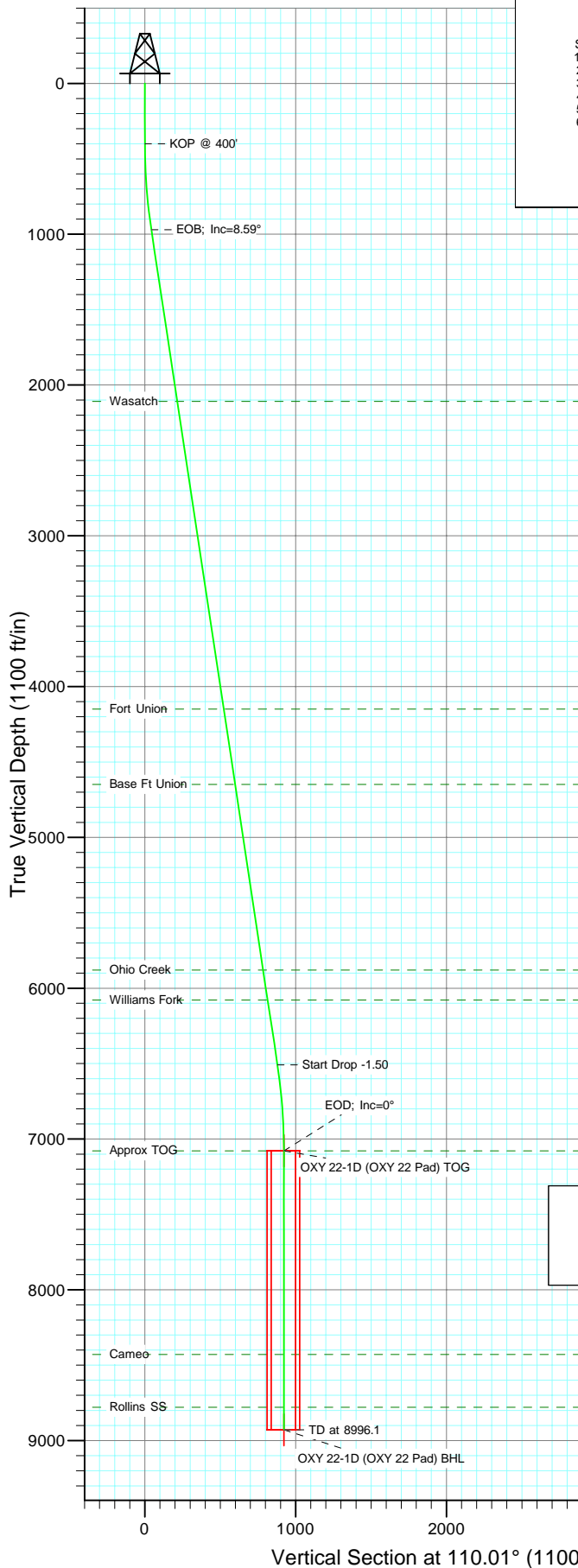


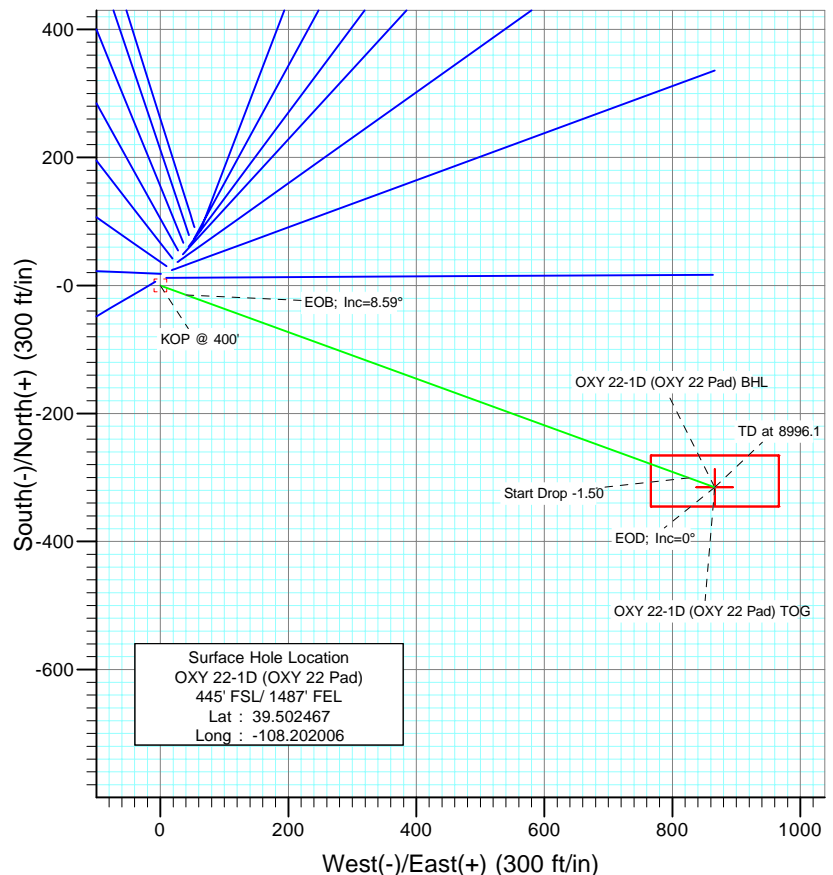


Berry Petroleum Company

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



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	972.4	8.59	110.01	970.3	-14.6	40.2	1.50	110.01	42.8	
4	6573.6	8.59	110.01	6508.7	-300.8	826.1	0.00	0.00	879.1	
5	7146.1	0.00	0.00	7079.0	-315.4	866.3	1.50	180.00	921.9	OXY 22-1D (OXY 22 Pad) TOG
6	8996.1	0.00	0.00	8929.0	-315.4	866.3	0.00	0.00	921.9	OXY 22-1D (OXY 22 Pad) BHL



Surface Hole Location
OXY 22-1D (OXY 22 Pad)
445' FSL/ 1487' FEL
Lat : 39.502467
Long : -108.202006

Bottom Hole Location
OXY 22-1D (OXY 22 Pad)
130' FSL/ 621' FEL
Lat : 39.501601
Long : -108.198936

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2109.0	2124.0	Wasatch
4149.0	4187.2	Fort Union
4649.0	4692.8	Base Ft Union
5879.0	5936.8	Ohio Creek
6079.0	6139.1	Williams Fork
7079.0	7146.1	Approx TOG
8429.0	8496.1	Cameo
8779.0	8846.1	Rollins SS



Azimuths to True North
Magnetic North: 10.64°

Magnetic Field
Strength: 52405.9snT
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 22-1D (OXY 22 Pad) BHL	10.01	Slot	0.0	0.0	0.0

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site:	SWSE S22-T6S-R97W	North Reference:	True
Well:	OXY 22-1D (OXY 22 Pad)	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		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 22-1D (OXY 22 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,619,243.21 ft	Latitude:	39.502467
	+E/-W	0.0 ft	Easting:	2,237,679.58 ft	Longitude:	-108.202006
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,491.0 ft

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

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	110.01

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
972.4	8.59	110.01	970.3	-14.6	40.2	1.50	1.50	0.00	110.01	
6,573.6	8.59	110.01	6,508.7	-300.8	826.1	0.00	0.00	0.00	0.00	
7,146.1	0.00	0.00	7,079.0	-315.4	866.3	1.50	-1.50	0.00	180.00	OXY 22-1D (OXY 22
8,996.1	0.00	0.00	8,929.0	-315.4	866.3	0.00	0.00	0.00	0.00	OXY 22-1D (OXY 22

