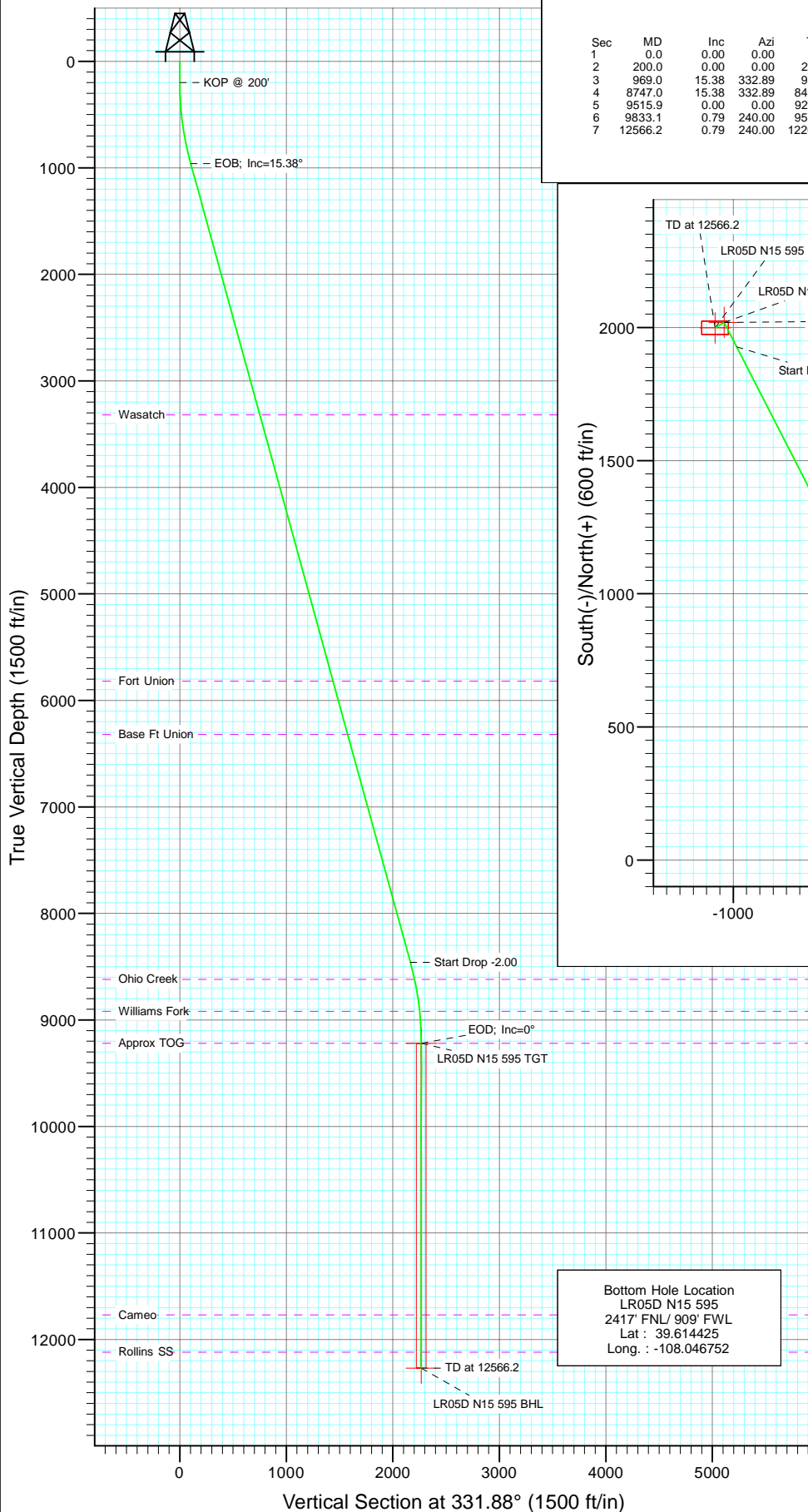
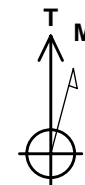
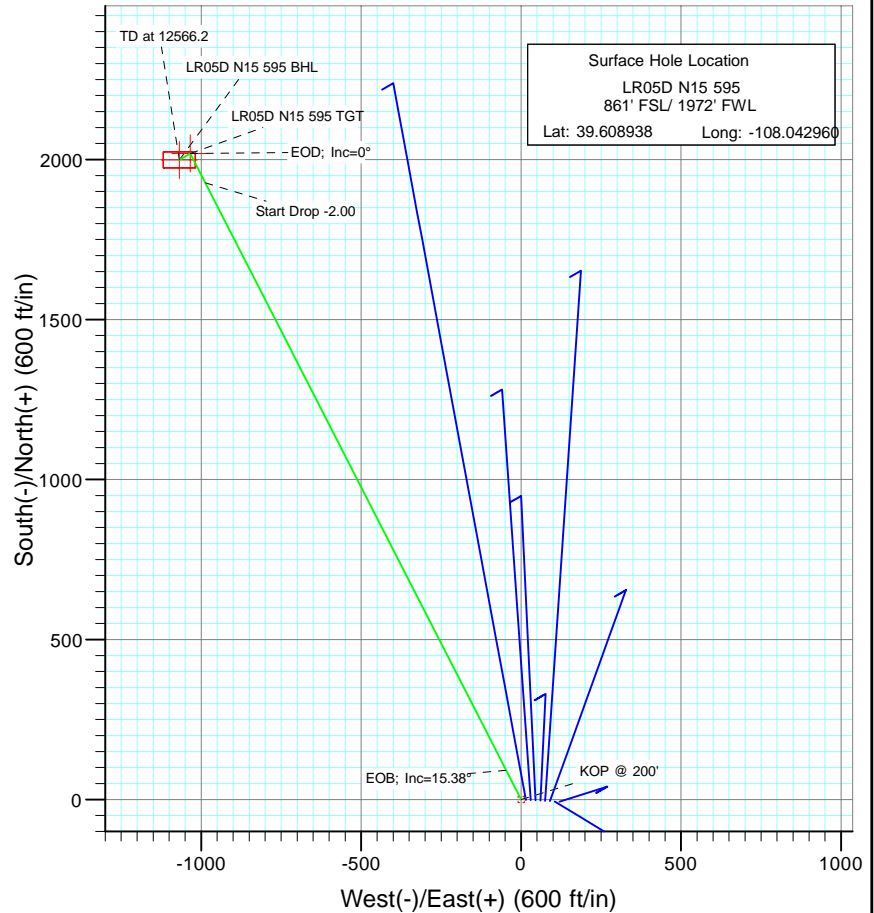




