

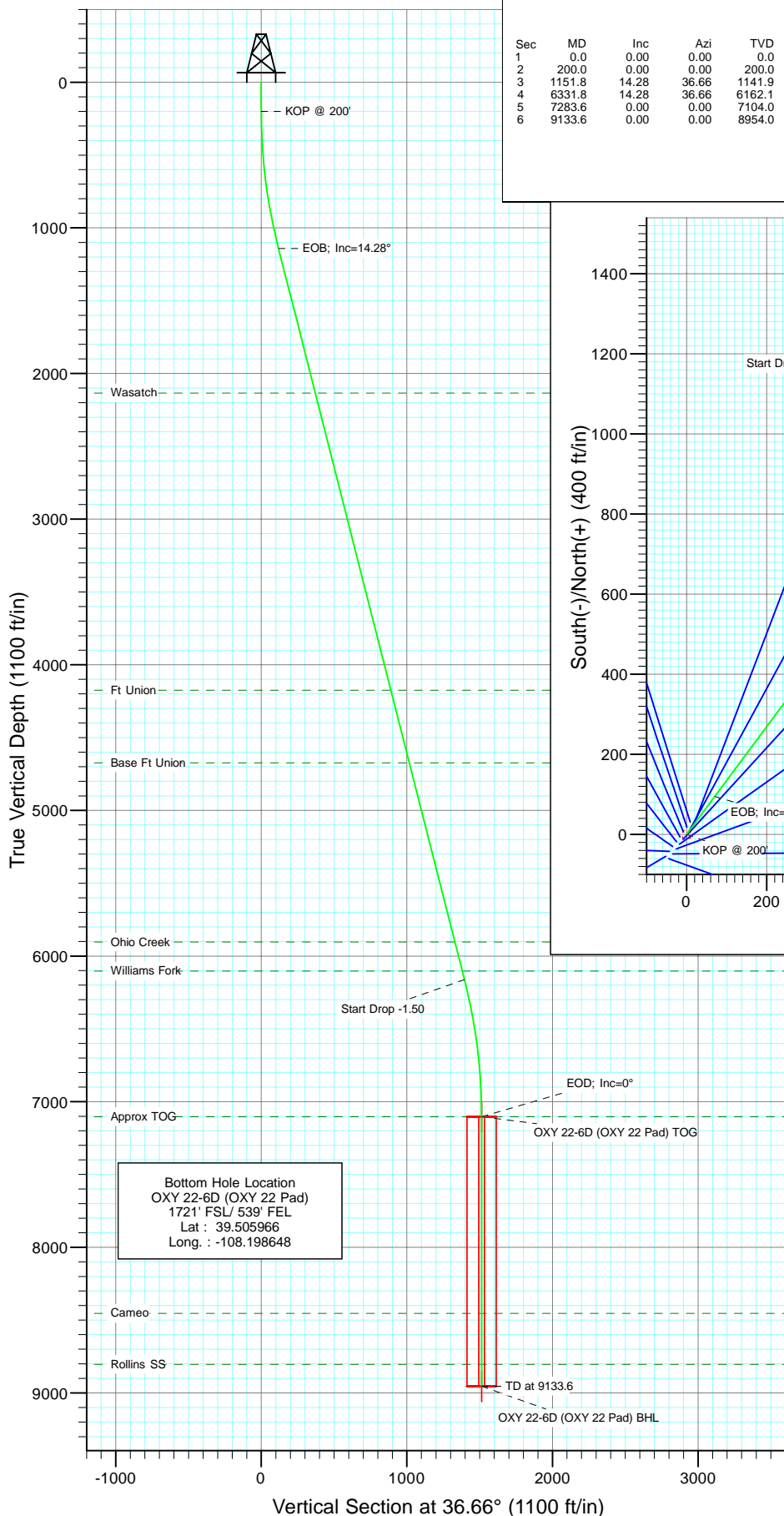


Berry Petroleum Company

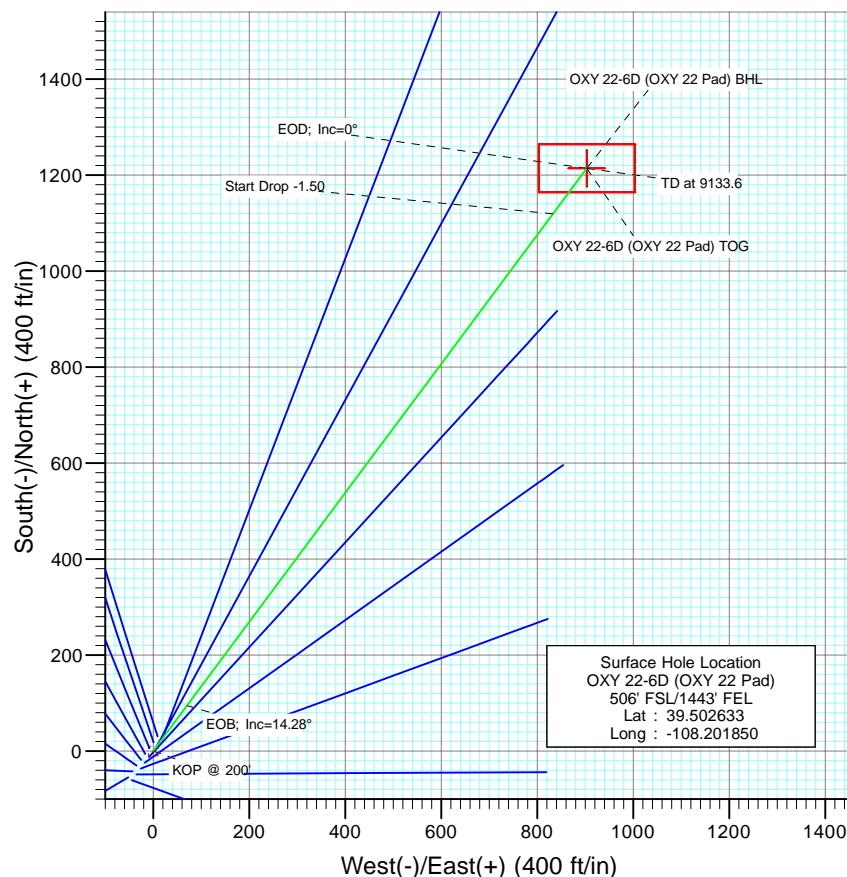
Project: Garfield County  
Site: SWSE S22-T6S-R97W  
Well: OXY 22-6D (OXY 22 Pad)  
Wellbore: DD  
Design: Plan #1



CATHEDRAL



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	1151.8	14.28	36.66	1141.9	94.6	70.4	1.50	36.66	118.0	
4	6331.8	14.28	36.66	6162.1	1119.4	833.1	0.00	0.00	1395.4	
5	7283.6	0.00	0.00	7104.0	1214.1	903.5	1.50	180.00	1513.3	OXY 22-6D (OXY 22 Pad) TOG
6	9133.6	0.00	0.00	8954.0	1214.1	903.5	0.00	0.00	1513.3	OXY 22-6D (OXY 22 Pad) BHL



#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2134.0	2175.4	Wasatch
4174.0	4280.4	Ft Union
4674.0	4796.4	Base Ft Union
5904.0	6065.6	Ohio Creek
6104.0	6271.9	Williams Fork
7104.0	7283.6	Approx TOG
8454.0	8633.6	Cameo
8804.0	8983.6	Rollins SS



Azimuths to True North  
Magnetic North: 10.64°

Magnetic Field  
Strength: 52406.0snT  
Dip Angle: 65.76°  
Date: 9/29/2009  
Model: IGRF200510

#### DESIGN DETAILS: Plan #1

95XXX; BH  
KBE @ 8506.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
OXY 22-6D (OXY 22 Pad) BHL	86.66	Slot	0.0	0.0	0.0

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	US EDM 2003.21 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site:</b>	SWSE S22-T6S-R97W	<b>North Reference:</b>	True
<b>Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

<b>Project</b>	Garfield County		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		

Site		SWSE S22-T6S-R97W			
Site Position:		Northing:	1,619,243.22 ft	Latitude:	39.502467
From:	Lat/Long	Easting:	2,237,679.58 ft	Longitude:	-108.202006
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.70 °

Well	OXY 22-6D (OXY 22 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,619,302.33 ft	Latitude:	39.502633
	+E/-W	0.0 ft	Easting:	2,237,725.37 ft	Longitude:	-108.201850
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,491.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	9/29/2009	10.64	65.76	52,406

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	36.66

<b>Plan Sections</b>										
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	
1,151.8	14.28	36.66	1,141.9	94.6	70.4	1.50	1.50	0.00	36.66	
6,331.8	14.28	36.66	6,162.1	1,119.4	833.1	0.00	0.00	0.00	0.00	
7,283.6	0.00	0.00	7,104.0	1,214.1	903.5	1.50	-1.50	0.00	180.00	OXY 22-6D (OXY 22
9,133.6	0.00	0.00	8,954.0	1,214.1	903.5	0.00	0.00	0.00	0.00	OXY 22-6D (OXY 22

