.0	2,277.7	2,306.2	2,295.7	6.6	5.2	161.24	-138.2	-13.9	178.3	169.8	8.49	21.012			
2,400.0	2,376.5	2,407.5	2,396.1	6.9	5.4	160.99	-151.6	-11.1	181.0	172.1	8.89	20.363			
2,500.0	2,475.3	2,510.6	2,498.0	7.3	5.8	161.74	-165.1	-4.4	181.5	172.3	9.23	19.673			
2,600.0	2,574.0	2,610.0	2,596.3	7.6	6.0	162.71	-177.8	2.9	181.8	172.2	9.54	19.047			
2,700.0	2,672.8	2,708.1	2,693.5	7.9	6.3	163.74	-189.7	10.0	182.7	172.9	9.85	18.545			
2,800.0	2,771.6	2,807.0	2,791.5	8.2	6.6	164.55	-201.3	15.9	184.8	174.6	10.18	18.154			
2,900.0	2,870.3	2,906.0	2,889.7	8.5	6.9	164.61	-213.8	19.7	187.3	176.8	10.55	17.756			
3,000.0	2,969.1	3,005.8	2,988.4	8.9	7.2	164.66	-227.4	24.0	188.7	177.8	10.92	17.282 SF			
3,100.0	3,067.9	3,013.0	2,995.6	9.2	7.2	164.68	-228.3	24.3	212.8	201.7	11.12	19.134			
3,200.0	3,166.6	3,013.0	2,995.6	9.5	7.2	164.68	-228.3	24.3	273.7	262.4	11.31	24.195			
3,300.0	3,265.4	3,013.0	2,995.6	9.8	7.2	164.68	-228.3	24.3	352.9	341.4	11.50	30.682			
3,400.0	3,364.1	3,013.0	2,995.6	10.2	7.2	164.68	-228.3	24.3	440.6	428.9	11.69	37.690			
3,500.0	3,462.9	3,013.0	2,995.6	10.5	7.2	164.68	-228.3	24.3	532.7	520.8	11.88	44.841			
3,600.0	3,561.7	3,013.0	2,995.6	10.8	7.2	164.68	-228.3	24.3	627.2	615.1	12.07	51.968			
3,700.0	3,660.4	3,013.0	2,995.6	11.1	7.2	164.68	-228.3	24.3	723.1	710.9	12.26	58.996			
3,800.0	3,759.2	3,013.0	2,995.6	11.5	7.2	164.68	-228.3	24.3	820.1	807.6	12.45	65.888			
3,900.0	3,858.0	3,013.0	2,995.6	11.8	7.2	164.68	-228.3	24.3	917.7	905.1	12.64	72.625			
4,000.0	3,956.7	3,013.0	2,995.6	12.1	7.2	164.68	-228.3	24.3	1,015.8	1,002.9	12.83	79.199			
4,100.0	4,055.5	3,013.0	2,995.6	12.4	7.2	164.68	-228.3	24.3	1,114.2	1,101.2	13.01	85.609			
4,200.0	4,154.3	3,013.0	2,995.6	12.8	7.2	164.68	-228.3	24.3	1,212.8	1,199.6	13.20	91.854			
4,300.0	4,253.0	3,013.0	2,995.6	13.1	7.2	164.68	-228.3	24.3	1,311.7	1,298.3	13.39	97.938			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-71.65	14.2	-42.8	45.1						
100.0	100.0	100.0	100.0	0.1	0.2	-71.65	14.2	-42.8	45.1	44.8	0.32	139.750			
200.0	200.0	200.0	200.0	0.3	0.3	-71.65	14.2	-42.8	45.1	44.5	0.67	67.152 CC			
300.0	300.0	300.8	300.8	0.5	0.5	126.83	12.5	-42.5	45.3	44.3	1.03	44.069 ES			
400.0	399.8	401.6	401.4	0.7	0.7	126.36	7.3	-41.3	45.7	44.3	1.41	32.522			
500.0	499.5	502.4	501.8	0.9	1.0	125.61	-1.4	-39.5	46.5	44.7	1.83	25.424			
600.0	598.7	602.5	601.3	1.2	1.2	126.03	-12.1	-37.1	48.3	46.0	2.29	21.091			
700.0	697.5	702.4	700.6	1.5	1.4	129.11	-22.8	-34.8	52.0	49.2	2.75	18.863			
800.0	796.3	802.3	799.9	1.8	1.7	132.16	-33.5	-32.5	56.0	52.8	3.21	17.463			
900.0	895.1	902.1	899.2	2.1	1.9	134.78	-44.1	-30.2	60.3	56.6	3.65	16.492			
1,000.0	993.8	1,002.0	998.4	2.4	2.2	137.06	-54.8	-27.9	64.6	60.5	4.09	15.795			
1,100.0	1,092.6	1,101.9	1,097.7	2.7	2.4	139.05	-65.5	-25.6	69.0	64.5	4.52	15.281			
1,200.0	1,191.4	1,201.8	1,197.0	3.1	2.7	140.80	-76.2	-23.3	73.5	68.6	4.93	14.893			
1,300.0	1,290.1	1,301.6	1,296.3	3.4	3.0	142.34	-86.9	-21.0	78.0	72.7	5.35	14.593			
1,400.0	1,388.9	1,401.5	1,395.5	3.7	3.2	143.72	-97.6	-18.6	82.6	76.9	5.76	14.359			
1,500.0	1,487.6	1,501.4	1,494.8	4.0	3.5	144.95	-108.3	-16.3	87.3	81.1	6.16	14.173			
1,600.0	1,586.4	1,601.3	1,594.1	4.3	3.7	146.05	-119.0	-14.0	92.0	85.4	6.56	14.023			
1,700.0	1,685.2	1,701.1	1,693.4	4.7	4.0	147.05	-129.7	-11.7	96.7	89.7	6.95	13.902			
1,800.0	1,783.9	1,801.0	1,792.6	5.0	4.2	147.95	-140.4	-9.4	101.4	94.1	7.35	13.802			
1,900.0	1,882.7	1,900.9	1,891.9	5.3	4.5	148.78	-151.1	-7.1	106.2	98.4	7.74	13.719			
2,000.0	1,981.5	2,000.8	1,991.2	5.6	4.8	149.53	-161.8	-4.8	110.9	102.8	8.13	13.650			
2,100.0	2,080.2	2,100.6	2,090.5	6.0	5.0	150.22	-172.4	-2.5	115.7	107.2	8.52	13.592			
2,200.0	2,179.0	2,200.5	2,189.7	6.3	5.3	150.85	-183.1	-0.1	120.6	111.7	8.90	13.543			
2,300.0	2,277.7	2,300.4	2,289.0	6.6	5.5	151.44	-193.8	2.2	125.4	116.1	9.29	13.501			
2,400.0	2,376.5	2,400.3	2,388.3	6.9	5.8	151.98	-204.5	4.5	130.2	120.5	9.67	13.466			
2,500.0	2,475.3	2,500.1	2,487.6	7.3	6.0	152.49	-215.2	6.8	135.1	125.0	10.05	13.435			
2,600.0	2,574.0	2,600.0	2,586.8	7.6	6.3	152.96	-225.9	9.1	139.9	129.5	10.44	13.409			
2,700.0	2,672.8	2,699.9	2,686.1	7.9	6.6	153.40	-236.6	11.4	144.8	134.0	10.82	13.386			
2,800.0	2,771.6	2,799.8	2,785.4	8.2	6.8	153.80	-247.3	13.7	149.7	138.5	11.20	13.366			
2,900.0	2,870.3	2,899.6	2,884.7	8.5	7.1	154.19	-258.0	16.0	154.6	143.0	11.58	13.349			
3,000.0	2,969.1	2,999.5	2,983.9	8.9	7.3	154.55	-268.7	18.4	159.4	147.5	11.96	13.334			
3,100.0	3,067.9	3,099.4	3,083.2	9.2	7.6	154.89	-279.4	20.7	164.3	152.0	12.34	13.321			
3,200.0	3,166.6	3,199.3	3,182.5	9.5	7.9	155.20	-290.0	23.0	169.2	156.5	12.72	13.310			
3,300.0	3,265.4	3,299.1	3,281.8	9.8	8.1	155.51	-300.7	25.3	174.1	161.0	13.09	13.300			
3,400.0	3,364.1	3,399.0	3,381.0	10.2	8.4	155.79	-311.4	27.6	179.1	165.6	13.47	13.291			
3,500.0	3,462.9	3,498.9	3,480.3	10.5	8.6	156.06	-322.1	29.9	184.0	170.1	13.85	13.283			
3,600.0	3,561.7	3,598.8	3,579.6	10.8	8.9	156.31	-332.8	32.2	188.9	174.7	14.23	13.276			
3,700.0	3,660.4	3,698.6	3,678.9	11.1	9.1	156.56	-343.5	34.6	193.8	179.2	14.60	13.270			
3,800.0	3,759.2	3,798.5	3,778.1	11.5	9.4	156.79	-354.2	36.9	198.7	183.7	14.98	13.265			
3,900.0	3,858.0	3,898.4	3,877.4	11.8	9.7	157.01	-364.9	39.2	203.7	188.3	15.36	13.260			
4,000.0	3,956.7	3,998.3	3,976.7	12.1	9.9	157.21	-375.6	41.5	208.6	192.9	15.74	13.256			
4,100.0	4,055.5	4,098.1	4,076.0	12.4	10.2	157.41	-386.3	43.8	213.5	197.4	16.11	13.253			
4,200.0	4,154.3	4,198.0	4,175.2	12.8	10.4	157.60	-397.0	46.1	218.5	202.0	16.49	13.249			
4,300.0	4,253.0	4,297.9	4,274.5	13.1	10.7	157.78	-407.7	48.4	223.4	206.5	16.86	13.246			
4,400.0	4,351.8	4,397.8	4,373.8	13.4	11.0	157.96	-418.3	50.7	228.3	211.1	17.24	13.244			
4,500.0	4,450.5	4,497.6	4,473.1	13.7	11.2	158.13	-429.0	53.1	233.3	215.7	17.62	13.242			
4,600.0	4,549.3	4,597.5	4,572.3	14.1	11.5	158.28	-439.7	55.4	238.2	220.2	17.99	13.240			
4,700.0	4,648.1	4,697.4	4,671.6	14.4	11.7	158.44	-450.4	57.7	243.2	224.8	18.37	13.238			
4,800.0	4,746.8	4,797.3	4,770.9	14.7	12.0	158.58	-461.1	60.0	248.1	229.4	18.74	13.237			
4,900.0	4,845.6	4,897.1	4,870.2	15.0	12.2	158.73	-471.8	62.3	253.1	233.9	19.12	13.236			
5,000.0	4,944.4	4,997.0	4,969.4	15.4	12.5	158.86	-482.5	64.6	258.0	238.5	19.50	13.234			
5,100.0	5,043.1	5,096.9	5,068.7	15.7	12.8	158.99	-493.2	66.9	263.0	243.1	19.87	13.234 SF			

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

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: O-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance			Total	Separation	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		Factor		
5,200.0	5,141.9	5,193.2	5,164.5	16.0	13.0	159.14	-503.2	69.1	268.2	248.0	20.23	13.257			
5,300.0	5,240.7	5,285.2	5,256.1	16.3	13.2	159.53	-510.3	70.6	275.9	255.4	20.54	13.437			
5,400.0	5,339.4	5,376.5	5,347.4	16.7	13.3	160.15	-514.5	71.5	286.5	265.7	20.79	13.782			
5,500.0	5,438.2	5,467.3	5,438.2	17.0	13.4	160.96	-515.8	71.8	299.9	278.9	21.00	14.283			
