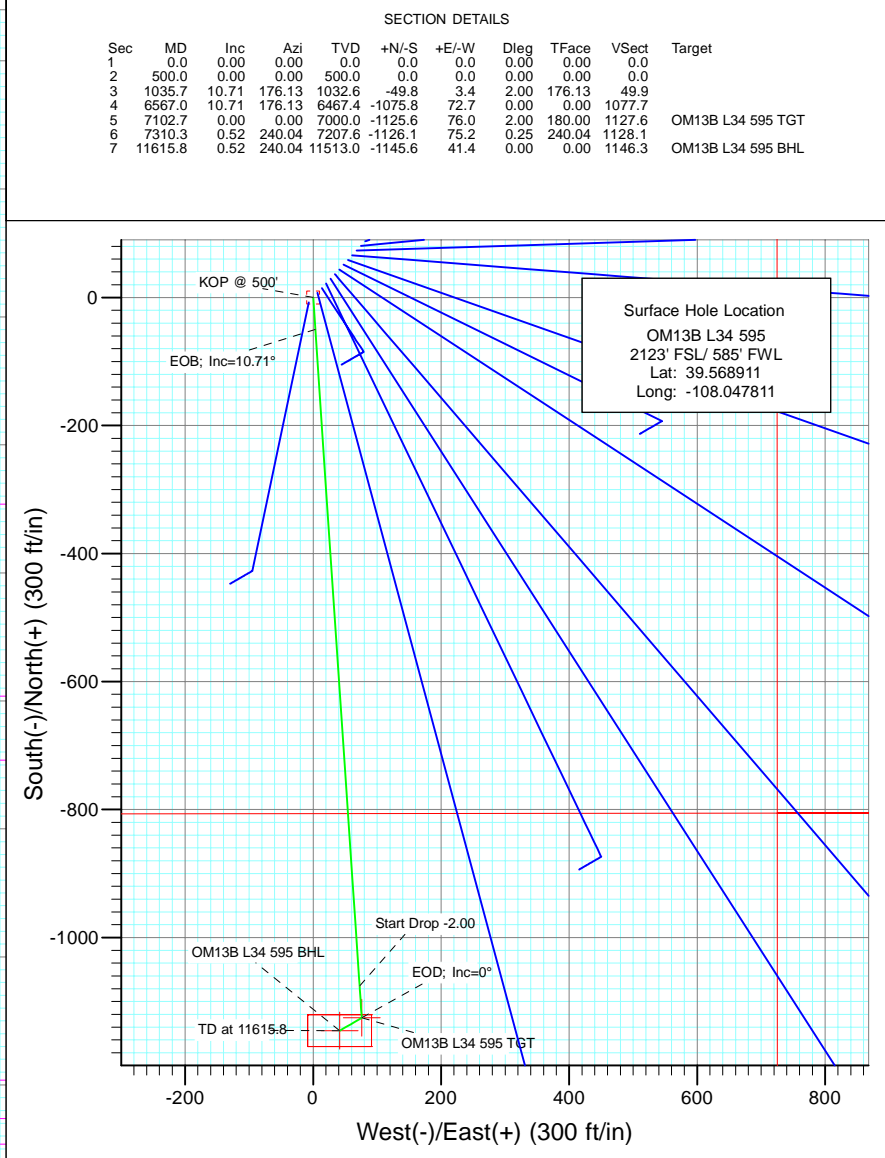
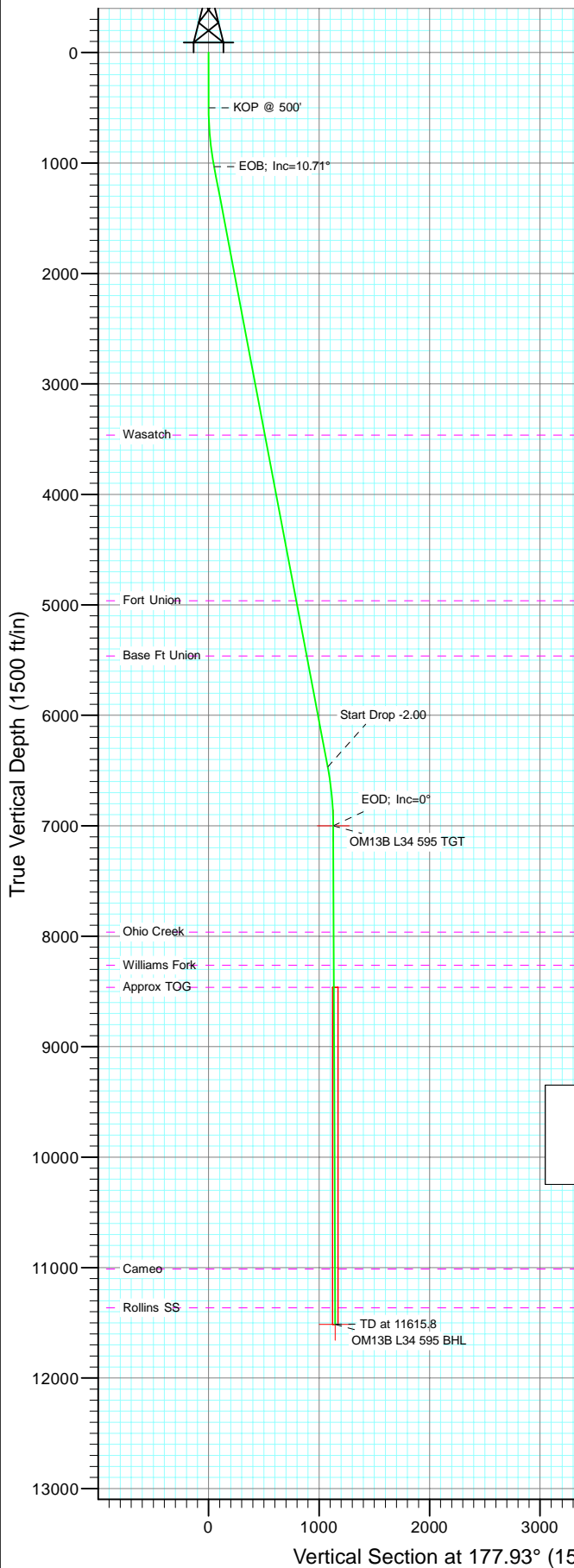




Project: Garfield County
Site: L34 595 Pad
Well: OM13B L34 595
Wellbore: DD
Design: Plan #1



Bottom Hole Location
OM13B L34 595
977' FSL/ 627' FWL
Lat : 39.565766
Long. : -108.047664

Azimuths to True North
Magnetic North: 10.46°

Magnetic Field
Strength: 52377.2snT
Dip Angle: 65.82°
Date: 8/23/2010
Model: IGRF200510

FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
3463.0	3509.2	Wasatch	
4963.0	5035.8	Fort Union	
5463.0	5544.7	Base Ft Union	
7963.0	8065.7	Ohio Creek	
8263.0	8365.7	Williams Fork	
8463.0	8565.7	Approx TOG	
11013.0	11115.8	Cameo	
11363.0	11465.8	Rollins SS	