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## Planning Report

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<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site:</b>	SWSE S22-T6S-R97W	<b>North Reference:</b>	True
<b>Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	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	0.15	36.66	210.0	0.0	0.0	0.0	1.50	1.50	
240.0	0.60	36.66	240.0	0.2	0.1	0.2	1.50	1.50	
270.0	1.05	36.66	270.0	0.5	0.4	0.6	1.50	1.50	
300.0	1.50	36.66	300.0	1.1	0.8	1.3	1.50	1.50	
330.0	1.95	36.66	330.0	1.8	1.3	2.2	1.50	1.50	
360.0	2.40	36.66	360.0	2.7	2.0	3.4	1.50	1.50	
390.0	2.85	36.66	389.9	3.8	2.8	4.7	1.50	1.50	
420.0	3.30	36.66	419.9	5.1	3.8	6.3	1.50	1.50	
450.0	3.75	36.66	449.8	6.6	4.9	8.2	1.50	1.50	
480.0	4.20	36.66	479.7	8.2	6.1	10.3	1.50	1.50	
510.0	4.65	36.66	509.7	10.1	7.5	12.6	1.50	1.50	
540.0	5.10	36.66	539.6	12.1	9.0	15.1	1.50	1.50	
570.0	5.55	36.66	569.4	14.4	10.7	17.9	1.50	1.50	
600.0	6.00	36.66	599.3	16.8	12.5	20.9	1.50	1.50	
630.0	6.45	36.66	629.1	19.4	14.4	24.2	1.50	1.50	
660.0	6.90	36.66	658.9	22.2	16.5	27.7	1.50	1.50	
690.0	7.35	36.66	688.7	25.2	18.7	31.4	1.50	1.50	
720.0	7.80	36.66	718.4	28.4	21.1	35.3	1.50	1.50	
750.0	8.25	36.66	748.1	31.7	23.6	39.5	1.50	1.50	
780.0	8.70	36.66	777.8	35.3	26.2	44.0	1.50	1.50	
810.0	9.15	36.66	807.4	39.0	29.0	48.6	1.50	1.50	
840.0	9.60	36.66	837.0	42.9	31.9	53.5	1.50	1.50	
870.0	10.05	36.66	866.6	47.0	35.0	58.6	1.50	1.50	
900.0	10.50	36.66	896.1	51.3	38.2	64.0	1.50	1.50	
930.0	10.95	36.66	925.6	55.8	41.5	69.5	1.50	1.50	
960.0	11.40	36.66	955.0	60.5	45.0	75.4	1.50	1.50	
990.0	11.85	36.66	984.4	65.3	48.6	81.4	1.50	1.50	
1,020.0	12.30	36.66	1,013.7	70.3	52.3	87.7	1.50	1.50	
1,050.0	12.75	36.66	1,043.0	75.6	56.2	94.2	1.50	1.50	
1,080.0	13.20	36.66	1,072.2	81.0	60.3	100.9	1.50	1.50	
1,110.0	13.65	36.66	1,101.4	86.6	64.4	107.9	1.50	1.50	
1,140.0	14.10	36.66	1,130.5	92.3	68.7	115.1	1.50	1.50	
1,151.8	14.28	36.66	1,141.9	94.6	70.4	118.0	1.50	1.50	EOB; Inc=14.28°
1,170.0	14.28	36.66	1,159.6	98.2	73.1	122.5	0.00	0.00	
1,200.0	14.28	36.66	1,188.7	104.2	77.5	129.9	0.00	0.00	
1,230.0	14.28	36.66	1,217.8	110.1	81.9	137.3	0.00	0.00	
1,260.0	14.28	36.66	1,246.8	116.0	86.4	144.7	0.00	0.00	
1,290.0	14.28	36.66	1,275.9	122.0	90.8	152.1	0.00	0.00	
1,320.0	14.28	36.66	1,305.0	127.9	95.2	159.5	0.00	0.00	
1,350.0	14.28	36.66	1,334.1	133.9	99.6	166.8	0.00	0.00	
1,380.0	14.28	36.66	1,363.1	139.8	104.0	174.2	0.00	0.00	
1,410.0	14.28	36.66	1,392.2	145.7	108.4	181.6	0.00	0.00	
1,440.0	14.28	36.66	1,421.3	151.7	112.9	189.0	0.00	0.00	
1,470.0	14.28	36.66	1,450.4	157.6	117.3	196.4	0.00	0.00	

# Cathedral Energy Services

## Planning Report

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<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site:</b>	SWSE S22-T6S-R97W	<b>North Reference:</b>	True
<b>Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	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	14.28	36.66	1,479.4	163.5	121.7	203.8	0.00	0.00	
1,530.0	14.28	36.66	1,508.5	169.5	126.1	211.2	0.00	0.00	
1,560.0	14.28	36.66	1,537.6	175.4	130.5	218.6	0.00	0.00	
1,590.0	14.28	36.66	1,566.6	181.3	134.9	226.0	0.00	0.00	
1,620.0	14.28	36.66	1,595.7	187.3	139.4	233.4	0.00	0.00	
1,650.0	14.28	36.66	1,624.8	193.2	143.8	240.8	0.00	0.00	
1,680.0	14.28	36.66	1,653.9	199.1	148.2	248.2	0.00	0.00	
1,710.0	14.28	36.66	1,682.9	205.1	152.6	255.6	0.00	0.00	
1,740.0	14.28	36.66	1,712.0	211.0	157.0	263.0	0.00	0.00	
1,770.0	14.28	36.66	1,741.1	216.9	161.4	270.4	0.00	0.00	
1,800.0	14.28	36.66	1,770.2	222.9	165.9	277.8	0.00	0.00	
1,830.0	14.28	36.66	1,799.2	228.8	170.3	285.2	0.00	0.00	
1,860.0	14.28	36.66	1,828.3	234.7	174.7	292.6	0.00	0.00	
1,890.0	14.28	36.66	1,857.4	240.7	179.1	300.0	0.00	0.00	
1,920.0	14.28	36.66	1,886.5	246.6	183.5	307.4	0.00	0.00	
1,950.0	14.28	36.66	1,915.5	252.6	187.9	314.8	0.00	0.00	
1,980.0	14.28	36.66	1,944.6	258.5	192.4	322.2	0.00	0.00	
2,010.0	14.28	36.66	1,973.7	264.4	196.8	329.6	0.00	0.00	
2,040.0	14.28	36.66	2,002.8	270.4	201.2	337.0	0.00	0.00	
2,070.0	14.28	36.66	2,031.8	276.3	205.6	344.4	0.00	0.00	
2,100.0	14.28	36.66	2,060.9	282.2	210.0	351.8	0.00	0.00	
2,130.0	14.28	36.66	2,090.0	288.2	214.4	359.2	0.00	0.00	
2,160.0	14.28	36.66	2,119.0	294.1	218.9	366.6	0.00	0.00	
2,175.4	14.28	36.66	2,134.0	297.1	221.1	370.4	0.00	0.00	Wasatch
2,190.0	14.28	36.66	2,148.1	300.0	223.3	374.0	0.00	0.00	
2,220.0	14.28	36.66	2,177.2	306.0	227.7	381.4	0.00	0.00	
2,250.0	14.28	36.66	2,206.3	311.9	232.1	388.8	0.00	0.00	
2,280.0	14.28	36.66	2,235.3	317.8	236.5	396.2	0.00	0.00	
2,310.0	14.28	36.66	2,264.4	323.8	240.9	403.6	0.00	0.00	
2,340.0	14.28	36.66	2,293.5	329.7	245.4	411.0	0.00	0.00	
2,370.0	14.28	36.66	2,322.6	335.6	249.8	418.4	0.00	0.00	
2,400.0	14.28	36.66	2,351.6	341.6	254.2	425.8	0.00	0.00	
2,430.0	14.28	36.66	2,380.7	347.5	258.6	433.2	0.00	0.00	
2,460.0	14.28	36.66	2,409.8	353.4	263.0	440.6	0.00	0.00	
2,490.0	14.28	36.66	2,438.9	359.4	267.4	448.0	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									
OXY 22-6D (OXY 22 Pa	0.00	0.00	7,104.0	1,214.1	903.5	1,620,488.98	2,238,664.56	39.505966	-108.198648
- plan misses target center by 4785.2ft at 2490.0ft MD (2438.9 TVD, 359.4 N, 267.4 E)									
- Point									
OXY 22-6D (OXY 22 Pa	0.00	0.00	8,954.0	1,214.1	903.5	1,620,488.98	2,238,664.56	39.505966	-108.198648
- plan misses target center by 6601.7ft at 2490.0ft MD (2438.9 TVD, 359.4 N, 267.4 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									

