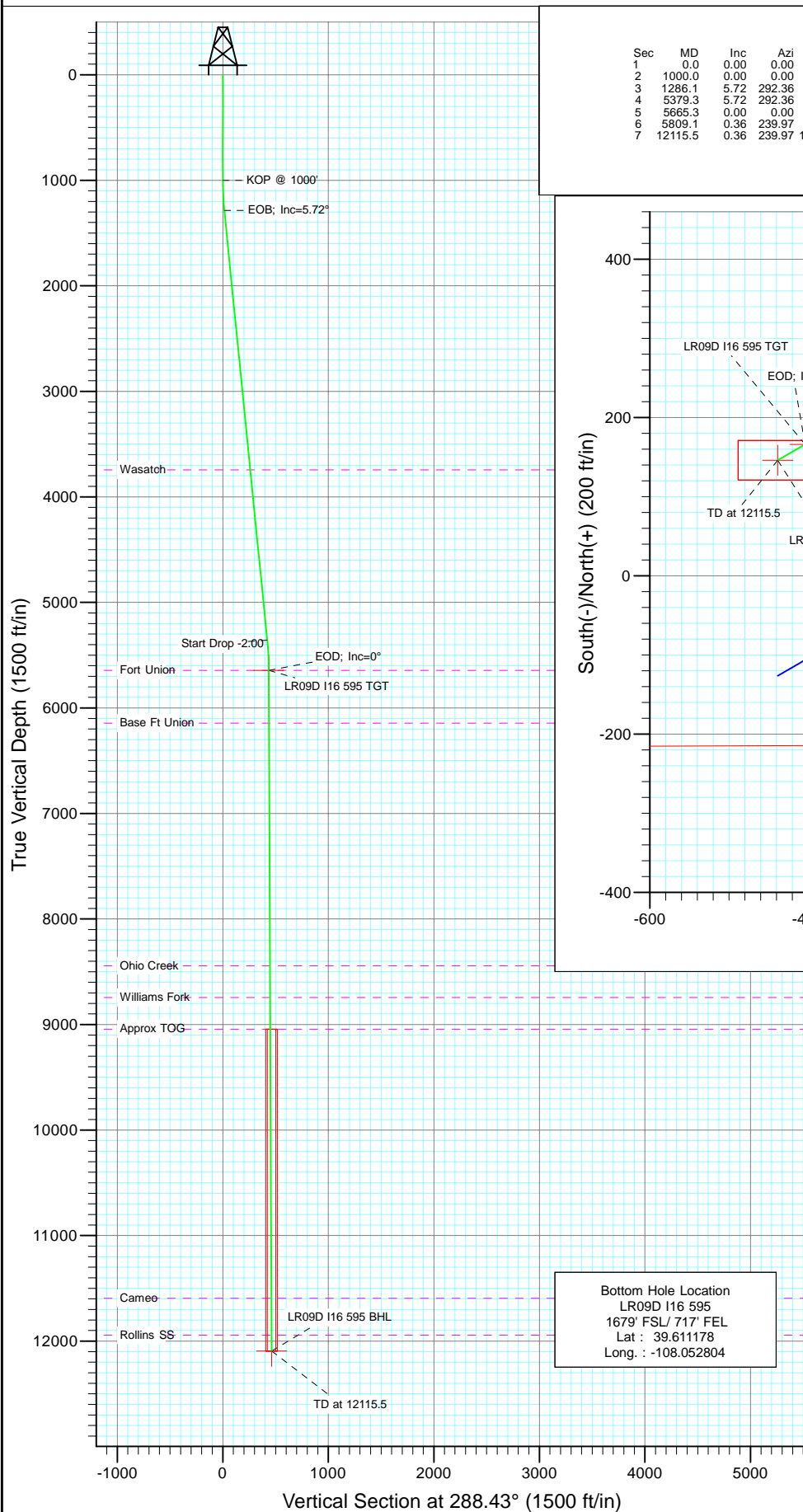
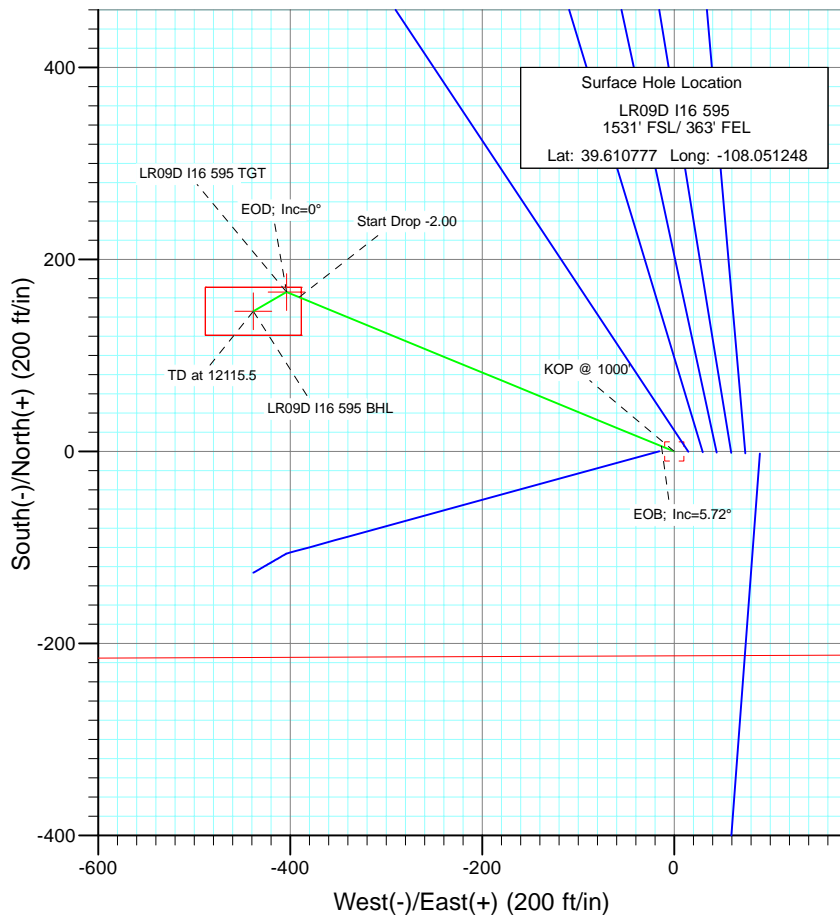




Project: Garfield County
Site: I16 595 pad
Well: LR09D I16 595
Wellbore: DD
Design: Plan #1