DESIGN DETAILS: Plan #1

105XXX; BH
KBE @ 8240.0ft (Patterson 302)

Target	Azimuth	Origin	N/S	E/W	From TVD
OM13B L34 595 BHL	177.93	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 OM13B L34 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site:	L34 595 Pad	North Reference:	True
Well:	OM13B L34 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		L34 595 Pad			
Site Position:		Northing:	1,642,264.05 ft	Latitude:	39.569152
From:	Lat/Long	Easting:	2,281,933.96 ft	Longitude:	-108.047522
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.61 °

Well	OM13B L34 595					
Well Position	+N/-S	0.0 ft	Northing:	1,642,178.58 ft	Latitude:	39.568911
	+E/-W	0.0 ft	Easting:	2,281,850.06 ft	Longitude:	-108.047811
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,225.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/23/2010	10.46	65.82	52,377

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	177.93

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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,035.7	10.71	176.13	1,032.6	-49.8	3.4	2.00	2.00	0.00	176.13	
6,567.0	10.71	176.13	6,467.4	-1,075.8	72.7	0.00	0.00	0.00	0.00	
7,102.7	0.00	0.00	7,000.0	-1,125.6	76.0	2.00	-2.00	0.00	180.00	OM13B L34 595 TGT
7,310.3	0.52	240.04	7,207.6	-1,126.1	75.2	0.25	0.25	-57.78	240.04	
11,615.8	0.52	240.04	11,513.0	-1,145.6	41.4	0.00	0.00	0.00	0.00	OM13B L34 595 BHL

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM13B L34 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site:	L34 595 Pad	North Reference:	True
Well:	OM13B L34 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	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	KOP @ 500'
510.0	0.20	176.13	510.0	0.0	0.0	0.0	2.00	2.00	
540.0	0.80	176.13	540.0	-0.3	0.0	0.3	2.00	2.00	
570.0	1.40	176.13	570.0	-0.9	0.1	0.9	2.00	2.00	
600.0	2.00	176.13	600.0	-1.7	0.1	1.7	2.00	2.00	
630.0	2.60	176.13	630.0	-2.9	0.2	2.9	2.00	2.00	
660.0	3.20	176.13	659.9	-4.5	0.3	4.5	2.00	2.00	
690.0	3.80	176.13	689.9	-6.3	0.4	6.3	2.00	2.00	
720.0	4.40	176.13	719.8	-8.4	0.6	8.4	2.00	2.00	
750.0	5.00	176.13	749.7	-10.9	0.7	10.9	2.00	2.00	
780.0	5.60	176.13	779.6	-13.6	0.9	13.7	2.00	2.00	
810.0	6.20	176.13	809.4	-16.7	1.1	16.7	2.00	2.00	
840.0	6.80	176.13	839.2	-20.1	1.4	20.1	2.00	2.00	
870.0	7.40	176.13	869.0	-23.8	1.6	23.8	2.00	2.00	
900.0	8.00	176.13	898.7	-27.8	1.9	27.9	2.00	2.00	
930.0	8.60	176.13	928.4	-32.1	2.2	32.2	2.00	2.00	
960.0	9.20	176.13	958.0	-36.8	2.5	36.8	2.00	2.00	
990.0	9.80	176.13	987.6	-41.7	2.8	41.8	2.00	2.00	
1,020.0	10.40	176.13	1,017.1	-47.0	3.2	47.0	2.00	2.00	
1,035.7	10.71	176.13	1,032.6	-49.8	3.4	49.9	2.00	2.00	EOB; Inc=10.71°
1,050.0	10.71	176.13	1,046.6	-52.5	3.5	52.6	0.00	0.00	
1,080.0	10.71	176.13	1,076.1	-58.0	3.9	58.1	0.00	0.00	
1,110.0	10.71	176.13	1,105.6	-63.6	4.3	63.7	0.00	0.00	
1,140.0	10.71	176.13	1,135.1	-69.2	4.7	69.3	0.00	0.00	
1,170.0	10.71	176.13	1,164.5	-74.7	5.0	74.9	0.00	0.00	
1,200.0	10.71	176.13	1,194.0	-80.3	5.4	80.4	0.00	0.00	
1,230.0	10.71	176.13	1,223.5	-85.9	5.8	86.0	0.00	0.00	
1,260.0	10.71	176.13	1,253.0	-91.4	6.2	91.6	0.00	0.00	
1,290.0	10.71	176.13	1,282.5	-97.0	6.6	97.2	0.00	0.00	
1,320.0	10.71	176.13	1,311.9	-102.6	6.9	102.7	0.00	0.00	
1,350.0	10.71	176.13	1,341.4	-108.1	7.3	108.3	0.00	0.00	
1,380.0	10.71	176.13	1,370.9	-113.7	7.7	113.9	0.00	0.00	
1,410.0	10.71	176.13	1,400.4	-119.3	8.1	119.5	0.00	0.00	
1,440.0	10.71	176.13	1,429.8	-124.8	8.4	125.0	0.00	0.00	
1,470.0	10.71	176.13	1,459.3	-130.4	8.8	130.6	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM13B L34 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site:	L34 595 Pad	North Reference:	True
Well:	OM13B L34 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	10.71	176.13	1,488.8	-135.9	9.2	136.2	0.00	0.00	
1,530.0	10.71	176.13	1,518.3	-141.5	9.6	141.8	0.00	0.00	
1,560.0	10.71	176.13	1,547.7	-147.1	9.9	147.3	0.00	0.00	
1,590.0	10.71	176.13	1,577.2	-152.6	10.3	152.9	0.00	0.00	
1,620.0	10.71	176.13	1,606.7	-158.2	10.7	158.5	0.00	0.00	
1,650.0	10.71	176.13	1,636.2	-163.8	11.1	164.1	0.00	0.00	
1,680.0	10.71	176.13	1,665.7	-169.3	11.4	169.6	0.00	0.00	
1,710.0	10.71	176.13	1,695.1	-174.9	11.8	175.2	0.00	0.00	
1,740.0	10.71	176.13	1,724.6	-180.5	12.2	180.8	0.00	0.00	
1,770.0	10.71	176.13	1,754.1	-186.0	12.6	186.4	0.00	0.00	
1,800.0	10.71	176.13	1,783.6	-191.6	12.9	191.9	0.00	0.00	
1,830.0	10.71	176.13	1,813.0	-197.2	13.3	197.5	0.00	0.00	
1,860.0	10.71	176.13	1,842.5	-202.7	13.7	203.1	0.00	0.00	
1,890.0	10.71	176.13	1,872.0	-208.3	14.1	208.7	0.00	0.00	
1,920.0	10.71	176.13	1,901.5	-213.8	14.4	214.2	0.00	0.00	
1,950.0	10.71	176.13	1,930.9	-219.4	14.8	219.8	0.00	0.00	
1,980.0	10.71	176.13	1,960.4	-225.0	15.2	225.4	0.00	0.00	
2,010.0	10.71	176.13	1,989.9	-230.5	15.6	231.0	0.00	0.00	
2,040.0	10.71	176.13	2,019.4	-236.1	16.0	236.5	0.00	0.00	
2,070.0	10.71	176.13	2,048.9	-241.7	16.3	242.1	0.00	0.00	
2,100.0	10.71	176.13	2,078.3	-247.2	16.7	247.7	0.00	0.00	
2,130.0	10.71	176.13	2,107.8	-252.8	17.1	253.3	0.00	0.00	
2,160.0	10.71	176.13	2,137.3	-258.4	17.5	258.8	0.00	0.00	
2,190.0	10.71	176.13	2,166.8	-263.9	17.8	264.4	0.00	0.00	
2,220.0	10.71	176.13	2,196.2	-269.5	18.2	270.0	0.00	0.00	
2,250.0	10.71	176.13	2,225.7	-275.1	18.6	275.5	0.00	0.00	
2,280.0	10.71	176.13	2,255.2	-280.6	19.0	281.1	0.00	0.00	
2,310.0	10.71	176.13	2,284.7	-286.2	19.3	286.7	0.00	0.00	
2,340.0	10.71	176.13	2,314.1	-291.8	19.7	292.3	0.00	0.00	
2,370.0	10.71	176.13	2,343.6	-297.3	20.1	297.8	0.00	0.00	
2,400.0	10.71	176.13	2,373.1	-302.9	20.5	303.4	0.00	0.00	
2,430.0	10.71	176.13	2,402.6	-308.4	20.8	309.0	0.00	0.00	
2,460.0	10.71	176.13	2,432.1	-314.0	21.2	314.6	0.00	0.00	
2,490.0	10.71	176.13	2,461.5	-319.6	21.6	320.1	0.00	0.00	