# Cathedral Energy Services

## Planning Report

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<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site:</b>	SWSE S22-T6S-R97W	<b>North Reference:</b>	True
<b>Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	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	14.28	36.66	2,448.5	361.4	268.9	450.4	0.00	0.00	
2,600.0	14.28	36.66	2,545.5	381.1	283.6	475.1	0.00	0.00	
2,700.0	14.28	36.66	2,642.4	400.9	298.4	499.8	0.00	0.00	
2,800.0	14.28	36.66	2,739.3	420.7	313.1	524.4	0.00	0.00	
2,900.0	14.28	36.66	2,836.2	440.5	327.8	549.1	0.00	0.00	
3,000.0	14.28	36.66	2,933.1	460.3	342.5	573.7	0.00	0.00	
3,100.0	14.28	36.66	3,030.0	480.1	357.3	598.4	0.00	0.00	
3,200.0	14.28	36.66	3,126.9	499.8	372.0	623.1	0.00	0.00	
3,300.0	14.28	36.66	3,223.8	519.6	386.7	647.7	0.00	0.00	
3,400.0	14.28	36.66	3,320.7	539.4	401.4	672.4	0.00	0.00	
3,500.0	14.28	36.66	3,417.7	559.2	416.1	697.0	0.00	0.00	
3,600.0	14.28	36.66	3,514.6	579.0	430.9	721.7	0.00	0.00	
3,700.0	14.28	36.66	3,611.5	598.8	445.6	746.4	0.00	0.00	
3,800.0	14.28	36.66	3,708.4	618.5	460.3	771.0	0.00	0.00	
3,900.0	14.28	36.66	3,805.3	638.3	475.0	795.7	0.00	0.00	
4,000.0	14.28	36.66	3,902.2	658.1	489.8	820.3	0.00	0.00	
4,100.0	14.28	36.66	3,999.1	677.9	504.5	845.0	0.00	0.00	
4,200.0	14.28	36.66	4,096.0	697.7	519.2	869.7	0.00	0.00	
4,280.4	14.28	36.66	4,174.0	713.6	531.0	889.5	0.00	0.00	Ft Union
4,300.0	14.28	36.66	4,193.0	717.5	533.9	894.3	0.00	0.00	
4,400.0	14.28	36.66	4,289.9	737.2	548.6	919.0	0.00	0.00	
4,500.0	14.28	36.66	4,386.8	757.0	563.4	943.6	0.00	0.00	
4,600.0	14.28	36.66	4,483.7	776.8	578.1	968.3	0.00	0.00	
4,700.0	14.28	36.66	4,580.6	796.6	592.8	993.0	0.00	0.00	
4,796.4	14.28	36.66	4,674.0	815.7	607.0	1,016.7	0.00	0.00	Base Ft Union
4,800.0	14.28	36.66	4,677.5	816.4	607.5	1,017.6	0.00	0.00	
4,900.0	14.28	36.66	4,774.4	836.2	622.3	1,042.3	0.00	0.00	
5,000.0	14.28	36.66	4,871.3	855.9	637.0	1,066.9	0.00	0.00	
5,100.0	14.28	36.66	4,968.2	875.7	651.7	1,091.6	0.00	0.00	
5,200.0	14.28	36.66	5,065.2	895.5	666.4	1,116.3	0.00	0.00	
5,300.0	14.28	36.66	5,162.1	915.3	681.1	1,140.9	0.00	0.00	
5,400.0	14.28	36.66	5,259.0	935.1	695.9	1,165.6	0.00	0.00	
5,500.0	14.28	36.66	5,355.9	954.9	710.6	1,190.2	0.00	0.00	
5,600.0	14.28	36.66	5,452.8	974.6	725.3	1,214.9	0.00	0.00	
5,700.0	14.28	36.66	5,549.7	994.4	740.0	1,239.6	0.00	0.00	
5,800.0	14.28	36.66	5,646.6	1,014.2	754.8	1,264.2	0.00	0.00	
5,900.0	14.28	36.66	5,743.5	1,034.0	769.5	1,288.9	0.00	0.00	
6,000.0	14.28	36.66	5,840.5	1,053.8	784.2	1,313.5	0.00	0.00	
6,065.6	14.28	36.66	5,904.0	1,066.7	793.9	1,329.7	0.00	0.00	Ohio Creek
6,100.0	14.28	36.66	5,937.4	1,073.6	798.9	1,338.2	0.00	0.00	
6,200.0	14.28	36.66	6,034.3	1,093.3	813.6	1,362.9	0.00	0.00	
6,271.9	14.28	36.66	6,104.0	1,107.6	824.2	1,380.6	0.00	0.00	Williams Fork
6,300.0	14.28	36.66	6,131.2	1,113.1	828.4	1,387.5	0.00	0.00	
6,331.8	14.28	36.66	6,162.1	1,119.4	833.1	1,395.4	0.00	0.00	Start Drop -1.50
6,400.0	13.25	36.66	6,228.2	1,132.4	842.7	1,411.6	1.50	-1.50	
6,500.0	11.75	36.66	6,325.9	1,149.8	855.7	1,433.2	1.50	-1.50	
6,600.0	10.25	36.66	6,424.0	1,165.1	867.1	1,452.3	1.50	-1.50	
6,700.0	8.75	36.66	6,522.7	1,178.4	876.9	1,468.8	1.50	-1.50	
6,800.0	7.25	36.66	6,621.7	1,189.5	885.2	1,482.8	1.50	-1.50	
6,900.0	5.75	36.66	6,721.0	1,198.6	892.0	1,494.1	1.50	-1.50	
7,000.0	4.25	36.66	6,820.6	1,205.6	897.2	1,502.8	1.50	-1.50	
7,100.0	2.75	36.66	6,920.5	1,210.5	900.8	1,508.9	1.50	-1.50	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	US EDM 2003.21 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site:</b>	SWSE S22-T6S-R97W	<b>North Reference:</b>	True
<b>Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	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	1.25	36.66	7,020.4	1,213.3	902.9	1,512.4	1.50	-1.50	
7,283.6	0.00	0.00	7,104.0	1,214.1	903.5	1,513.3	1.50	-1.50	EOD; Inc=0° - Approx TOG - OXY 22-6D (OXY
7,300.0	0.00	0.00	7,120.4	1,214.1	903.5	1,513.3	0.00	0.00	
7,400.0	0.00	0.00	7,220.4	1,214.1	903.5	1,513.3	0.00	0.00	
7,500.0	0.00	0.00	7,320.4	1,214.1	903.5	1,513.3	0.00	0.00	
7,600.0	0.00	0.00	7,420.4	1,214.1	903.5	1,513.3	0.00	0.00	
7,700.0	0.00	0.00	7,520.4	1,214.1	903.5	1,513.3	0.00	0.00	
7,800.0	0.00	0.00	7,620.4	1,214.1	903.5	1,513.3	0.00	0.00	
7,900.0	0.00	0.00	7,720.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,000.0	0.00	0.00	7,820.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,100.0	0.00	0.00	7,920.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,200.0	0.00	0.00	8,020.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,300.0	0.00	0.00	8,120.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,400.0	0.00	0.00	8,220.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,500.0	0.00	0.00	8,320.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,600.0	0.00	0.00	8,420.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,633.6	0.00	0.00	8,454.0	1,214.1	903.5	1,513.3	0.00	0.00	Cameo
8,700.0	0.00	0.00	8,520.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,800.0	0.00	0.00	8,620.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,900.0	0.00	0.00	8,720.4	1,214.1	903.5	1,513.3	0.00	0.00	
8,983.6	0.00	0.00	8,804.0	1,214.1	903.5	1,513.3	0.00	0.00	Rollins SS
9,000.0	0.00	0.00	8,820.4	1,214.1	903.5	1,513.3	0.00	0.00	
9,100.0	0.00	0.00	8,920.4	1,214.1	903.5	1,513.3	0.00	0.00	
9,133.6	0.00	0.00	8,954.0	1,214.1	903.5	1,513.3	0.00	0.00	TD at 9133.6 - OXY 22-6D (OXY 22 Pad) 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									
OXY 22-6D (OXY 22 Pa	0.00	0.00	7,104.0	1,214.1	903.5	1,620,488.98	2,238,664.56	39.505966	-108.198648
- plan hits target center									
- Point									
OXY 22-6D (OXY 22 Pa	0.00	0.00	8,954.0	1,214.1	903.5	1,620,488.98	2,238,664.56	39.505966	-108.198648
- plan hits target center									
- Rectangle (sides W100.0 H200.0 D0.0)									

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	US EDM 2003.21 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site:</b>	SWSE S22-T6S-R97W	<b>North Reference:</b>	True
<b>Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,175.4	2,134.0	Wasatch		0.00		
4,280.4	4,174.0	Ft Union		0.00		
4,796.4	4,674.0	Base Ft Union		0.00		
6,065.6	5,904.0	Ohio Creek		0.00		
6,271.9	6,104.0	Williams Fork		0.00		
7,283.6	7,104.0	Approx TOG		0.00		
8,633.6	8,454.0	Cameo		0.00		
8,983.6	8,804.0	Rollins SS		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP @ 200'	
1,151.8	1,141.9	94.6	70.4	EOB; Inc=14.28°	
6,331.8	6,162.1	1,119.4	833.1	Start Drop -1.50	
7,283.6	7,104.0	1,214.1	903.5	EOD; Inc=0°	
9,133.6	8,954.0	1,214.1	903.5	TD at 9133.6	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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 ellipse separation of 200.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	10/1/2009		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	9,133.6	Plan #1 (DD)	MWD	Geolink MWD	



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

### Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)		Separation Factor	Warning
SWSE S22-T6S-R97W						
OXY 22-10D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	60.4	59.8	93.527	CC, ES
OXY 22-10D (OXY 22 Pad) - DD - Plan #1	600.0	596.4	84.6	82.5	41.512	SF
OXY 22-11D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	45.8	45.2	70.931	CC, ES
OXY 22-11D (OXY 22 Pad) - DD - Plan #1	600.0	597.8	69.4	67.3	33.464	SF
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	31.0	30.4	48.025	CC, ES
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	600.0	599.0	51.7	49.6	24.758	SF
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	17.4	16.7	26.894	CC, ES
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	400.0	399.9	22.0	20.6	16.316	SF
OXY 22-14D (OXY 22 Pad) - DD - Plan #1	244.8	244.8	10.0	9.2	12.509	CC
OXY 22-14D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	10.1	9.1	10.130	ES
OXY 22-14D (OXY 22 Pad) - DD - Plan #1	400.0	399.7	12.0	10.6	8.817	SF
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	18.2	17.6	28.256	CC
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	300.0	299.5	18.4	17.4	18.510	ES
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	500.0	498.3	22.2	20.5	12.876	SF
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	390.8	389.4	31.7	30.4	24.129	CC
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	400.0	398.5	31.7	30.4	23.549	ES
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	700.0	694.8	40.5	37.9	15.918	SF
OXY 22-1D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	74.8	74.1	115.802	CC, ES
OXY 22-1D (OXY 22 Pad) - DD - Plan #1	1,000.0	996.3	151.8	148.1	40.947	SF
OXY 22-2D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	59.6	58.9	92.269	CC, ES
OXY 22-2D (OXY 22 Pad) - DD - Plan #1	1,000.0	1,001.9	121.3	117.6	32.762	SF
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	44.7	44.1	69.244	CC, ES
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	1,000.0	1,004.2	84.3	80.5	22.029	SF
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	29.6	28.9	45.766	CC, ES
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	1,100.0	1,105.3	63.3	59.0	14.985	SF
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	14.9	14.2	23.001	CC
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	700.0	701.9	15.3	12.9	6.319	ES
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	1,000.0	1,002.9	17.4	13.5	4.493	SF
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	445.6	444.7	15.1	13.6	10.077	CC
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	700.0	698.0	15.5	13.1	6.445	ES
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	1,200.0	1,195.8	23.1	17.5	4.122	SF
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	571.7	568.8	30.0	28.0	15.450	CC
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	700.0	696.1	30.2	27.8	12.615	ES
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	1,300.0	1,290.1	49.8	43.4	7.859	SF
OXY 22-9D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	75.2	74.5	116.397	CC, ES
OXY 22-9D (OXY 22 Pad) - DD - Plan #1	600.0	594.4	100.8	98.8	49.699	SF