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Ddeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1286.1	5.72	292.36	1285.6	5.4	-13.2	2.00	292.36	14.2	
4	5379.3	5.72	292.36	5358.4	160.7	-390.6	0.00	0.00	421.3	
5	5665.3	0.00	0.00	5644.0	166.1	-403.8	2.00	180.00	435.6	LR09D I16 595 TGT
6	5809.1	0.36	239.97	5787.8	165.9	-404.1	0.25	239.97	435.9	
7	12115.5	0.36	239.97	12094.0	146.1	-438.4	0.00	0.00	462.1	LR09D I16 595 BHL



Azimuths to True North
Magnetic North: 10.46°
Magnetic Field
Strength: 52389.1snT
Dip Angle: 65.85°
Date: 9/29/2010
Model: IGRF200510

FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
3744.0	3756.8	Wasatch
5644.0	5665.3	Fort Union
6144.0	6165.3	Base Ft Union
8444.0	8465.4	Ohio Creek
8744.0	8765.4	Williams Fork
9044.0	9065.4	Approx TOG
11594.0	11615.5	Cameo
11944.0	11965.5	Rollins SS

DESIGN DETAILS: Plan #1

105XXS; BH
KBE @ 8306.0ft (Patterson 302)

Target	Azimuth	Origin	N/S	E/W	From TVD
LR09D I16 595 BHL	288.43	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 LR09D I16 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site:	I16 595 pad	North Reference:	True
Well:	LR09D I16 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	I16 595 pad			
Site Position:		Northing:	1,657,445.59 ft	Latitude: 39.610772
From:	Lat/Long	Easting:	2,281,383.74 ft	Longitude: -108.050985
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: -1.61 °

Well	LR09D I16 595			
Well Position	+N/-S	0.0 ft	Northing:	1,657,449.48 ft
	+E/-W	0.0 ft	Easting:	2,281,309.73 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft
			Ground Level:	8,291.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/29/2010	10.46	65.85	52,389

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	288.43

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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,286.1	5.72	292.36	1,285.6	5.4	-13.2	2.00	2.00	0.00	292.36	
5,379.3	5.72	292.36	5,358.4	160.7	-390.6	0.00	0.00	0.00	0.00	
5,665.3	0.00	0.00	5,644.0	166.1	-403.8	2.00	-2.00	0.00	180.00	LR09D I16 595 TGT
5,809.1	0.36	239.97	5,787.8	165.9	-404.1	0.25	0.25	-83.50	239.97	
12,115.5	0.36	239.97	12,094.0	146.1	-438.4	0.00	0.00	0.00	0.00	LR09D I16 595 BHL

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR09D I16 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site:	I16 595 pad	North Reference:	True
Well:	LR09D I16 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	
210.0	0.00	0.00	210.0	0.0	0.0	0.0	0.00	0.00	
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	
270.0	0.00	0.00	270.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
330.0	0.00	0.00	330.0	0.0	0.0	0.0	0.00	0.00	
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	
390.0	0.00	0.00	390.0	0.0	0.0	0.0	0.00	0.00	
420.0	0.00	0.00	420.0	0.0	0.0	0.0	0.00	0.00	
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	
510.0	0.00	0.00	510.0	0.0	0.0	0.0	0.00	0.00	
540.0	0.00	0.00	540.0	0.0	0.0	0.0	0.00	0.00	
570.0	0.00	0.00	570.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
630.0	0.00	0.00	630.0	0.0	0.0	0.0	0.00	0.00	
660.0	0.00	0.00	660.0	0.0	0.0	0.0	0.00	0.00	
690.0	0.00	0.00	690.0	0.0	0.0	0.0	0.00	0.00	
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	
750.0	0.00	0.00	750.0	0.0	0.0	0.0	0.00	0.00	
780.0	0.00	0.00	780.0	0.0	0.0	0.0	0.00	0.00	
810.0	0.00	0.00	810.0	0.0	0.0	0.0	0.00	0.00	
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	
870.0	0.00	0.00	870.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
930.0	0.00	0.00	930.0	0.0	0.0	0.0	0.00	0.00	
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	
990.0	0.00	0.00	990.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	KOP @ 1000'
1,020.0	0.40	292.36	1,020.0	0.0	-0.1	0.1	2.00	2.00	
1,050.0	1.00	292.36	1,050.0	0.2	-0.4	0.4	2.00	2.00	
1,080.0	1.60	292.36	1,080.0	0.4	-1.0	1.1	2.00	2.00	
1,110.0	2.20	292.36	1,110.0	0.8	-2.0	2.1	2.00	2.00	
1,140.0	2.80	292.36	1,139.9	1.3	-3.2	3.4	2.00	2.00	
1,170.0	3.40	292.36	1,169.9	1.9	-4.7	5.0	2.00	2.00	
1,200.0	4.00	292.36	1,199.8	2.7	-6.5	7.0	2.00	2.00	
1,230.0	4.60	292.36	1,229.8	3.5	-8.5	9.2	2.00	2.00	
1,260.0	5.20	292.36	1,259.6	4.5	-10.9	11.8	2.00	2.00	
1,286.1	5.72	292.36	1,285.6	5.4	-13.2	14.2	2.00	2.00	EOB; Inc=5.72°
1,290.0	5.72	292.36	1,289.5	5.6	-13.6	14.6	0.00	0.00	
1,320.0	5.72	292.36	1,319.4	6.7	-16.3	17.6	0.00	0.00	
1,350.0	5.72	292.36	1,349.2	7.9	-19.1	20.6	0.00	0.00	
1,380.0	5.72	292.36	1,379.1	9.0	-21.9	23.6	0.00	0.00	
1,410.0	5.72	292.36	1,408.9	10.1	-24.6	26.6	0.00	0.00	
1,440.0	5.72	292.36	1,438.8	11.3	-27.4	29.5	0.00	0.00	
1,470.0	5.72	292.36	1,468.6	12.4	-30.2	32.5	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR09D I16 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site:	I16 595 pad	North Reference:	True
Well:	LR09D I16 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	5.72	292.36	1,498.5	13.5	-32.9	35.5	0.00	0.00	
1,530.0	5.72	292.36	1,528.3	14.7	-35.7	38.5	0.00	0.00	
1,560.0	5.72	292.36	1,558.2	15.8	-38.5	41.5	0.00	0.00	
1,590.0	5.72	292.36	1,588.0	17.0	-41.2	44.5	0.00	0.00	
1,620.0	5.72	292.36	1,617.9	18.1	-44.0	47.4	0.00	0.00	
1,650.0	5.72	292.36	1,647.7	19.2	-46.7	50.4	0.00	0.00	
1,680.0	5.72	292.36	1,677.6	20.4	-49.5	53.4	0.00	0.00	
1,710.0	5.72	292.36	1,707.4	21.5	-52.3	56.4	0.00	0.00	
1,740.0	5.72	292.36	1,737.3	22.6	-55.0	59.4	0.00	0.00	
1,770.0	5.72	292.36	1,767.1	23.8	-57.8	62.4	0.00	0.00	
1,800.0	5.72	292.36	1,797.0	24.9	-60.6	65.3	0.00	0.00	
1,830.0	5.72	292.36	1,826.8	26.1	-63.3	68.3	0.00	0.00	
1,860.0	5.72	292.36	1,856.7	27.2	-66.1	71.3	0.00	0.00	
1,890.0	5.72	292.36	1,886.5	28.3	-68.9	74.3	0.00	0.00	
1,920.0	5.72	292.36	1,916.4	29.5	-71.6	77.3	0.00	0.00	
1,950.0	5.72	292.36	1,946.2	30.6	-74.4	80.3	0.00	0.00	
1,980.0	5.72	292.36	1,976.1	31.7	-77.2	83.3	0.00	0.00	
2,010.0	5.72	292.36	2,005.9	32.9	-79.9	86.2	0.00	0.00	
2,040.0	5.72	292.36	2,035.8	34.0	-82.7	89.2	0.00	0.00	
2,070.0	5.72	292.36	2,065.6	35.2	-85.5	92.2	0.00	0.00	
2,100.0	5.72	292.36	2,095.5	36.3	-88.2	95.2	0.00	0.00	
2,130.0	5.72	292.36	2,125.3	37.4	-91.0	98.2	0.00	0.00	
2,160.0	5.72	292.36	2,155.2	38.6	-93.8	101.2	0.00	0.00	
2,190.0	5.72	292.36	2,185.0	39.7	-96.5	104.1	0.00	0.00	
2,220.0	5.72	292.36	2,214.9	40.9	-99.3	107.1	0.00	0.00	
2,250.0	5.72	292.36	2,244.7	42.0	-102.1	110.1	0.00	0.00	
2,280.0	5.72	292.36	2,274.6	43.1	-104.8	113.1	0.00	0.00	
2,310.0	5.72	292.36	2,304.4	44.3	-107.6	116.1	0.00	0.00	
2,340.0	5.72	292.36	2,334.3	45.4	-110.4	119.1	0.00	0.00	
2,370.0	5.72	292.36	2,364.1	46.5	-113.1	122.0	0.00	0.00	
2,400.0	5.72	292.36	2,394.0	47.7	-115.9	125.0	0.00	0.00	
2,430.0	5.72	292.36	2,423.8	48.8	-118.7	128.0	0.00	0.00	
2,460.0	5.72	292.36	2,453.7	50.0	-121.4	131.0	0.00	0.00	
2,490.0	5.72	292.36	2,483.5	51.1	-124.2	134.0	0.00	0.00	