Project: Garfield County
Site: N15 595 Pad
Well: LR05D N15 595
Wellbore: DD
Design: Plan #1



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	969.0	15.38	332.89	959.8	91.3	-46.8	2.00	332.89	102.6	
4	8747.0	15.38	332.89	8459.2	1927.4	-986.9	0.00	0.00	2165.0	
5	9515.9	0.00	0.00	9219.0	2018.7	-1033.6	2.00	180.00	2267.6	LR05D N15 595 TGT
6	9833.1	0.79	240.00	9536.2	2017.6	-1035.6	0.25	240.00	2267.5	
7	12566.2	0.79	240.00	12269.0	1998.7	-1068.3	0.00	0.00	2266.3	LR05D N15 595 BHL



Azimuths to True North
Magnetic North: 10.47°

Magnetic Field
Strength: 52402.1snT
Dip Angle: 65.86°
Date: 8/9/2010
Model: IGRF200510

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3319.0	3415.8	Wasatch
5819.0	6008.7	Fort Union
6319.0	6527.2	Base Ft Union
8619.0	8911.4	Ohio Creek
8919.0	9215.4	Williams Fork
9219.0	9515.9	Approx TOG
11769.0	12066.1	Cameo
12119.0	12416.2	Rollins SS

DESIGN DETAILS: Plan #1

105XXX; BH
KBE @ 8391.0ft (Patterson 302)

Target	Azimuth	Origin	N/S	E/WFrom TVD
LR05D N15 595 BHL	331.88	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 LR05D N15 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site:	N15 595 Pad	North Reference:	True
Well:	LR05D N15 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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	N15 595 Pad			
Site Position:		Northing:	1,656,704.15 ft	Latitude: 39.608919
From:	Lat/Long	Easting:	2,283,744.91 ft	Longitude: -108.042534
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: -1.60 °

Well	LR05D N15 595			
Well Position	+N/-S	0.0 ft	Northing:	1,656,714.42 ft
	+E/-W	0.0 ft	Easting:	2,283,625.13 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft
			Ground Level:	8,376.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/9/2010	10.47	65.86	52,402

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	331.88

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	
969.0	15.38	332.89	959.8	91.3	-46.8	2.00	2.00	0.00	332.89	
8,747.0	15.38	332.89	8,459.2	1,927.4	-986.9	0.00	0.00	0.00	0.00	
9,515.9	0.00	0.00	9,219.0	2,018.7	-1,033.6	2.00	-2.00	0.00	180.00	LR05D N15 595 TGT
9,833.1	0.79	240.00	9,536.2	2,017.6	-1,035.6	0.25	0.25	-37.83	240.00	
12,566.2	0.79	240.00	12,269.0	1,998.7	-1,068.3	0.00	0.00	0.00	0.00	LR05D N15 595 BHL



Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users Db	Local Co-ordinate Reference:	Well LR05D N15 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site:	N15 595 Pad	North Reference:	True
Well:	LR05D N15 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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'
210.0	0.20	332.89	210.0	0.0	0.0	0.0	2.00	2.00	
240.0	0.80	332.89	240.0	0.2	-0.1	0.3	2.00	2.00	
270.0	1.40	332.89	270.0	0.8	-0.4	0.9	2.00	2.00	
300.0	2.00	332.89	300.0	1.6	-0.8	1.7	2.00	2.00	
330.0	2.60	332.89	330.0	2.6	-1.3	2.9	2.00	2.00	
360.0	3.20	332.89	359.9	4.0	-2.0	4.5	2.00	2.00	
390.0	3.80	332.89	389.9	5.6	-2.9	6.3	2.00	2.00	
420.0	4.40	332.89	419.8	7.5	-3.8	8.4	2.00	2.00	
450.0	5.00	332.89	449.7	9.7	-5.0	10.9	2.00	2.00	
480.0	5.60	332.89	479.6	12.2	-6.2	13.7	2.00	2.00	
510.0	6.20	332.89	509.4	14.9	-7.6	16.8	2.00	2.00	
540.0	6.80	332.89	539.2	17.9	-9.2	20.1	2.00	2.00	
570.0	7.40	332.89	569.0	21.2	-10.9	23.9	2.00	2.00	
600.0	8.00	332.89	598.7	24.8	-12.7	27.9	2.00	2.00	
630.0	8.60	332.89	628.4	28.7	-14.7	32.2	2.00	2.00	
660.0	9.20	332.89	658.0	32.8	-16.8	36.8	2.00	2.00	
690.0	9.80	332.89	687.6	37.2	-19.1	41.8	2.00	2.00	
720.0	10.40	332.89	717.1	41.9	-21.5	47.1	2.00	2.00	
750.0	11.00	332.89	746.6	46.8	-24.0	52.6	2.00	2.00	
780.0	11.60	332.89	776.0	52.1	-26.7	58.5	2.00	2.00	
810.0	12.20	332.89	805.4	57.6	-29.5	64.7	2.00	2.00	
840.0	12.80	332.89	834.7	63.4	-32.4	71.2	2.00	2.00	
870.0	13.40	332.89	863.9	69.4	-35.5	78.0	2.00	2.00	
900.0	14.00	332.89	893.1	75.7	-38.8	85.1	2.00	2.00	
930.0	14.60	332.89	922.1	82.3	-42.2	92.5	2.00	2.00	
960.0	15.20	332.89	951.1	89.2	-45.7	100.2	2.00	2.00	
969.0	15.38	332.89	959.8	91.3	-46.8	102.6	2.00	2.00	EOB; Inc=15.38°
990.0	15.38	332.89	980.0	96.3	-49.3	108.1	0.00	0.00	
1,020.0	15.38	332.89	1,009.0	103.4	-52.9	116.1	0.00	0.00	
1,050.0	15.38	332.89	1,037.9	110.4	-56.5	124.1	0.00	0.00	
1,080.0	15.38	332.89	1,066.8	117.5	-60.2	132.0	0.00	0.00	
1,110.0	15.38	332.89	1,095.7	124.6	-63.8	140.0	0.00	0.00	
1,140.0	15.38	332.89	1,124.7	131.7	-67.4	147.9	0.00	0.00	
1,170.0	15.38	332.89	1,153.6	138.8	-71.1	155.9	0.00	0.00	
1,200.0	15.38	332.89	1,182.5	145.8	-74.7	163.8	0.00	0.00	
1,230.0	15.38	332.89	1,211.5	152.9	-78.3	171.8	0.00	0.00	
1,260.0	15.38	332.89	1,240.4	160.0	-81.9	179.7	0.00	0.00	
1,290.0	15.38	332.89	1,269.3	167.1	-85.6	187.7	0.00	0.00	
1,320.0	15.38	332.89	1,298.2	174.2	-89.2	195.7	0.00	0.00	
1,350.0	15.38	332.89	1,327.2	181.3	-92.8	203.6	0.00	0.00	
1,380.0	15.38	332.89	1,356.1	188.3	-96.4	211.6	0.00	0.00	
1,410.0	15.38	332.89	1,385.0	195.4	-100.1	219.5	0.00	0.00	
1,440.0	15.38	332.89	1,413.9	202.5	-103.7	227.5	0.00	0.00	
1,470.0	15.38	332.89	1,442.9	209.6	-107.3	235.4	0.00	0.00	



Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users Db	Local Co-ordinate Reference:	Well LR05D N15 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site:	N15 595 Pad	North Reference:	True
Well:	LR05D N15 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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	15.38	332.89	1,471.8	216.7	-110.9	243.4	0.00	0.00	
1,530.0	15.38	332.89	1,500.7	223.7	-114.6	251.3	0.00	0.00	
1,560.0	15.38	332.89	1,529.6	230.8	-118.2	259.3	0.00	0.00	
1,590.0	15.38	332.89	1,558.6	237.9	-121.8	267.2	0.00	0.00	
1,620.0	15.38	332.89	1,587.5	245.0	-125.4	275.2	0.00	0.00	
1,650.0	15.38	332.89	1,616.4	252.1	-129.1	283.2	0.00	0.00	
1,680.0	15.38	332.89	1,645.3	259.2	-132.7	291.1	0.00	0.00	
1,710.0	15.38	332.89	1,674.3	266.2	-136.3	299.1	0.00	0.00	
1,740.0	15.38	332.89	1,703.2	273.3	-140.0	307.0	0.00	0.00	
1,770.0	15.38	332.89	1,732.1	280.4	-143.6	315.0	0.00	0.00	
1,800.0	15.38	332.89	1,761.0	287.5	-147.2	322.9	0.00	0.00	
1,830.0	15.38	332.89	1,790.0	294.6	-150.8	330.9	0.00	0.00	
1,860.0	15.38	332.89	1,818.9	301.6	-154.5	338.8	0.00	0.00	
1,890.0	15.38	332.89	1,847.8	308.7	-158.1	346.8	0.00	0.00	
1,920.0	15.38	332.89	1,876.7	315.8	-161.7	354.8	0.00	0.00	
1,950.0	15.38	332.89	1,905.7	322.9	-165.3	362.7	0.00	0.00	
1,980.0	15.38	332.89	1,934.6	330.0	-169.0	370.7	0.00	0.00	
2,010.0	15.38	332.89	1,963.5	337.1	-172.6	378.6	0.00	0.00	
2,040.0	15.38	332.89	1,992.4	344.1	-176.2	386.6	0.00	0.00	
2,070.0	15.38	332.89	2,021.4	351.2	-179.8	394.5	0.00	0.00	
2,100.0	15.38	332.89	2,050.3	358.3	-183.5	402.5	0.00	0.00	
2,130.0	15.38	332.89	2,079.2	365.4	-187.1	410.4	0.00	0.00	
2,160.0	15.38	332.89	2,108.2	372.5	-190.7	418.4	0.00	0.00	
2,190.0	15.38	332.89	2,137.1	379.5	-194.3	426.3	0.00	0.00	
2,220.0	15.38	332.89	2,166.0	386.6	-198.0	434.3	0.00	0.00	
2,250.0	15.38	332.89	2,194.9	393.7	-201.6	442.3	0.00	0.00	
2,280.0	15.38	332.89	2,223.9	400.8	-205.2	450.2	0.00	0.00	
2,310.0	15.38	332.89	2,252.8	407.9	-208.8	458.2	0.00	0.00	
2,340.0	15.38	332.89	2,281.7	415.0	-212.5	466.1	0.00	0.00	
2,370.0	15.38	332.89	2,310.6	422.0	-216.1	474.1	0.00	0.00	
2,400.0	15.38	332.89	2,339.6	429.1	-219.7	482.0	0.00	0.00	
2,430.0	15.38	332.89	2,368.5	436.2	-223.4	490.0	0.00	0.00	
2,460.0	15.38	332.89	2,397.4	443.3	-227.0	497.9	0.00	0.00	
2,490.0	15.38	332.89	2,426.3	450.4	-230.6	505.9	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
LR05D N15 595 TGT	0.00	0.00	9,219.0	2,018.7	-1,033.6	1,658,761.26	2,282,648.38	39.614480	-108.046629
- hit/miss target									
- Shape									
- plan misses target center by 7017.5ft at 2490.0ft MD (2426.3 TVD, 450.4 N, -230.6 E)									
- Point									
LR05D N15 595 BHL	0.00	0.00	12,269.0	1,998.7	-1,068.3	1,658,742.23	2,282,613.18	39.614425	-108.046752
- plan misses target center by 9998.9ft at 2490.0ft MD (2426.3 TVD, 450.4 N, -230.6 E)									
- Rectangle (sides W50.0 H100.0 D0.0)									