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> SWSE S22-T6S-R97W - OXY 22-10D (OXY 22 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 (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	-134.37	-42.2	-43.2	60.4					
100.0	100.0	100.0	100.0	0.1	0.1	-134.37	-42.2	-43.2	60.4	60.1	0.30	203.559		
200.0	200.0	200.0	200.0	0.3	0.3	-134.37	-42.2	-43.2	60.4	59.8	0.65	93.527 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-171.21	-42.2	-43.2	61.7	60.7	0.99	62.021		
400.0	399.9	399.9	399.9	0.7	0.7	-171.73	-42.2	-43.2	65.6	64.2	1.34	48.823		
500.0	499.7	498.4	498.4	0.9	0.8	-171.71	-42.2	-44.4	72.9	71.2	1.69	43.164		
600.0	599.3	596.4	596.3	1.1	1.0	-170.67	-42.0	-48.2	84.6	82.5	2.04	41.512 SF		
700.0	698.6	693.4	693.1	1.4	1.2	-169.09	-41.8	-54.4	100.6	98.2	2.39	42.079		
800.0	797.5	791.5	790.9	1.7	1.4	-167.76	-41.5	-61.9	120.1	117.3	2.75	43.658		
900.0	896.1	889.0	888.2	2.0	1.6	-167.01	-41.2	-69.3	142.1	138.9	3.11	45.662		
1,000.0	994.2	986.0	984.8	2.4	1.8	-166.65	-40.9	-76.7	166.5	163.1	3.47	47.951		
1,100.0	1,091.7	1,082.3	1,080.8	2.8	2.0	-166.54	-40.6	-84.1	193.5	189.7	3.84	50.446		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S22-T6S-R97W - OXY 22-11D (OXY 22 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 (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	-131.27	-30.2	-34.4	45.8				
100.0	100.0	100.0	100.0	0.1	0.1	-131.27	-30.2	-34.4	45.8	45.5	0.30	154.380	
200.0	200.0	200.0	200.0	0.3	0.3	-131.27	-30.2	-34.4	45.8	45.2	0.65	70.931	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-168.26	-30.2	-34.4	47.1	46.1	0.99	47.337	
400.0	399.9	399.6	399.6	0.7	0.7	-167.72	-29.5	-35.5	51.2	49.9	1.34	38.112	
500.0	499.7	498.9	498.8	0.9	0.9	-165.36	-27.3	-38.7	58.6	56.9	1.70	34.453	
600.0	599.3	597.8	597.5	1.1	1.1	-162.09	-23.6	-43.9	69.4	67.3	2.07	33.464	SF
700.0	698.6	696.4	695.7	1.4	1.3	-158.90	-18.7	-51.0	83.6	81.1	2.46	33.943	
800.0	797.5	794.9	793.8	1.7	1.5	-157.06	-13.6	-58.2	100.4	97.6	2.86	35.082	
900.0	896.1	893.0	891.6	2.0	1.7	-156.21	-8.6	-65.3	119.7	116.4	3.27	36.585	
1,000.0	994.2	990.6	988.8	2.4	1.9	-156.00	-3.6	-72.5	141.3	137.7	3.69	38.319	
1,100.0	1,091.7	1,087.7	1,085.5	2.8	2.1	-156.17	1.3	-79.6	165.3	161.2	4.11	40.219	
1,151.8	1,141.9	1,137.7	1,135.3	3.0	2.3	-156.36	3.9	-83.3	178.6	174.3	4.33	41.264	
1,200.0	1,188.7	1,184.3	1,181.6	3.2	2.4	-156.61	6.2	-86.7	191.3	186.8	4.54	42.162	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S22-T6S-R97W - OXY 22-12D (OXY 22 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 (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	-125.93	-18.2	-25.1	31.0					
100.0	100.0	100.0	100.0	0.1	0.1	-125.93	-18.2	-25.1	31.0	30.7	0.30	104.524		
200.0	200.0	200.0	200.0	0.3	0.3	-125.93	-18.2	-25.1	31.0	30.4	0.65	48.025 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-163.27	-18.2	-25.1	32.3	31.3	0.99	32.433		
400.0	399.9	399.9	399.9	0.7	0.7	-162.98	-17.2	-25.9	36.1	34.7	1.35	26.794		
500.0	499.7	499.6	499.5	0.9	0.9	-160.24	-14.1	-28.3	42.5	40.8	1.71	24.890		
600.0	599.3	599.0	598.7	1.1	1.1	-156.41	-9.0	-32.3	51.7	49.6	2.09	24.758 SF		
700.0	698.6	697.9	697.2	1.4	1.3	-152.46	-1.9	-37.8	63.9	61.4	2.50	25.544		
800.0	797.5	796.3	794.9	1.7	1.5	-148.91	7.2	-44.9	79.1	76.2	2.95	26.816		
900.0	896.1	894.7	892.5	2.0	1.8	-146.79	16.9	-52.4	97.0	93.6	3.43	28.319		
1,000.0	994.2	992.6	989.7	2.4	2.0	-146.01	26.6	-60.0	117.1	113.2	3.92	29.893		
1,100.0	1,091.7	1,090.1	1,086.4	2.8	2.3	-146.00	36.2	-67.5	139.3	134.9	4.42	31.505		
1,151.8	1,141.9	1,140.4	1,136.3	3.0	2.4	-146.19	41.2	-71.3	151.6	146.9	4.68	32.364		
1,200.0	1,188.7	1,187.2	1,182.7	3.2	2.6	-146.49	45.8	-74.9	163.4	158.4	4.93	33.108		
1,300.0	1,285.6	1,284.1	1,278.9	3.7	2.8	-147.00	55.4	-82.4	187.7	182.3	5.45	34.415		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S22-T6S-R97W - OXY 22-13D (OXY 22 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					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	-109.55	-5.8	-16.4	17.4					
100.0	100.0	100.0	100.0	0.1	0.1	-109.55	-5.8	-16.4	17.4	17.1	0.30	58.535		
200.0	200.0	200.0	200.0	0.3	0.3	-109.55	-5.8	-16.4	17.4	16.7	0.65	26.894 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-148.46	-5.8	-16.4	18.5	17.5	1.00	18.558		
400.0	399.9	399.9	399.9	0.7	0.7	-150.41	-4.7	-17.0	22.0	20.6	1.35	16.316 SF		
500.0	499.7	499.6	499.5	0.9	0.9	-148.99	-1.3	-18.9	28.0	26.3	1.71	16.373		
600.0	599.3	599.1	598.8	1.1	1.1	-146.16	4.4	-22.0	36.7	34.6	2.10	17.445		
700.0	698.6	698.2	697.5	1.4	1.3	-143.14	12.3	-26.4	48.0	45.5	2.53	18.976		
800.0	797.5	796.9	795.5	1.7	1.5	-140.41	22.4	-32.0	62.0	59.0	3.00	20.666		
900.0	896.1	894.9	892.5	2.0	1.8	-138.09	34.6	-38.8	78.8	75.3	3.53	22.347		
1,000.0	994.2	992.4	988.7	2.4	2.1	-136.17	48.9	-46.7	98.3	94.2	4.10	23.963		
1,100.0	1,091.7	1,090.1	1,084.8	2.8	2.4	-135.34	63.8	-54.9	120.0	115.3	4.71	25.469		
1,151.8	1,141.9	1,140.4	1,134.4	3.0	2.6	-135.31	71.5	-59.2	131.9	126.9	5.03	26.216		
1,200.0	1,188.7	1,187.3	1,180.6	3.2	2.8	-135.47	78.6	-63.2	143.2	137.9	5.33	26.855		
1,300.0	1,285.6	1,284.5	1,276.3	3.7	3.1	-135.75	93.5	-71.4	166.7	160.8	5.97	27.942		
1,400.0	1,382.5	1,381.7	1,372.0	4.1	3.4	-135.95	108.3	-79.6	190.2	183.6	6.61	28.794		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S22-T6S-R97W - OXY 22-14D (OXY 22 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		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	-51.84	6.2	-7.9	10.0					
100.0	100.0	100.0	100.0	0.1	0.1	-51.84	6.2	-7.9	10.0	9.8	0.30	33.864		
200.0	200.0	200.0	200.0	0.3	0.3	-51.84	6.2	-7.9	10.0	9.4	0.65	15.559		
244.8	244.8	244.8	244.8	0.4	0.4	-90.00	6.2	-7.9	10.0	9.2	0.80	12.509 CC		
300.0	300.0	300.0	300.0	0.5	0.5	-95.94	6.2	-7.9	10.1	9.1	1.00	10.130 ES		
400.0	399.9	399.7	399.7	0.7	0.7	-111.00	7.4	-8.4	12.0	10.6	1.36	8.817 SF		
500.0	499.7	499.4	499.3	0.9	0.9	-121.15	11.0	-9.9	17.0	15.2	1.73	9.803		
600.0	599.3	598.8	598.5	1.1	1.1	-125.81	17.0	-12.3	24.8	22.7	2.13	11.634		
700.0	698.6	698.0	697.3	1.4	1.3	-127.54	25.4	-15.7	35.3	32.7	2.57	13.707		
800.0	797.5	796.8	795.4	1.7	1.5	-127.96	36.1	-20.1	48.2	45.2	3.06	15.760		
900.0	896.1	895.1	892.6	2.0	1.8	-127.79	49.0	-25.4	63.7	60.1	3.60	17.675		
1,000.0	994.2	992.8	989.0	2.4	2.1	-127.37	64.2	-31.6	81.6	77.4	4.21	19.403		
1,100.0	1,091.7	1,089.9	1,084.2	2.8	2.5	-126.84	81.5	-38.7	102.0	97.1	4.87	20.931		
1,151.8	1,141.9	1,139.8	1,133.1	3.0	2.7	-126.55	91.3	-42.6	113.5	108.2	5.24	21.667		
1,200.0	1,188.7	1,186.5	1,178.6	3.2	2.8	-126.33	101.0	-46.6	124.6	119.0	5.59	22.299		
1,300.0	1,285.6	1,283.8	1,273.4	3.7	3.2	-125.90	121.2	-54.8	147.6	141.3	6.32	23.347		
1,400.0	1,382.5	1,381.1	1,368.2	4.1	3.6	-125.58	141.5	-63.1	170.7	163.6	7.07	24.145		
1,500.0	1,479.4	1,478.4	1,463.0	4.6	4.0	-125.35	161.7	-71.4	193.8	185.9	7.82	24.769		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		SWSE S22-T6S-R97W - OXY 22-15D (OXY 22 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 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	2.66	18.2	0.8	18.2						
100.0	100.0	100.0	100.0	0.1	0.1	2.66	18.2	0.8	18.2	18.0	0.30	61.499			
200.0	200.0	200.0	200.0	0.3	0.3	2.66	18.2	0.8	18.2	17.6	0.65	28.256	CC		
300.0	300.0	299.5	299.5	0.5	0.5	-37.73	19.5	0.4	18.4	17.4	0.99	18.510	ES		
400.0	399.9	399.0	398.9	0.7	0.7	-48.30	23.1	-0.8	19.4	18.0	1.35	14.350			
500.0	499.7	498.3	498.0	0.9	0.9	-62.94	29.3	-2.9	22.2	20.5	1.73	12.876	SF		
600.0	599.3	597.3	596.6	1.1	1.1	-77.09	37.8	-5.7	27.9	25.8	2.14	13.029			
700.0	698.6	696.0	694.6	1.4	1.4	-87.96	48.7	-9.4	36.8	34.2	2.62	14.053			
800.0	797.5	794.2	791.8	1.7	1.7	-95.49	62.0	-13.8	48.7	45.6	3.16	15.431			
900.0	896.1	892.0	888.2	2.0	2.0	-100.60	77.5	-19.1	63.4	59.7	3.76	16.876			
1,000.0	994.2	989.2	983.6	2.4	2.3	-104.10	95.2	-25.0	80.7	76.3	4.42	18.254			
1,100.0	1,091.7	1,085.7	1,077.8	2.8	2.7	-106.54	115.1	-31.7	100.5	95.3	5.15	19.513			
1,151.8	1,141.9	1,135.4	1,126.0	3.0	3.0	-107.51	126.3	-35.4	111.6	106.1	5.55	20.121			
1,200.0	1,188.7	1,181.5	1,170.7	3.2	3.2	-108.30	137.1	-39.1	122.5	116.6	5.93	20.669			
1,300.0	1,285.6	1,276.7	1,262.5	3.7	3.6	-108.96	161.1	-47.2	146.1	139.4	6.73	21.706			
1,400.0	1,382.5	1,373.7	1,355.7	4.1	4.1	-109.11	186.7	-55.7	170.4	162.9	7.56	22.556			
1,500.0	1,479.4	1,470.7	1,448.9	4.6	4.6	-109.22	212.3	-64.3	194.7	186.3	8.39	23.219			