5,600.0	5,536.9	5,565.9	5,536.8	17.3	13.6	161.85	-515.9	71.6	314.9	293.6	21.22	14.839			
5,700.0	5,635.7	5,664.7	5,635.5	17.6	13.7	162.60	-516.2	71.1	329.9	308.4	21.46	15.370			
5,800.0	5,734.5	5,763.4	5,734.3	18.0	13.8	163.27	-516.5	70.6	344.9	323.2	21.72	15.883			
5,900.0	5,833.2	5,862.2	5,833.1	18.3	14.0	163.89	-516.8	70.1	360.0	338.0	21.98	16.380			
6,000.0	5,932.0	5,961.0	5,931.8	18.6	14.1	164.46	-517.1	69.5	375.2	352.9	22.25	16.859			
6,100.0	6,030.8	6,059.8	6,030.6	18.9	14.2	164.98	-517.4	69.0	390.3	367.8	22.53	17.324			
6,200.0	6,129.5	6,158.6	6,129.4	19.3	14.3	165.47	-517.7	68.4	405.6	382.7	22.82	17.773			
6,300.0	6,228.3	6,257.3	6,228.2	19.6	14.5	165.92	-518.1	67.9	420.8	397.7	23.11	18.208			
6,400.0	6,327.1	6,356.1	6,327.0	19.9	14.6	166.34	-518.4	67.4	436.0	412.6	23.41	18.629			
6,500.0	6,425.8	6,454.9	6,425.7	20.2	14.7	166.73	-518.7	66.8	451.3	427.6	23.71	19.038			
6,600.0	6,524.6	6,553.7	6,524.5	20.6	14.9	167.09	-519.0	66.3	466.6	442.6	24.01	19.433			
6,700.0	6,623.3	6,652.5	6,623.3	20.9	15.0	167.44	-519.3	65.8	481.9	457.6	24.32	19.817			
6,800.0	6,722.1	6,751.2	6,722.1	21.2	15.1	167.76	-519.6	65.2	497.3	472.6	24.63	20.190			
6,900.0	6,820.9	6,850.0	6,820.8	21.5	15.3	168.06	-519.9	64.7	512.6	487.7	24.94	20.551			
7,000.0	6,919.6	6,948.8	6,919.6	21.9	15.4	168.34	-520.2	64.2	528.0	502.7	25.26	20.902			
7,100.0	7,018.4	7,047.6	7,018.4	22.2	15.6	168.61	-520.5	63.6	543.3	517.8	25.58	21.243			
7,200.0	7,117.2	7,146.4	7,117.2	22.5	15.7	168.86	-520.8	63.1	558.7	532.8	25.90	21.575			
7,300.0	7,215.9	7,245.1	7,216.0	22.8	15.8	169.10	-521.2	62.5	574.1	547.9	26.22	21.897			
7,400.0	7,314.7	7,343.9	7,314.7	23.2	16.0	169.33	-521.5	62.0	589.5	563.0	26.54	22.210			
7,500.0	7,413.4	7,442.7	7,413.5	23.5	16.1	169.54	-521.8	61.5	604.9	578.0	26.87	22.515			
7,600.0	7,512.2	7,541.5	7,512.3	23.8	16.3	169.75	-522.1	60.9	620.3	593.1	27.19	22.812			
7,700.0	7,611.0	7,640.3	7,611.1	24.1	16.4	169.94	-522.4	60.4	635.7	608.2	27.52	23.101			
7,800.0	7,709.7	7,739.1	7,709.9	24.5	16.5	170.13	-522.7	59.9	651.2	623.3	27.85	23.382			
7,900.0	7,808.5	7,837.8	7,808.6	24.8	16.7	170.31	-523.0	59.3	666.6	638.4	28.18	23.657			
8,000.0	7,907.3	7,936.6	7,907.4	25.1	16.8	170.48	-523.3	58.8	682.1	653.5	28.51	23.924			
8,100.0	8,006.0	8,035.4	8,006.2	25.4	17.0	170.64	-523.6	58.3	697.5	668.7	28.84	24.185			
8,200.0	8,104.8	8,134.2	8,105.0	25.8	17.1	170.79	-523.9	57.7	713.0	683.8	29.17	24.439			
8,300.0	8,203.6	8,233.0	8,203.8	26.1	17.3	170.94	-524.3	57.2	728.4	698.9	29.51	24.687			
8,400.0	8,302.3	8,331.7	8,302.5	26.4	17.4	171.08	-524.6	56.6	743.9	714.0	29.84	24.929			
8,500.0	8,401.2	8,430.6	8,401.4	26.7	17.6	171.24	-524.9	56.1	758.8	728.6	30.19	25.137			
8,600.0	8,500.4	8,529.9	8,500.7	27.0	17.7	171.36	-525.2	55.6	770.7	740.2	30.53	25.243			
8,700.0	8,600.1	8,629.5	8,600.3	27.2	17.9	171.44	-525.5	55.0	779.2	748.3	30.86	25.250			
8,800.0	8,699.9	8,729.4	8,700.2	27.3	18.0	171.46	-525.8	54.5	784.2	753.0	31.16	25.162			
8,900.0	8,799.9	8,829.4	8,800.1	27.4	18.2	92.83	-526.1	53.9	785.7	754.3	31.45	24.980			
9,000.0	8,899.9	8,929.4	8,900.1	27.5	18.3	92.80	-526.4	53.4	785.7	753.9	31.81	24.704			
9,039.8	8,939.7	8,969.1	8,939.9	27.5	18.4	92.80	-526.6	53.2	785.7	753.8	31.94	24.597			
9,100.0	8,999.9	9,029.4	9,000.1	27.6	18.5	92.81	-526.8	52.9	785.7	753.6	32.15	24.437			
9,200.0	9,099.9	9,129.4	9,100.1	27.7	18.6	92.84	-527.1	52.3	785.7	753.2	32.50	24.177			
9,300.0	9,199.9	9,229.4	9,200.1	27.8	18.8	92.90	-527.4	51.8	785.8	752.9	32.84	23.924			
9,400.0	9,299.9	9,329.4	9,300.1	27.9	18.9	92.95	-527.7	51.2	785.8	752.6	33.19	23.677			
9,500.0	9,399.9	9,429.4	9,400.1	28.0	19.1	93.01	-528.0	50.7	785.9	752.3	33.53	23.435			
9,600.0	9,499.9	9,529.3	9,500.1	28.1	19.2	93.06	-528.3	50.1	785.9	752.0	33.88	23.198			
9,700.0	9,599.8	9,629.3	9,600.1	28.2	19.4	93.12	-528.6	49.6	785.9	751.7	34.22	22.965			
9,800.0	9,699.8	9,729.3	9,700.1	28.4	19.5	93.17	-528.9	49.1	786.0	751.4	34.57	22.738			
9,900.0	9,799.8	9,829.3	9,800.1	28.5	19.7	93.23	-529.3	48.5	786.0	751.1	34.91	22.514			
10,000.0	9,899.8	9,929.3	9,900.1	28.6	19.8	93.28	-529.6	48.0	786.1	750.8	35.26	22.295			
10,100.0	9,999.8	10,029.3	10,000.1	28.7	20.0	93.34	-529.9	47.4	786.1	750.5	35.60	22.080			
10,200.0	10,099.8	10,129.3	10,100.1	28.8	20.1	93.39	-530.2	46.9	786.2	750.2	35.95	21.870			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
D21 595 Pad - LR05BDR D21-595 - DD - Plan #2													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
10,300.0	10,199.8	10,229.3	10,200.1	28.9	20.3	93.45	-530.5	46.3	786.2	749.9	36.29	21.663		
10,400.0	10,299.8	10,329.3	10,300.1	29.0	20.4	93.50	-530.8	45.8	786.2	749.6	36.64	21.460		
10,500.0	10,399.8	10,429.3	10,400.1	29.1	20.6	93.56	-531.1	45.3	786.3	749.3	36.98	21.261		
10,600.0	10,499.8	10,529.3	10,500.1	29.2	20.8	93.61	-531.5	44.7	786.3	749.0	37.33	21.065		
10,700.0	10,599.7	10,629.3	10,600.1	29.4	20.9	93.67	-531.8	44.2	786.4	748.7	37.67	20.874		
10,800.0	10,699.7	10,729.3	10,700.1	29.5	21.1	93.72	-532.1	43.6	786.4	748.4	38.02	20.685		
10,900.0	10,799.7	10,829.3	10,800.1	29.6	21.2	93.78	-532.4	43.1	786.5	748.1	38.36	20.500		
11,000.0	10,899.7	10,929.3	10,900.0	29.7	21.4	93.83	-532.7	42.5	786.5	747.8	38.71	20.318		
11,100.0	10,999.7	11,029.3	11,000.0	29.8	21.5	93.89	-533.0	42.0	786.6	747.5	39.06	20.140		
11,200.0	11,099.7	11,129.3	11,100.0	29.9	21.7	93.94	-533.3	41.5	786.6	747.2	39.40	19.964		
11,300.0	11,199.7	11,229.3	11,200.0	30.1	21.9	93.99	-533.7	40.9	786.7	746.9	39.75	19.792		
11,400.0	11,299.7	11,329.3	11,300.0	30.2	22.0	94.05	-534.0	40.4	786.7	746.6	40.09	19.623		
11,500.0	11,399.7	11,429.3	11,400.0	30.3	22.2	94.10	-534.3	39.8	786.8	746.4	40.44	19.456		
11,600.0	11,499.7	11,529.3	11,500.0	30.4	22.3	94.16	-534.6	39.3	786.9	746.1	40.79	19.292		
11,700.0	11,599.7	11,629.3	11,600.0	30.5	22.5	94.21	-534.9	38.7	786.9	745.8	41.13	19.131		
11,800.0	11,699.6	11,729.3	11,700.0	30.7	22.7	94.27	-535.2	38.2	787.0	745.5	41.48	18.973		
11,900.0	11,799.6	11,829.3	11,800.0	30.8	22.8	94.32	-535.5	37.7	787.0	745.2	41.82	18.817		
11,946.4	11,846.0	11,875.7	11,846.4	30.8	22.9	94.35	-535.7	37.4	787.0	745.1	41.98	18.746		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-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 CC			
300.0	300.0	300.5	300.5	0.5	0.5	126.79	7.7	-28.1	30.2	29.2	1.00	30.144 ES			
400.0	399.8	401.0	400.9	0.7	0.7	126.06	2.6	-27.1	30.7	29.3	1.38	22.247			
500.0	499.5	501.6	501.0	0.9	0.9	124.90	-6.1	-25.3	31.6	29.8	1.81	17.502			
600.0	598.7	602.1	600.7	1.2	1.2	123.39	-18.1	-22.9	32.9	30.6	2.30	14.298			
700.0	697.5	702.5	700.0	1.5	1.5	121.03	-33.6	-19.8	34.4	31.5	2.88	11.949			
800.0	796.3	802.6	798.3	1.8	1.9	115.42	-51.7	-16.1	35.2	31.7	3.53	9.956			
900.0	895.1	902.6	896.5	2.1	2.2	109.82	-69.9	-12.4	36.3	32.0	4.23	8.583			
1,000.0	993.8	1,002.5	994.7	2.4	2.6	104.60	-88.1	-8.8	37.7	32.7	4.93	7.641			
1,100.0	1,092.6	1,102.4	1,092.9	2.7	2.9	99.79	-106.3	-5.1	39.4	33.7	5.63	6.987			
1,200.0	1,191.4	1,202.4	1,191.1	3.1	3.3	95.40	-124.5	-1.4	41.3	35.0	6.33	6.528			