Cathedral Energy Services

Planning Report

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Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site:	N15 595 Pad	North Reference:	True
Well:	LR05D N15 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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	15.38	332.89	2,436.0	452.7	-231.8	508.5	0.00	0.00	
2,600.0	15.38	332.89	2,532.4	476.3	-243.9	535.1	0.00	0.00	
2,700.0	15.38	332.89	2,628.8	499.9	-256.0	561.6	0.00	0.00	
2,800.0	15.38	332.89	2,725.2	523.5	-268.1	588.1	0.00	0.00	
2,900.0	15.38	332.89	2,821.7	547.2	-280.2	614.6	0.00	0.00	
3,000.0	15.38	332.89	2,918.1	570.8	-292.2	641.1	0.00	0.00	
3,100.0	15.38	332.89	3,014.5	594.4	-304.3	667.6	0.00	0.00	
3,200.0	15.38	332.89	3,110.9	618.0	-316.4	694.2	0.00	0.00	
3,300.0	15.38	332.89	3,207.3	641.6	-328.5	720.7	0.00	0.00	
3,400.0	15.38	332.89	3,303.7	665.2	-340.6	747.2	0.00	0.00	
3,415.8	15.38	332.89	3,319.0	668.9	-342.5	751.4	0.00	0.00	Wasatch
3,500.0	15.38	332.89	3,400.2	688.8	-352.7	773.7	0.00	0.00	
3,600.0	15.38	332.89	3,496.6	712.4	-364.8	800.2	0.00	0.00	
3,700.0	15.38	332.89	3,593.0	736.0	-376.9	826.7	0.00	0.00	
3,800.0	15.38	332.89	3,689.4	759.6	-388.9	853.3	0.00	0.00	
3,900.0	15.38	332.89	3,785.8	783.2	-401.0	879.8	0.00	0.00	
4,000.0	15.38	332.89	3,882.3	806.8	-413.1	906.3	0.00	0.00	
4,100.0	15.38	332.89	3,978.7	830.4	-425.2	932.8	0.00	0.00	
4,200.0	15.38	332.89	4,075.1	854.0	-437.3	959.3	0.00	0.00	
4,300.0	15.38	332.89	4,171.5	877.6	-449.4	985.8	0.00	0.00	
4,400.0	15.38	332.89	4,267.9	901.2	-461.5	1,012.4	0.00	0.00	
4,500.0	15.38	332.89	4,364.4	924.8	-473.6	1,038.9	0.00	0.00	
4,600.0	15.38	332.89	4,460.8	948.5	-485.6	1,065.4	0.00	0.00	
4,700.0	15.38	332.89	4,557.2	972.1	-497.7	1,091.9	0.00	0.00	
4,800.0	15.38	332.89	4,653.6	995.7	-509.8	1,118.4	0.00	0.00	
4,900.0	15.38	332.89	4,750.0	1,019.3	-521.9	1,144.9	0.00	0.00	
5,000.0	15.38	332.89	4,846.5	1,042.9	-534.0	1,171.5	0.00	0.00	
5,100.0	15.38	332.89	4,942.9	1,066.5	-546.1	1,198.0	0.00	0.00	
5,200.0	15.38	332.89	5,039.3	1,090.1	-558.2	1,224.5	0.00	0.00	
5,300.0	15.38	332.89	5,135.7	1,113.7	-570.3	1,251.0	0.00	0.00	
5,400.0	15.38	332.89	5,232.1	1,137.3	-582.3	1,277.5	0.00	0.00	
5,500.0	15.38	332.89	5,328.5	1,160.9	-594.4	1,304.0	0.00	0.00	
5,600.0	15.38	332.89	5,425.0	1,184.5	-606.5	1,330.6	0.00	0.00	
5,700.0	15.38	332.89	5,521.4	1,208.1	-618.6	1,357.1	0.00	0.00	
5,800.0	15.38	332.89	5,617.8	1,231.7	-630.7	1,383.6	0.00	0.00	
5,900.0	15.38	332.89	5,714.2	1,255.3	-642.8	1,410.1	0.00	0.00	
6,000.0	15.38	332.89	5,810.6	1,278.9	-654.9	1,436.6	0.00	0.00	
6,008.7	15.38	332.89	5,819.0	1,281.0	-655.9	1,438.9	0.00	0.00	Fort Union
6,100.0	15.38	332.89	5,907.1	1,302.5	-667.0	1,463.1	0.00	0.00	
6,200.0	15.38	332.89	6,003.5	1,326.2	-679.0	1,489.7	0.00	0.00	
6,300.0	15.38	332.89	6,099.9	1,349.8	-691.1	1,516.2	0.00	0.00	
6,400.0	15.38	332.89	6,196.3	1,373.4	-703.2	1,542.7	0.00	0.00	
6,500.0	15.38	332.89	6,292.7	1,397.0	-715.3	1,569.2	0.00	0.00	
6,527.2	15.38	332.89	6,319.0	1,403.4	-718.6	1,576.4	0.00	0.00	Base Ft Union
6,600.0	15.38	332.89	6,389.2	1,420.6	-727.4	1,595.7	0.00	0.00	
6,700.0	15.38	332.89	6,485.6	1,444.2	-739.5	1,622.2	0.00	0.00	
6,800.0	15.38	332.89	6,582.0	1,467.8	-751.6	1,648.8	0.00	0.00	
6,900.0	15.38	332.89	6,678.4	1,491.4	-763.7	1,675.3	0.00	0.00	
7,000.0	15.38	332.89	6,774.8	1,515.0	-775.7	1,701.8	0.00	0.00	
7,100.0	15.38	332.89	6,871.3	1,538.6	-787.8	1,728.3	0.00	0.00	
7,200.0	15.38	332.89	6,967.7	1,562.2	-799.9	1,754.8	0.00	0.00	
7,300.0	15.38	332.89	7,064.1	1,585.8	-812.0	1,781.3	0.00	0.00	



Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users Db	Local Co-ordinate Reference:	Well LR05D N15 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site:	N15 595 Pad	North Reference:	True
Well:	LR05D N15 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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
7,400.0	15.38	332.89	7,160.5	1,609.4	-824.1	1,807.9	0.00	0.00	
7,500.0	15.38	332.89	7,256.9	1,633.0	-836.2	1,834.4	0.00	0.00	
7,600.0	15.38	332.89	7,353.4	1,656.6	-848.3	1,860.9	0.00	0.00	
7,700.0	15.38	332.89	7,449.8	1,680.2	-860.3	1,887.4	0.00	0.00	
7,800.0	15.38	332.89	7,546.2	1,703.9	-872.4	1,913.9	0.00	0.00	
7,900.0	15.38	332.89	7,642.6	1,727.5	-884.5	1,940.4	0.00	0.00	
8,000.0	15.38	332.89	7,739.0	1,751.1	-896.6	1,967.0	0.00	0.00	
8,100.0	15.38	332.89	7,835.4	1,774.7	-908.7	1,993.5	0.00	0.00	
8,200.0	15.38	332.89	7,931.9	1,798.3	-920.8	2,020.0	0.00	0.00	
8,300.0	15.38	332.89	8,028.3	1,821.9	-932.9	2,046.5	0.00	0.00	
8,400.0	15.38	332.89	8,124.7	1,845.5	-945.0	2,073.0	0.00	0.00	
8,500.0	15.38	332.89	8,221.1	1,869.1	-957.0	2,099.5	0.00	0.00	
8,600.0	15.38	332.89	8,317.5	1,892.7	-969.1	2,126.1	0.00	0.00	
8,700.0	15.38	332.89	8,414.0	1,916.3	-981.2	2,152.6	0.00	0.00	
8,747.0	15.38	332.89	8,459.2	1,927.4	-986.9	2,165.0	0.00	0.00	Start Drop -2.00
8,800.0	14.32	332.89	8,510.5	1,939.5	-993.1	2,178.6	2.00	-2.00	
8,900.0	12.32	332.89	8,607.8	1,960.0	-1,003.6	2,201.6	2.00	-2.00	
8,911.4	12.09	332.89	8,619.0	1,962.1	-1,004.7	2,204.1	2.00	-2.00	Ohio Creek
9,000.0	10.32	332.89	8,705.9	1,977.5	-1,012.5	2,221.3	2.00	-2.00	
9,100.0	8.32	332.89	8,804.5	1,991.9	-1,019.9	2,237.5	2.00	-2.00	
9,200.0	6.32	332.89	8,903.7	2,003.2	-1,025.7	2,250.2	2.00	-2.00	
9,215.4	6.01	332.89	8,919.0	2,004.7	-1,026.5	2,251.8	2.00	-2.00	Williams Fork
9,300.0	4.32	332.89	9,003.3	2,011.5	-1,029.9	2,259.5	2.00	-2.00	
9,400.0	2.32	332.89	9,103.1	2,016.6	-1,032.6	2,265.2	2.00	-2.00	
9,500.0	0.32	332.89	9,203.1	2,018.7	-1,033.6	2,267.5	2.00	-2.00	
9,515.9	0.00	0.00	9,219.0	2,018.7	-1,033.6	2,267.6	2.00	-2.00	EOD; Inc=0° - Approx TOG - LR05D N15 595 T
9,600.0	0.21	240.00	9,303.1	2,018.6	-1,033.8	2,267.6	0.25	0.25	
9,700.0	0.46	240.00	9,403.1	2,018.3	-1,034.3	2,267.6	0.25	0.25	
9,800.0	0.71	240.00	9,503.1	2,017.8	-1,035.2	2,267.5	0.25	0.25	
9,833.1	0.79	240.00	9,536.2	2,017.6	-1,035.6	2,267.5	0.25	0.25	
9,900.0	0.79	240.00	9,603.1	2,017.1	-1,036.4	2,267.5	0.00	0.00	
10,000.0	0.79	240.00	9,703.1	2,016.4	-1,037.6	2,267.4	0.00	0.00	
10,100.0	0.79	240.00	9,803.0	2,015.8	-1,038.7	2,267.4	0.00	0.00	
10,200.0	0.79	240.00	9,903.0	2,015.1	-1,039.9	2,267.4	0.00	0.00	
10,300.0	0.79	240.00	10,003.0	2,014.4	-1,041.1	2,267.3	0.00	0.00	
10,400.0	0.79	240.00	10,103.0	2,013.7	-1,042.3	2,267.3	0.00	0.00	
10,500.0	0.79	240.00	10,203.0	2,013.0	-1,043.5	2,267.2	0.00	0.00	
10,600.0	0.79	240.00	10,303.0	2,012.3	-1,044.7	2,267.2	0.00	0.00	
10,700.0	0.79	240.00	10,403.0	2,011.6	-1,045.9	2,267.1	0.00	0.00	
10,800.0	0.79	240.00	10,503.0	2,010.9	-1,047.1	2,267.1	0.00	0.00	
10,900.0	0.79	240.00	10,603.0	2,010.2	-1,048.3	2,267.0	0.00	0.00	
11,000.0	0.79	240.00	10,703.0	2,009.5	-1,049.5	2,267.0	0.00	0.00	
11,100.0	0.79	240.00	10,802.9	2,008.8	-1,050.7	2,266.9	0.00	0.00	
11,200.0	0.79	240.00	10,902.9	2,008.1	-1,051.9	2,266.9	0.00	0.00	
11,300.0	0.79	240.00	11,002.9	2,007.5	-1,053.1	2,266.9	0.00	0.00	
11,400.0	0.79	240.00	11,102.9	2,006.8	-1,054.3	2,266.8	0.00	0.00	
11,500.0	0.79	240.00	11,202.9	2,006.1	-1,055.5	2,266.8	0.00	0.00	
11,600.0	0.79	240.00	11,302.9	2,005.4	-1,056.7	2,266.7	0.00	0.00	
11,700.0	0.79	240.00	11,402.9	2,004.7	-1,057.9	2,266.7	0.00	0.00	
11,800.0	0.79	240.00	11,502.9	2,004.0	-1,059.1	2,266.6	0.00	0.00	
11,900.0	0.79	240.00	11,602.9	2,003.3	-1,060.3	2,266.6	0.00	0.00	
12,000.0	0.79	240.00	11,702.9	2,002.6	-1,061.5	2,266.5	0.00	0.00	



Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users Db	Local Co-ordinate Reference:	Well LR05D N15 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site:	N15 595 Pad	North Reference:	True
Well:	LR05D N15 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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
12,066.1	0.79	240.00	11,769.0	2,002.2	-1,062.3	2,266.5	0.00	0.00	Cameo
12,100.0	0.79	240.00	11,802.9	2,001.9	-1,062.7	2,266.5	0.00	0.00	
12,200.0	0.79	240.00	11,902.8	2,001.2	-1,063.9	2,266.4	0.00	0.00	
12,300.0	0.79	240.00	12,002.8	2,000.5	-1,065.1	2,266.4	0.00	0.00	
12,400.0	0.79	240.00	12,102.8	1,999.8	-1,066.3	2,266.4	0.00	0.00	
12,416.2	0.79	240.00	12,119.0	1,999.7	-1,066.5	2,266.4	0.00	0.00	Rollins SS
12,500.0	0.79	240.00	12,202.8	1,999.1	-1,067.5	2,266.3	0.00	0.00	
12,566.2	0.79	240.00	12,269.0	1,998.7	-1,068.3	2,266.3	0.00	0.00	LR05D N15 595 BHL

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
LR05D N15 595 TGT	0.00	0.00	9,219.0	2,018.7	-1,033.6	1,658,761.26	2,282,648.38	39.614480	-108.046629
- plan hits target center									
- Point									
LR05D N15 595 BHL	0.00	0.00	12,269.0	1,998.7	-1,068.3	1,658,742.23	2,282,613.18	39.614425	-108.046752
- plan hits target center									
- Rectangle (sides W50.0 H100.0 D0.0)									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,415.8	3,319.0	Wasatch		0.00	
6,008.7	5,819.0	Fort Union		0.00	
6,527.2	6,319.0	Base Ft Union		0.00	
8,911.4	8,619.0	Ohio Creek		0.00	
9,215.4	8,919.0	Williams Fork		0.00	
9,515.9	9,219.0	Approx TOG		0.00	
12,066.1	11,769.0	Cameo		0.00	
12,416.2	12,119.0	Rollins SS		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
200.0	200.0	0.0	0.0	KOP @ 200'
969.0	959.8	91.3	-46.8	EOB; Inc=15.38°
8,747.0	8,459.2	1,927.4	-986.9	Start Drop -2.00
9,515.9	9,219.0	2,018.7	-1,033.6	EOD; Inc=0°
12,566.2	12,269.0	1,998.7	-1,068.3	TD at 12566.2

Berry Petroleum Company (NAD 83)