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S22-T6S-R97W - OXY 22-16D (OXY 22 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 (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
							+N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	16.92	30.6	9.3	32.0					
100.0	100.0	100.0	100.0	0.1	0.1	16.92	30.6	9.3	32.0	31.7	0.30	107.839		
200.0	200.0	200.0	200.0	0.3	0.3	16.92	30.6	9.3	32.0	31.4	0.65	49.548		
300.0	300.0	299.3	299.3	0.5	0.5	-21.84	31.8	8.9	31.9	30.9	0.99	32.040		
390.8	390.7	389.4	389.3	0.7	0.7	-27.43	35.1	7.9	31.7	30.4	1.31	24.129 CC		
400.0	399.9	398.5	398.4	0.7	0.7	-28.20	35.5	7.8	31.7	30.4	1.35	23.549 ES		
500.0	499.7	497.6	497.3	0.9	0.9	-38.65	41.7	5.8	32.3	30.6	1.71	18.928		
600.0	599.3	596.4	595.7	1.1	1.1	-51.93	50.2	3.2	34.9	32.8	2.10	16.643		
700.0	698.6	694.8	693.5	1.4	1.4	-65.51	61.1	-0.3	40.5	37.9	2.54	15.918 SF		
800.0	797.5	792.9	790.5	1.7	1.7	-77.11	74.4	-4.5	49.5	46.5	3.07	16.156		
900.0	896.1	890.5	886.7	2.0	2.0	-85.98	90.0	-9.4	62.0	58.3	3.67	16.901		
1,000.0	994.2	987.5	982.0	2.4	2.3	-92.44	107.8	-14.9	77.5	73.2	4.34	17.861		
1,100.0	1,091.7	1,083.9	1,076.1	2.8	2.7	-97.11	127.7	-21.2	95.9	90.8	5.08	18.871		
1,151.8	1,141.9	1,133.6	1,124.3	3.0	2.9	-99.00	138.9	-24.7	106.4	100.9	5.49	19.396		
1,200.0	1,188.7	1,179.7	1,169.0	3.2	3.2	-100.52	149.8	-28.2	116.8	110.9	5.87	19.891		
1,300.0	1,285.6	1,274.9	1,260.7	3.7	3.6	-102.37	173.9	-35.7	139.6	132.9	6.69	20.885		
1,400.0	1,382.5	1,369.4	1,351.2	4.1	4.1	-103.04	200.1	-43.9	164.1	156.6	7.52	21.822		
1,500.0	1,479.4	1,463.2	1,440.3	4.6	4.7	-102.97	228.1	-52.8	190.1	181.7	8.37	22.707		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> SWSE S22-T6S-R97W - OXY 22-1D (OXY 22 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 (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	-143.94	-60.5	-44.0	74.8					
100.0	100.0	100.0	100.0	0.1	0.1	-143.94	-60.5	-44.0	74.8	74.5	0.30	252.039		
200.0	200.0	200.0	200.0	0.3	0.3	-143.94	-60.5	-44.0	74.8	74.1	0.65	115.802 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	179.41	-60.5	-44.0	76.1	75.1	0.99	76.502		
400.0	399.9	399.9	399.9	0.7	0.7	179.44	-60.5	-44.0	80.0	78.7	1.34	59.590		
500.0	499.7	500.3	500.3	0.9	0.8	178.64	-60.9	-42.8	86.2	84.5	1.69	50.943		
600.0	599.3	600.5	600.4	1.1	1.0	176.45	-62.3	-39.1	94.4	92.3	2.05	46.111		
700.0	698.6	700.3	700.0	1.4	1.2	173.33	-64.5	-32.9	104.8	102.4	2.42	43.384		
800.0	797.5	799.7	798.9	1.7	1.4	169.72	-67.6	-24.4	117.7	114.9	2.81	41.906		
900.0	896.1	898.4	896.9	2.0	1.7	165.95	-71.6	-13.5	133.3	130.1	3.24	41.175		
1,000.0	994.2	996.3	993.9	2.4	2.0	162.31	-76.3	-0.4	151.8	148.1	3.71	40.947 SF		
1,100.0	1,091.7	1,093.7	1,090.2	2.8	2.2	159.48	-81.3	13.2	173.3	169.1	4.20	41.209		
1,151.8	1,141.9	1,143.9	1,139.8	3.0	2.4	158.37	-83.9	20.3	185.4	181.0	4.47	41.491		
1,200.0	1,188.7	1,190.6	1,186.0	3.2	2.5	157.55	-86.2	26.8	197.1	192.4	4.72	41.723		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> SWSE S22-T6S-R97W - OXY 22-2D (OXY 22 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 (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	-144.37	-48.4	-34.7	59.6					
100.0	100.0	100.0	100.0	0.1	0.1	-144.37	-48.4	-34.7	59.6	59.3	0.30	200.821		
200.0	200.0	200.0	200.0	0.3	0.3	-144.37	-48.4	-34.7	59.6	58.9	0.65	92.269 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	178.99	-48.4	-34.7	60.9	59.9	0.99	61.223		
400.0	399.9	399.9	399.9	0.7	0.7	179.05	-48.4	-34.7	64.8	63.5	1.34	48.272		
500.0	499.7	500.8	500.8	0.9	0.8	178.26	-48.4	-33.4	70.6	68.9	1.69	41.704		
600.0	599.3	601.6	601.5	1.1	1.0	176.05	-48.4	-29.4	77.5	75.5	2.05	37.870		
700.0	698.6	702.3	702.0	1.4	1.2	172.86	-48.4	-22.8	85.8	83.4	2.41	35.546		
800.0	797.5	802.7	802.0	1.7	1.5	169.08	-48.3	-13.5	95.7	92.9	2.80	34.106		
900.0	896.1	902.9	901.4	2.0	1.7	165.05	-48.2	-1.7	107.4	104.1	3.24	33.178		
1,000.0	994.2	1,001.9	999.5	2.4	2.0	161.38	-48.2	11.9	121.3	117.6	3.70	32.762 SF		
1,100.0	1,091.7	1,100.3	1,097.0	2.8	2.2	158.81	-48.1	25.4	138.1	133.9	4.20	32.913		
1,151.8	1,141.9	1,151.1	1,147.3	3.0	2.4	157.84	-48.1	32.4	147.8	143.3	4.46	33.154		
1,200.0	1,188.7	1,198.4	1,194.2	3.2	2.5	157.15	-48.0	38.9	157.1	152.4	4.71	33.375		
1,300.0	1,285.6	1,296.4	1,291.3	3.7	2.8	155.93	-47.9	52.4	176.6	171.3	5.24	33.707		
1,400.0	1,382.5	1,394.5	1,388.4	4.1	3.1	154.96	-47.9	65.8	196.1	190.3	5.78	33.931		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S22-T6S-R97W - OXY 22-3D (OXY 22 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 (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	-144.51	-36.4	-26.0	44.7						
100.0	100.0	100.0	100.0	0.1	0.1	-144.51	-36.4	-26.0	44.7	44.4	0.30	150.708			
200.0	200.0	200.0	200.0	0.3	0.3	-144.51	-36.4	-26.0	44.7	44.1	0.65	69.244	CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	178.87	-36.4	-26.0	46.0	45.0	0.99	46.274			
400.0	399.9	401.0	401.0	0.7	0.7	178.08	-35.9	-24.7	48.9	47.5	1.35	36.323			
500.0	499.7	502.0	501.9	0.9	0.9	175.79	-34.6	-20.9	52.2	50.5	1.70	30.729			
600.0	599.3	603.0	602.6	1.1	1.1	172.34	-32.3	-14.7	56.2	54.1	2.06	27.260			
700.0	698.6	703.9	703.1	1.4	1.3	168.08	-29.0	-5.9	61.0	58.6	2.44	24.969			
800.0	797.5	804.7	803.3	1.7	1.5	163.36	-24.9	5.3	66.9	64.0	2.86	23.362			
900.0	896.1	904.8	902.3	2.0	1.8	158.75	-20.1	18.5	74.3	71.0	3.33	22.308			
1,000.0	994.2	1,004.2	1,000.7	2.4	2.1	155.58	-15.1	31.9	84.3	80.5	3.83	22.029	SF		
1,100.0	1,091.7	1,103.4	1,098.9	2.8	2.4	153.76	-10.2	45.2	96.8	92.5	4.34	22.308			
1,151.8	1,141.9	1,154.6	1,149.6	3.0	2.5	153.23	-7.7	52.1	104.2	99.6	4.61	22.619			
1,200.0	1,188.7	1,202.3	1,196.7	3.2	2.7	152.92	-5.3	58.5	111.4	106.6	4.86	22.920			
1,300.0	1,285.6	1,301.2	1,294.6	3.7	3.0	152.40	-0.5	71.8	126.4	121.0	5.40	23.426			
1,400.0	1,382.5	1,400.0	1,392.4	4.1	3.3	151.98	4.4	85.2	141.4	135.4	5.93	23.817			
1,500.0	1,479.4	1,498.9	1,490.3	4.6	3.6	151.64	9.3	98.5	156.3	149.8	6.48	24.126			
1,600.0	1,576.3	1,597.8	1,588.1	5.1	3.9	151.36	14.2	111.8	171.3	164.3	7.03	24.375			
1,700.0	1,673.3	1,696.6	1,686.0	5.5	4.2	151.13	19.1	125.1	186.3	178.7	7.58	24.579			
1,800.0	1,770.2	1,795.5	1,783.8	6.0	4.5	150.93	24.0	138.4	201.2	193.1	8.13	24.749			