1,300.0	1,290.1	1,302.3	1,289.3	3.4	3.6	91.42	-142.7	2.3	43.5	36.5	7.01	6.205			
1,400.0	1,388.9	1,402.2	1,387.5	3.7	4.0	87.84	-160.9	5.9	45.8	38.2	7.67	5.977			
1,500.0	1,487.6	1,502.2	1,485.7	4.0	4.4	84.62	-179.1	9.6	48.4	40.0	8.31	5.817			
1,600.0	1,586.4	1,602.1	1,583.9	4.3	4.7	81.73	-197.3	13.3	51.0	42.1	8.94	5.706			
1,700.0	1,685.2	1,702.0	1,682.1	4.7	5.1	79.13	-215.5	17.0	53.8	44.2	9.55	5.632			
1,800.0	1,783.9	1,802.0	1,780.3	5.0	5.5	76.79	-233.7	20.6	56.7	46.5	10.15	5.584			
1,900.0	1,882.7	1,901.9	1,878.5	5.3	5.8	74.67	-251.9	24.3	59.6	48.9	10.73	5.555			
2,000.0	1,981.5	2,001.8	1,976.7	5.6	6.2	72.76	-270.2	28.0	62.6	51.3	11.30	5.542			
2,100.0	2,080.2	2,101.8	2,074.8	6.0	6.6	71.03	-288.4	31.7	65.7	53.9	11.87	5.539			
2,200.0	2,179.0	2,201.7	2,173.0	6.3	6.9	69.46	-306.6	35.3	68.9	56.5	12.42	5.545			
2,300.0	2,277.7	2,301.6	2,271.2	6.6	7.3	68.02	-324.8	39.0	72.1	59.1	12.97	5.557			
2,400.0	2,376.5	2,401.6	2,369.4	6.9	7.7	66.70	-343.0	42.7	75.3	61.8	13.51	5.573			
2,500.0	2,475.3	2,501.5	2,467.6	7.3	8.0	65.50	-361.2	46.4	78.6	64.5	14.05	5.593			
2,600.0	2,574.0	2,601.4	2,565.8	7.6	8.4	64.39	-379.4	50.0	81.9	67.3	14.58	5.616			
2,700.0	2,672.8	2,701.4	2,664.0	7.9	8.8	63.37	-397.6	53.7	85.2	70.1	15.11	5.640			
2,800.0	2,771.6	2,801.3	2,762.2	8.2	9.1	62.42	-415.8	57.4	88.6	72.9	15.64	5.665			
2,900.0	2,870.3	2,901.2	2,860.4	8.5	9.5	61.55	-434.0	61.1	92.0	75.8	16.16	5.692			
3,000.0	2,969.1	3,001.2	2,958.6	8.9	9.9	60.73	-452.2	64.7	95.4	78.7	16.68	5.718			
3,100.0	3,067.9	3,101.1	3,056.8	9.2	10.2	59.97	-470.4	68.4	98.8	81.6	17.19	5.745			
3,200.0	3,166.6	3,201.0	3,155.0	9.5	10.6	59.27	-488.6	72.1	102.2	84.5	17.71	5.772			
3,300.0	3,265.4	3,301.0	3,253.2	9.8	11.0	58.61	-506.8	75.8	105.7	87.4	18.22	5.799			
3,400.0	3,364.1	3,400.9	3,351.3	10.2	11.3	57.99	-525.0	79.4	109.1	90.4	18.73	5.825			
3,500.0	3,462.9	3,500.8	3,449.5	10.5	11.7	57.41	-543.3	83.1	112.6	93.4	19.24	5.851			
3,600.0	3,561.7	3,600.8	3,547.7	10.8	12.1	56.86	-561.5	86.8	116.1	96.3	19.75	5.877			
3,700.0	3,660.4	3,700.7	3,645.9	11.1	12.4	56.35	-579.7	90.5	119.6	99.3	20.26	5.902			
3,800.0	3,759.2	3,800.6	3,744.1	11.5	12.8	55.86	-597.9	94.1	123.1	102.3	20.77	5.927			
3,900.0	3,858.0	3,900.6	3,842.3	11.8	13.2	55.41	-616.1	97.8	126.6	105.3	21.27	5.951			
4,000.0	3,956.7	4,000.5	3,940.5	12.1	13.5	54.97	-634.3	101.5	130.1	108.4	21.78	5.975			
4,100.0	4,055.5	4,100.4	4,038.7	12.4	13.9	54.56	-652.5	105.2	133.7	111.4	22.28	5.998			
4,200.0	4,154.3	4,200.4	4,136.9	12.8	14.3	54.17	-670.7	108.8	137.2	114.4	22.79	6.021			
4,300.0	4,253.0	4,300.3	4,235.1	13.1	14.7	53.80	-688.9	112.5	140.7	117.4	23.29	6.043			
4,400.0	4,351.8	4,400.2	4,333.3	13.4	15.0	53.45	-707.1	116.2	144.3	120.5	23.79	6.064			
4,500.0	4,450.5	4,500.2	4,431.5	13.7	15.4	53.12	-725.3	119.9	147.8	123.5	24.29	6.085			
4,600.0	4,549.3	4,600.1	4,529.6	14.1	15.8	52.80	-743.5	123.5	151.4	126.6	24.80	6.105			
4,700.0	4,648.1	4,700.0	4,627.8	14.4	16.1	52.49	-761.7	127.2	154.9	129.6	25.30	6.125			
4,800.0	4,746.8	4,800.0	4,726.0	14.7	16.5	52.20	-779.9	130.9	158.5	132.7	25.80	6.144			
4,900.0	4,845.6	4,899.9	4,824.2	15.0	16.9	51.93	-798.1	134.6	162.1	135.8	26.30	6.163			
5,000.0	4,944.4	4,999.8	4,922.4	15.4	17.2	51.66	-816.4	138.2	165.6	138.8	26.80	6.182			
5,100.0	5,043.1	5,099.8	5,020.6	15.7	17.6	51.40	-834.6	141.9	169.2	141.9	27.30	6.199			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,200.0	5,141.9	5,199.7	5,118.8	16.0	18.0	51.16	-852.8	145.6	172.8	145.0	27.80	6.217			
5,300.0	5,240.7	5,299.6	5,217.0	16.3	18.3	50.93	-871.0	149.3	176.4	148.1	28.29	6.234			
5,400.0	5,339.4	5,399.6	5,315.2	16.7	18.7	50.70	-889.2	152.9	180.0	151.2	28.79	6.250			
5,500.0	5,438.2	5,499.5	5,413.4	17.0	19.1	50.49	-907.4	156.6	183.6	154.3	29.29	6.266			
5,600.0	5,536.9	5,599.4	5,511.6	17.3	19.4	50.28	-925.6	160.3	187.1	157.4	29.79	6.282			
5,700.0	5,635.7	5,699.4	5,609.8	17.6	19.8	50.08	-943.8	164.0	190.7	160.4	30.29	6.297			
5,800.0	5,734.5	5,799.3	5,708.0	18.0	20.2	49.89	-962.0	167.6	194.3	163.5	30.79	6.312			
5,900.0	5,833.2	5,899.2	5,806.1	18.3	20.5	49.70	-980.2	171.3	197.9	166.6	31.29	6.326			
6,000.0	5,932.0	5,999.2	5,904.3	18.6	20.9	49.52	-998.4	175.0	201.5	169.7	31.78	6.341			
6,100.0	6,030.8	6,099.1	6,002.5	18.9	21.3	49.35	-1,016.6	178.7	205.1	172.8	32.28	6.354			
6,200.0	6,129.5	6,199.0	6,100.7	19.3	21.6	49.18	-1,034.8	182.3	208.7	175.9	32.78	6.368			
6,300.0	6,228.3	6,299.0	6,198.9	19.6	22.0	49.02	-1,053.0	186.0	212.3	179.1	33.28	6.381			
6,400.0	6,327.1	6,398.9	6,297.1	19.9	22.4	48.86	-1,071.2	189.7	215.9	182.2	33.77	6.394			
6,500.0	6,425.8	6,498.8	6,395.3	20.2	22.7	48.71	-1,089.4	193.4	219.5	185.3	34.27	6.406			
6,600.0	6,524.6	6,598.8	6,493.5	20.6	23.1	48.57	-1,107.7	197.0	223.1	188.4	34.77	6.418			
6,700.0	6,623.3	6,698.7	6,591.7	20.9	23.5	48.43	-1,125.9	200.7	226.8	191.5	35.26	6.430			
6,800.0	6,722.1	6,798.6	6,689.9	21.2	23.9	48.29	-1,144.1	204.4	230.4	194.6	35.76	6.442			
6,900.0	6,820.9	6,898.6	6,788.1	21.5	24.2	48.16	-1,162.3	208.1	234.0	197.7	36.26	6.453			
7,000.0	6,919.6	6,998.5	6,886.3	21.9	24.6	48.03	-1,180.5	211.7	237.6	200.8	36.75	6.464			
7,100.0	7,018.4	7,098.4	6,984.5	22.2	25.0	47.91	-1,198.7	215.4	241.2	204.0	37.25	6.475			
7,200.0	7,117.2	7,198.4	7,082.6	22.5	25.3	47.78	-1,216.9	219.1	244.8	207.1	37.75	6.486			
7,300.0	7,215.9	7,298.3	7,180.8	22.8	25.7	47.67	-1,235.1	222.8	248.4	210.2	38.24	6.496			
7,400.0	7,314.7	7,398.2	7,279.0	23.2	26.1	47.55	-1,253.3	226.4	252.1	213.3	38.74	6.506			
7,500.0	7,413.4	7,498.2	7,377.2	23.5	26.4	47.44	-1,271.5	230.1	255.7	216.4	39.24	6.516			
7,600.0	7,512.2	7,598.1	7,475.4	23.8	26.8	47.33	-1,289.7	233.8	259.3	219.6	39.73	6.526			
7,700.0	7,611.0	7,698.0	7,573.6	24.1	27.2	47.23	-1,307.9	237.5	262.9	222.7	40.23	6.535			
7,800.0	7,709.7	7,798.0	7,671.8	24.5	27.5	47.13	-1,326.1	241.1	266.5	225.8	40.73	6.545			
7,900.0	7,808.5	7,897.9	7,770.0	24.8	27.9	47.03	-1,344.3	244.8	270.2	228.9	41.22	6.554			
8,000.0	7,907.3	7,997.8	7,868.2	25.1	28.3	46.93	-1,362.5	248.5	273.8	232.1	41.72	6.563			
8,100.0	8,006.0	8,097.8	7,966.4	25.4	28.6	46.84	-1,380.8	252.2	277.4	235.2	42.21	6.572			
8,200.0	8,104.8	8,197.7	8,064.6	25.8	29.0	46.75	-1,399.0	255.8	281.0	238.3	42.71	6.580			
8,300.0	8,203.6	8,297.6	8,162.8	26.1	29.4	46.66	-1,417.2	259.5	284.7	241.4	43.21	6.588			
8,400.0	8,302.3	8,398.2	8,261.6	26.4	29.7	46.57	-1,435.5	263.2	288.3	244.6	43.70	6.596			
8,500.0	8,401.2	8,506.6	8,368.5	26.7	30.1	46.47	-1,453.0	266.7	290.6	246.3	44.27	6.564			
8,600.0	8,500.4	8,615.1	8,476.1	27.0	30.4	46.88	-1,466.5	269.5	292.1	247.4	44.77	6.525			
8,700.0	8,600.1	8,723.6	8,584.2	27.2	30.6	47.01	-1,476.0	271.4	293.1	248.0	45.18	6.488			
8,800.0	8,699.9	8,832.2	8,692.6	27.3	30.7	47.11	-1,481.4	272.5	293.6	248.1	45.50	6.453			
8,898.6	8,798.5	8,938.0	8,798.4	27.4	30.8	28.91	-1,482.9	272.8	293.6	247.8	45.74	6.417			
8,900.0	8,799.9	8,939.4	8,799.8	27.4	30.8	-31.44	-1,482.9	272.8	293.6	247.9	45.74	6.418			