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site:	SWSE S22-T6S-R97W	North Reference:	True
Well:	OXY 22-1D (OXY 22 Pad)	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	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 400'
420.0	0.30	110.01	420.0	0.0	0.0	0.1	1.50	1.50	
450.0	0.75	110.01	450.0	-0.1	0.3	0.3	1.50	1.50	
480.0	1.20	110.01	480.0	-0.3	0.8	0.8	1.50	1.50	
510.0	1.65	110.01	510.0	-0.5	1.5	1.6	1.50	1.50	
540.0	2.10	110.01	540.0	-0.9	2.4	2.6	1.50	1.50	
570.0	2.55	110.01	569.9	-1.3	3.6	3.8	1.50	1.50	
600.0	3.00	110.01	599.9	-1.8	4.9	5.2	1.50	1.50	
630.0	3.45	110.01	629.9	-2.4	6.5	6.9	1.50	1.50	
660.0	3.90	110.01	659.8	-3.0	8.3	8.8	1.50	1.50	
690.0	4.35	110.01	689.7	-3.8	10.3	11.0	1.50	1.50	
720.0	4.80	110.01	719.6	-4.6	12.6	13.4	1.50	1.50	
750.0	5.25	110.01	749.5	-5.5	15.1	16.0	1.50	1.50	
780.0	5.70	110.01	779.4	-6.5	17.7	18.9	1.50	1.50	
810.0	6.15	110.01	809.2	-7.5	20.7	22.0	1.50	1.50	
840.0	6.60	110.01	839.0	-8.7	23.8	25.3	1.50	1.50	
870.0	7.05	110.01	868.8	-9.9	27.1	28.9	1.50	1.50	
900.0	7.50	110.01	898.6	-11.2	30.7	32.7	1.50	1.50	
930.0	7.95	110.01	928.3	-12.6	34.5	36.7	1.50	1.50	
960.0	8.40	110.01	958.0	-14.0	38.5	41.0	1.50	1.50	
972.4	8.59	110.01	970.3	-14.6	40.2	42.8	1.50	1.50	EOB; Inc=8.59°
990.0	8.59	110.01	987.7	-15.5	42.7	45.4	0.00	0.00	
1,020.0	8.59	110.01	1,017.3	-17.1	46.9	49.9	0.00	0.00	
1,050.0	8.59	110.01	1,047.0	-18.6	51.1	54.4	0.00	0.00	
1,080.0	8.59	110.01	1,076.7	-20.1	55.3	58.9	0.00	0.00	
1,110.0	8.59	110.01	1,106.3	-21.7	59.5	63.4	0.00	0.00	
1,140.0	8.59	110.01	1,136.0	-23.2	63.7	67.8	0.00	0.00	
1,170.0	8.59	110.01	1,165.6	-24.7	67.9	72.3	0.00	0.00	
1,200.0	8.59	110.01	1,195.3	-26.3	72.2	76.8	0.00	0.00	
1,230.0	8.59	110.01	1,225.0	-27.8	76.4	81.3	0.00	0.00	
1,260.0	8.59	110.01	1,254.6	-29.3	80.6	85.7	0.00	0.00	
1,290.0	8.59	110.01	1,284.3	-30.9	84.8	90.2	0.00	0.00	
1,320.0	8.59	110.01	1,314.0	-32.4	89.0	94.7	0.00	0.00	
1,350.0	8.59	110.01	1,343.6	-33.9	93.2	99.2	0.00	0.00	
1,380.0	8.59	110.01	1,373.3	-35.5	97.4	103.7	0.00	0.00	
1,410.0	8.59	110.01	1,403.0	-37.0	101.6	108.1	0.00	0.00	
1,440.0	8.59	110.01	1,432.6	-38.5	105.8	112.6	0.00	0.00	
1,470.0	8.59	110.01	1,462.3	-40.1	110.0	117.1	0.00	0.00	