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
OM13B L34 595 BHL	0.00	0.00	11,513.0	-1,145.6	41.4	1,641,032.31	2,281,859.36	39.565766	-108.047664
- plan misses target center by 9089.1ft at 2490.0ft MD (2461.5 TVD, -319.6 N, 21.6 E)									
- Rectangle (sides W50.0 H100.0 D0.0)									
OM13B L34 595 TGT	0.00	0.00	7,000.0	-1,125.6	76.0	1,641,051.29	2,281,894.52	39.565821	-108.047541
- plan misses target center by 4609.8ft at 2490.0ft MD (2461.5 TVD, -319.6 N, 21.6 E)									
- Point									

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM13B L34 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site:	L34 595 Pad	North Reference:	True
Well:	OM13B L34 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	10.71	176.13	2,471.4	-321.4	21.7	322.0	0.00	0.00	
2,600.0	10.71	176.13	2,569.6	-340.0	23.0	340.6	0.00	0.00	
2,700.0	10.71	176.13	2,667.9	-358.5	24.2	359.2	0.00	0.00	
2,800.0	10.71	176.13	2,766.1	-377.1	25.5	377.7	0.00	0.00	
2,900.0	10.71	176.13	2,864.4	-395.6	26.7	396.3	0.00	0.00	
3,000.0	10.71	176.13	2,962.6	-414.2	28.0	414.9	0.00	0.00	
3,100.0	10.71	176.13	3,060.9	-432.7	29.2	433.5	0.00	0.00	
3,200.0	10.71	176.13	3,159.2	-451.3	30.5	452.1	0.00	0.00	
3,300.0	10.71	176.13	3,257.4	-469.8	31.7	470.7	0.00	0.00	
3,400.0	10.71	176.13	3,355.7	-488.4	33.0	489.2	0.00	0.00	
3,500.0	10.71	176.13	3,453.9	-506.9	34.2	507.8	0.00	0.00	
3,509.2	10.71	176.13	3,463.0	-508.6	34.4	509.5	0.00	0.00	Wasatch
3,600.0	10.71	176.13	3,552.2	-525.5	35.5	526.4	0.00	0.00	
3,700.0	10.71	176.13	3,650.4	-544.0	36.8	545.0	0.00	0.00	
3,800.0	10.71	176.13	3,748.7	-562.6	38.0	563.6	0.00	0.00	
3,900.0	10.71	176.13	3,847.0	-581.1	39.3	582.1	0.00	0.00	
4,000.0	10.71	176.13	3,945.2	-599.7	40.5	600.7	0.00	0.00	
4,100.0	10.71	176.13	4,043.5	-618.2	41.8	619.3	0.00	0.00	
4,200.0	10.71	176.13	4,141.7	-636.7	43.0	637.9	0.00	0.00	
4,300.0	10.71	176.13	4,240.0	-655.3	44.3	656.5	0.00	0.00	
4,400.0	10.71	176.13	4,338.2	-673.8	45.5	675.0	0.00	0.00	
4,500.0	10.71	176.13	4,436.5	-692.4	46.8	693.6	0.00	0.00	
4,600.0	10.71	176.13	4,534.8	-710.9	48.0	712.2	0.00	0.00	
4,700.0	10.71	176.13	4,633.0	-729.5	49.3	730.8	0.00	0.00	
4,800.0	10.71	176.13	4,731.3	-748.0	50.5	749.4	0.00	0.00	
4,900.0	10.71	176.13	4,829.5	-766.6	51.8	768.0	0.00	0.00	
5,000.0	10.71	176.13	4,927.8	-785.1	53.0	786.5	0.00	0.00	
5,035.8	10.71	176.13	4,963.0	-791.8	53.5	793.2	0.00	0.00	Fort Union
5,100.0	10.71	176.13	5,026.0	-803.7	54.3	805.1	0.00	0.00	
5,200.0	10.71	176.13	5,124.3	-822.2	55.6	823.7	0.00	0.00	
5,300.0	10.71	176.13	5,222.5	-840.8	56.8	842.3	0.00	0.00	
5,400.0	10.71	176.13	5,320.8	-859.3	58.1	860.9	0.00	0.00	
5,500.0	10.71	176.13	5,419.1	-877.9	59.3	879.4	0.00	0.00	
5,544.7	10.71	176.13	5,463.0	-886.2	59.9	887.8	0.00	0.00	Base Ft Union
5,600.0	10.71	176.13	5,517.3	-896.4	60.6	898.0	0.00	0.00	
5,700.0	10.71	176.13	5,615.6	-915.0	61.8	916.6	0.00	0.00	
5,800.0	10.71	176.13	5,713.8	-933.5	63.1	935.2	0.00	0.00	
5,900.0	10.71	176.13	5,812.1	-952.1	64.3	953.8	0.00	0.00	
6,000.0	10.71	176.13	5,910.3	-970.6	65.6	972.3	0.00	0.00	
6,100.0	10.71	176.13	6,008.6	-989.2	66.8	990.9	0.00	0.00	
6,200.0	10.71	176.13	6,106.9	-1,007.7	68.1	1,009.5	0.00	0.00	
6,300.0	10.71	176.13	6,205.1	-1,026.3	69.3	1,028.1	0.00	0.00	
6,400.0	10.71	176.13	6,303.4	-1,044.8	70.6	1,046.7	0.00	0.00	
6,500.0	10.71	176.13	6,401.6	-1,063.4	71.8	1,065.3	0.00	0.00	
6,567.0	10.71	176.13	6,467.4	-1,075.8	72.7	1,077.7	0.00	0.00	Start Drop -2.00
6,600.0	10.05	176.13	6,499.9	-1,081.7	73.1	1,083.7	2.00	-2.00	
6,700.0	8.05	176.13	6,598.7	-1,097.4	74.1	1,099.4	2.00	-2.00	
6,800.0	6.05	176.13	6,697.9	-1,109.7	75.0	1,111.6	2.00	-2.00	
6,900.0	4.05	176.13	6,797.5	-1,118.5	75.6	1,120.5	2.00	-2.00	
7,000.0	2.05	176.13	6,897.4	-1,123.8	75.9	1,125.8	2.00	-2.00	
7,100.0	0.05	176.13	6,997.3	-1,125.6	76.0	1,127.6	2.00	-2.00	
7,102.7	0.00	0.00	7,000.0	-1,125.6	76.0	1,127.6	2.00	-2.00	EOD; Inc=0° - OM13B L34 595 TGT