9,000.0	8,899.9	9,038.3	8,898.7	27.5	30.9	-31.43	-1,483.1	272.6	293.6	247.7	45.98	6.386			
9,100.0	8,999.9	9,137.2	8,997.6	27.6	31.0	-31.43	-1,483.4	271.9	293.7	247.5	46.21	6.354			
9,200.0	9,099.9	9,236.1	9,096.5	27.7	31.1	-31.42	-1,484.0	271.0	293.7	247.2	46.44	6.324			
9,300.0	9,199.9	9,336.0	9,196.4	27.8	31.2	-31.42	-1,484.7	269.8	293.7	247.0	46.67	6.293			
9,400.0	9,299.9	9,436.0	9,296.4	27.9	31.3	-31.42	-1,485.4	268.6	293.7	246.8	46.89	6.263			
9,500.0	9,399.9	9,536.0	9,396.4	28.0	31.4	-31.42	-1,486.0	267.4	293.7	246.6	47.12	6.233			
9,600.0	9,499.9	9,636.0	9,496.4	28.1	31.5	-31.42	-1,486.7	266.2	293.7	246.3	47.35	6.203			
9,700.0	9,599.8	9,736.0	9,596.4	28.2	31.6	-31.42	-1,487.4	265.0	293.7	246.1	47.58	6.173			
9,800.0	9,699.8	9,836.0	9,696.4	28.4	31.7	-31.42	-1,488.1	263.8	293.7	245.9	47.81	6.143			
9,900.0	9,799.8	9,936.0	9,796.4	28.5	31.8	-31.42	-1,488.8	262.6	293.7	245.6	48.05	6.113			
10,000.0	9,899.8	10,036.0	9,896.4	28.6	31.9	-31.42	-1,489.5	261.4	293.7	245.4	48.28	6.083			
10,100.0	9,999.8	10,136.0	9,996.3	28.7	32.0	-31.42	-1,490.2	260.2	293.7	245.2	48.52	6.054			
10,200.0	10,099.8	10,236.0	10,096.3	28.8	32.1	-31.42	-1,490.9	259.0	293.7	244.9	48.75	6.024			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference				Offset				Semi Major Axis			Distance				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	10,199.8	10,336.0	10,196.3	28.9	32.2	-31.42	-1,491.6	257.8	293.7	244.7	48.99	5.995			
10,400.0	10,299.8	10,436.0	10,296.3	29.0	32.3	-31.42	-1,492.3	256.6	293.7	244.5	49.23	5.965			
10,500.0	10,399.8	10,536.0	10,396.3	29.1	32.4	-31.42	-1,493.0	255.4	293.7	244.2	49.47	5.936			
10,600.0	10,499.8	10,636.0	10,496.3	29.2	32.5	-31.42	-1,493.6	254.2	293.7	244.0	49.72	5.907			
10,700.0	10,599.7	10,736.0	10,596.3	29.4	32.6	-31.42	-1,494.3	253.0	293.7	243.7	49.96	5.879			
10,800.0	10,699.7	10,836.0	10,696.3	29.5	32.7	-31.42	-1,495.0	251.8	293.7	243.5	50.21	5.850			
10,900.0	10,799.7	10,936.0	10,796.3	29.6	32.8	-31.42	-1,495.7	250.6	293.7	243.2	50.45	5.821			
11,000.0	10,899.7	11,036.0	10,896.3	29.7	32.9	-31.42	-1,496.4	249.4	293.7	243.0	50.70	5.793			
11,100.0	10,999.7	11,136.0	10,996.2	29.8	33.1	-31.41	-1,497.1	248.2	293.7	242.7	50.95	5.764			
11,200.0	11,099.7	11,236.0	11,096.2	29.9	33.2	-31.41	-1,497.8	247.0	293.7	242.5	51.20	5.736			
11,300.0	11,199.7	11,336.0	11,196.2	30.1	33.3	-31.41	-1,498.5	245.8	293.7	242.2	51.45	5.708			
11,400.0	11,299.7	11,436.0	11,296.2	30.2	33.4	-31.41	-1,499.2	244.6	293.7	242.0	51.70	5.680			
11,500.0	11,399.7	11,536.0	11,396.2	30.3	33.5	-31.41	-1,499.9	243.4	293.7	241.7	51.96	5.653			
11,600.0	11,499.7	11,636.0	11,496.2	30.4	33.6	-31.41	-1,500.5	242.2	293.7	241.5	52.21	5.625			
11,700.0	11,599.7	11,736.0	11,596.2	30.5	33.7	-31.41	-1,501.2	241.0	293.7	241.2	52.47	5.598			
11,800.0	11,699.6	11,836.0	11,696.2	30.7	33.8	-31.41	-1,501.9	239.8	293.7	241.0	52.72	5.570			
11,900.0	11,799.6	11,936.0	11,796.2	30.8	33.9	-31.41	-1,502.6	238.6	293.7	240.7	52.98	5.543			
11,933.4	11,833.0	11,969.4	11,829.5	30.8	34.0	-31.41	-1,502.9	238.2	293.7	240.6	53.07	5.534			
11,946.4	11,846.0	11,975.9	11,836.0	30.8	34.0	-31.41	-1,502.9	238.1	293.8	240.7	53.09	5.533 SF			

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	108.41	-28.4	85.4	90.0						
100.0	100.0	100.0	100.0	0.1	0.1	108.41	-28.4	85.4	90.0	89.7	0.30	303.260			
200.0	200.0	200.0	200.0	0.3	0.3	108.41	-28.4	85.4	90.0	89.3	0.65	139.336			
300.0	300.0	300.0	300.0	0.5	0.5	-53.87	-28.4	85.4	88.9	87.9	1.00	89.197			
400.0	399.8	399.8	399.8	0.7	0.7	-56.74	-28.4	85.4	86.0	84.6	1.36	63.191			
500.0	499.5	499.5	499.5	0.9	0.8	-61.93	-28.4	85.4	81.5	79.7	1.75	46.560			
600.0	598.7	596.3	596.3	1.2	1.0	-69.33	-29.1	86.8	78.0	75.8	2.18	35.735			
644.5	642.8	639.5	639.4	1.3	1.1	-73.06	-29.9	88.4	77.6	75.2	2.39	32.405	CC, ES		
700.0	697.5	693.3	693.1	1.5	1.2	-78.03	-31.3	91.2	78.1	75.5	2.66	29.356			
800.0	796.3	790.5	790.0	1.8	1.4	-85.30	-35.0	98.5	82.7	79.5	3.16	26.133			
900.0	895.1	887.7	886.5	2.1	1.6	-90.21	-40.1	108.8	90.7	87.0	3.68	24.628			
1,000.0	993.8	984.8	982.5	2.4	1.9	-92.88	-46.7	122.0	101.6	97.3	4.23	24.003			
1,100.0	1,092.6	1,082.4	1,078.5	2.7	2.2	-93.84	-54.7	138.0	114.6	109.8	4.80	23.857			
1,200.0	1,191.4	1,181.5	1,175.7	3.1	2.5	-94.37	-63.1	154.8	128.1	122.7	5.40	23.747			
1,300.0	1,290.1	1,280.6	1,273.0	3.4	2.9	-94.80	-71.5	171.7	141.7	135.7	6.00	23.621			
1,400.0	1,388.9	1,379.7	1,370.3	3.7	3.2	-95.15	-79.9	188.5	155.2	148.6	6.61	23.491			
1,500.0	1,487.6	1,478.7	1,467.6	4.0	3.6	-95.45	-88.3	205.4	168.7	161.5	7.22	23.365			
1,600.0	1,586.4	1,577.8	1,564.8	4.3	4.0	-95.70	-96.7	222.3	182.3	174.4	7.84	23.247			
1,700.0	1,685.2	1,676.9	1,662.1	4.7	4.3	-95.92	-105.1	239.1	195.8	187.4	8.46	23.137			
1,800.0	1,783.9	1,776.0	1,759.4	5.0	4.7	-96.11	-113.5	256.0	209.4	200.3	9.09	23.036			
1,900.0	1,882.7	1,875.0	1,856.6	5.3	5.0	-96.27	-121.9	272.8	222.9	213.2	9.72	22.943			
2,000.0	1,981.5	1,974.1	1,953.9	5.6	5.4	-96.42	-130.3	289.7	236.5	226.2	10.35	22.858			
2,100.0	2,080.2	2,073.2	2,051.2	6.0	5.8	-96.55	-138.7	306.5	250.1	239.1	10.98	22.779			
2,200.0	2,179.0	2,172.3	2,148.4	6.3	6.1	-96.67	-147.1	323.4	263.6	252.0	11.61	22.707			
2,300.0	2,277.7	2,271.3	2,245.7	6.6	6.5	-96.78	-155.5	340.2	277.2	264.9	12.24	22.640			
2,400.0	2,376.5	2,370.4	2,343.0	6.9	6.9	-96.87	-163.9	357.1	290.7	277.9	12.88	22.579			
2,500.0	2,475.3	2,469.5	2,440.2	7.3	7.3	-96.96	-172.3	373.9	304.3	290.8	13.51	22.522			
2,600.0	2,574.0	2,568.6	2,537.5	7.6	7.6	-97.04	-180.7	390.8	317.9	303.7	14.15	22.469			
2,700.0	2,672.8	2,667.6	2,634.8	7.9	8.0	-97.11	-189.1	407.6	331.4	316.6	14.78	22.420			
2,800.0	2,771.6	2,766.7	2,732.1	8.2	8.4	-97.18	-197.5	424.5	345.0	329.6	15.42	22.374			
2,900.0	2,870.3	2,865.8	2,829.3	8.5	8.7	-97.25	-205.9	441.3	358.5	342.5	16.06	22.332			
3,000.0	2,969.1	2,964.9	2,926.6	8.9	9.1	-97.30	-214.3	458.2	372.1	355.4	16.69	22.292			
3,100.0	3,067.9	3,063.9	3,023.9	9.2	9.5	-97.36	-222.7	475.0	385.7	368.3	17.33	22.255			
3,200.0	3,166.6	3,163.0	3,121.1	9.5	9.9	-97.41	-231.1	491.9	399.2	381.3	17.97	22.220			
3,300.0	3,265.4	3,262.1	3,218.4	9.8	10.2	-97.46	-239.5	508.7	412.8	394.2	18.61	22.187			
3,400.0	3,364.1	3,361.2	3,315.7	10.2	10.6	-97.50	-247.9	525.6	426.4	407.1	19.24	22.156			
3,500.0	3,462.9	3,460.2	3,412.9	10.5	11.0	-97.54	-256.4	542.4	439.9	420.0	19.88	22.126			
3,600.0	3,561.7	3,559.3	3,510.2	10.8	11.4	-97.58	-264.8	559.3	453.5	433.0	20.52	22.099			
3,700.0	3,660.4	3,658.4	3,607.5	11.1	11.7	-97.62	-273.2	576.1	467.1	445.9	21.16	22.073			
3,800.0	3,759.2	3,757.5	3,704.7	11.5	12.1	-97.65	-281.6	593.0	480.6	458.8	21.80	22.048			
3,900.0	3,858.0	3,856.5	3,802.0	11.8	12.5	-97.68	-290.0	609.8	494.2	471.8	22.44	22.024			
4,000.0	3,956.7	3,955.6	3,899.3	12.1	12.9	-97.71	-298.4	626.7	507.8	484.7	23.08	22.002			
4,100.0	4,055.5	4,054.7	3,996.6	12.4	13.2	-97.74	-306.8	643.5	521.3	497.6	23.72	21.981			
4,200.0	4,154.3	4,153.8	4,093.8	12.8	13.6	-97.77	-315.2	660.4	534.9	510.5	24.36	21.961			