Garfield County

N15 595 Pad

LR05D N15 595

DD

Plan #1

Anticollision Report

10 August, 2010

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05D N15 595
Project:	Garfield County	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Reference Site:	N15 595 Pad	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR05D N15 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 #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 100.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	8/10/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	12,566.2	Plan #1 (DD)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
N15 595 Pad						
LR06B N15 595 - DD - Plan #1	200.0	200.0	15.0	14.3	23.186	CC, ES
LR06B N15 595 - DD - Plan #1	1,700.0	1,697.7	99.7	87.5	8.170	SF
LR11A N15 595 - DD - Plan #1	200.0	200.0	75.1	74.4	116.221	CC, ES
LR11A N15 595 - DD - Plan #1	700.0	698.7	97.7	94.8	33.225	SF
LR11B N15 595 - DD - Plan #1	200.0	200.0	29.9	29.3	46.333	CC, ES
LR11B N15 595 - DD - Plan #1	1,200.0	1,197.7	94.0	87.0	13.348	SF
LR11C N15 595 - DD - Plan #1	200.0	200.0	45.2	44.5	69.919	CC, ES
LR11C N15 595 - DD - Plan #1	900.0	902.0	96.9	93.5	28.579	SF
LR11D N15 595 - DD - Plan #1	200.0	200.0	90.0	89.4	139.402	CC, ES
LR11D N15 595 - DD - Plan #1	500.0	499.5	98.9	97.1	56.903	SF
LR14A N15 595 - DD - Plan #1	200.0	200.0	60.4	59.7	93.505	CC, ES
LR14A N15 595 - DD - Plan #1	700.0	697.5	90.5	88.0	36.354	SF
LR14B N15 595 - DD - Plan #1						Out of range
LR15C N15 595 - DD - Plan #1						Out of range

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05D N15 595
Project:	Garfield County	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Reference Site:	N15 595 Pad	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR05D N15 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 #1	Offset TVD Reference:	Offset Datum

Offset Design N15 595 Pad - LR06B N15 595 - DD - Plan #1												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	94.19	-1.1	14.9	15.0				
100.0	100.0	100.0	100.0	0.1	0.1	94.19	-1.1	14.9	15.0	14.7	0.30	50.463	
200.0	200.0	200.0	200.0	0.3	0.3	94.19	-1.1	14.9	15.0	14.3	0.65	23.186	CC, ES
300.0	300.0	300.1	300.1	0.5	0.5	120.55	0.6	14.6	15.4	14.4	1.00	15.418	
400.0	399.8	400.2	400.1	0.7	0.7	118.55	5.8	13.7	16.8	15.5	1.39	12.152	
500.0	499.5	500.3	499.8	0.9	0.9	115.88	14.4	12.1	19.2	17.4	1.83	10.518	
600.0	598.7	600.4	599.1	1.2	1.2	113.08	26.4	9.8	22.6	20.3	2.35	9.619	
700.0	697.5	700.3	697.8	1.5	1.5	110.52	41.8	7.0	27.0	24.0	2.97	9.091	
800.0	795.6	800.2	795.9	1.9	1.9	108.32	60.5	3.5	32.4	28.7	3.70	8.766	
900.0	893.1	900.1	893.1	2.3	2.3	106.50	82.6	-0.6	38.8	34.3	4.54	8.560	
969.0	959.8	968.8	959.6	2.6	2.6	105.43	99.7	-3.7	43.8	38.7	5.17	8.476	
1,000.0	989.7	999.8	989.5	2.8	2.8	105.04	107.8	-5.2	46.2	40.7	5.46	8.458	
1,100.0	1,086.1	1,099.5	1,085.6	3.2	3.2	103.99	133.9	-10.1	53.8	47.4	6.41	8.400	
1,200.0	1,182.5	1,199.2	1,181.7	3.7	3.7	103.20	159.9	-14.9	61.4	54.1	7.36	8.348	
1,300.0	1,278.9	1,298.9	1,277.8	4.2	4.2	102.58	186.0	-19.7	69.1	60.8	8.32	8.301	
1,400.0	1,375.4	1,398.6	1,374.0	4.7	4.7	102.09	212.0	-24.5	76.7	67.4	9.29	8.261	
1,500.0	1,471.8	1,498.3	1,470.1	5.2	5.2	101.69	238.1	-29.3	84.4	74.1	10.26	8.226	
1,600.0	1,568.2	1,598.0	1,566.2	5.7	5.7	101.35	264.1	-34.2	92.0	80.8	11.23	8.196	
1,700.0	1,664.6	1,697.7	1,662.3	6.2	6.1	101.07	290.2	-39.0	99.7	87.5	12.20	8.170	SF

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05D N15 595
Project:	Garfield County	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Reference Site:	N15 595 Pad	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR05D N15 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 #1	Offset TVD Reference:	Offset Datum

Offset Design N15 595 Pad - LR11A N15 595 - DD - Plan #1													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		
0.0	0.0	0.0	0.0	0.0	0.0	93.06	-4.0	74.9	75.1					
100.0	100.0	100.0	100.0	0.1	0.1	93.06	-4.0	74.9	75.1	74.8	0.30	252.951		
200.0	200.0	200.0	200.0	0.3	0.3	93.06	-4.0	74.9	75.1	74.4	0.65	116.221 CC, ES		
300.0	300.0	300.0	299.9	0.5	0.5	119.98	-2.3	75.1	76.0	75.0	1.00	75.865		
400.0	399.8	399.9	399.7	0.7	0.7	119.43	2.9	75.4	78.7	77.3	1.39	56.751		
500.0	499.5	499.7	499.1	0.9	0.9	118.58	11.6	76.0	83.2	81.4	1.83	45.583		
600.0	598.7	599.3	598.0	1.2	1.2	117.53	23.7	76.8	89.5	87.2	2.34	38.293		
700.0	697.5	698.7	696.2	1.5	1.5	116.38	39.2	77.9	97.7	94.8	2.94	33.225 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05D N15 595
Project:	Garfield County	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Reference Site:	N15 595 Pad	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR05D N15 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 #1	Offset TVD Reference:	Offset Datum