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
LR09D I16 595 BHL	0.00	0.00	12,094.0	146.1	-438.4	1,657,607.81	2,280,875.61	39.6111178	-108.052804
- plan misses target center by 9616.1ft at 2490.0ft MD (2483.5 TVD, 51.1 N, -124.2 E)									
- Rectangle (sides W50.0 H100.0 D0.0)									
LR09D I16 595 TGT	0.00	0.00	5,644.0	166.1	-403.8	1,657,626.85	2,280,910.80	39.611233	-108.052681
- plan misses target center by 3174.9ft at 2490.0ft MD (2483.5 TVD, 51.1 N, -124.2 E)									
- Point									

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR09D I16 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site:	I16 595 pad	North Reference:	True
Well:	LR09D I16 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	5.72	292.36	2,493.5	51.5	-125.1	135.0	0.00	0.00	
2,600.0	5.72	292.36	2,593.0	55.3	-134.3	144.9	0.00	0.00	
2,700.0	5.72	292.36	2,692.5	59.1	-143.5	154.9	0.00	0.00	
2,800.0	5.72	292.36	2,792.0	62.8	-152.8	164.8	0.00	0.00	
2,900.0	5.72	292.36	2,891.5	66.6	-162.0	174.7	0.00	0.00	
3,000.0	5.72	292.36	2,991.0	70.4	-171.2	184.7	0.00	0.00	
3,100.0	5.72	292.36	3,090.5	74.2	-180.4	194.6	0.00	0.00	
3,200.0	5.72	292.36	3,190.0	78.0	-189.6	204.6	0.00	0.00	
3,300.0	5.72	292.36	3,289.5	81.8	-198.9	214.5	0.00	0.00	
3,400.0	5.72	292.36	3,389.0	85.6	-208.1	224.5	0.00	0.00	
3,500.0	5.72	292.36	3,488.5	89.4	-217.3	234.4	0.00	0.00	
3,600.0	5.72	292.36	3,588.0	93.2	-226.5	244.4	0.00	0.00	
3,700.0	5.72	292.36	3,687.5	97.0	-235.7	254.3	0.00	0.00	
3,756.8	5.72	292.36	3,744.0	99.1	-241.0	260.0	0.00	0.00	Wasatch
3,800.0	5.72	292.36	3,787.0	100.8	-245.0	264.3	0.00	0.00	
3,900.0	5.72	292.36	3,886.5	104.6	-254.2	274.2	0.00	0.00	
4,000.0	5.72	292.36	3,986.0	108.4	-263.4	284.1	0.00	0.00	
4,100.0	5.72	292.36	4,085.5	112.2	-272.6	294.1	0.00	0.00	
4,200.0	5.72	292.36	4,185.0	115.9	-281.8	304.0	0.00	0.00	
4,300.0	5.72	292.36	4,284.5	119.7	-291.1	314.0	0.00	0.00	
4,400.0	5.72	292.36	4,384.0	123.5	-300.3	323.9	0.00	0.00	
4,500.0	5.72	292.36	4,483.5	127.3	-309.5	333.9	0.00	0.00	
4,600.0	5.72	292.36	4,583.0	131.1	-318.7	343.8	0.00	0.00	
4,700.0	5.72	292.36	4,682.5	134.9	-327.9	353.8	0.00	0.00	
4,800.0	5.72	292.36	4,782.0	138.7	-337.1	363.7	0.00	0.00	
4,900.0	5.72	292.36	4,881.5	142.5	-346.4	373.7	0.00	0.00	
5,000.0	5.72	292.36	4,981.0	146.3	-355.6	383.6	0.00	0.00	
5,100.0	5.72	292.36	5,080.5	150.1	-364.8	393.5	0.00	0.00	
5,200.0	5.72	292.36	5,180.0	153.9	-374.0	403.5	0.00	0.00	
5,300.0	5.72	292.36	5,279.5	157.7	-383.2	413.4	0.00	0.00	
5,379.3	5.72	292.36	5,358.4	160.7	-390.6	421.3	0.00	0.00	Start Drop -2.00
5,400.0	5.31	292.36	5,379.0	161.4	-392.4	423.3	2.00	-2.00	
5,500.0	3.31	292.36	5,478.8	164.3	-399.3	430.8	2.00	-2.00	
5,600.0	1.31	292.36	5,578.7	165.8	-403.1	434.8	2.00	-2.00	
5,665.3	0.00	0.00	5,644.0	166.1	-403.8	435.6	2.00	-2.00	EOD; Inc=0° - Fort Union - LR09D I16 595 TGT
5,700.0	0.09	239.97	5,678.7	166.1	-403.8	435.6	0.25	0.25	
5,800.0	0.34	239.97	5,778.7	165.9	-404.1	435.8	0.25	0.25	
5,809.1	0.36	239.97	5,787.8	165.9	-404.1	435.9	0.25	0.25	
5,900.0	0.36	239.97	5,878.7	165.6	-404.6	436.2	0.00	0.00	
6,000.0	0.36	239.97	5,978.7	165.3	-405.2	436.6	0.00	0.00	
6,100.0	0.36	239.97	6,078.7	165.0	-405.7	437.1	0.00	0.00	
6,165.3	0.36	239.97	6,144.0	164.8	-406.1	437.3	0.00	0.00	Base Ft Union
6,200.0	0.36	239.97	6,178.7	164.6	-406.3	437.5	0.00	0.00	
6,300.0	0.36	239.97	6,278.7	164.3	-406.8	437.9	0.00	0.00	
6,400.0	0.36	239.97	6,378.6	164.0	-407.3	438.3	0.00	0.00	
6,500.0	0.36	239.97	6,478.6	163.7	-407.9	438.7	0.00	0.00	
6,600.0	0.36	239.97	6,578.6	163.4	-408.4	439.1	0.00	0.00	
6,700.0	0.36	239.97	6,678.6	163.1	-409.0	439.6	0.00	0.00	
6,800.0	0.36	239.97	6,778.6	162.8	-409.5	440.0	0.00	0.00	
6,900.0	0.36	239.97	6,878.6	162.4	-410.1	440.4	0.00	0.00	
7,000.0	0.36	239.97	6,978.6	162.1	-410.6	440.8	0.00	0.00	
7,100.0	0.36	239.97	7,078.6	161.8	-411.2	441.2	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR09D I16 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site:	I16 595 pad	North Reference:	True
Well:	LR09D I16 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
7,200.0	0.36	239.97	7,178.6	161.5	-411.7	441.6	0.00	0.00	
7,300.0	0.36	239.97	7,278.6	161.2	-412.2	442.1	0.00	0.00	
7,400.0	0.36	239.97	7,378.6	160.9	-412.8	442.5	0.00	0.00	
7,500.0	0.36	239.97	7,478.6	160.6	-413.3	442.9	0.00	0.00	