4,300.0	4,253.0	4,252.9	4,191.1	13.1	14.0	-97.80	-323.6	677.2	548.5	523.5	25.00	21.941			
4,400.0	4,351.8	4,351.9	4,288.4	13.4	14.4	-97.82	-332.0	694.1	562.0	536.4	25.64	21.923			
4,500.0	4,450.5	4,451.0	4,385.6	13.7	14.7	-97.85	-340.4	710.9	575.6	549.3	26.28	21.905			
4,600.0	4,549.3	4,550.1	4,482.9	14.1	15.1	-97.87	-348.8	727.8	589.2	562.2	26.92	21.889			
4,700.0	4,648.1	4,649.2	4,580.2	14.4	15.5	-97.89	-357.2	744.7	602.7	575.2	27.56	21.873			
4,800.0	4,746.8	4,748.2	4,677.4	14.7	15.9	-97.91	-365.6	761.5	616.3	588.1	28.20	21.857			
4,900.0	4,845.6	4,847.3	4,774.7	15.0	16.2	-97.93	-374.0	778.4	629.8	601.0	28.84	21.842			
5,000.0	4,944.4	4,946.4	4,872.0	15.4	16.6	-97.95	-382.4	795.2	643.4	613.9	29.48	21.828			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,100.0	5,043.1	5,045.5	4,969.2	15.7	17.0	-97.97	-390.8	812.1	657.0	626.9	30.12	21.815			
5,200.0	5,141.9	5,144.5	5,066.5	16.0	17.4	-97.99	-399.2	828.9	670.5	639.8	30.76	21.802			
5,300.0	5,240.7	5,243.6	5,163.8	16.3	17.7	-98.01	-407.6	845.8	684.1	652.7	31.40	21.789			
5,400.0	5,339.4	5,342.7	5,261.1	16.7	18.1	-98.02	-416.0	862.6	697.7	665.6	32.04	21.777			
5,500.0	5,438.2	5,441.8	5,358.3	17.0	18.5	-98.04	-424.4	879.5	711.3	678.6	32.68	21.765			
5,600.0	5,536.9	5,540.8	5,455.6	17.3	18.8	-98.05	-432.8	896.3	724.8	691.5	33.32	21.754			
5,700.0	5,635.7	5,639.9	5,552.9	17.6	19.2	-98.07	-441.2	913.2	738.4	704.4	33.96	21.743			
5,800.0	5,734.5	5,739.0	5,650.1	18.0	19.6	-98.08	-449.6	930.0	752.0	717.4	34.60	21.733			
5,900.0	5,833.2	5,838.1	5,747.4	18.3	20.0	-98.09	-458.1	946.9	765.5	730.3	35.24	21.723			
6,000.0	5,932.0	5,937.1	5,844.7	18.6	20.3	-98.11	-466.5	963.7	779.1	743.2	35.88	21.713			
6,100.0	6,030.8	6,036.2	5,941.9	18.9	20.7	-98.12	-474.9	980.6	792.7	756.1	36.52	21.703			
6,200.0	6,129.5	6,135.3	6,039.2	19.3	21.1	-98.13	-483.3	997.4	806.2	769.1	37.16	21.694			
6,300.0	6,228.3	6,234.4	6,136.5	19.6	21.5	-98.14	-491.7	1,014.3	819.8	782.0	37.80	21.685			
6,400.0	6,327.1	6,333.4	6,233.7	19.9	21.8	-98.16	-500.1	1,031.1	833.4	794.9	38.44	21.677			
6,500.0	6,425.8	6,432.5	6,331.0	20.2	22.2	-98.17	-508.5	1,048.0	846.9	807.8	39.09	21.669			
6,600.0	6,524.6	6,531.6	6,428.3	20.6	22.6	-98.18	-516.9	1,064.8	860.5	820.8	39.73	21.661			
6,700.0	6,623.3	6,630.7	6,525.6	20.9	23.0	-98.19	-525.3	1,081.7	874.1	833.7	40.37	21.653			
6,800.0	6,722.1	6,729.7	6,622.8	21.2	23.3	-98.20	-533.7	1,098.5	887.6	846.6	41.01	21.645			
6,900.0	6,820.9	6,828.8	6,720.1	21.5	23.7	-98.21	-542.1	1,115.4	901.2	859.5	41.65	21.638			
7,000.0	6,919.6	6,927.9	6,817.4	21.9	24.1	-98.22	-550.5	1,132.2	914.8	872.5	42.29	21.631			
7,100.0	7,018.4	7,027.0	6,914.6	22.2	24.5	-98.23	-558.9	1,149.1	928.3	885.4	42.93	21.624			
7,200.0	7,117.2	7,126.0	7,011.9	22.5	24.9	-98.23	-567.3	1,165.9	941.9	898.3	43.57	21.617			
7,300.0	7,215.9	7,225.1	7,109.2	22.8	25.2	-98.24	-575.7	1,182.8	955.5	911.2	44.21	21.611			
7,400.0	7,314.7	7,324.2	7,206.4	23.2	25.6	-98.25	-584.1	1,199.6	969.0	924.2	44.85	21.604			
7,500.0	7,413.4	7,423.3	7,303.7	23.5	26.0	-98.26	-592.5	1,216.5	982.6	937.1	45.49	21.598			
7,600.0	7,512.2	7,522.3	7,401.0	23.8	26.4	-98.27	-600.9	1,233.3	996.2	950.0	46.14	21.592			
7,700.0	7,611.0	7,621.4	7,498.2	24.1	26.7	-98.28	-609.3	1,250.2	1,009.7	963.0	46.78	21.586			
7,800.0	7,709.7	7,720.5	7,595.5	24.5	27.1	-98.28	-617.7	1,267.0	1,023.3	975.9	47.42	21.580			
7,900.0	7,808.5	7,819.6	7,692.8	24.8	27.5	-98.29	-626.1	1,283.9	1,036.9	988.8	48.06	21.575			
8,000.0	7,907.3	7,918.6	7,790.1	25.1	27.9	-98.30	-634.5	1,300.8	1,050.4	1,001.7	48.70	21.569			
8,100.0	8,006.0	8,017.7	7,887.3	25.4	28.2	-98.30	-642.9	1,317.6	1,064.0	1,014.7	49.34	21.564			
8,200.0	8,104.8	8,116.8	7,984.6	25.8	28.6	-98.31	-651.3	1,334.5	1,077.6	1,027.6	49.98	21.559			
8,300.0	8,203.6	8,215.9	8,081.9	26.1	29.0	-98.32	-659.8	1,351.3	1,091.1	1,040.5	50.62	21.554			
8,400.0	8,302.3	8,314.9	8,179.1	26.4	29.4	-98.32	-668.2	1,368.2	1,104.7	1,053.4	51.26	21.549			
8,500.0	8,401.2	8,417.0	8,279.4	26.7	29.7	-98.45	-676.8	1,385.5	1,118.2	1,066.3	51.92	21.535			
8,600.0	8,500.4	8,546.1	8,406.7	27.0	30.1	-98.59	-686.2	1,404.4	1,129.6	1,077.1	52.55	21.496			
8,700.0	8,600.1	8,676.0	8,535.7	27.2	30.4	-98.68	-693.1	1,418.2	1,137.9	1,084.9	53.06	21.448			
8,800.0	8,699.9	8,806.5	8,665.8	27.3	30.7	-98.72	-697.4	1,426.7	1,143.0	1,089.6	53.43	21.392			
8,900.0	8,799.9	8,937.2	8,796.5	27.4	30.8	-177.32	-699.0	1,430.0	1,144.9	1,091.2	53.69	21.325			
9,000.0	8,899.9	9,045.3	8,904.6	27.5	30.9	-177.32	-699.1	1,429.9	1,145.0	1,091.1	53.90	21.244			
9,100.0	8,999.9	9,150.6	9,009.8	27.6	31.0	-177.32	-699.4	1,429.3	1,145.0	1,090.9	54.10	21.163			
9,200.0	9,099.9	9,255.8	9,115.1	27.7	31.1	-177.32	-700.0	1,428.3	1,145.0	1,090.7	54.31	21.082			
9,300.0	9,199.9	9,356.5	9,215.7	27.8	31.2	-177.32	-700.7	1,427.1	1,145.0	1,090.5	54.52	21.001			
9,400.0	9,299.9	9,456.5	9,315.7	27.9	31.2	-177.32	-701.4	1,425.9	1,145.0	1,090.3	54.73	20.920			
9,500.0	9,399.9	9,556.5	9,415.7	28.0	31.3	-177.32	-702.1	1,424.7	1,145.0	1,090.1	54.95	20.840			
9,600.0	9,499.9	9,656.5	9,515.7	28.1	31.4	-177.32	-702.8	1,423.5	1,145.0	1,089.9	55.16	20.759			
9,700.0	9,599.8	9,756.5	9,615.7	28.2	31.5	-177.32	-703.5	1,422.3	1,145.0	1,089.7	55.37	20.678			
9,800.0	9,699.8	9,856.5	9,715.7	28.4	31.6	-177.32	-704.2	1,421.1	1,145.0	1,089.4	55.59	20.598			
9,900.0	9,799.8	9,956.5	9,815.7	28.5	31.6	-177.32	-704.9	1,419.9	1,145.0	1,089.2	55.81	20.518			
10,000.0	9,899.8	10,056.5	9,915.6	28.6	31.7	-177.32	-705.5	1,418.7	1,145.0	1,089.0	56.03	20.437			
10,100.0	9,999.8	10,156.5	10,015.6	28.7	31.8	-177.32	-706.2	1,417.5	1,145.0	1,088.8	56.25	20.357			
10,200.0	10,099.8	10,256.5	10,115.6	28.8	31.9	-177.32	-706.9	1,416.3	1,145.0	1,088.6	56.47	20.277			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
10,300.0	10,199.8	10,356.5	10,215.6	28.9	32.0	-177.32	-707.6	1,415.1	1,145.0	1,088.3	56.69	20.198			
10,400.0	10,299.8	10,456.5	10,315.6	29.0	32.1	-177.32	-708.3	1,413.9	1,145.0	1,088.1	56.91	20.118			
10,500.0	10,399.8	10,556.5	10,415.6	29.1	32.2	-177.32	-709.0	1,412.7	1,145.0	1,087.9	57.14	20.039			
10,600.0	10,499.8	10,656.5	10,515.6	29.2	32.3	-177.32	-709.7	1,411.5	1,145.0	1,087.7	57.37	19.960			
10,700.0	10,599.7	10,756.5	10,615.6	29.4	32.4	-177.32	-710.4	1,410.3	1,145.0	1,087.4	57.59	19.881			
10,800.0	10,699.7	10,856.5	10,715.6	29.5	32.4	-177.32	-711.1	1,409.1	1,145.0	1,087.2	57.82	19.802			
10,900.0	10,799.7	10,956.5	10,815.6	29.6	32.5	-177.32	-711.8	1,407.9	1,145.0	1,087.0	58.05	19.724			
11,000.0	10,899.7	11,056.5	10,915.6	29.7	32.6	-177.32	-712.5	1,406.7	1,145.0	1,086.7	58.28	19.645			
11,100.0	10,999.7	11,156.5	11,015.5	29.8	32.7	-177.32	-713.1	1,405.5	1,145.0	1,086.5	58.52	19.567			
11,200.0	11,099.7	11,256.5	11,115.5	29.9	32.8	-177.32	-713.8	1,404.3	1,145.0	1,086.3	58.75	19.489			
11,300.0	11,199.7	11,356.5	11,215.5	30.1	32.9	-177.32	-714.5	1,403.1	1,145.0	1,086.0	58.99	19.412			
11,400.0	11,299.7	11,456.5	11,315.5	30.2	33.0	-177.32	-715.2	1,401.9	1,145.0	1,085.8	59.22	19.334			