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site:	SWSE S22-T6S-R97W	North Reference:	True
Well:	OXY 22-1D (OXY 22 Pad)	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	8.59	110.01	1,491.9	-41.6	114.2	121.6	0.00	0.00	
1,530.0	8.59	110.01	1,521.6	-43.1	118.5	126.1	0.00	0.00	
1,560.0	8.59	110.01	1,551.3	-44.7	122.7	130.5	0.00	0.00	
1,590.0	8.59	110.01	1,580.9	-46.2	126.9	135.0	0.00	0.00	
1,620.0	8.59	110.01	1,610.6	-47.7	131.1	139.5	0.00	0.00	
1,650.0	8.59	110.01	1,640.3	-49.3	135.3	144.0	0.00	0.00	
1,680.0	8.59	110.01	1,669.9	-50.8	139.5	148.5	0.00	0.00	
1,710.0	8.59	110.01	1,699.6	-52.3	143.7	152.9	0.00	0.00	
1,740.0	8.59	110.01	1,729.3	-53.9	147.9	157.4	0.00	0.00	
1,770.0	8.59	110.01	1,758.9	-55.4	152.1	161.9	0.00	0.00	
1,800.0	8.59	110.01	1,788.6	-56.9	156.3	166.4	0.00	0.00	
1,830.0	8.59	110.01	1,818.2	-58.5	160.5	170.9	0.00	0.00	
1,860.0	8.59	110.01	1,847.9	-60.0	164.8	175.3	0.00	0.00	
1,890.0	8.59	110.01	1,877.6	-61.5	169.0	179.8	0.00	0.00	
1,920.0	8.59	110.01	1,907.2	-63.0	173.2	184.3	0.00	0.00	
1,950.0	8.59	110.01	1,936.9	-64.6	177.4	188.8	0.00	0.00	
1,980.0	8.59	110.01	1,966.6	-66.1	181.6	193.2	0.00	0.00	
2,010.0	8.59	110.01	1,996.2	-67.6	185.8	197.7	0.00	0.00	
2,040.0	8.59	110.01	2,025.9	-69.2	190.0	202.2	0.00	0.00	
2,070.0	8.59	110.01	2,055.6	-70.7	194.2	206.7	0.00	0.00	
2,100.0	8.59	110.01	2,085.2	-72.2	198.4	211.2	0.00	0.00	
2,124.0	8.59	110.01	2,109.0	-73.5	201.8	214.8	0.00	0.00	Wasatch
2,130.0	8.59	110.01	2,114.9	-73.8	202.6	215.6	0.00	0.00	
2,160.0	8.59	110.01	2,144.5	-75.3	206.8	220.1	0.00	0.00	
2,190.0	8.59	110.01	2,174.2	-76.8	211.1	224.6	0.00	0.00	
2,220.0	8.59	110.01	2,203.9	-78.4	215.3	229.1	0.00	0.00	
2,250.0	8.59	110.01	2,233.5	-79.9	219.5	233.6	0.00	0.00	
2,280.0	8.59	110.01	2,263.2	-81.4	223.7	238.0	0.00	0.00	
2,310.0	8.59	110.01	2,292.9	-83.0	227.9	242.5	0.00	0.00	
2,340.0	8.59	110.01	2,322.5	-84.5	232.1	247.0	0.00	0.00	
2,370.0	8.59	110.01	2,352.2	-86.0	236.3	251.5	0.00	0.00	
2,400.0	8.59	110.01	2,381.9	-87.6	240.5	256.0	0.00	0.00	
2,430.0	8.59	110.01	2,411.5	-89.1	244.7	260.4	0.00	0.00	
2,460.0	8.59	110.01	2,441.2	-90.6	248.9	264.9	0.00	0.00	
2,490.0	8.59	110.01	2,470.8	-92.2	253.1	269.4	0.00	0.00	