7,600.0	0.36	239.97	7,578.6	160.3	-413.9	443.3	0.00	0.00	
7,700.0	0.36	239.97	7,678.6	159.9	-414.4	443.7	0.00	0.00	
7,800.0	0.36	239.97	7,778.6	159.6	-415.0	444.1	0.00	0.00	
7,900.0	0.36	239.97	7,878.6	159.3	-415.5	444.5	0.00	0.00	
8,000.0	0.36	239.97	7,978.6	159.0	-416.0	445.0	0.00	0.00	
8,100.0	0.36	239.97	8,078.6	158.7	-416.6	445.4	0.00	0.00	
8,200.0	0.36	239.97	8,178.6	158.4	-417.1	445.8	0.00	0.00	
8,300.0	0.36	239.97	8,278.6	158.1	-417.7	446.2	0.00	0.00	
8,400.0	0.36	239.97	8,378.6	157.7	-418.2	446.6	0.00	0.00	
8,465.4	0.36	239.97	8,444.0	157.5	-418.6	446.9	0.00	0.00	Ohio Creek
8,500.0	0.36	239.97	8,478.6	157.4	-418.8	447.0	0.00	0.00	
8,600.0	0.36	239.97	8,578.6	157.1	-419.3	447.5	0.00	0.00	
8,700.0	0.36	239.97	8,678.6	156.8	-419.8	447.9	0.00	0.00	
8,765.4	0.36	239.97	8,744.0	156.6	-420.2	448.1	0.00	0.00	Williams Fork
8,800.0	0.36	239.97	8,778.6	156.5	-420.4	448.3	0.00	0.00	
8,900.0	0.36	239.97	8,878.6	156.2	-420.9	448.7	0.00	0.00	
9,000.0	0.36	239.97	8,978.6	155.9	-421.5	449.1	0.00	0.00	
9,065.4	0.36	239.97	9,044.0	155.7	-421.8	449.4	0.00	0.00	Approx TOG
9,100.0	0.36	239.97	9,078.6	155.5	-422.0	449.5	0.00	0.00	
9,200.0	0.36	239.97	9,178.6	155.2	-422.6	450.0	0.00	0.00	
9,300.0	0.36	239.97	9,278.6	154.9	-423.1	450.4	0.00	0.00	
9,400.0	0.36	239.97	9,378.6	154.6	-423.6	450.8	0.00	0.00	
9,500.0	0.36	239.97	9,478.6	154.3	-424.2	451.2	0.00	0.00	
9,600.0	0.36	239.97	9,578.6	154.0	-424.7	451.6	0.00	0.00	
9,700.0	0.36	239.97	9,678.6	153.7	-425.3	452.0	0.00	0.00	
9,800.0	0.36	239.97	9,778.6	153.3	-425.8	452.5	0.00	0.00	
9,900.0	0.36	239.97	9,878.6	153.0	-426.4	452.9	0.00	0.00	
10,000.0	0.36	239.97	9,978.6	152.7	-426.9	453.3	0.00	0.00	
10,100.0	0.36	239.97	10,078.6	152.4	-427.4	453.7	0.00	0.00	
10,200.0	0.36	239.97	10,178.6	152.1	-428.0	454.1	0.00	0.00	
10,300.0	0.36	239.97	10,278.6	151.8	-428.5	454.5	0.00	0.00	
10,400.0	0.36	239.97	10,378.6	151.5	-429.1	454.9	0.00	0.00	
10,500.0	0.36	239.97	10,478.6	151.1	-429.6	455.4	0.00	0.00	
10,600.0	0.36	239.97	10,578.6	150.8	-430.2	455.8	0.00	0.00	
10,700.0	0.36	239.97	10,678.6	150.5	-430.7	456.2	0.00	0.00	
10,800.0	0.36	239.97	10,778.6	150.2	-431.2	456.6	0.00	0.00	
10,900.0	0.36	239.97	10,878.6	149.9	-431.8	457.0	0.00	0.00	
11,000.0	0.36	239.97	10,978.6	149.6	-432.3	457.4	0.00	0.00	
11,100.0	0.36	239.97	11,078.6	149.3	-432.9	457.9	0.00	0.00	
11,200.0	0.36	239.97	11,178.6	149.0	-433.4	458.3	0.00	0.00	
11,300.0	0.36	239.97	11,278.6	148.6	-434.0	458.7	0.00	0.00	
11,400.0	0.36	239.97	11,378.5	148.3	-434.5	459.1	0.00	0.00	
11,500.0	0.36	239.97	11,478.5	148.0	-435.0	459.5	0.00	0.00	
11,600.0	0.36	239.97	11,578.5	147.7	-435.6	459.9	0.00	0.00	
11,615.5	0.36	239.97	11,594.0	147.6	-435.7	460.0	0.00	0.00	Cameo
11,700.0	0.36	239.97	11,678.5	147.4	-436.1	460.4	0.00	0.00	
11,800.0	0.36	239.97	11,778.5	147.1	-436.7	460.8	0.00	0.00	
11,900.0	0.36	239.97	11,878.5	146.8	-437.2	461.2	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well LR09D I16 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site:	I16 595 pad	North Reference:	True
Well:	LR09D I16 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
11,965.5	0.36	239.97	11,944.0	146.5	-437.6	461.5	0.00	0.00	Rollins SS
12,000.0	0.36	239.97	11,978.5	146.4	-437.8	461.6	0.00	0.00	
12,100.0	0.36	239.97	12,078.5	146.1	-438.3	462.0	0.00	0.00	
12,115.5	0.36	239.97	12,094.0	146.1	-438.4	462.1	0.00	0.00	LR09D I16 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									
LR09D I16 595 BHL	0.00	0.00	12,094.0	146.1	-438.4	1,657,607.81	2,280,875.61	39.611178	-108.052804
- plan hits target center									
- Rectangle (sides W50.0 H100.0 D0.0)									
LR09D I16 595 TGT	0.00	0.00	5,644.0	166.1	-403.8	1,657,626.85	2,280,910.80	39.611233	-108.052681
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,756.8	3,744.0	Wasatch		0.00		
5,665.3	5,644.0	Fort Union		0.00		
6,165.3	6,144.0	Base Ft Union		0.00		
8,465.4	8,444.0	Ohio Creek		0.00		
8,765.4	8,744.0	Williams Fork		0.00		
9,065.4	9,044.0	Approx TOG		0.00		
11,615.5	11,594.0	Cameo		0.00		
11,965.5	11,944.0	Rollins SS		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.0	1,000.0	0.0	0.0	KOP @ 1000'	
1,286.1	1,285.6	5.4	-13.2	EOB; Inc=5.72°	
5,379.3	5,358.4	160.7	-390.6	Start Drop -2.00	
5,665.3	5,644.0	166.1	-403.8	EOD; Inc=0°	
12,115.5	12,094.0	146.1	-438.4	TD at 12115.5	