11,500.0	11,399.7	11,556.5	11,415.5	30.3	33.1	-177.32	-715.9	1,400.7	1,145.0	1,085.6	59.46	19.257			
11,600.0	11,499.7	11,656.5	11,515.5	30.4	33.2	-177.32	-716.6	1,399.5	1,145.0	1,085.3	59.70	19.180			
11,700.0	11,599.7	11,756.5	11,615.5	30.5	33.3	-177.32	-717.3	1,398.3	1,145.0	1,085.1	59.94	19.104			
11,800.0	11,699.6	11,856.5	11,715.5	30.7	33.4	-177.32	-718.0	1,397.1	1,145.0	1,084.8	60.18	19.028			
11,900.0	11,799.6	11,956.5	11,815.5	30.8	33.5	-177.32	-718.7	1,395.9	1,145.0	1,084.6	60.42	18.951			
11,936.1	11,835.7	11,992.6	11,851.5	30.8	33.5	-177.32	-718.9	1,395.5	1,145.0	1,084.5	60.51	18.924			
11,946.4	11,846.0	12,002.0	11,861.0	30.8	33.5	-177.32	-719.0	1,395.4	1,145.0	1,084.5	60.53	18.917 SF			

Cathedral Energy Services

Anticollision Report

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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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	108.46	-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			
300.0	300.0	300.0	300.0	0.5	0.5	-54.74	-14.2	42.5	43.8	42.8	1.00	43.950			
400.0	399.8	399.8	399.8	0.7	0.7	-60.76	-14.2	42.5	41.0	39.7	1.36	30.125			
500.0	499.5	499.5	499.5	0.9	0.8	-72.47	-14.2	42.5	37.5	35.8	1.76	21.323			
594.0	592.8	592.8	592.8	1.2	1.0	-90.00	-14.2	42.5	35.8	33.6	2.18	16.405 CC			
600.0	598.7	598.7	598.7	1.2	1.0	-91.31	-14.2	42.5	35.8	33.6	2.21	16.214 ES			
700.0	697.5	697.5	697.5	1.5	1.2	-113.90	-14.2	42.5	39.2	36.6	2.63	14.902			
800.0	796.3	796.3	796.3	1.8	1.4	-131.22	-14.2	42.5	47.8	44.8	2.98	16.043			
900.0	895.1	895.1	895.1	2.1	1.5	-142.62	-14.2	42.5	59.4	56.1	3.30	18.003			
1,000.0	993.8	993.8	993.8	2.4	1.7	-150.13	-14.2	42.5	72.5	68.9	3.61	20.065			
1,100.0	1,092.6	1,094.2	1,094.2	2.7	1.9	-154.53	-15.2	43.7	85.6	81.7	3.95	21.690			
1,200.0	1,191.4	1,195.4	1,195.3	3.1	2.1	-156.10	-18.6	47.5	97.0	92.6	4.31	22.483			
1,300.0	1,290.1	1,297.2	1,296.6	3.4	2.3	-155.80	-24.5	54.0	106.2	101.5	4.71	22.535			
1,400.0	1,388.9	1,399.1	1,397.8	3.7	2.5	-154.07	-32.7	63.3	113.4	108.3	5.16	21.967			
1,500.0	1,487.6	1,501.1	1,498.5	4.0	2.8	-151.08	-43.3	75.2	118.8	113.2	5.69	20.904			
1,600.0	1,586.4	1,602.7	1,598.3	4.3	3.1	-146.90	-56.2	89.7	122.8	116.5	6.30	19.485			
1,700.0	1,685.2	1,703.9	1,696.8	4.7	3.4	-141.55	-71.4	106.8	126.1	119.0	7.05	17.883			
1,800.0	1,783.9	1,804.2	1,793.7	5.0	3.8	-135.06	-88.8	126.3	129.3	121.4	7.93	16.298			
1,900.0	1,882.7	1,903.4	1,888.5	5.3	4.3	-127.65	-108.1	147.9	133.6	124.6	8.93	14.961			
2,000.0	1,981.5	2,001.7	1,982.3	5.6	4.8	-120.52	-127.7	169.9	139.9	130.0	9.93	14.097			
2,100.0	2,080.2	2,100.0	2,076.1	6.0	5.3	-114.08	-147.3	191.9	148.3	137.4	10.88	13.627			
2,200.0	2,179.0	2,198.3	2,169.9	6.3	5.8	-108.38	-167.0	214.0	158.4	146.6	11.78	13.442 SF			
2,300.0	2,277.7	2,296.6	2,263.6	6.6	6.3	-103.38	-186.6	236.0	169.8	157.2	12.62	13.457			
2,400.0	2,376.5	2,394.9	2,357.4	6.9	6.8	-99.04	-206.2	258.0	182.4	169.0	13.40	13.611			
2,500.0	2,475.3	2,493.2	2,451.2	7.3	7.3	-95.26	-225.8	280.0	195.9	181.8	14.14	13.857			
2,600.0	2,574.0	2,591.5	2,544.9	7.6	7.9	-91.98	-245.5	302.0	210.2	195.3	14.84	14.165			
2,700.0	2,672.8	2,689.8	2,638.7	7.9	8.4	-89.11	-265.1	324.1	225.0	209.5	15.50	14.512			
2,800.0	2,771.6	2,788.1	2,732.5	8.2	8.9	-86.61	-284.7	346.1	240.3	224.2	16.15	14.881			
2,900.0	2,870.3	2,886.4	2,826.3	8.5	9.5	-84.40	-304.3	368.1	256.0	239.3	16.77	15.263			
3,000.0	2,969.1	2,984.7	2,920.0	8.9	10.0	-82.45	-324.0	390.1	272.1	254.7	17.39	15.649			
3,100.0	3,067.9	3,083.0	3,013.8	9.2	10.5	-80.72	-343.6	412.2	288.4	270.4	17.99	16.035			
3,200.0	3,166.6	3,181.3	3,107.6	9.5	11.1	-79.17	-363.2	434.2	305.0	286.4	18.58	16.415			
3,300.0	3,265.4	3,279.6	3,201.3	9.8	11.6	-77.78	-382.8	456.2	321.7	302.6	19.17	16.788			
3,400.0	3,364.1	3,377.9	3,295.1	10.2	12.2	-76.53	-402.5	478.2	338.7	318.9	19.75	17.152			
3,500.0	3,462.9	3,476.2	3,388.9	10.5	12.7	-75.40	-422.1	500.2	355.7	335.4	20.32	17.506			
3,600.0	3,561.7	3,574.5	3,482.6	10.8	13.3	-74.37	-441.7	522.3	372.9	352.0	20.89	17.849			
3,700.0	3,660.4	3,672.8	3,576.4	11.1	13.8	-73.43	-461.3	544.3	390.2	368.8	21.46	18.181			
3,800.0	3,759.2	3,771.1	3,670.2	11.5	14.4	-72.57	-480.9	566.3	407.6	385.6	22.03	18.503			
3,900.0	3,858.0	3,869.4	3,764.0	11.8	14.9	-71.79	-500.6	588.3	425.1	402.5	22.60	18.813			
4,000.0	3,956.7	3,967.7	3,857.7	12.1	15.5	-71.06	-520.2	610.3	442.6	419.5	23.16	19.112			
4,100.0	4,055.5	4,066.0	3,951.5	12.4	16.0	-70.39	-539.8	632.4	460.2	436.5	23.72	19.401			
4,200.0	4,154.3	4,164.3	4,045.3	12.8	16.6	-69.77	-559.4	654.4	477.9	453.6	24.28	19.679			
4,300.0	4,253.0	4,262.6	4,139.0	13.1	17.1	-69.19	-579.1	676.4	495.6	470.8	24.85	19.948			
4,400.0	4,351.8	4,360.9	4,232.8	13.4	17.7	-68.65	-598.7	698.4	513.4	488.0	25.41	20.206			
4,500.0	4,450.5	4,459.2	4,326.6	13.7	18.2	-68.15	-618.3	720.4	531.2	505.2	25.97	20.456			
4,600.0	4,549.3	4,557.5	4,420.3	14.1	18.8	-67.68	-637.9	742.5	549.0	522.5	26.53	20.697			
4,700.0	4,648.1	4,655.8	4,514.1	14.4	19.3	-67.25	-657.6	764.5	566.9	539.8	27.08	20.929			
4,800.0	4,746.8	4,754.1	4,607.9	14.7	19.9	-66.83	-677.2	786.5	584.8	557.1	27.64	21.154			
4,900.0	4,845.6	4,852.4	4,701.7	15.0	20.4	-66.44	-696.8	808.5	602.7	574.5	28.20	21.370			
5,000.0	4,944.4	4,950.7	4,795.4	15.4	21.0	-66.08	-716.4	830.6	620.6	591.9	28.76	21.579			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance			Total	Separation	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		Factor		
5,100.0	5,043.1	5,049.0	4,889.2	15.7	21.5	-65.73	-736.1	852.6	638.6	609.3	29.32	21.781			
5,200.0	5,141.9	5,147.3	4,983.0	16.0	22.1	-65.41	-755.7	874.6	656.6	626.7	29.88	21.977			
5,300.0	5,240.7	5,245.6	5,076.7	16.3	22.6	-65.10	-775.3	896.6	674.6	644.2	30.44	22.166			
5,400.0	5,339.4	5,343.9	5,170.5	16.7	23.2	-64.81	-794.9	918.6	692.7	661.7	30.99	22.348			
5,500.0	5,438.2	5,442.2	5,264.3	17.0	23.7	-64.53	-814.6	940.7	710.7	679.2	31.55	22.525			
5,600.0	5,536.9	5,540.5	5,358.1	17.3	24.3	-64.26	-834.2	962.7	728.8	696.7	32.11	22.696			
5,700.0	5,635.7	5,638.8	5,451.8	17.6	24.8	-64.01	-853.8	984.7	746.9	714.2	32.67	22.862			
5,800.0	5,734.5	5,737.1	5,545.6	18.0	25.4	-63.77	-873.4	1,006.7	765.0	731.7	33.23	23.023			
5,900.0	5,833.2	5,835.4	5,639.4	18.3	25.9	-63.55	-893.1	1,028.7	783.1	749.3	33.79	23.178			
6,000.0	5,932.0	5,933.7	5,733.1	18.6	26.5	-63.33	-912.7	1,050.8	801.2	766.9	34.34	23.329			
6,100.0	6,030.8	6,032.0	5,826.9	18.9	27.0	-63.12	-932.3	1,072.8	819.3	784.4	34.90	23.475			
6,200.0	6,129.5	6,130.3	5,920.7	19.3	27.6	-62.92	-951.9	1,094.8	837.5	802.0	35.46	23.617			
6,300.0	6,228.3	6,228.6	6,014.4	19.6	28.1	-62.73	-971.6	1,116.8	855.6	819.6	36.02	23.755			
6,400.0	6,327.1	6,326.9	6,108.2	19.9	28.7	-62.54	-991.2	1,138.8	873.8	837.2	36.58	23.889			
6,500.0	6,425.8	6,425.2	6,202.0	20.2	29.2	-62.37	-1,010.8	1,160.9	891.9	854.8	37.13	24.019			
6,600.0	6,524.6	6,523.5	6,295.8	20.6	29.8	-62.20	-1,030.4	1,182.9	910.1	872.4	37.69	24.146			
6,700.0	6,623.3	6,621.8	6,389.5	20.9	30.3	-62.04	-1,050.0	1,204.9	928.3	890.0	38.25	24.269			