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM13B L34 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site:	L34 595 Pad	North Reference:	True
Well:	OM13B L34 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	0.24	240.04	7,097.3	-1,125.7	75.9	1,127.7	0.25	0.25	
7,300.0	0.49	240.04	7,197.3	-1,126.0	75.3	1,128.0	0.25	0.25	
7,310.3	0.52	240.04	7,207.6	-1,126.1	75.2	1,128.1	0.25	0.25	
7,400.0	0.52	240.04	7,297.3	-1,126.5	74.5	1,128.4	0.00	0.00	
7,500.0	0.52	240.04	7,397.3	-1,126.9	73.7	1,128.9	0.00	0.00	
7,600.0	0.52	240.04	7,497.3	-1,127.4	73.0	1,129.3	0.00	0.00	
7,700.0	0.52	240.04	7,597.3	-1,127.8	72.2	1,129.7	0.00	0.00	
7,800.0	0.52	240.04	7,697.3	-1,128.3	71.4	1,130.1	0.00	0.00	
7,900.0	0.52	240.04	7,797.3	-1,128.7	70.6	1,130.6	0.00	0.00	
8,000.0	0.52	240.04	7,897.3	-1,129.2	69.8	1,131.0	0.00	0.00	
8,065.7	0.52	240.04	7,963.0	-1,129.5	69.3	1,131.3	0.00	0.00	Ohio Creek
8,100.0	0.52	240.04	7,997.3	-1,129.6	69.0	1,131.4	0.00	0.00	
8,200.0	0.52	240.04	8,097.3	-1,130.1	68.3	1,131.8	0.00	0.00	
8,300.0	0.52	240.04	8,197.3	-1,130.5	67.5	1,132.2	0.00	0.00	
8,365.7	0.52	240.04	8,263.0	-1,130.8	67.0	1,132.5	0.00	0.00	Williams Fork
8,400.0	0.52	240.04	8,297.3	-1,131.0	66.7	1,132.7	0.00	0.00	
8,500.0	0.52	240.04	8,397.3	-1,131.5	65.9	1,133.1	0.00	0.00	
8,565.7	0.52	240.04	8,463.0	-1,131.8	65.4	1,133.4	0.00	0.00	Approx TOG
8,600.0	0.52	240.04	8,497.3	-1,131.9	65.1	1,133.5	0.00	0.00	
8,700.0	0.52	240.04	8,597.3	-1,132.4	64.3	1,133.9	0.00	0.00	
8,800.0	0.52	240.04	8,697.3	-1,132.8	63.5	1,134.4	0.00	0.00	
8,900.0	0.52	240.04	8,797.3	-1,133.3	62.8	1,134.8	0.00	0.00	
9,000.0	0.52	240.04	8,897.3	-1,133.7	62.0	1,135.2	0.00	0.00	
9,100.0	0.52	240.04	8,997.3	-1,134.2	61.2	1,135.6	0.00	0.00	
9,200.0	0.52	240.04	9,097.3	-1,134.6	60.4	1,136.1	0.00	0.00	
9,300.0	0.52	240.04	9,197.3	-1,135.1	59.6	1,136.5	0.00	0.00	
9,400.0	0.52	240.04	9,297.3	-1,135.5	58.8	1,136.9	0.00	0.00	
9,500.0	0.52	240.04	9,397.3	-1,136.0	58.0	1,137.3	0.00	0.00	
9,600.0	0.52	240.04	9,497.2	-1,136.4	57.3	1,137.8	0.00	0.00	
9,700.0	0.52	240.04	9,597.2	-1,136.9	56.5	1,138.2	0.00	0.00	
9,800.0	0.52	240.04	9,697.2	-1,137.3	55.7	1,138.6	0.00	0.00	
9,900.0	0.52	240.04	9,797.2	-1,137.8	54.9	1,139.0	0.00	0.00	
10,000.0	0.52	240.04	9,897.2	-1,138.2	54.1	1,139.5	0.00	0.00	
10,100.0	0.52	240.04	9,997.2	-1,138.7	53.3	1,139.9	0.00	0.00	
10,200.0	0.52	240.04	10,097.2	-1,139.1	52.6	1,140.3	0.00	0.00	
10,300.0	0.52	240.04	10,197.2	-1,139.6	51.8	1,140.7	0.00	0.00	
10,400.0	0.52	240.04	10,297.2	-1,140.1	51.0	1,141.1	0.00	0.00	
10,500.0	0.52	240.04	10,397.2	-1,140.5	50.2	1,141.6	0.00	0.00	
10,600.0	0.52	240.04	10,497.2	-1,141.0	49.4	1,142.0	0.00	0.00	
10,700.0	0.52	240.04	10,597.2	-1,141.4	48.6	1,142.4	0.00	0.00	
10,800.0	0.52	240.04	10,697.2	-1,141.9	47.8	1,142.8	0.00	0.00	
10,900.0	0.52	240.04	10,797.2	-1,142.3	47.1	1,143.3	0.00	0.00	
11,000.0	0.52	240.04	10,897.2	-1,142.8	46.3	1,143.7	0.00	0.00	
11,100.0	0.52	240.04	10,997.2	-1,143.2	45.5	1,144.1	0.00	0.00	
11,115.8	0.52	240.04	11,013.0	-1,143.3	45.4	1,144.2	0.00	0.00	Cameo
11,200.0	0.52	240.04	11,097.2	-1,143.7	44.7	1,144.5	0.00	0.00	
11,300.0	0.52	240.04	11,197.2	-1,144.1	43.9	1,145.0	0.00	0.00	
11,400.0	0.52	240.04	11,297.2	-1,144.6	43.1	1,145.4	0.00	0.00	
11,465.8	0.52	240.04	11,363.0	-1,144.9	42.6	1,145.7	0.00	0.00	Rollins SS
11,500.0	0.52	240.04	11,397.2	-1,145.0	42.4	1,145.8	0.00	0.00	
11,600.0	0.52	240.04	11,497.2	-1,145.5	41.6	1,146.2	0.00	0.00	
11,615.8	0.52	240.04	11,513.0	-1,145.6	41.4	1,146.3	0.00	0.00	TD at 11615.8 - OM13B L34 595 BHL