Berry Petroleum Company (NAD 83)

Garfield County

I16 595 pad

LR09D I16 595

DD

Plan #1

Anticollision Report

30 September, 2010

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR09D I16 595
Project:	Garfield County	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Reference Site:	I16 595 pad	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR09D I16 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	9/30/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	12,115.5	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						
I16 595 pad						
LR08A I16 595 - DD - Plan #1	416.6	416.8	73.7	72.3	52.349	CC, ES
LR08A I16 595 - DD - Plan #1	800.0	793.1	91.4	88.3	29.554	SF
LR08B I16 595 - DD - Plan #1	443.3	443.6	43.0	41.5	28.621	CC, ES
LR08B I16 595 - DD - Plan #1	700.0	696.8	54.3	51.7	20.743	SF
LR08C I16 595 Pad - DD - Plan #1	450.2	450.6	58.4	56.9	38.261	CC, ES
LR08C I16 595 Pad - DD - Plan #1	900.0	892.8	91.0	87.3	24.817	SF
LR09A I16 595 - DD - Plan #1	1,000.0	1,000.0	14.9	11.5	4.344	CC, ES
LR09A I16 595 - DD - Plan #1	1,100.0	1,100.3	15.6	11.8	4.115	SF
LR09B I16 595 - DD - Plan #1	431.0	431.2	28.4	26.9	19.452	CC, ES
LR09B I16 595 - DD - Plan #1	600.0	598.7	33.9	31.8	15.736	SF
LR09C I16 595 - DD - Plan #1	1,000.0	1,000.0	15.2	11.8	4.426	CC
LR09C I16 595 - DD - Plan #1	1,100.0	1,099.5	15.3	11.5	4.040	ES
LR09C I16 595 - DD - Plan #1	1,200.0	1,198.9	16.0	11.9	3.869	SF
LR16D I16 595 - DD - Plan #1	359.7	359.8	89.2	88.0	74.010	CC
LR16D I16 595 - DD - Plan #1	400.0	400.0	89.3	87.9	66.266	ES
LR16D I16 595 - DD - Plan #1	700.0	695.8	97.3	95.0	40.843	SF