6,800.0	6,722.1	6,720.1	6,483.3	21.2	30.9	-61.88	-1,069.7	1,226.9	946.5	907.7	38.81	24.388			
6,900.0	6,820.9	6,818.4	6,577.1	21.5	31.5	-61.73	-1,089.3	1,249.0	964.7	925.3	39.37	24.505			
7,000.0	6,919.6	6,916.7	6,670.8	21.9	32.0	-61.59	-1,108.9	1,271.0	982.9	942.9	39.93	24.618			
7,100.0	7,018.4	7,015.0	6,764.6	22.2	32.6	-61.45	-1,128.5	1,293.0	1,001.1	960.6	40.48	24.728			
7,200.0	7,117.2	7,113.3	6,858.4	22.5	33.1	-61.32	-1,148.2	1,315.0	1,019.3	978.2	41.04	24.835			
7,300.0	7,215.9	7,211.6	6,952.1	22.8	33.7	-61.19	-1,167.8	1,337.0	1,037.5	995.9	41.60	24.940			
7,400.0	7,314.7	7,309.9	7,045.9	23.2	34.2	-61.06	-1,187.4	1,359.1	1,055.7	1,013.6	42.16	25.042			
7,500.0	7,413.4	7,408.2	7,139.7	23.5	34.8	-60.94	-1,207.0	1,381.1	1,074.0	1,031.2	42.72	25.141			
7,600.0	7,512.2	7,506.5	7,233.5	23.8	35.3	-60.82	-1,226.7	1,403.1	1,092.2	1,048.9	43.28	25.238			
7,700.0	7,611.0	7,604.8	7,327.2	24.1	35.9	-60.71	-1,246.3	1,425.1	1,110.4	1,066.6	43.83	25.332			
7,800.0	7,709.7	7,703.1	7,421.0	24.5	36.4	-60.60	-1,265.9	1,447.1	1,128.7	1,084.3	44.39	25.424			
7,900.0	7,808.5	7,801.4	7,514.8	24.8	37.0	-60.50	-1,285.5	1,469.2	1,146.9	1,102.0	44.95	25.514			
8,000.0	7,907.3	7,899.7	7,608.5	25.1	37.5	-60.39	-1,305.2	1,491.2	1,165.1	1,119.6	45.51	25.602			
8,100.0	8,006.0	7,998.0	7,702.3	25.4	38.1	-60.29	-1,324.8	1,513.2	1,183.4	1,137.3	46.07	25.687			
8,200.0	8,104.8	8,096.3	7,796.1	25.8	38.7	-60.20	-1,344.4	1,535.2	1,201.7	1,155.0	46.63	25.771			
8,300.0	8,203.6	8,194.6	7,889.9	26.1	39.2	-60.10	-1,364.0	1,557.2	1,219.9	1,172.7	47.19	25.853			
8,400.0	8,302.3	8,292.9	7,983.6	26.4	39.8	-60.01	-1,383.7	1,579.3	1,238.2	1,190.4	47.75	25.933			
8,500.0	8,401.2	8,439.2	8,124.0	26.7	40.5	-60.07	-1,411.1	1,610.0	1,255.2	1,206.7	48.47	25.897			
8,600.0	8,500.4	8,598.5	8,279.0	27.0	41.2	-60.22	-1,435.5	1,637.4	1,269.1	1,220.0	49.15	25.822			
8,700.0	8,600.1	8,759.4	8,437.3	27.2	41.7	-60.29	-1,454.2	1,658.5	1,280.0	1,230.3	49.69	25.761			
8,800.0	8,699.9	8,921.6	8,598.4	27.3	42.0	-60.31	-1,467.2	1,673.0	1,287.8	1,237.7	50.09	25.708			
8,900.0	8,799.9	9,084.7	8,761.1	27.4	42.3	-138.86	-1,474.0	1,680.7	1,292.5	1,242.1	50.36	25.663			
9,000.0	8,899.9	9,225.2	8,901.6	27.5	42.4	-138.83	-1,475.2	1,682.0	1,293.5	1,242.9	50.61	25.560			
9,100.0	8,999.9	9,329.7	9,006.1	27.6	42.4	-138.83	-1,475.4	1,681.6	1,293.7	1,242.9	50.84	25.446			
9,200.0	9,099.9	9,434.1	9,110.5	27.7	42.5	-138.84	-1,475.9	1,680.8	1,293.9	1,242.8	51.09	25.328			
9,300.0	9,199.9	9,537.0	9,213.4	27.8	42.6	-138.84	-1,476.5	1,679.7	1,294.0	1,242.6	51.34	25.205			
9,400.0	9,299.9	9,637.0	9,313.4	27.9	42.6	-138.84	-1,477.2	1,678.5	1,294.0	1,242.4	51.59	25.084			
9,500.0	9,399.9	9,737.0	9,413.4	28.0	42.7	-138.84	-1,477.9	1,677.3	1,294.0	1,242.1	51.83	24.963			
9,600.0	9,499.9	9,837.0	9,513.4	28.1	42.8	-138.84	-1,478.6	1,676.1	1,294.0	1,241.9	52.09	24.843			
9,700.0	9,599.8	9,937.0	9,613.4	28.2	42.8	-138.84	-1,479.3	1,674.9	1,294.0	1,241.6	52.34	24.724			
9,800.0	9,699.8	10,037.0	9,713.4	28.4	42.9	-138.84	-1,480.0	1,673.7	1,294.0	1,241.4	52.59	24.605			
9,900.0	9,799.8	10,137.0	9,813.4	28.5	42.9	-138.84	-1,480.7	1,672.5	1,294.0	1,241.1	52.84	24.487			
10,000.0	9,899.8	10,237.0	9,913.3	28.6	43.0	-138.84	-1,481.4	1,671.3	1,294.0	1,240.9	53.10	24.369			
10,100.0	9,999.8	10,337.0	10,013.3	28.7	43.1	-138.84	-1,482.1	1,670.1	1,293.9	1,240.6	53.35	24.252			
10,200.0	10,099.8	10,437.0	10,113.3	28.8	43.1	-138.84	-1,482.8	1,668.9	1,293.9	1,240.3	53.61	24.136			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
10,300.0	10,199.8	10,537.0	10,213.3	28.9	43.2	-138.84	-1,483.5	1,667.7	1,293.9	1,240.1	53.87	24.020			
10,400.0	10,299.8	10,637.0	10,313.3	29.0	43.3	-138.84	-1,484.2	1,666.5	1,293.9	1,239.8	54.13	23.905			
10,500.0	10,399.8	10,737.0	10,413.3	29.1	43.3	-138.84	-1,484.9	1,665.3	1,293.9	1,239.5	54.39	23.791			
10,600.0	10,499.8	10,837.0	10,513.3	29.2	43.4	-138.84	-1,485.5	1,664.0	1,293.9	1,239.3	54.65	23.677			
10,700.0	10,599.7	10,937.0	10,613.3	29.4	43.5	-138.84	-1,486.2	1,662.8	1,293.9	1,239.0	54.91	23.564			
10,800.0	10,699.7	11,037.0	10,713.3	29.5	43.6	-138.84	-1,486.9	1,661.6	1,293.9	1,238.7	55.17	23.452			
10,900.0	10,799.7	11,137.0	10,813.3	29.6	43.6	-138.84	-1,487.6	1,660.4	1,293.9	1,238.5	55.44	23.340			
11,000.0	10,899.7	11,237.0	10,913.2	29.7	43.7	-138.84	-1,488.3	1,659.2	1,293.9	1,238.2	55.70	23.229			
11,100.0	10,999.7	11,337.0	11,013.2	29.8	43.8	-138.84	-1,489.0	1,658.0	1,293.9	1,237.9	55.97	23.118			
11,200.0	11,099.7	11,437.0	11,113.2	29.9	43.8	-138.84	-1,489.7	1,656.8	1,293.9	1,237.7	56.24	23.008			
11,300.0	11,199.7	11,537.0	11,213.2	30.1	43.9	-138.84	-1,490.4	1,655.6	1,293.9	1,237.4	56.50	22.899			
11,400.0	11,299.7	11,637.0	11,313.2	30.2	44.0	-138.84	-1,491.1	1,654.4	1,293.9	1,237.1	56.77	22.791			
11,500.0	11,399.7	11,737.0	11,413.2	30.3	44.1	-138.84	-1,491.8	1,653.2	1,293.9	1,236.8	57.04	22.683			
11,600.0	11,499.7	11,837.0	11,513.2	30.4	44.1	-138.84	-1,492.5	1,652.0	1,293.9	1,236.6	57.31	22.576			
11,700.0	11,599.7	11,937.0	11,613.2	30.5	44.2	-138.84	-1,493.2	1,650.8	1,293.9	1,236.3	57.58	22.470			
11,800.0	11,699.6	12,037.0	11,713.2	30.7	44.3	-138.84	-1,493.9	1,649.6	1,293.9	1,236.0	57.86	22.364			
11,900.0	11,799.6	12,137.0	11,813.2	30.8	44.4	-138.84	-1,494.6	1,648.4	1,293.9	1,235.7	58.13	22.259			
11,946.4	11,846.0	12,183.4	11,859.5	30.8	44.4	-138.84	-1,494.9	1,647.9	1,293.9	1,235.6	58.26	22.210			

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset				Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	108.44	-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			
300.0	300.0	298.8	298.8	0.5	0.5	-52.84	-25.4	71.3	74.6	73.6	1.00	74.784			
337.8	337.7	335.6	335.6	0.6	0.6	-52.89	-26.7	71.7	74.5	73.4	1.14	65.607 CC, ES			
400.0	399.8	396.3	396.1	0.7	0.7	-53.54	-29.4	73.4	74.8	73.4	1.36	54.894			
500.0	499.5	493.6	493.2	0.9	0.9	-55.99	-34.7	78.5	76.3	74.6	1.75	43.501			
600.0	598.7	590.8	589.9	1.2	1.1	-59.94	-41.4	86.5	79.6	77.4	2.20	36.221			
700.0	697.5	687.7	685.8	1.5	1.4	-64.73	-49.3	97.6	85.1	82.4	2.70	31.525			
800.0	796.3	784.3	780.9	1.8	1.7	-68.46	-58.5	111.5	94.1	90.8	3.24	29.042			
900.0	895.1	880.4	874.9	2.1	2.1	-70.79	-69.0	128.3	106.5	102.7	3.81	27.969			
1,000.0	993.8	975.9	967.7	2.4	2.5	-71.98	-80.6	147.9	122.0	117.6	4.39	27.802			
1,100.0	1,092.6	1,074.4	1,063.0	2.7	3.0	-72.66	-93.2	169.3	138.9	133.9	4.99	27.853			
1,200.0	1,191.4	1,173.0	1,158.4	3.1	3.4	-73.20	-105.8	190.8	155.8	150.2	5.59	27.858			
1,300.0	1,290.1	1,271.5	1,253.7	3.4	3.9	-73.63	-118.4	212.2	172.7	166.5	6.20	27.839			
1,400.0	1,388.9	1,370.1	1,349.1	3.7	4.4	-73.98	-130.9	233.7	189.6	182.8	6.82	27.807			
1,500.0	1,487.6	1,468.7	1,444.5	4.0	4.8	-74.28	-143.5	255.2	206.5	199.1	7.44	27.769			
1,600.0	1,586.4	1,567.2	1,539.8	4.3	5.3	-74.53	-156.1	276.6	223.5	215.4	8.06	27.729			
1,700.0	1,685.2	1,665.8	1,635.2	4.7	5.8	-74.74	-168.7	298.1	240.4	231.7	8.68	27.688			
1,800.0	1,783.9	1,764.3	1,730.6	5.0	6.2	-74.93	-181.2	319.5	257.3	248.0	9.31	27.649			