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site:	SWSE S22-T6S-R97W	North Reference:	True
Well:	OXY 22-1D (OXY 22 Pad)	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	8.59	110.01	2,480.7	-92.7	254.5	270.9	0.00	0.00	
2,600.0	8.59	110.01	2,579.6	-97.8	268.6	285.8	0.00	0.00	
2,700.0	8.59	110.01	2,678.5	-102.9	282.6	300.7	0.00	0.00	
2,800.0	8.59	110.01	2,777.4	-108.0	296.6	315.7	0.00	0.00	
2,900.0	8.59	110.01	2,876.3	-113.1	310.7	330.6	0.00	0.00	
3,000.0	8.59	110.01	2,975.1	-118.2	324.7	345.5	0.00	0.00	
3,100.0	8.59	110.01	3,074.0	-123.3	338.7	360.5	0.00	0.00	
3,200.0	8.59	110.01	3,172.9	-128.4	352.7	375.4	0.00	0.00	
3,300.0	8.59	110.01	3,271.8	-133.5	366.8	390.3	0.00	0.00	
3,400.0	8.59	110.01	3,370.6	-138.6	380.8	405.3	0.00	0.00	
3,500.0	8.59	110.01	3,469.5	-143.8	394.8	420.2	0.00	0.00	
3,600.0	8.59	110.01	3,568.4	-148.9	408.9	435.1	0.00	0.00	
3,700.0	8.59	110.01	3,667.3	-154.0	422.9	450.1	0.00	0.00	
3,800.0	8.59	110.01	3,766.2	-159.1	436.9	465.0	0.00	0.00	
3,900.0	8.59	110.01	3,865.0	-164.2	451.0	479.9	0.00	0.00	
4,000.0	8.59	110.01	3,963.9	-169.3	465.0	494.8	0.00	0.00	
4,100.0	8.59	110.01	4,062.8	-174.4	479.0	509.8	0.00	0.00	
4,187.2	8.59	110.01	4,149.0	-178.9	491.2	522.8	0.00	0.00	Fort Union
4,200.0	8.59	110.01	4,161.7	-179.5	493.0	524.7	0.00	0.00	
4,300.0	8.59	110.01	4,260.6	-184.6	507.1	539.6	0.00	0.00	
4,400.0	8.59	110.01	4,359.4	-189.7	521.1	554.6	0.00	0.00	
4,500.0	8.59	110.01	4,458.3	-194.8	535.1	569.5	0.00	0.00	
4,600.0	8.59	110.01	4,557.2	-199.9	549.2	584.4	0.00	0.00	
4,692.8	8.59	110.01	4,649.0	-204.7	562.2	598.3	0.00	0.00	Base Ft Union
4,700.0	8.59	110.01	4,656.1	-205.1	563.2	599.4	0.00	0.00	
4,800.0	8.59	110.01	4,755.0	-210.2	577.2	614.3	0.00	0.00	
4,900.0	8.59	110.01	4,853.8	-215.3	591.3	629.2	0.00	0.00	
5,000.0	8.59	110.01	4,952.7	-220.4	605.3	644.2	0.00	0.00	
5,100.0	8.59	110.01	5,051.6	-225.5	619.3	659.1	0.00	0.00	
5,200.0	8.59	110.01	5,150.5	-230.6	633.3	674.0	0.00	0.00	
5,300.0	8.59	110.01	5,249.4	-235.7	647.4	688.9	0.00	0.00	
5,400.0	8.59	110.01	5,348.2	-240.8	661.4	703.9	0.00	0.00	
5,500.0	8.59	110.01	5,447.1	-245.9	675.4	718.8	0.00	0.00	
5,600.0	8.59	110.01	5,546.0	-251.0	689.5	733.7	0.00	0.00	
5,700.0	8.59	110.01	5,644.9	-256.1	703.5	748.7	0.00	0.00	
5,800.0	8.59	110.01	5,743.7	-261.2	717.5	763.6	0.00	0.00	
5,900.0	8.59	110.01	5,842.6	-266.3	731.6	778.5	0.00	0.00	
5,936.8	8.59	110.01	5,879.0	-268.2	736.7	784.0	0.00	0.00	Ohio Creek
6,000.0	8.59	110.01	5,941.5	-271.5	745.6	793.5	0.00	0.00	
6,100.0	8.59	110.01	6,040.4	-276.6	759.6	808.4	0.00	0.00	
6,139.1	8.59	110.01	6,079.0	-278.6	765.1	814.2	0.00	0.00	Williams Fork
6,200.0	8.59	110.01	6,139.3	-281.7	773.6	823.3	0.00	0.00	
6,300.0	8.59	110.01	6,238.1	-286.8	787.7	838.3	0.00	0.00	
6,400.0	8.59	110.01	6,337.0	-291.9	801.7	853.2	0.00	0.00	
6,500.0	8.59	110.01	6,435.9	-297.0	815.7	868.1	0.00	0.00	
6,573.6	8.59	110.01	6,508.7	-300.8	826.1	879.1	0.00	0.00	Start Drop -1.50
6,600.0	8.19	110.01	6,534.8	-302.1	829.7	883.0	1.50	-1.50	
6,700.0	6.69	110.01	6,633.9	-306.5	841.8	895.9	1.50	-1.50	
6,800.0	5.19	110.01	6,733.4	-310.0	851.6	906.3	1.50	-1.50	
6,900.0	3.69	110.01	6,833.1	-312.7	858.8	914.0	1.50	-1.50	
7,000.0	2.19	110.01	6,933.0	-314.4	863.7	919.1	1.50	-1.50	
7,100.0	0.69	110.01	7,032.9	-315.3	866.0	921.6	1.50	-1.50	