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		SWSE S22-T6S-R97W - OXY 22-4D (OXY 22 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 Axis	Separation Factor				
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	-144.38	-24.0	-17.2	29.6							
100.0	100.0	100.0	100.0	0.1	0.1	-144.38	-24.0	-17.2	29.6	29.3	0.30	99.608				
200.0	200.0	200.0	200.0	0.3	0.3	-144.38	-24.0	-17.2	29.6	28.9	0.65	45.766 CC, ES				
300.0	300.0	300.0	300.0	0.5	0.5	179.01	-24.0	-17.2	30.9	29.9	0.99	31.030				
400.0	399.9	400.8	400.7	0.7	0.7	178.39	-23.3	-16.1	33.5	32.2	1.34	24.949				
500.0	499.7	501.6	501.5	0.9	0.9	176.58	-20.9	-12.9	36.4	34.7	1.70	21.457				
600.0	599.3	602.4	602.1	1.1	1.1	173.86	-17.1	-7.5	39.4	37.4	2.05	19.232				
700.0	698.6	703.3	702.6	1.4	1.3	170.46	-11.7	0.1	42.8	40.4	2.41	17.712				
800.0	797.5	804.2	802.8	1.7	1.5	166.62	-4.8	9.9	46.5	43.7	2.80	16.602				
900.0	896.1	905.2	902.6	2.0	1.8	162.50	3.7	21.8	50.8	47.6	3.23	15.719				
1,000.0	994.2	1,005.6	1,001.6	2.4	2.2	158.49	13.5	35.5	55.9	52.2	3.71	15.048				
1,100.0	1,091.7	1,105.3	1,099.8	2.8	2.5	155.92	23.4	49.5	63.3	59.0	4.22	14.985 SF				
1,151.8	1,141.9	1,156.8	1,150.6	3.0	2.6	155.17	28.5	56.7	68.1	63.6	4.49	15.165				
1,200.0	1,188.7	1,204.8	1,197.9	3.2	2.8	154.70	33.3	63.4	72.8	68.1	4.74	15.368				
1,300.0	1,285.6	1,304.3	1,295.9	3.7	3.1	153.89	43.2	77.3	82.7	77.5	5.27	15.701				
1,400.0	1,382.5	1,403.8	1,393.9	4.1	3.5	153.25	53.1	91.3	92.7	86.9	5.81	15.953				
1,500.0	1,479.4	1,503.3	1,491.9	4.6	3.8	152.74	63.0	105.2	102.6	96.2	6.35	16.147				
1,600.0	1,576.3	1,602.8	1,590.0	5.1	4.1	152.32	73.0	119.1	112.5	105.6	6.90	16.300				
1,700.0	1,673.3	1,702.3	1,688.0	5.5	4.5	151.96	82.9	133.1	122.5	115.0	7.46	16.422				
1,800.0	1,770.2	1,801.8	1,786.0	6.0	4.8	151.66	92.8	147.0	132.4	124.4	8.01	16.521				
1,900.0	1,867.1	1,901.3	1,884.0	6.4	5.2	151.40	102.7	160.9	142.4	133.8	8.57	16.603				
2,000.0	1,964.0	2,000.8	1,982.0	6.9	5.5	151.18	112.6	174.9	152.3	143.2	9.14	16.672				
2,100.0	2,060.9	2,100.3	2,080.1	7.4	5.9	150.98	122.5	188.8	162.3	152.6	9.70	16.729				
2,200.0	2,157.8	2,199.8	2,178.1	7.8	6.2	150.81	132.4	202.7	172.2	162.0	10.26	16.779				
2,300.0	2,254.7	2,299.3	2,276.1	8.3	6.6	150.65	142.3	216.7	182.2	171.3	10.83	16.821				
2,400.0	2,351.6	2,398.8	2,374.1	8.8	6.9	150.51	152.2	230.6	192.1	180.7	11.40	16.858				
2,500.0	2,448.5	2,498.3	2,472.2	9.2	7.2	150.39	162.1	244.5	202.1	190.1	11.97	16.890				
2,600.0	2,545.5	2,597.8	2,570.2	9.7	7.6	150.27	172.0	258.4	212.1	199.5	12.53	16.918				

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S22-T6S-R97W - OXY 22-5D (OXY 22 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-143.92	-12.0	-8.7	14.9					
100.0	100.0	100.0	100.0	0.1	0.1	-143.92	-12.0	-8.7	14.9	14.6	0.30	50.061		
200.0	200.0	200.0	200.0	0.3	0.3	-143.92	-12.0	-8.7	14.9	14.2	0.65	23.001 CC		
300.0	300.0	300.4	300.4	0.5	0.5	178.91	-11.0	-7.9	14.9	13.9	1.00	14.926		
400.0	399.9	400.8	400.7	0.7	0.7	177.36	-8.1	-5.2	14.9	13.5	1.34	11.060		
500.0	499.7	501.2	500.8	0.9	0.9	174.80	-3.3	-0.7	14.9	13.2	1.70	8.806		
600.0	599.3	601.5	600.8	1.1	1.1	171.26	3.5	5.5	15.1	13.0	2.05	7.341		
700.0	698.6	701.9	700.5	1.4	1.4	166.82	12.3	13.5	15.3	12.9	2.42	6.319 ES		
800.0	797.5	802.3	799.8	1.7	1.7	161.62	22.9	23.3	15.7	12.9	2.83	5.560		
900.0	896.1	902.6	898.7	2.0	2.0	155.88	35.5	34.8	16.4	13.1	3.30	4.959		
1,000.0	994.2	1,002.9	997.0	2.4	2.4	150.07	49.9	48.0	17.4	13.5	3.87	4.493 SF		
1,100.0	1,091.7	1,102.8	1,094.9	2.8	2.8	147.94	64.8	61.6	20.2	15.8	4.43	4.558		
1,151.8	1,141.9	1,154.6	1,145.6	3.0	3.0	148.48	72.5	68.6	22.5	17.8	4.69	4.809		
1,200.0	1,188.7	1,202.7	1,192.7	3.2	3.1	149.28	79.6	75.2	25.0	20.1	4.91	5.088		
1,300.0	1,285.6	1,302.6	1,290.6	3.7	3.5	150.53	94.5	88.7	30.1	24.7	5.39	5.590		
1,400.0	1,382.5	1,402.5	1,388.4	4.1	3.9	151.42	109.3	102.3	35.2	29.4	5.86	6.009		
1,500.0	1,479.4	1,502.3	1,486.2	4.6	4.3	152.08	124.2	115.9	40.4	34.0	6.34	6.363		
1,600.0	1,576.3	1,602.2	1,584.0	5.1	4.7	152.59	139.0	129.5	45.5	38.7	6.82	6.666		
1,700.0	1,673.3	1,702.1	1,681.8	5.5	5.1	153.00	153.8	143.1	50.6	43.3	7.31	6.928		
1,800.0	1,770.2	1,801.9	1,779.7	6.0	5.5	153.33	168.7	156.7	55.8	48.0	7.79	7.157		
1,900.0	1,867.1	1,901.8	1,877.5	6.4	5.8	153.61	183.5	170.3	60.9	52.6	8.28	7.359		
2,000.0	1,964.0	2,001.7	1,975.3	6.9	6.2	153.85	198.4	183.9	66.1	57.3	8.76	7.537		
2,100.0	2,060.9	2,101.5	2,073.1	7.4	6.6	154.05	213.2	197.5	71.2	61.9	9.25	7.697		
2,200.0	2,157.8	2,201.4	2,170.9	7.8	7.0	154.22	228.1	211.1	76.3	66.6	9.74	7.840		
2,300.0	2,254.7	2,301.3	2,268.8	8.3	7.4	154.37	242.9	224.6	81.5	71.3	10.23	7.969		
2,400.0	2,351.6	2,401.1	2,366.6	8.8	7.8	154.50	257.7	238.2	86.6	75.9	10.71	8.086		
2,500.0	2,448.5	2,501.0	2,464.4	9.2	8.2	154.62	272.6	251.8	91.8	80.6	11.20	8.193		
2,600.0	2,545.5	2,600.9	2,562.2	9.7	8.6	154.73	287.4	265.4	96.9	85.2	11.69	8.291		
2,700.0	2,642.4	2,700.7	2,660.0	10.2	9.0	154.82	302.3	279.0	102.1	89.9	12.18	8.380		
2,800.0	2,739.3	2,800.6	2,757.8	10.6	9.4	154.91	317.1	292.6	107.2	94.5	12.67	8.463		
2,900.0	2,836.2	2,900.5	2,855.7	11.1	9.8	154.99	332.0	306.2	112.4	99.2	13.16	8.539		
3,000.0	2,933.1	3,000.3	2,953.5	11.6	10.2	155.06	346.8	319.8	117.5	103.9	13.65	8.610		
3,100.0	3,030.0	3,100.2	3,051.3	12.0	10.6	155.12	361.6	333.4	122.7	108.5	14.14	8.676		
3,200.0	3,126.9	3,200.1	3,149.1	12.5	11.0	155.18	376.5	347.0	127.8	113.2	14.63	8.737		
3,300.0	3,223.8	3,299.9	3,246.9	13.0	11.4	155.24	391.3	360.5	133.0	117.8	15.12	8.795		
3,400.0	3,320.7	3,399.8	3,344.8	13.4	11.7	155.29	406.2	374.1	138.1	122.5	15.61	8.849		
3,500.0	3,417.7	3,499.7	3,442.6	13.9	12.1	155.34	421.0	387.7	143.2	127.2	16.10	8.899		
3,600.0	3,514.6	3,599.5	3,540.4	14.4	12.5	155.38	435.9	401.3	148.4	131.8	16.59	8.946		
3,700.0	3,611.5	3,699.4	3,638.2	14.8	12.9	155.42	450.7	414.9	153.5	136.5	17.08	8.991		
3,800.0	3,708.4	3,799.3	3,736.0	15.3	13.3	155.46	465.5	428.5	158.7	141.1	17.57	9.033		
3,900.0	3,805.3	3,899.1	3,833.9	15.8	13.7	155.50	480.4	442.1	163.8	145.8	18.06	9.073		
4,000.0	3,902.2	3,999.0	3,931.7	16.2	14.1	155.53	495.2	455.7	169.0	150.4	18.55	9.110		
4,100.0	3,999.1	4,098.9	4,029.5	16.7	14.5	155.56	510.1	469.3	174.1	155.1	19.04	9.146		
4,200.0	4,096.0	4,198.7	4,127.3	17.2	14.9	155.59	524.9	482.9	179.3	159.8	19.53	9.180		
4,300.0	4,193.0	4,298.6	4,225.1	17.6	15.3	155.62	539.8	496.4	184.4	164.4	20.02	9.212		
4,400.0	4,289.9	4,398.5	4,322.9	18.1	15.7	155.65	554.6	510.0	189.6	169.1	20.51	9.243		
4,500.0	4,386.8	4,498.3	4,420.8	18.6	16.1	155.67	569.4	523.6	194.7	173.7	21.00	9.272		
4,600.0	4,483.7	4,598.2	4,518.6	19.0	16.5	155.70	584.3	537.2	199.9	178.4	21.49	9.300		
4,700.0	4,580.6	4,698.1	4,616.4	19.5	16.9	155.72	599.1	550.8	205.0	183.0	21.98	9.326		
4,800.0	4,677.5	4,797.9	4,714.2	20.0	17.3	155.74	614.0	564.4	210.2	187.7	22.47	9.352		
4,900.0	4,774.4	4,897.8	4,812.0	20.4	17.7	155.76	628.8	578.0	215.3	192.4	22.97	9.376		
5,000.0	4,871.3	4,997.7	4,909.9	20.9	18.1	155.78	643.7	591.6	220.5	197.0	23.46	9.399		