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR09D I16 595
Project:	Garfield County	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Reference Site:	I16 595 pad	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR09D I16 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 I16 595 pad - LR08A I16 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 (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	91.41	-1.8	74.1	74.1				
100.0	100.0	100.0	100.0	0.1	0.1	91.41	-1.8	74.1	74.1	73.8	0.30	249.810	
200.0	200.0	200.0	200.0	0.3	0.3	91.41	-1.8	74.1	74.1	73.5	0.65	114.778	
300.0	300.0	300.2	300.2	0.5	0.5	90.06	-0.1	73.9	73.9	73.0	1.00	74.273	
400.0	400.0	400.2	400.1	0.7	0.7	86.00	5.1	73.5	73.7	72.3	1.35	54.668	
416.6	416.6	416.8	416.6	0.7	0.7	85.06	6.3	73.4	73.7	72.3	1.41	52.349	CC, ES
500.0	500.0	499.8	499.2	0.8	0.9	79.27	13.8	72.7	74.0	72.3	1.71	43.305	
600.0	600.0	598.6	597.3	1.0	1.2	70.25	25.8	71.7	76.2	74.1	2.10	36.255	
700.0	700.0	696.4	693.9	1.2	1.5	59.84	40.9	70.4	81.7	79.1	2.56	31.922	
800.0	800.0	793.1	788.9	1.4	1.8	49.34	59.1	68.8	91.4	88.3	3.09	29.554	SF