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site:	SWSE S22-T6S-R97W	North Reference:	True
Well:	OXY 22-1D (OXY 22 Pad)	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
7,146.1	0.00	0.00	7,079.0	-315.4	866.3	921.9	1.50	-1.50	EOD; Inc=0° - Approx TOG - OXY 22-1D (OXY
7,200.0	0.00	0.00	7,132.9	-315.4	866.3	921.9	0.00	0.00	
7,300.0	0.00	0.00	7,232.9	-315.4	866.3	921.9	0.00	0.00	
7,400.0	0.00	0.00	7,332.9	-315.4	866.3	921.9	0.00	0.00	
7,500.0	0.00	0.00	7,432.9	-315.4	866.3	921.9	0.00	0.00	
7,600.0	0.00	0.00	7,532.9	-315.4	866.3	921.9	0.00	0.00	
7,700.0	0.00	0.00	7,632.9	-315.4	866.3	921.9	0.00	0.00	
7,800.0	0.00	0.00	7,732.9	-315.4	866.3	921.9	0.00	0.00	
7,900.0	0.00	0.00	7,832.9	-315.4	866.3	921.9	0.00	0.00	
8,000.0	0.00	0.00	7,932.9	-315.4	866.3	921.9	0.00	0.00	
8,100.0	0.00	0.00	8,032.9	-315.4	866.3	921.9	0.00	0.00	
8,200.0	0.00	0.00	8,132.9	-315.4	866.3	921.9	0.00	0.00	
8,300.0	0.00	0.00	8,232.9	-315.4	866.3	921.9	0.00	0.00	
8,400.0	0.00	0.00	8,332.9	-315.4	866.3	921.9	0.00	0.00	
8,496.1	0.00	0.00	8,429.0	-315.4	866.3	921.9	0.00	0.00	Cameo
8,500.0	0.00	0.00	8,432.9	-315.4	866.3	921.9	0.00	0.00	
8,600.0	0.00	0.00	8,532.9	-315.4	866.3	921.9	0.00	0.00	
8,700.0	0.00	0.00	8,632.9	-315.4	866.3	921.9	0.00	0.00	
8,800.0	0.00	0.00	8,732.9	-315.4	866.3	921.9	0.00	0.00	
8,846.1	0.00	0.00	8,779.0	-315.4	866.3	921.9	0.00	0.00	Rollins SS
8,900.0	0.00	0.00	8,832.9	-315.4	866.3	921.9	0.00	0.00	
8,996.1	0.00	0.00	8,929.0	-315.4	866.3	921.9	0.00	0.00	TD at 8996.1 - OXY 22-1D (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 22-1D (OXY 22 Pa	0.00	0.00	8,929.0	-315.4	866.3	1,618,902.18	2,238,536.10	39.501601	-108.198936
- plan hits target center									
- Polygon									
Point 1			8,929.0	50.0	100.0	1,618,949.19	2,238,637.54		
Point 2			8,929.0	50.0	-100.0	1,618,955.13	2,238,437.63		
Point 3			8,929.0	-30.0	-100.0	1,618,875.17	2,238,435.25		
Point 4			8,929.0	-30.0	100.0	1,618,869.22	2,238,635.16		
OXY 22-1D (OXY 22 Pa	0.00	0.00	7,079.0	-315.4	866.3	1,618,902.18	2,238,536.10	39.501601	-108.198936
- plan hits target center									
- Point									