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well OM13B L34 595
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Project:	Garfield County	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site:	L34 595 Pad	North Reference:	True
Well:	OM13B L34 595	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
OM13B L34 595 BHL	0.00	0.00	11,513.0	-1,145.6	41.4	1,641,032.31	2,281,859.36	39.565766	-108.047664
- plan hits target center									
- Rectangle (sides W50.0 H100.0 D0.0)									
OM13B L34 595 TGT	0.00	0.00	7,000.0	-1,125.6	76.0	1,641,051.29	2,281,894.52	39.565821	-108.047541
- plan hits target center									
- Point									

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
3,509.2	3,463.0	Wasatch		0.00	
5,035.8	4,963.0	Fort Union		0.00	
5,544.7	5,463.0	Base Ft Union		0.00	
8,065.7	7,963.0	Ohio Creek		0.00	
8,365.7	8,263.0	Williams Fork		0.00	
8,565.7	8,463.0	Approx TOG		0.00	
11,115.8	11,013.0	Cameo		0.00	
11,465.8	11,363.0	Rollins SS		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
500.0	500.0	0.0	0.0	KOP @ 500'
1,035.7	1,032.6	-49.8	3.4	EOB; Inc=10.71°
6,567.0	6,467.4	-1,075.8	72.7	Start Drop -2.00
7,102.7	7,000.0	-1,125.6	76.0	EOD; Inc=0°
11,615.8	11,513.0	-1,126.1	75.2	TD at 11615.8

Berry Petroleum Company (NAD 83)

Garfield County

L34 595 Pad

OM13B L34 595

DD

Plan #1

Anticollision Report

27 August, 2010

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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	8/27/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,615.8	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						
L34 595 Pad						
OM10B L34 595 - DD - Plan #1	200.0	200.0	99.9	99.2	154.668	CC, ES, SF
OM11A L34 595 - DD - Plan #1						Out of range
OM11B L34 595 - DD - Plan #1	200.0	200.0	89.9	89.3	139.273	CC, ES
OM11B L34 595 - DD - Plan #1	400.0	395.9	94.3	93.0	69.960	SF
OM11C L34 595 - DD - Plan #1	200.0	200.0	80.0	79.4	123.877	CC, ES
OM11C L34 595 - DD - Plan #1	600.0	593.2	95.2	93.1	44.589	SF
OM12A L34 595 - DD - Plan #1						Out of range
OM12B L34 595 - DD - Plan #1	500.0	500.0	19.9	18.2	11.745	CC, ES
OM12B L34 595 - DD - Plan #1	600.0	600.0	21.1	19.1	10.340	SF
OM12C L34 595 - DD - Plan #1	500.0	500.0	29.8	28.1	17.614	CC, ES
OM12C L34 595 - DD - Plan #1	1,700.0	1,699.2	95.4	86.5	10.740	SF
OM12D L34 595 - DD - Plan #1	200.0	200.0	10.2	9.6	15.814	CC, ES
OM12D L34 595 - DD - Plan #1	1,200.0	1,196.5	27.5	22.4	5.448	SF
OM13A L34 595 - DD - Plan #1	500.0	500.0	70.1	68.4	41.381	CC, ES
OM13A L34 595 - DD - Plan #1	900.0	898.7	91.5	88.3	29.376	SF
OM13D L34 595 - DD - Plan #1	438.3	438.6	38.5	37.0	25.315	CC, ES
OM13D L34 595 - DD - Plan #1	700.0	697.6	50.1	47.5	19.105	SF
OM14A L34 595 - DD - Plan #1	200.0	200.0	59.8	59.2	92.667	CC
OM14A L34 595 - DD - Plan #1	300.0	299.6	60.2	59.2	60.310	ES
OM14A L34 595 - DD - Plan #1	800.0	790.8	95.2	92.1	31.103	SF
OM14B L34 595 - DD - Plan #1	476.0	476.1	49.6	48.0	30.541	CC
OM14B L34 595 - DD - Plan #1	500.0	500.1	49.6	47.9	28.985	ES
OM14B L34 595 - DD - Plan #1	900.0	895.8	74.9	71.3	21.050	SF
OM14C L34 595 - DD - Plan #1	373.9	374.0	8.4	7.2	6.623	CC, ES
OM14C L34 595 - DD - Plan #1	400.0	400.0	8.6	7.2	6.288	SF

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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													L34 595 Pad - OM10B L34 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 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	42.86	73.2	67.9	99.9									
100.0	100.0	100.0	100.0	0.1	0.1	42.86	73.2	67.9	99.9	99.6	0.30	336.631						
200.0	200.0	200.0	200.0	0.3	0.3	42.86	73.2	67.9	99.9	99.2	0.65	154.668	CC, ES, SF					

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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													L34 595 Pad - OM11B L34 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	42.86	65.9	61.2	89.9									
100.0	100.0	100.0	100.0	0.1	0.1	42.86	65.9	61.2	89.9	89.6	0.30	303.122						
200.0	200.0	200.0	200.0	0.3	0.3	42.86	65.9	61.2	89.9	89.3	0.65	139.273	CC, ES					
300.0	300.0	298.1	298.0	0.5	0.5	43.69	65.8	62.8	91.0	90.0	0.99	91.616						
400.0	400.0	395.9	395.7	0.7	0.7	46.05	65.4	67.8	94.3	93.0	1.35	69.960	SF					