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR09D I16 595
Project:	Garfield County	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Reference Site:	I16 595 pad	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR09D I16 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 I16 595 pad - LR08B I16 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		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	91.42	-1.1	44.2	44.2					
100.0	100.0	100.0	100.0	0.1	0.1	91.42	-1.1	44.2	44.2	44.0	0.30	149.127		
200.0	200.0	200.0	200.0	0.3	0.3	91.42	-1.1	44.2	44.2	43.6	0.65	68.518		
300.0	300.0	300.3	300.3	0.5	0.5	89.19	0.6	43.9	43.9	42.9	1.00	44.066		
400.0	400.0	400.4	400.2	0.7	0.7	82.34	5.8	42.8	43.1	41.8	1.35	32.033		
443.3	443.3	443.6	443.3	0.7	0.8	77.89	9.0	42.1	43.0	41.5	1.50	28.621 CC, ES		
500.0	500.0	500.0	499.5	0.8	0.9	70.81	14.2	40.9	43.4	41.6	1.71	25.325		
600.0	600.0	598.9	597.6	1.0	1.2	55.90	26.0	38.4	46.5	44.3	2.12	21.867		
700.0	700.0	696.8	694.3	1.2	1.5	40.72	40.9	35.2	54.3	51.7	2.62	20.743 SF		
800.0	800.0	793.5	789.3	1.4	1.8	28.08	58.8	31.4	67.5	64.3	3.18	21.245		
900.0	900.0	888.9	882.3	1.5	2.2	18.71	79.5	26.9	85.8	82.0	3.78	22.698		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR09D I16 595
Project:	Garfield County	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Reference Site:	I16 595 pad	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR09D I16 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 I16 595 pad - LR08C I16 595 Pad - 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		
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	91.41	-1.5	59.4	59.5					
100.0	100.0	100.0	100.0	0.1	0.1	91.41	-1.5	59.4	59.5	59.2	0.30	200.418		
200.0	200.0	200.0	200.0	0.3	0.3	91.41	-1.5	59.4	59.5	58.8	0.65	92.084		
300.0	300.0	300.3	300.3	0.5	0.5	89.74	0.3	59.2	59.2	58.2	1.00	59.426		
400.0	400.0	400.4	400.3	0.7	0.7	84.65	5.5	58.3	58.6	57.2	1.35	43.483		
450.2	450.2	450.6	450.2	0.8	0.8	80.80	9.3	57.7	58.4	56.9	1.53	38.261 CC, ES		
500.0	500.0	500.0	499.5	0.8	0.9	76.16	14.0	56.9	58.6	56.9	1.71	34.313		
600.0	600.0	598.9	597.6	1.0	1.2	64.78	25.9	55.0	60.9	58.7	2.11	28.878		
700.0	700.0	696.9	694.4	1.2	1.5	52.07	41.0	52.6	66.9	64.3	2.58	25.953		
800.0	800.0	794.6	790.4	1.4	1.8	40.23	58.7	49.7	77.5	74.4	3.11	24.915		
900.0	900.0	892.8	886.9	1.5	2.2	31.28	76.9	46.7	91.0	87.3	3.67	24.817 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR09D I16 595
Project:	Garfield County	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Reference Site:	I16 595 pad	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR09D I16 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 I16 595 pad - LR09A I16 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 (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	91.41	-0.4	14.9	14.9					
100.0	100.0	100.0	100.0	0.1	0.1	91.41	-0.4	14.9	14.9	14.6	0.30	50.342		
200.0	200.0	200.0	200.0	0.3	0.3	91.41	-0.4	14.9	14.9	14.3	0.65	23.130		
300.0	300.0	300.0	300.0	0.5	0.5	91.41	-0.4	14.9	14.9	13.9	0.99	15.014		
400.0	400.0	400.0	400.0	0.7	0.7	91.41	-0.4	14.9	14.9	13.6	1.34	11.114		
500.0	500.0	500.0	500.0	0.8	0.8	91.41	-0.4	14.9	14.9	13.2	1.69	8.823		
600.0	600.0	600.0	600.0	1.0	1.0	91.41	-0.4	14.9	14.9	12.9	2.04	7.315		
700.0	700.0	700.0	700.0	1.2	1.2	91.41	-0.4	14.9	14.9	12.5	2.39	6.247		
800.0	800.0	800.0	800.0	1.4	1.4	91.41	-0.4	14.9	14.9	12.2	2.74	5.451		
900.0	900.0	900.0	900.0	1.5	1.5	91.41	-0.4	14.9	14.9	11.8	3.09	4.835		
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	91.41	-0.4	14.9	14.9	11.5	3.44	4.344	CC, ES	
1,100.0	1,100.0	1,100.3	1,100.3	1.9	1.9	156.06	1.1	14.0	15.6	11.8	3.79	4.115	SF	
1,200.0	1,199.8	1,200.5	1,200.4	2.1	2.1	148.47	5.5	11.1	17.7	13.6	4.14	4.285		
1,286.1	1,285.6	1,286.7	1,286.2	2.2	2.2	140.68	11.6	7.0	21.1	16.7	4.46	4.735		
1,300.0	1,299.5	1,300.6	1,300.1	2.3	2.3	139.40	12.8	6.2	21.8	17.3	4.52	4.827		
1,400.0	1,399.0	1,400.5	1,399.2	2.5	2.5	127.93	22.9	-0.5	26.7	21.7	4.94	5.400		
1,500.0	1,498.5	1,500.2	1,497.8	2.7	2.7	116.41	34.9	-8.4	32.5	27.1	5.39	6.025		
1,600.0	1,598.0	1,599.8	1,596.5	2.9	3.0	108.55	46.8	-16.3	39.2	33.4	5.85	6.700		
1,700.0	1,697.5	1,699.5	1,695.1	3.1	3.2	103.06	58.8	-24.2	46.5	40.1	6.32	7.354		
1,800.0	1,797.0	1,799.1	1,793.7	3.3	3.5	99.07	70.7	-32.2	54.0	47.2	6.78	7.962		
1,900.0	1,896.5	1,898.8	1,892.3	3.6	3.8	96.07	82.7	-40.1	61.8	54.5	7.25	8.517		
2,000.0	1,996.0	1,998.4	1,990.9	3.8	4.1	93.74	94.6	-48.0	69.6	61.9	7.72	9.020		
2,100.0	2,095.5	2,098.1	2,089.5	4.0	4.3	91.89	106.6	-55.9	77.6	69.4	8.19	9.475		
2,200.0	2,195.0	2,197.8	2,188.2	4.3	4.6	90.38	118.5	-63.8	85.6	77.0	8.66	9.886		
2,300.0	2,294.5	2,297.4	2,286.8	4.5	4.9	89.14	130.5	-71.7	93.7	84.6	9.13	10.259		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR09D I16 595
Project:	Garfield County	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Reference Site:	I16 595 pad	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR09D I16 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 I16 595 pad - LR09B I16 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		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	91.41	-0.7	29.9	29.9					
100.0	100.0	100.0	100.0	0.1	0.1	91.41	-0.7	29.9	29.9	29.6	0.30	100.684		
200.0	200.0	200.0	200.0	0.3	0.3	91.41	-0.7	29.9	29.9	29.2	0.65	46.260		
300.0	300.0	300.3	300.3	0.5	0.5	88.16	0.9	29.4	29.4	28.4	1.00	29.510		
400.0	400.0	400.3	400.2	0.7	0.7	77.91	6.0	27.8	28.5	27.1	1.35	21.143		
431.0	431.0	431.2	431.0	0.7	0.8	73.22	8.2	27.2	28.4	26.9	1.46	19.452 CC, ES		
500.0	500.0	499.9	499.3	0.8	0.9	60.60	14.3	25.3	29.1	27.4	1.72	16.930		
600.0	600.0	598.7	597.4	1.0	1.2	40.30	25.8	21.9	33.9	31.8	2.15	15.736 SF		
700.0	700.0	696.6	694.1	1.2	1.5	23.40	40.4	17.5	44.4	41.7	2.66	16.668		
800.0	800.0	794.1	789.9	1.4	1.8	11.97	57.7	12.2	59.9	56.7	3.20	18.733		
900.0	900.0	892.2	886.2	1.5	2.2	5.14	75.7	6.8	77.3	73.5	3.73	20.731		
1,000.0	1,000.0	990.4	982.6	1.7	2.5	0.85	93.7	1.4	95.3	91.1	4.25	22.412		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR09D I16 595
Project:	Garfield County	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Reference Site:	I16 595 pad	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR09D I16 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 I16 595 pad - LR09C I16 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 (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	-88.64	0.4	-15.2	15.2					
100.0	100.0	100.0	100.0	0.1	0.1	-88.64	0.4	-15.2	15.2	14.9	0.30	51.291		
200.0	200.0	200.0	200.0	0.3	0.3	-88.64	0.4	-15.2	15.2	14.6	0.65	23.566		
300.0	300.0	300.0	300.0	0.5	0.5	-88.64	0.4	-15.2	15.2	14.2	0.99	15.297		
400.0	400.0	400.0	400.0	0.7	0.7	-88.64	0.4	-15.2	15.2	13.9	1.34	11.324		
500.0	500.0	500.0	500.0	0.8	0.8	-88.64	0.4	-15.2	15.2	13.5	1.69	8.989		
600.0	600.0	600.0	600.0	1.0	1.0	-88.64	0.4	-15.2	15.2	13.2	2.04	7.452		
700.0	700.0	700.0	700.0	1.2	1.2	-88.64	0.4	-15.2	15.2	12.8	2.39	6.365		
800.0	800.0	800.0	800.0	1.4	1.4	-88.64	0.4	-15.2	15.2	12.5	2.74	5.554		
900.0	900.0	900.0	900.0	1.5	1.5	-88.64	0.4	-15.2	15.2	12.1	3.09	4.926		
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	-88.64	0.4	-15.2	15.2	11.8	3.44	4.426 CC		
1,000.3	1,000.3	1,000.3	1,000.3	1.7	1.7	-21.01	0.4	-15.2	15.2	11.8	3.44	4.425		
1,100.0	1,100.0	1,099.5	1,099.5	1.9	1.9	-25.20	-0.1	-16.9	15.3	11.5	3.79	4.040 ES		
1,200.0	1,199.8	1,198.9	1,198.7	2.1	2.1	-37.23	-1.5	-21.9	16.0	11.9	4.13	3.869 SF		
1,286.1	1,285.6	1,284.4	1,284.0	2.2	2.2	-51.56	-3.4	-28.7	17.9	13.5	4.45	4.033		
1,300.0	1,299.5	1,298.4	1,297.8	2.3	2.3	-54.00	-3.7	-30.0	18.3	13.8	4.50	4.074		
1,400.0	1,399.0	1,398.2	1,397.2	2.5	2.5	-68.42	-6.1	-38.8	22.0	17.1	4.89	4.494		
1,500.0	1,498.5	1,498.0	1,496.6	2.7	2.7	-78.30	-8.6	-47.7	26.6	21.3	5.31	5.019		
1,600.0	1,598.0	1,597.8	1,596.0	2.9	2.9	-85.11	-11.0	-56.5	31.8	26.1	5.73	5.553		
1,700.0	1,697.5	1,697.6	1,695.4	3.1	3.1	-89.97	-13.4	-65.4	37.3	31.2	6.16	6.058		
1,800.0	1,797.0	1,797.4	1,794.8	3.3	3.3	-93.55	-15.8	-74.2	43.0	36.4	6.60	6.521		
1,900.0	1,896.5	1,897.2	1,894.1	3.6	3.5	-96.30	-18.3	-83.1	48.9	41.8	7.04	6.940		
2,000.0	1,996.0	1,997.0	1,993.5	3.8	3.8	-98.45	-20.7	-91.9	54.8	47.3	7.49	7.319		
2,100.0	2,095.5	2,096.8	2,092.9	4.0	4.0	-100.18	-23.1	-100.8	60.8	52.9	7.94	7.660		
2,200.0	2,195.0	2,196.6	2,192.3	4.3	4.2	-101.60	-25.6	-109.6	66.8	58.4	8.39	7.967		
2,300.0	2,294.5	2,296.4	2,291.7	4.5	4.4	-102.78	-28.0	-118.4	72.9	64.0	8.84	8.246		
2,400.0	2,394.0	2,396.2	2,391.1	4.7	4.7	-103.78	-30.4	-127.3	79.0	69.7	9.29	8.498		
2,500.0	2,493.5	2,496.0	2,490.4	5.0	4.9	-104.64	-32.8	-136.1	85.1	75.3	9.75	8.728		
2,600.0	2,593.0	2,595.8	2,589.8	5.2	5.1	-105.39	-35.3	-145.0	91.2	81.0	10.21	8.938		
2,700.0	2,692.5	2,695.6	2,689.2	5.5	5.3	-106.04	-37.7	-153.8	97.4	86.7	10.66	9.130		