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

## Cathedral Energy Services

### Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	35.20	12.4	8.7	15.2					
100.0	100.0	100.0	100.0	0.1	0.1	35.20	12.4	8.7	15.2	14.9	0.30	51.143		
200.0	200.0	200.0	200.0	0.3	0.3	35.20	12.4	8.7	15.2	14.5	0.65	23.498		
300.0	300.0	299.6	299.6	0.5	0.5	-2.15	13.5	9.4	15.2	14.2	0.99	15.254		
400.0	399.9	399.2	399.1	0.7	0.7	-4.23	17.0	11.2	15.1	13.8	1.34	11.281		
445.6	445.5	444.7	444.5	0.8	0.8	-5.64	19.3	12.5	15.1	13.6	1.50	10.077 CC		
500.0	499.7	498.8	498.5	0.9	0.9	-7.70	22.7	14.3	15.1	13.5	1.69	8.960		
600.0	599.3	598.4	597.7	1.1	1.1	-12.52	30.6	18.7	15.2	13.2	2.04	7.466		
700.0	698.6	698.0	696.6	1.4	1.4	-18.57	40.9	24.3	15.5	13.1	2.41	6.445 ES		
800.0	797.5	797.6	795.1	1.7	1.7	-25.56	53.4	31.1	16.1	13.3	2.82	5.707		
900.0	896.1	897.1	893.3	2.0	2.0	-33.07	68.1	39.1	17.1	13.7	3.32	5.140		
1,000.0	994.2	996.7	990.9	2.4	2.4	-40.60	85.1	48.3	18.5	14.5	3.94	4.687		
1,100.0	1,091.7	1,096.3	1,088.1	2.8	2.8	-47.71	104.3	58.8	20.4	15.7	4.72	4.331		
1,151.8	1,141.9	1,147.8	1,138.1	3.0	3.0	-51.12	115.1	64.7	21.6	16.5	5.17	4.183		
1,200.0	1,188.7	1,195.8	1,184.5	3.2	3.2	-53.51	125.7	70.5	23.1	17.5	5.60	4.122 SF		
1,300.0	1,285.6	1,295.2	1,280.3	3.7	3.7	-54.54	149.4	83.3	27.4	21.1	6.38	4.297		
1,400.0	1,382.5	1,394.7	1,375.4	4.1	4.3	-52.26	175.0	97.3	33.5	26.5	7.03	4.765		
1,500.0	1,479.4	1,494.5	1,470.6	4.6	4.8	-50.19	201.1	111.5	39.9	32.3	7.64	5.223		
1,600.0	1,576.3	1,594.3	1,565.9	5.1	5.3	-48.69	227.3	125.8	46.4	38.1	8.27	5.613		
1,700.0	1,673.3	1,694.1	1,661.1	5.5	5.9	-47.56	253.4	140.0	52.9	44.0	8.90	5.946		
1,800.0	1,770.2	1,793.8	1,756.4	6.0	6.4	-46.68	279.5	154.2	59.5	49.9	9.54	6.235		
1,900.0	1,867.1	1,893.6	1,851.6	6.4	6.9	-45.97	305.7	168.4	66.0	55.8	10.17	6.487		
2,000.0	1,964.0	1,993.4	1,946.8	6.9	7.5	-45.39	331.8	182.7	72.5	61.7	10.81	6.708		
2,100.0	2,060.9	2,093.2	2,042.1	7.4	8.0	-44.91	357.9	196.9	79.1	67.6	11.46	6.904		
2,200.0	2,157.8	2,193.0	2,137.3	7.8	8.6	-44.50	384.0	211.1	85.6	73.5	12.10	7.079		
2,300.0	2,254.7	2,292.8	2,232.6	8.3	9.1	-44.15	410.2	225.4	92.2	79.5	12.74	7.235		
2,400.0	2,351.6	2,392.5	2,327.8	8.8	9.7	-43.85	436.3	239.6	98.8	85.4	13.39	7.377		
2,500.0	2,448.5	2,492.3	2,423.1	9.2	10.2	-43.58	462.4	253.8	105.3	91.3	14.04	7.504		
2,600.0	2,545.5	2,592.1	2,518.3	9.7	10.8	-43.34	488.6	268.1	111.9	97.2	14.68	7.621		
2,700.0	2,642.4	2,691.9	2,613.6	10.2	11.3	-43.13	514.7	282.3	118.5	103.1	15.33	7.727		
2,800.0	2,739.3	2,791.7	2,708.8	10.6	11.9	-42.95	540.8	296.5	125.0	109.1	15.98	7.824		
2,900.0	2,836.2	2,891.5	2,804.0	11.1	12.4	-42.78	567.0	310.7	131.6	115.0	16.63	7.914		
3,000.0	2,933.1	2,991.2	2,899.3	11.6	13.0	-42.63	593.1	325.0	138.2	120.9	17.28	7.997		
3,100.0	3,030.0	3,091.0	2,994.5	12.0	13.5	-42.49	619.2	339.2	144.8	126.8	17.93	8.073		
3,200.0	3,126.9	3,190.8	3,089.8	12.5	14.1	-42.36	645.4	353.4	151.3	132.7	18.58	8.145		
3,300.0	3,223.8	3,290.6	3,185.0	13.0	14.6	-42.25	671.5	367.7	157.9	138.7	19.23	8.211		
3,400.0	3,320.7	3,390.4	3,280.3	13.4	15.2	-42.14	697.6	381.9	164.5	144.6	19.88	8.273		
3,500.0	3,417.7	3,490.2	3,375.5	13.9	15.7	-42.04	723.8	396.1	171.1	150.5	20.53	8.330		
3,600.0	3,514.6	3,589.9	3,470.7	14.4	16.3	-41.95	749.9	410.4	177.6	156.4	21.19	8.385		
3,700.0	3,611.5	3,689.7	3,566.0	14.8	16.8	-41.86	776.0	424.6	184.2	162.4	21.84	8.436		
3,800.0	3,708.4	3,789.5	3,661.2	15.3	17.4	-41.79	802.2	438.8	190.8	168.3	22.49	8.484		
3,900.0	3,805.3	3,889.3	3,756.5	15.8	17.9	-41.71	828.3	453.1	197.4	174.2	23.14	8.529		
4,000.0	3,902.2	3,989.1	3,851.7	16.2	18.5	-41.64	854.4	467.3	203.9	180.2	23.79	8.571		
4,100.0	3,999.1	4,088.9	3,947.0	16.7	19.0	-41.58	880.5	481.5	210.5	186.1	24.45	8.612		
4,200.0	4,096.0	4,188.6	4,042.2	17.2	19.6	-41.52	906.7	495.7	217.1	192.0	25.10	8.650		
4,300.0	4,193.0	4,288.4	4,137.4	17.6	20.1	-41.46	932.8	510.0	223.7	197.9	25.75	8.686		