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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 L34 595 Pad - OM11C L34 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	42.85	58.6	54.4	80.0				
100.0	100.0	100.0	100.0	0.1	0.1	42.85	58.6	54.4	80.0	79.7	0.30	269.614	
200.0	200.0	200.0	200.0	0.3	0.3	42.85	58.6	54.4	80.0	79.4	0.65	123.877 CC, ES	
300.0	300.0	298.9	298.8	0.5	0.5	43.97	58.1	56.0	80.7	79.7	1.00	81.047	
400.0	400.0	397.5	397.3	0.7	0.7	47.17	56.4	60.8	83.0	81.6	1.36	61.153	
500.0	500.0	495.7	495.1	0.8	0.9	52.08	53.6	68.8	87.3	85.6	1.73	50.374	
600.0	600.0	593.2	592.0	1.0	1.2	-118.81	49.7	79.8	95.2	93.1	2.13	44.589 SF	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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 L34 595 Pad - OM12B L34 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	42.88	14.6	13.5	19.9				
100.0	100.0	100.0	100.0	0.1	0.1	42.88	14.6	13.5	19.9	19.6	0.30	67.017	
200.0	200.0	200.0	200.0	0.3	0.3	42.88	14.6	13.5	19.9	19.2	0.65	30.792	
300.0	300.0	300.0	300.0	0.5	0.5	42.88	14.6	13.5	19.9	18.9	0.99	19.988	
400.0	400.0	400.0	400.0	0.7	0.7	42.88	14.6	13.5	19.9	18.5	1.34	14.796	
500.0	500.0	500.0	500.0	0.8	0.8	42.88	14.6	13.5	19.9	18.2	1.69	11.745 CC, ES	
600.0	600.0	600.0	600.0	1.0	1.0	-136.68	14.6	13.5	21.1	19.1	2.04	10.340 SF	
700.0	699.8	699.8	699.8	1.2	1.2	-144.83	14.6	13.5	25.2	22.8	2.39	10.524	
800.0	799.5	799.5	799.5	1.4	1.4	-153.59	14.6	13.5	32.7	30.0	2.74	11.926	
900.0	898.7	898.7	898.7	1.7	1.5	-160.59	14.6	13.5	44.0	40.9	3.09	14.246	
1,000.0	997.5	997.5	997.5	1.9	1.7	-165.57	14.6	13.5	59.0	55.5	3.42	17.221	
1,035.7	1,032.6	1,033.1	1,033.1	2.1	1.8	-166.85	14.4	13.6	65.1	61.5	3.54	18.358	
1,100.0	1,095.8	1,097.7	1,097.7	2.3	1.9	-168.18	13.2	14.4	75.7	71.9	3.77	20.069	
1,200.0	1,194.0	1,198.9	1,198.7	2.6	2.1	-168.44	8.8	17.3	90.0	85.9	4.13	21.794	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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 L34 595 Pad - OM12C L34 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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	42.90	21.8	20.3	29.8					
100.0	100.0	100.0	100.0	0.1	0.1	42.90	21.8	20.3	29.8	29.5	0.30	100.504		
200.0	200.0	200.0	200.0	0.3	0.3	42.90	21.8	20.3	29.8	29.2	0.65	46.177		
300.0	300.0	300.0	300.0	0.5	0.5	42.90	21.8	20.3	29.8	28.8	0.99	29.975		
400.0	400.0	400.0	400.0	0.7	0.7	42.90	21.8	20.3	29.8	28.5	1.34	22.189		
500.0	500.0	500.0	500.0	0.8	0.8	42.90	21.8	20.3	29.8	28.1	1.69	17.614 CC, ES		
600.0	600.0	600.4	600.4	1.0	1.0	-132.55	20.3	21.1	30.4	28.3	2.04	14.854		
700.0	699.8	700.7	700.6	1.2	1.2	-130.63	15.5	23.3	32.1	29.7	2.41	13.298		
800.0	799.5	801.0	800.5	1.4	1.4	-127.85	7.6	27.1	35.0	32.1	2.81	12.423		
900.0	898.7	901.2	899.9	1.7	1.7	-124.66	-3.4	32.4	39.1	35.8	3.28	11.934		
1,000.0	997.5	1,001.4	998.8	1.9	2.0	-121.43	-17.6	39.2	44.6	40.7	3.82	11.653		
1,035.7	1,032.6	1,037.1	1,033.9	2.1	2.1	-120.32	-23.4	42.0	46.8	42.8	4.05	11.575		
1,100.0	1,095.8	1,101.3	1,096.9	2.3	2.3	-117.78	-34.8	47.5	51.0	46.6	4.46	11.430		
1,200.0	1,194.0	1,201.1	1,194.2	2.6	2.7	-112.26	-54.6	57.0	57.6	52.4	5.18	11.127		
1,300.0	1,292.3	1,300.7	1,291.3	2.9	3.0	-107.59	-74.7	66.6	64.6	58.7	5.91	10.932		
1,400.0	1,390.5	1,400.3	1,388.4	3.3	3.4	-103.86	-94.8	76.3	72.0	65.4	6.66	10.821		
1,500.0	1,488.8	1,499.9	1,485.5	3.6	3.8	-100.83	-114.9	85.9	79.6	72.2	7.40	10.764		
1,600.0	1,587.0	1,599.6	1,582.6	4.0	4.3	-98.34	-135.0	95.6	87.4	79.3	8.14	10.741		
1,700.0	1,685.3	1,699.2	1,679.7	4.3	4.7	-96.25	-155.1	105.2	95.4	86.5	8.88	10.740 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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 L34 595 Pad - OM12D L34 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	-138.51	-7.6	-6.8	10.2					
100.0	100.0	100.0	100.0	0.1	0.1	-138.51	-7.6	-6.8	10.2	9.9	0.30	34.418		
200.0	200.0	200.0	200.0	0.3	0.3	-138.51	-7.6	-6.8	10.2	9.6	0.65	15.814	CC, ES	
300.0	300.0	299.7	299.6	0.5	0.5	-142.69	-9.3	-7.1	11.8	10.8	1.00	11.813		
400.0	400.0	399.1	398.9	0.7	0.7	-150.40	-14.4	-8.2	16.6	15.3	1.35	12.347		
500.0	500.0	498.5	498.0	0.8	0.9	-156.19	-22.3	-9.9	24.5	22.8	1.69	14.452		
600.0	600.0	598.2	597.4	1.0	1.1	25.89	-30.6	-11.6	31.3	29.2	2.04	15.309		
700.0	699.8	698.1	696.9	1.2	1.3	27.15	-38.9	-13.3	34.9	32.5	2.40	14.578		
800.0	799.5	798.1	796.5	1.4	1.6	30.84	-47.2	-15.1	35.6	32.8	2.76	12.880		
900.0	898.7	898.0	896.1	1.7	1.8	37.79	-55.5	-16.8	33.5	30.4	3.16	10.598		
1,000.0	997.5	997.7	995.4	1.9	2.0	50.31	-63.8	-18.6	29.7	26.0	3.67	8.089		
1,035.7	1,032.6	1,033.2	1,030.8	2.1	2.1	56.89	-66.7	-19.2	28.3	24.4	3.90	7.247		
1,100.0	1,095.8	1,097.1	1,094.5	2.3	2.2	70.87	-72.1	-20.3	26.6	22.2	4.36	6.099		
1,129.3	1,124.5	1,126.2	1,123.5	2.4	2.3	77.63	-74.5	-20.8	26.4	21.8	4.58	5.771		
1,200.0	1,194.0	1,196.5	1,193.5	2.6	2.5	93.60	-80.3	-22.0	27.5	22.4	5.04	5.448	SF	
1,300.0	1,292.3	1,296.0	1,292.6	2.9	2.7	112.27	-88.6	-23.8	32.2	26.6	5.53	5.816		
1,400.0	1,390.5	1,395.4	1,391.7	3.3	2.9	125.24	-96.8	-25.5	39.3	33.4	5.88	6.684		
1,500.0	1,488.8	1,494.8	1,490.7	3.6	3.2	133.94	-105.1	-27.3	47.8	41.6	6.19	7.721		
1,600.0	1,587.0	1,594.2	1,589.8	4.0	3.4	139.93	-113.3	-29.0	57.1	50.6	6.50	8.776		
1,700.0	1,685.3	1,693.7	1,688.8	4.3	3.6	144.22	-121.6	-30.7	66.8	60.0	6.82	9.786		
1,800.0	1,783.6	1,793.1	1,787.9	4.7	3.8	147.40	-129.8	-32.5	76.8	69.6	7.16	10.729		
1,900.0	1,881.8	1,892.5	1,887.0	5.1	4.1	149.85	-138.1	-34.2	86.9	79.4	7.49	11.600		
2,000.0	1,980.1	1,991.9	1,986.0	5.4	4.3	151.79	-146.4	-35.9	97.2	89.4	7.84	12.401		