Offset Design N15 595 Pad - LR11B N15 595 - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					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)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	93.49	-1.8	29.9	29.9					
100.0	100.0	100.0	100.0	0.1	0.1	93.49	-1.8	29.9	29.9	29.6	0.30	100.843		
200.0	200.0	200.0	200.0	0.3	0.3	93.49	-1.8	29.9	29.9	29.3	0.65	46.333 CC, ES		
300.0	300.0	300.1	300.1	0.5	0.5	120.16	-0.1	29.7	30.6	29.6	1.00	30.538		
400.0	399.8	400.2	400.1	0.7	0.7	118.94	5.2	29.4	32.6	31.2	1.39	23.488		
500.0	499.5	500.3	499.7	0.9	0.9	117.20	13.9	28.8	35.9	34.1	1.83	19.653		
600.0	598.7	600.2	598.9	1.2	1.2	115.24	26.0	27.9	40.6	38.3	2.35	17.319		
700.0	697.5	700.1	697.5	1.5	1.5	113.29	41.6	26.8	46.8	43.8	2.96	15.796		
800.0	795.6	799.8	795.4	1.9	1.9	111.49	60.6	25.5	54.3	50.6	3.68	14.754		
900.0	893.1	899.3	892.4	2.3	2.3	110.08	82.7	24.0	63.1	58.6	4.49	14.065		
969.0	959.8	967.9	959.2	2.6	2.6	110.41	98.5	22.9	70.0	64.9	5.07	13.796		
1,000.0	989.7	998.8	989.2	2.8	2.7	110.87	105.6	22.4	73.2	67.9	5.34	13.721		
1,100.0	1,086.1	1,098.2	1,086.0	3.2	3.1	112.10	128.5	20.8	83.6	77.4	6.19	13.512		
1,200.0	1,182.5	1,197.7	1,182.8	3.7	3.5	113.06	151.3	19.2	94.0	87.0	7.04	13.348 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05D N15 595
Project:	Garfield County	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Reference Site:	N15 595 Pad	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR05D N15 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 #1	Offset TVD Reference:	Offset Datum

Offset Design													N15 595 Pad - LR11C N15 595 - DD - Plan #1		Offset Site Error:		0.0 ft
Survey Program: 0-MWD															Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)							
0.0	0.0	0.0	0.0	0.0	0.0	93.24	-2.5	45.1	45.2								
100.0	100.0	100.0	100.0	0.1	0.1	93.24	-2.5	45.1	45.2	44.9	0.30	152.177					
200.0	200.0	200.0	200.0	0.3	0.3	93.24	-2.5	45.1	45.2	44.5	0.65	69.919	CC, ES				
300.0	300.0	300.0	300.0	0.5	0.5	122.21	-2.5	45.1	46.1	45.1	1.00	46.180					
400.0	399.8	399.8	399.8	0.7	0.7	127.34	-2.5	45.1	49.0	47.7	1.36	36.105					
500.0	499.5	499.5	499.5	0.9	0.8	134.51	-2.5	45.1	54.8	53.1	1.73	31.685					
600.0	598.7	599.7	599.7	1.2	1.0	140.87	-0.8	45.0	63.1	61.0	2.11	29.966					
700.0	697.5	700.2	700.1	1.5	1.2	144.88	4.4	44.7	73.2	70.7	2.50	29.251					
800.0	795.6	801.0	800.5	1.9	1.4	147.16	13.2	44.3	84.5	81.6	2.92	28.892					
900.0	893.1	902.0	900.7	2.3	1.7	148.22	25.6	43.7	96.9	93.5	3.39	28.579	SF				

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05D N15 595
Project:	Garfield County	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Reference Site:	N15 595 Pad	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR05D N15 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 #1	Offset TVD Reference:	Offset Datum

Offset Design N15 595 Pad - LR11D N15 595 - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis			
0.0	0.0	0.0	0.0	0.0	0.0	93.25	-5.1	89.9	90.0					
100.0	100.0	100.0	100.0	0.1	0.1	93.25	-5.1	89.9	90.0	89.7	0.30	303.405		
200.0	200.0	200.0	200.0	0.3	0.3	93.25	-5.1	89.9	90.0	89.4	0.65	139.402 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	121.29	-5.1	89.9	90.9	89.9	1.00	91.152		
400.0	399.8	399.8	399.8	0.7	0.7	123.98	-5.1	89.9	93.7	92.4	1.36	68.931		
500.0	499.5	499.5	499.5	0.9	0.8	128.08	-5.1	89.9	98.9	97.1	1.74	56.903 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05D N15 595
Project:	Garfield County	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Reference Site:	N15 595 Pad	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR05D N15 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 #1	Offset TVD Reference:	Offset Datum

Offset Design N15 595 Pad - LR14A N15 595 - DD - Plan #1													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		
0.0	0.0	0.0	0.0	0.0	0.0	93.11	-3.3	60.3	60.4					
100.0	100.0	100.0	100.0	0.1	0.1	93.11	-3.3	60.3	60.4	60.1	0.30	203.512		
200.0	200.0	200.0	200.0	0.3	0.3	93.11	-3.3	60.3	60.4	59.7	0.65	93.505 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	121.62	-3.3	60.3	61.3	60.3	1.00	61.440		
400.0	399.8	399.8	399.8	0.7	0.7	125.55	-3.3	60.3	64.2	62.8	1.36	47.216		
500.0	499.5	499.5	499.5	0.9	0.8	131.30	-3.3	60.3	69.6	67.9	1.73	40.161		
600.0	598.7	598.7	598.7	1.2	1.0	137.88	-3.3	60.3	78.2	76.1	2.11	37.014		
700.0	697.5	697.5	697.5	1.5	1.2	144.37	-3.3	60.3	90.5	88.0	2.49	36.354 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR05D N15 595
Project:	Garfield County	TVD Reference:	KBE @ 8391.0ft (Patterson 302)
Reference Site:	N15 595 Pad	MD Reference:	KBE @ 8391.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR05D N15 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 #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 8391.0ft (Patterson 302)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: LR05D N15 595
 Coordinate System is US State Plane 1983, Colorado Central Zone
 Grid Convergence at Surface is: -1.60°