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

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SWSE S22-T6S-R97W - OXY 22-8D (OXY 22 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 (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	36.48	24.4	18.1	30.4					
100.0	100.0	100.0	100.0	0.1	0.1	36.48	24.4	18.1	30.4	30.1	0.30	102.363		
200.0	200.0	200.0	200.0	0.3	0.3	36.48	24.4	18.1	30.4	29.7	0.65	47.032		
300.0	300.0	299.2	299.2	0.5	0.5	-0.83	25.6	18.5	30.3	29.3	0.99	30.515		
400.0	399.9	398.5	398.4	0.7	0.7	-2.83	29.2	19.9	30.2	28.8	1.34	22.497		
500.0	499.7	497.7	497.4	0.9	0.9	-6.20	35.3	22.2	30.0	28.3	1.69	17.773		
571.7	571.1	568.8	568.2	1.1	1.0	-9.46	41.0	24.4	30.0	28.0	1.94	15.450 CC		
600.0	599.3	596.9	596.2	1.1	1.1	-10.94	43.7	25.4	30.0	27.9	2.04	14.711		
700.0	698.6	696.1	694.7	1.4	1.4	-16.98	54.5	29.5	30.2	27.8	2.40	12.615 ES		
800.0	797.5	795.2	792.8	1.7	1.7	-24.13	67.7	34.6	31.0	28.2	2.79	11.115		
900.0	896.1	894.3	890.5	2.0	2.0	-31.97	83.2	40.5	32.5	29.2	3.26	9.974		
1,000.0	994.2	993.3	987.6	2.4	2.4	-40.00	101.1	47.3	34.9	31.0	3.85	9.063		
1,100.0	1,091.7	1,092.3	1,084.2	2.8	2.8	-47.69	121.4	55.1	38.3	33.7	4.59	8.339		
1,151.8	1,141.9	1,143.5	1,134.0	3.0	3.0	-51.41	132.7	59.4	40.5	35.4	5.03	8.038		
1,200.0	1,188.7	1,191.2	1,180.1	3.2	3.2	-54.37	143.9	63.7	42.9	37.5	5.46	7.861		
1,300.0	1,285.6	1,290.1	1,275.3	3.7	3.7	-57.98	168.8	73.1	49.8	43.4	6.33	7.859 SF		
1,400.0	1,382.5	1,388.7	1,369.6	4.1	4.2	-58.93	195.8	83.5	58.6	51.4	7.15	8.195		
1,500.0	1,479.4	1,486.9	1,462.7	4.6	4.8	-58.16	225.0	94.6	69.3	61.4	7.90	8.766		
1,600.0	1,576.3	1,585.5	1,555.4	5.1	5.4	-56.54	256.3	106.6	81.6	73.0	8.59	9.498		
1,700.0	1,673.3	1,684.6	1,648.6	5.5	6.0	-55.23	288.0	118.6	94.2	84.9	9.28	10.150		
1,800.0	1,770.2	1,783.8	1,741.8	6.0	6.6	-54.23	319.7	130.7	106.8	96.8	9.97	10.711		
1,900.0	1,867.1	1,883.0	1,835.0	6.4	7.2	-53.44	351.4	142.8	119.5	108.8	10.67	11.196		
2,000.0	1,964.0	1,982.2	1,928.2	6.9	7.8	-52.80	383.1	154.9	132.1	120.8	11.37	11.621		
2,100.0	2,060.9	2,081.4	2,021.4	7.4	8.4	-52.28	414.7	167.0	144.8	132.7	12.07	11.995		
2,200.0	2,157.8	2,180.6	2,114.6	7.8	9.0	-51.84	446.4	179.1	157.5	144.7	12.78	12.327		
2,300.0	2,254.7	2,279.7	2,207.8	8.3	9.7	-51.46	478.1	191.2	170.2	156.7	13.48	12.623		
2,400.0	2,351.6	2,378.9	2,301.0	8.8	10.3	-51.14	509.8	203.3	182.9	168.7	14.19	12.888		
2,500.0	2,448.5	2,478.1	2,394.2	9.2	10.9	-50.86	541.5	215.4	195.6	180.7	14.90	13.128		
2,600.0	2,545.5	2,577.3	2,487.4	9.7	11.5	-50.61	573.2	227.5	208.3	192.7	15.61	13.346		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> SWSE S22-T6S-R97W - OXY 22-9D (OXY 22 Pad) - DD - Plan #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	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	-136.61	-54.6	-51.6	75.2				
100.0	100.0	100.0	100.0	0.1	0.1	-136.61	-54.6	-51.6	75.2	74.9	0.30	253.334	
200.0	200.0	200.0	200.0	0.3	0.3	-136.61	-54.6	-51.6	75.2	74.5	0.65	116.397	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-173.38	-54.6	-51.6	76.5	75.5	0.99	76.877	
400.0	399.9	399.9	399.9	0.7	0.7	-173.69	-54.6	-51.6	80.4	79.0	1.34	59.844	
500.0	499.7	497.6	497.5	0.9	0.8	-173.91	-55.3	-52.7	88.1	86.4	1.69	52.225	
600.0	599.3	594.4	594.4	1.1	1.0	-173.81	-57.1	-55.9	100.8	98.8	2.03	49.699	SF
700.0	698.6	690.2	690.0	1.4	1.2	-173.51	-60.2	-61.1	118.5	116.1	2.37	50.038	
800.0	797.5	785.8	785.2	1.7	1.4	-173.13	-64.4	-68.3	140.9	138.2	2.71	52.062	
900.0	896.1	882.5	881.5	2.0	1.6	-172.90	-68.8	-75.9	166.4	163.3	3.05	54.596	
1,000.0	994.2	978.5	977.1	2.4	1.8	-172.82	-73.3	-83.5	194.3	190.9	3.38	57.407	

# Cathedral Energy Services

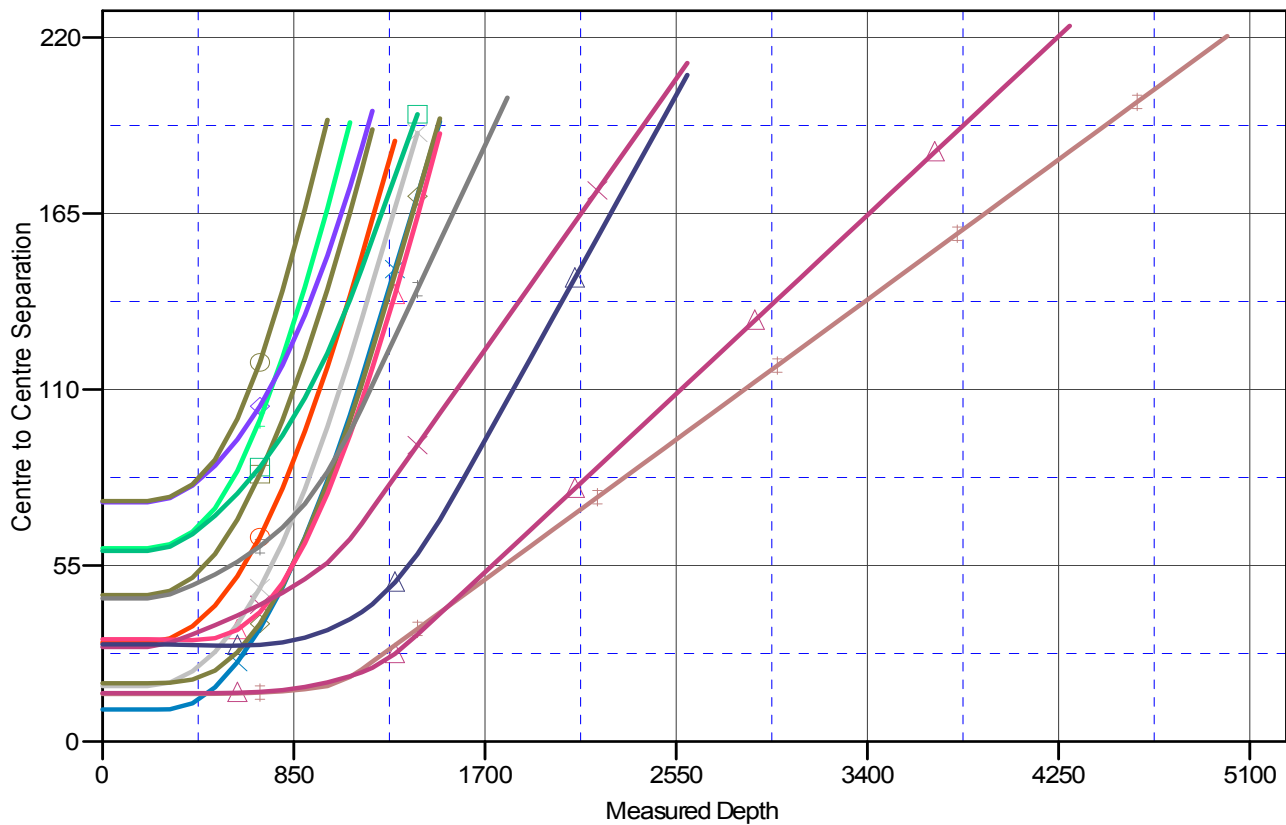
## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well OXY 22-6D (OXY 22 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Reference Site:</b>	SWSE S22-T6S-R97W	<b>MD Reference:</b>	KBE @ 8506.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	OXY 22-6D (OXY 22 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	US EDM 2003.21 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KBE @ 8506.0ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: OXY 22-6D (OXY 22 Pad)  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.70°

### Ladder Plot



### LEGEND

✚ OXY 22-10D (OXY 22 Pad), DD, Plan #1 V0	✚ OXY 22-15D (OXY 22 Pad), DD, Plan #1 V0	✚ OXY 22-4D (OXY 22 Pad), DD, Plan #1 V0
✚ OXY 22-11D (OXY 22 Pad), DD, Plan #1 V0	✚ OXY 22-16D (OXY 22 Pad), DD, Plan #1 V0	✚ OXY 22-5D (OXY 22 Pad), DD, Plan #1 V0
✚ OXY 22-12D (OXY 22 Pad), DD, Plan #1 V0	✚ OXY 22-1D (OXY 22 Pad), DD, Plan #1 V0	✚ OXY 22-7D (OXY 22 Pad), DD, Plan #1 V0
✚ OXY 22-13D (OXY 22 Pad), DD, Plan #1 V0	✚ OXY 22-2D (OXY 22 Pad), DD, Plan #1 V0	✚ OXY 22-8D (OXY 22 Pad), DD, Plan #1 V0
✚ OXY 22-14D (OXY 22 Pad), DD, Plan #1 V0	✚ OXY 22-3D (OXY 22 Pad), DD, Plan #1 V0	✚ OXY 22-9D (OXY 22 Pad), DD, Plan #1 V0