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 OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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 L34 595 Pad - OM13A L34 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	42.85	51.4	47.6	70.1				
100.0	100.0	100.0	100.0	0.1	0.1	42.85	51.4	47.6	70.1	69.8	0.30	236.116	
200.0	200.0	200.0	200.0	0.3	0.3	42.85	51.4	47.6	70.1	69.4	0.65	108.486	
300.0	300.0	300.0	300.0	0.5	0.5	42.85	51.4	47.6	70.1	69.1	0.99	70.421	
400.0	400.0	400.0	400.0	0.7	0.7	42.85	51.4	47.6	70.1	68.7	1.34	52.130	
500.0	500.0	500.0	500.0	0.8	0.8	42.85	51.4	47.6	70.1	68.4	1.69	41.381 CC, ES	
600.0	600.0	600.0	600.0	1.0	1.0	-134.29	51.4	47.6	71.3	69.2	2.04	34.890	
700.0	699.8	699.8	699.8	1.2	1.2	-137.10	51.4	47.6	75.0	72.6	2.40	31.316	
800.0	799.5	799.5	799.5	1.4	1.4	-141.18	51.4	47.6	81.6	78.9	2.75	29.647	
900.0	898.7	898.7	898.7	1.7	1.5	-145.85	51.4	47.6	91.5	88.3	3.11	29.376 SF	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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 L34 595 Pad - OM13D L34 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	42.88	29.1	27.1	39.8					
100.0	100.0	100.0	100.0	0.1	0.1	42.88	29.1	27.1	39.8	39.5	0.30	134.034		
200.0	200.0	200.0	200.0	0.3	0.3	42.88	29.1	27.1	39.8	39.1	0.65	61.583		
300.0	300.0	300.3	300.3	0.5	0.5	45.36	27.7	28.0	39.4	38.4	1.00	39.405		
400.0	400.0	400.4	400.2	0.7	0.7	53.00	23.2	30.8	38.6	37.3	1.37	28.209		
438.3	438.3	438.6	438.3	0.7	0.8	57.34	20.8	32.4	38.5	37.0	1.52	25.315 CC, ES		
500.0	500.0	500.0	499.5	0.8	0.9	65.86	15.9	35.5	38.9	37.2	1.77	22.062		
600.0	600.0	599.0	597.7	1.0	1.2	-96.21	5.8	42.0	42.6	40.5	2.19	19.512		
700.0	699.8	697.6	695.1	1.2	1.5	-85.55	-7.1	50.3	50.1	47.5	2.62	19.105 SF		
800.0	799.5	795.7	791.4	1.4	1.9	-78.52	-22.8	60.4	60.3	57.2	3.09	19.536		
900.0	898.7	893.3	886.6	1.7	2.3	-74.22	-41.1	72.1	72.5	68.9	3.60	20.164		
1,000.0	997.5	990.4	980.4	1.9	2.7	-71.74	-62.1	85.5	86.4	82.2	4.17	20.709		
1,035.7	1,032.6	1,024.9	1,013.5	2.1	2.9	-71.17	-70.2	90.7	91.7	87.3	4.39	20.870		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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 L34 595 Pad - OM14A L34 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	43.08	43.7	40.9	59.8					
100.0	100.0	100.0	100.0	0.1	0.1	43.08	43.7	40.9	59.8	59.5	0.30	201.688		
200.0	200.0	200.0	200.0	0.3	0.3	43.08	43.7	40.9	59.8	59.2	0.65	92.667 CC		
300.0	300.0	299.6	299.6	0.5	0.5	44.71	42.8	42.3	60.2	59.2	1.00	60.310 ES		
400.0	400.0	399.0	398.8	0.7	0.7	49.45	39.9	46.7	61.4	60.1	1.36	45.044		
500.0	500.0	497.9	497.3	0.8	0.9	56.79	35.2	53.8	64.4	62.6	1.75	36.824		
600.0	600.0	596.2	594.9	1.0	1.2	-111.57	28.7	63.8	70.7	68.6	2.16	32.766		
700.0	699.8	693.8	691.4	1.2	1.5	-105.55	20.5	76.4	81.2	78.6	2.59	31.336		
800.0	799.5	790.8	786.6	1.4	1.8	-101.35	10.5	91.7	95.2	92.1	3.06	31.103 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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 L34 595 Pad - OM14B L34 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	43.12	36.4	34.1	49.9					
100.0	100.0	100.0	100.0	0.1	0.1	43.12	36.4	34.1	49.9	49.6	0.30	168.190		
200.0	200.0	200.0	200.0	0.3	0.3	43.12	36.4	34.1	49.9	49.3	0.65	77.277		
300.0	300.0	300.0	300.0	0.5	0.5	43.12	36.4	34.1	49.9	48.9	0.99	50.162		
400.0	400.0	400.1	400.1	0.7	0.7	45.13	35.1	35.3	49.7	48.4	1.35	36.931		
476.0	476.0	476.1	476.0	0.8	0.8	49.35	32.3	37.6	49.6	48.0	1.62	30.541 CC		
500.0	500.0	500.1	499.9	0.8	0.9	51.16	31.1	38.7	49.6	47.9	1.71	28.985 ES		
600.0	600.0	599.6	599.1	1.0	1.1	-116.84	24.6	44.3	51.4	49.3	2.10	24.443		
700.0	699.8	698.8	697.5	1.2	1.3	-109.33	15.4	52.2	56.4	53.8	2.53	22.250		
800.0	799.5	797.5	795.0	1.4	1.6	-103.26	3.7	62.2	64.3	61.3	3.01	21.332		
900.0	898.7	895.8	891.5	1.7	2.0	-98.79	-10.4	74.3	74.9	71.3	3.56	21.050 SF		
1,000.0	997.5	993.7	986.9	1.9	2.4	-95.71	-27.0	88.5	87.8	83.6	4.17	21.059		
1,035.7	1,032.6	1,029.0	1,021.3	2.1	2.5	-95.05	-33.3	94.0	92.8	88.4	4.40	21.079		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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 L34 595 Pad - OM14C L34 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	42.88	7.3	6.8	9.9					
100.0	100.0	100.0	100.0	0.1	0.1	42.88	7.3	6.8	9.9	9.6	0.30	33.508		
200.0	200.0	200.0	200.0	0.3	0.3	42.88	7.3	6.8	9.9	9.3	0.65	15.396		
300.0	300.0	300.1	300.1	0.5	0.5	52.23	5.6	7.2	9.1	8.1	1.00	9.149		
373.9	373.9	374.0	373.9	0.6	0.6	74.98	2.2	8.1	8.4	7.2	1.27	6.623 CC, ES		
400.0	400.0	400.0	399.9	0.7	0.7	86.38	0.5	8.6	8.6	7.2	1.37	6.288 SF		
500.0	500.0	499.5	498.9	0.8	0.9	125.85	-7.8	10.8	13.4	11.7	1.72	7.796		
600.0	600.0	598.4	597.1	1.0	1.2	-34.01	-19.4	13.9	22.6	20.6	2.07	10.948		
700.0	699.8	696.9	694.4	1.2	1.5	-28.47	-34.2	17.9	32.8	30.4	2.42	13.570		
800.0	799.5	795.1	790.8	1.4	1.9	-26.39	-52.2	22.7	43.3	40.6	2.78	15.596		
900.0	898.7	893.5	886.8	1.7	2.3	-25.84	-73.2	28.4	53.9	50.7	3.15	17.082		
1,000.0	997.5	993.2	983.9	1.9	2.7	-26.68	-95.1	34.3	62.0	58.4	3.56	17.426		
1,035.7	1,032.6	1,028.8	1,018.6	2.1	2.8	-27.28	-103.0	36.4	64.1	60.4	3.71	17.286		
1,100.0	1,095.8	1,093.0	1,081.1	2.3	3.1	-28.45	-117.1	40.1	67.6	63.6	4.00	16.918		
1,200.0	1,194.0	1,192.9	1,178.3	2.6	3.5	-30.05	-139.1	46.0	73.1	68.7	4.46	16.388		
1,300.0	1,292.3	1,292.7	1,275.5	2.9	3.9	-31.42	-161.0	51.9	78.7	73.8	4.95	15.908		
1,400.0	1,390.5	1,392.5	1,372.7	3.3	4.4	-32.61	-183.0	57.8	84.3	78.9	5.45	15.478		
1,500.0	1,488.8	1,492.3	1,469.9	3.6	4.8	-33.65	-204.9	63.7	90.0	84.0	5.96	15.092		
1,600.0	1,587.0	1,592.2	1,567.1	4.0	5.2	-34.57	-226.9	69.6	95.6	89.1	6.48	14.747		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OM13B L34 595
Project:	Garfield County	TVD Reference:	KBE @ 8240.0ft (Patterson 302)
Reference Site:	L34 595 Pad	MD Reference:	KBE @ 8240.0ft (Patterson 302)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OM13B L34 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 @ 8240.0ft (Patterson 302)