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 LR09D I16 595
Project:	Garfield County	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Reference Site:	I16 595 pad	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR09D I16 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 I16 595 pad - LR16D I16 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 (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	91.40	-2.2	89.3	89.3					
100.0	100.0	100.0	100.0	0.1	0.1	91.40	-2.2	89.3	89.3	89.0	0.30	301.101		
200.0	200.0	200.0	200.0	0.3	0.3	91.40	-2.2	89.3	89.3	88.7	0.65	138.344		
300.0	300.0	300.1	300.1	0.5	0.5	92.52	-3.9	89.2	89.3	88.3	1.00	89.656		
359.7	359.7	359.8	359.7	0.6	0.6	94.26	-6.6	89.0	89.2	88.0	1.21	74.010 CC		
400.0	400.0	400.0	399.8	0.7	0.7	95.88	-9.1	88.8	89.3	87.9	1.35	66.266 ES		
500.0	500.0	499.4	498.8	0.8	0.9	101.40	-17.8	88.2	89.9	88.2	1.70	52.986		
600.0	600.0	598.0	596.8	1.0	1.2	108.81	-29.7	87.3	92.2	90.2	2.04	45.176		
700.0	700.0	695.8	693.3	1.2	1.5	117.51	-44.9	86.1	97.3	95.0	2.38	40.843 SF		

Cathedral Energy Services

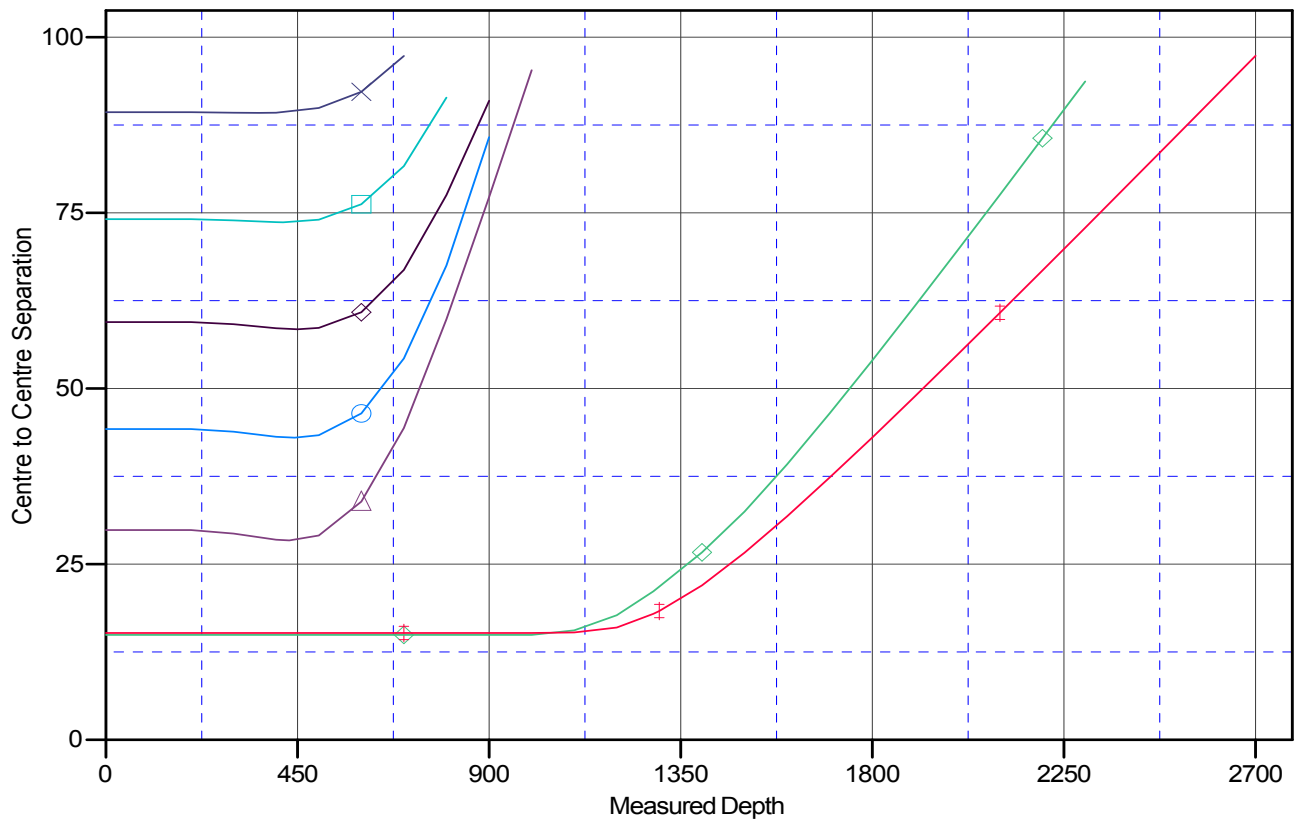
Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well LR09D I16 595
Project:	Garfield County	TVD Reference:	KBE @ 8306.0ft (Patterson 302)
Reference Site:	I16 595 pad	MD Reference:	KBE @ 8306.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	LR09D I16 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 @ 8306.0ft (Patterson 302)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: LR09D I16 595
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.61°

Ladder Plot



LEGEND

- LR08A I16 595, DD, Plan #1 V0
- LR08B I16 595, DD, Plan #1 V0
- LR08C I16 595 Pad, DD, Plan #1 V0
- LR09A I16 595, DD, Plan #1 V0
- LR09B I16 595, DD, Plan #1 V0
- LR09C I16 595, DD, Plan #1 V0
- LR16D I16 595, DD, Plan #1 V0