1,900.0	1,882.7	1,862.9	1,825.9	5.3	6.7	-75.10	-193.8	341.0	274.3	264.3	9.93	27.611			
2,000.0	1,981.5	1,961.4	1,921.3	5.6	7.2	-75.24	-206.4	362.5	291.2	280.6	10.56	27.575			
2,100.0	2,080.2	2,060.0	2,016.6	6.0	7.7	-75.37	-219.0	383.9	308.1	296.9	11.19	27.541			
2,200.0	2,179.0	2,158.5	2,112.0	6.3	8.1	-75.49	-231.5	405.4	325.1	313.3	11.82	27.508			
2,300.0	2,277.7	2,257.1	2,207.4	6.6	8.6	-75.59	-244.1	426.8	342.0	329.6	12.45	27.478			
2,400.0	2,376.5	2,355.6	2,302.7	6.9	9.1	-75.68	-256.7	448.3	359.0	345.9	13.08	27.450			
2,500.0	2,475.3	2,454.2	2,398.1	7.3	9.6	-75.77	-269.3	469.8	375.9	362.2	13.71	27.423			
2,600.0	2,574.0	2,552.7	2,493.5	7.6	10.0	-75.85	-281.9	491.2	392.9	378.5	14.34	27.398			
2,700.0	2,672.8	2,651.3	2,588.8	7.9	10.5	-75.92	-294.4	512.7	409.8	394.8	14.97	27.374			
2,800.0	2,771.6	2,749.8	2,684.2	8.2	11.0	-75.99	-307.0	534.1	426.7	411.1	15.60	27.352			
2,900.0	2,870.3	2,848.4	2,779.5	8.5	11.5	-76.05	-319.6	555.6	443.7	427.5	16.23	27.331			
3,000.0	2,969.1	2,946.9	2,874.9	8.9	11.9	-76.10	-332.2	577.1	460.6	443.8	16.87	27.311			
3,100.0	3,067.9	3,045.5	2,970.3	9.2	12.4	-76.16	-344.7	598.5	477.6	460.1	17.50	27.293			
3,200.0	3,166.6	3,144.0	3,065.6	9.5	12.9	-76.21	-357.3	620.0	494.5	476.4	18.13	27.275			
3,300.0	3,265.4	3,242.6	3,161.0	9.8	13.4	-76.25	-369.9	641.4	511.5	492.7	18.76	27.258			
3,400.0	3,364.1	3,341.1	3,256.3	10.2	13.8	-76.30	-382.5	662.9	528.4	509.0	19.40	27.242			
3,500.0	3,462.9	3,439.7	3,351.7	10.5	14.3	-76.34	-395.0	684.4	545.4	525.3	20.03	27.227			
3,600.0	3,561.7	3,538.3	3,447.1	10.8	14.8	-76.37	-407.6	705.8	562.3	541.7	20.66	27.213			
3,700.0	3,660.4	3,636.8	3,542.4	11.1	15.3	-76.41	-420.2	727.3	579.3	558.0	21.30	27.199			
3,800.0	3,759.2	3,735.4	3,637.8	11.5	15.7	-76.44	-432.8	748.7	596.2	574.3	21.93	27.186			
3,900.0	3,858.0	3,833.9	3,733.2	11.8	16.2	-76.47	-445.3	770.2	613.2	590.6	22.56	27.174			
4,000.0	3,956.7	3,932.5	3,828.5	12.1	16.7	-76.50	-457.9	791.7	630.1	606.9	23.20	27.162			
4,100.0	4,055.5	4,031.0	3,923.9	12.4	17.2	-76.53	-470.5	813.1	647.1	623.2	23.83	27.151			
4,200.0	4,154.3	4,129.6	4,019.2	12.8	17.6	-76.56	-483.1	834.6	664.0	639.6	24.47	27.140			
4,300.0	4,253.0	4,228.1	4,114.6	13.1	18.1	-76.58	-495.6	856.0	681.0	655.9	25.10	27.130			
4,400.0	4,351.8	4,326.7	4,210.0	13.4	18.6	-76.61	-508.2	877.5	697.9	672.2	25.73	27.120			
4,500.0	4,450.5	4,425.2	4,305.3	13.7	19.1	-76.63	-520.8	899.0	714.9	688.5	26.37	27.111			
4,600.0	4,549.3	4,523.8	4,400.7	14.1	19.5	-76.65	-533.4	920.4	731.8	704.8	27.00	27.102			
4,700.0	4,648.1	4,622.3	4,496.1	14.4	20.0	-76.68	-545.9	941.9	748.8	721.1	27.64	27.093			
4,800.0	4,746.8	4,720.9	4,591.4	14.7	20.5	-76.70	-558.5	963.3	765.7	737.5	28.27	27.085			
4,900.0	4,845.6	4,819.4	4,686.8	15.0	21.0	-76.72	-571.1	984.8	782.7	753.8	28.91	27.077			
5,000.0	4,944.4	4,918.0	4,782.1	15.4	21.4	-76.73	-583.7	1,006.3	799.6	770.1	29.54	27.069			

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 LR05C 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:	LR05C D21 595	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
5,100.0	5,043.1	5,016.5	4,877.5	15.7	21.9	-76.75	-596.2	1,027.7	816.6	786.4	30.17	27.061			
5,200.0	5,141.9	5,115.1	4,972.9	16.0	22.4	-76.77	-608.8	1,049.2	833.5	802.7	30.81	27.054			
5,300.0	5,240.7	5,213.6	5,068.2	16.3	22.9	-76.78	-621.4	1,070.6	850.5	819.0	31.44	27.047			
5,400.0	5,339.4	5,312.2	5,163.6	16.7	23.3	-76.80	-634.0	1,092.1	867.4	835.4	32.08	27.041			
5,500.0	5,438.2	5,410.8	5,259.0	17.0	23.8	-76.82	-646.6	1,113.6	884.4	851.7	32.71	27.034			
5,600.0	5,536.9	5,509.3	5,354.3	17.3	24.3	-76.83	-659.1	1,135.0	901.3	868.0	33.35	27.028			
5,700.0	5,635.7	5,607.9	5,449.7	17.6	24.8	-76.84	-671.7	1,156.5	918.3	884.3	33.98	27.022			
5,800.0	5,734.5	5,706.4	5,545.0	18.0	25.3	-76.86	-684.3	1,177.9	935.2	900.6	34.62	27.016			
5,900.0	5,833.2	5,805.0	5,640.4	18.3	25.7	-76.87	-696.9	1,199.4	952.2	916.9	35.25	27.011			
6,000.0	5,932.0	5,903.5	5,735.8	18.6	26.2	-76.88	-709.4	1,220.9	969.1	933.3	35.89	27.005			
6,100.0	6,030.8	6,002.1	5,831.1	18.9	26.7	-76.90	-722.0	1,242.3	986.1	949.6	36.52	27.000			
6,200.0	6,129.5	6,100.6	5,926.5	19.3	27.2	-76.91	-734.6	1,263.8	1,003.0	965.9	37.16	26.995			
6,300.0	6,228.3	6,199.2	6,021.9	19.6	27.6	-76.92	-747.2	1,285.2	1,020.0	982.2	37.79	26.990			
6,400.0	6,327.1	6,297.7	6,117.2	19.9	28.1	-76.93	-759.7	1,306.7	1,036.9	998.5	38.43	26.985			
6,500.0	6,425.8	6,396.3	6,212.6	20.2	28.6	-76.94	-772.3	1,328.2	1,053.9	1,014.8	39.06	26.981			
6,600.0	6,524.6	6,494.8	6,307.9	20.6	29.1	-76.95	-784.9	1,349.6	1,070.9	1,031.2	39.70	26.976			
6,700.0	6,623.3	6,593.4	6,403.3	20.9	29.5	-76.96	-797.5	1,371.1	1,087.8	1,047.5	40.33	26.972			
6,800.0	6,722.1	6,691.9	6,498.7	21.2	30.0	-76.97	-810.0	1,392.5	1,104.8	1,063.8	40.97	26.968			
6,900.0	6,820.9	6,790.5	6,594.0	21.5	30.5	-76.98	-822.6	1,414.0	1,121.7	1,080.1	41.60	26.964			
7,000.0	6,919.6	6,889.0	6,689.4	21.9	31.0	-76.99	-835.2	1,435.5	1,138.7	1,096.4	42.24	26.959			
7,100.0	7,018.4	6,987.6	6,784.7	22.2	31.4	-77.00	-847.8	1,456.9	1,155.6	1,112.7	42.87	26.956			
7,200.0	7,117.2	7,086.1	6,880.1	22.5	31.9	-77.01	-860.3	1,478.4	1,172.6	1,129.1	43.51	26.952			
7,300.0	7,215.9	7,184.7	6,975.5	22.8	32.4	-77.01	-872.9	1,499.8	1,189.5	1,145.4	44.14	26.948			
7,400.0	7,314.7	7,283.3	7,070.8	23.2	32.9	-77.02	-885.5	1,521.3	1,206.5	1,161.7	44.78	26.945			
7,500.0	7,413.4	7,381.8	7,166.2	23.5	33.3	-77.03	-898.1	1,542.8	1,223.4	1,178.0	45.41	26.941			
7,600.0	7,512.2	7,480.4	7,261.6	23.8	33.8	-77.04	-910.6	1,564.2	1,240.4	1,194.3	46.05	26.938			
7,700.0	7,611.0	7,578.9	7,356.9	24.1	34.3	-77.04	-923.2	1,585.7	1,257.3	1,210.6	46.68	26.934			
7,800.0	7,709.7	7,677.5	7,452.3	24.5	34.8	-77.05	-935.8	1,607.1	1,274.3	1,227.0	47.32	26.931			
7,900.0	7,808.5	7,776.0	7,547.6	24.8	35.3	-77.06	-948.4	1,628.6	1,291.2	1,243.3	47.95	26.928			
8,000.0	7,907.3	7,874.6	7,643.0	25.1	35.7	-77.07	-960.9	1,650.1	1,308.2	1,259.6	48.59	26.925			
8,100.0	8,006.0	7,973.1	7,738.4	25.4	36.2	-77.07	-973.5	1,671.5	1,325.1	1,275.9	49.22	26.922			
8,200.0	8,104.8	8,071.7	7,833.7	25.8	36.7	-77.08	-986.1	1,693.0	1,342.1	1,292.2	49.86	26.919			
8,300.0	8,203.6	8,170.2	7,929.1	26.1	37.2	-77.09	-998.7	1,714.4	1,359.0	1,308.5	50.49	26.916			
8,400.0	8,302.3	8,268.8	8,024.5	26.4	37.6	-77.09	-1,011.3	1,735.9	1,376.0	1,324.9	51.13	26.913			
8,500.0	8,401.2	8,368.5	8,121.0	26.7	38.1	-77.26	-1,024.0	1,757.6	1,393.1	1,341.2	51.81	26.886 SF			

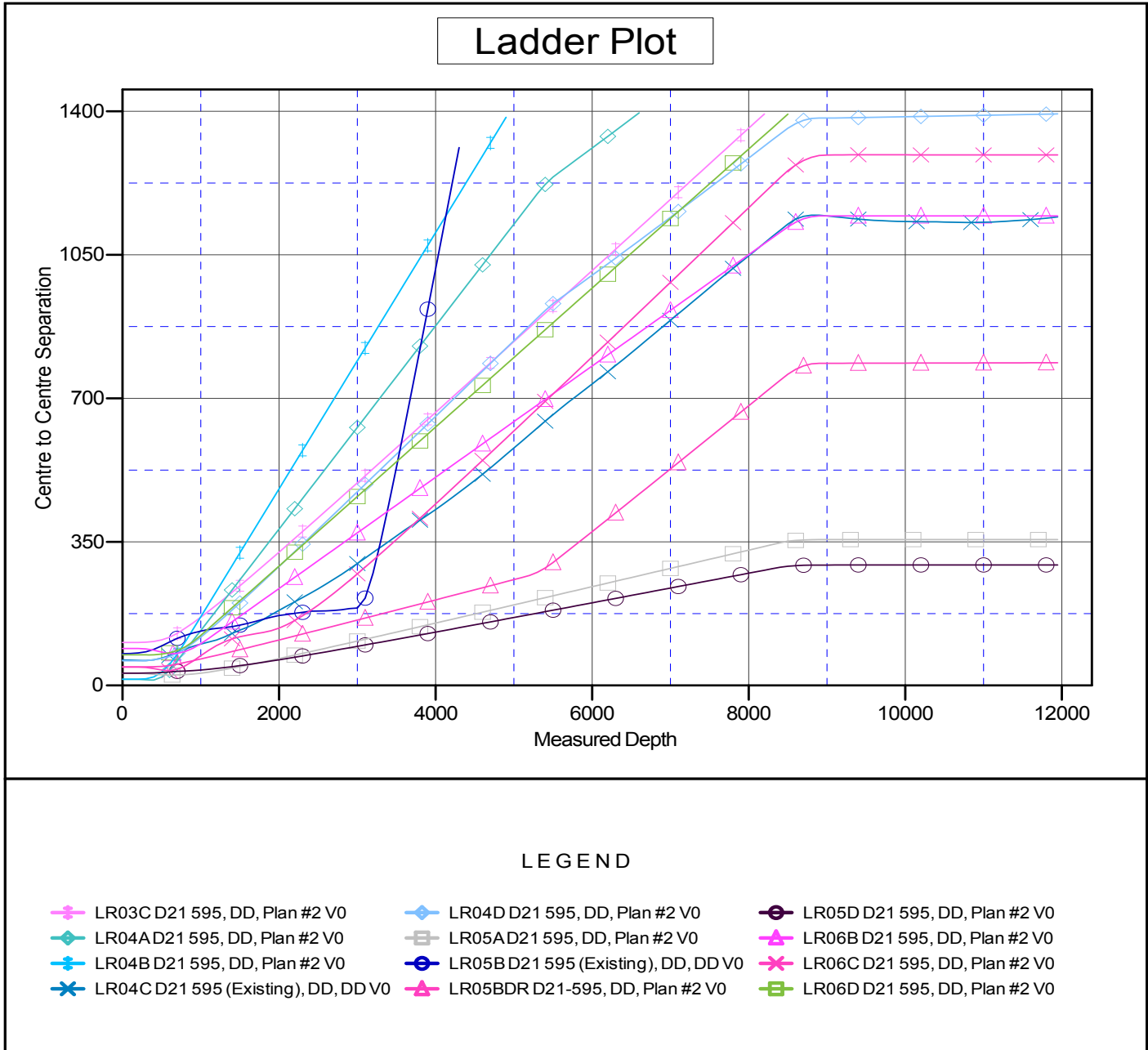
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company: Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference: Well LR05C 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: LR05C 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) Coordinates are relative to: LR05C D21 595
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Central Zone
 Central Meridian is -105.500000 ° Grid Convergence at Surface is: -1.62°



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