Offset Depths are relative to Offset Datum

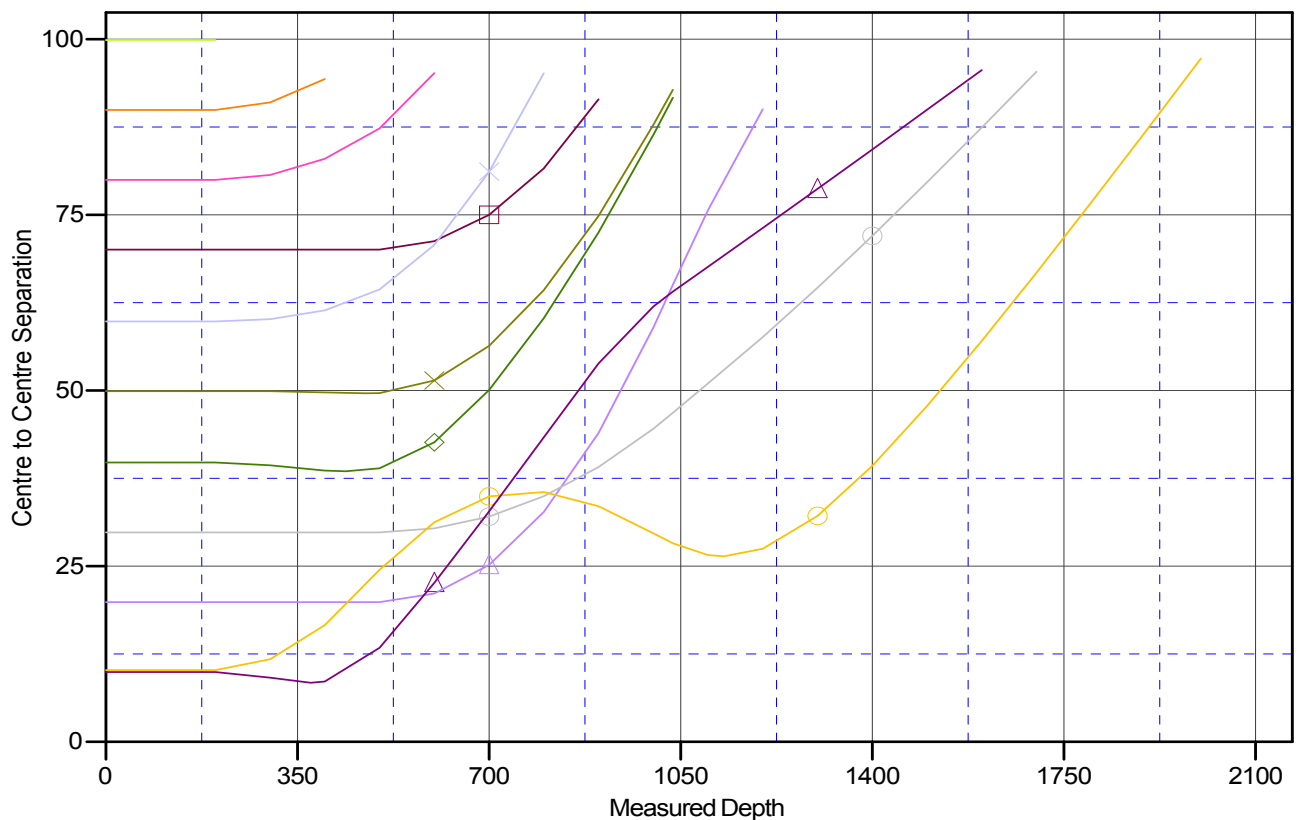
Central Meridian is -105.500000 °

Coordinates are relative to: OM13B L34 595

Coordinate System is US State Plane 1983, Colorado Central Zone

Grid Convergence at Surface is: -1.61°

Ladder Plot



LEGEND

OM10B L34 595, DD, Plan #1 V0	OM12C L34 595, DD, Plan #1 V0	OM14A L34 595, DD, Plan #1 V0
OM11B L34 595, DD, Plan #1 V0	OM12D L34 595, DD, Plan #1 V0	OM14B L34 595, DD, Plan #1 V0
OM11C L34 595, DD, Plan #1 V0	OM13A L34 595, DD, Plan #1 V0	OM14C L34 595, DD, Plan #1 V0
OM12B L34 595, DD, Plan #1 V0	OM13D L34 595, DD, Plan #1 V0	