Directional Plus

Planning Report

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

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,124.0	2,109.0	Wasatch		0.00		
4,187.2	4,149.0	Fort Union		0.00		
4,692.8	4,649.0	Base Ft Union		0.00		
5,936.8	5,879.0	Ohio Creek		0.00		
6,139.1	6,079.0	Williams Fork		0.00		
7,146.1	7,079.0	Approx TOG		0.00		
8,496.1	8,429.0	Cameo		0.00		
8,846.1	8,779.0	Rollins SS		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
400.0	400.0	0.0	0.0	KOP @ 400'	
972.4	970.3	-14.6	40.2	EOB; Inc=8.59°	
6,573.6	6,508.7	-300.8	826.1	Start Drop -1.50	
7,146.1	7,079.0	-315.4	866.3	EOD; Inc=0°	
8,996.1	8,929.0	-315.4	866.3	TD at 8996.1	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-1D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 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 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	8,996.1	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						
SWSE S22-T6S-R97W						
OXY 22-10D (OXY 22 Pad) - DD - Plan #1	400.0	400.0	18.2	16.9	13.570	CC, ES
OXY 22-10D (OXY 22 Pad) - DD - Plan #1	600.0	599.5	22.3	20.2	10.842	SF
OXY 22-11D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	31.7	30.7	31.887	CC, ES
OXY 22-11D (OXY 22 Pad) - DD - Plan #1	600.0	598.2	39.0	37.0	18.902	SF
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	46.3	45.3	46.533	CC, ES
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	700.0	695.0	62.8	60.4	25.805	SF
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	61.2	60.2	61.557	CC, ES
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	700.0	693.8	77.0	74.6	31.611	SF
OXY 22-14D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	75.8	74.8	76.210	CC, ES
OXY 22-14D (OXY 22 Pad) - DD - Plan #1	800.0	788.6	103.5	100.7	36.748	SF
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	90.6	89.9	140.256	CC, ES
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	800.0	783.4	129.7	126.9	45.817	SF
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	105.5	104.9	163.420	CC, ES
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	900.0	875.2	161.4	158.1	49.887	SF
OXY 22-2D (OXY 22 Pad) - DD - Plan #1	400.0	400.0	15.2	13.9	11.314	CC, ES
OXY 22-2D (OXY 22 Pad) - DD - Plan #1	800.0	798.9	22.0	19.1	7.662	SF
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	30.1	29.1	30.227	CC, ES
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	2,400.0	2,386.7	202.8	190.8	16.886	SF
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	45.2	44.2	45.463	CC, ES
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	900.0	890.0	81.8	78.5	24.899	SF
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	59.9	59.3	92.800	CC, ES
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	972.4	951.8	127.9	124.3	35.557	SF
OXY 22-6D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	74.8	74.1	115.802	CC, ES
OXY 22-6D (OXY 22 Pad) - DD - Plan #1	1,000.0	974.2	149.6	145.9	40.494	SF
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	90.0	89.3	139.298	CC, ES
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	1,000.0	970.1	166.6	162.9	45.605	SF
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	105.2	104.5	162.832	CC, ES
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	1,000.0	966.6	182.0	178.4	50.196	SF
OXY 22-9D (OXY 22 Pad) - DD - Plan #1	400.0	400.0	9.6	8.3	7.139	CC, ES
OXY 22-9D (OXY 22 Pad) - DD - Plan #1	500.0	499.8	11.5	9.8	6.762	SF

Cathedral Energy Services

Anticollision Report

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

Offset Design 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	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	17.9	0.30	61.462		
200.0	200.0	200.0	200.0	0.3	0.3	2.66	18.2	0.8	18.2	17.6	0.65	28.239		
300.0	300.0	300.0	300.0	0.5	0.5	2.66	18.2	0.8	18.2	17.2	0.99	18.331		
400.0	400.0	400.0	400.0	0.7	0.7	2.66	18.2	0.8	18.2	16.9	1.34	13.570 CC, ES		
500.0	500.0	499.9	499.9	0.8	0.8	-115.15	18.3	-0.5	18.8	17.1	1.70	11.087		
600.0	599.9	599.5	599.4	1.0	1.0	-134.56	18.4	-4.4	22.3	20.2	2.05	10.842 SF		
700.0	699.7	698.3	698.0	1.2	1.2	-153.70	18.7	-10.8	31.6	29.2	2.40	13.123		
800.0	799.3	796.9	796.3	1.4	1.4	-165.27	19.0	-18.3	46.2	43.4	2.75	16.813		
900.0	898.6	895.0	894.2	1.7	1.6	-171.51	19.3	-25.8	64.3	61.3	3.09	20.854		
972.4	970.3	965.8	964.7	1.9	1.8	-174.32	19.5	-31.2	79.4	76.0	3.33	23.846		
1,000.0	997.6	992.7	991.5	2.0	1.8	-175.15	19.6	-33.2	85.4	81.9	3.42	24.944		
1,100.0	1,096.4	1,090.2	1,088.7	2.2	2.0	-177.38	19.9	-40.7	107.3	103.5	3.77	28.488		
1,200.0	1,195.3	1,187.7	1,186.0	2.5	2.2	-178.85	20.2	-48.1	129.3	125.2	4.11	31.459		
1,300.0	1,294.2	1,285.2	1,283.2	2.8	2.5	-179.90	20.5	-55.5	151.3	146.9	4.45	33.981		
1,400.0	1,393.1	1,382.7	1,380.4	3.1	2.7	179.32	20.8	-63.0	173.4	168.6	4.80	36.146		
1,500.0	1,491.9	1,480.2	1,477.6	3.4	2.9	178.72	21.1	-70.4	195.5	190.4	5.14	38.023		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-1D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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	17.60	30.2	9.6	31.7					
100.0	100.0	100.0	100.0	0.1	0.1	17.60	30.2	9.6	31.7	31.4	0.30	106.914		
200.0	200.0	200.0	200.0	0.3	0.3	17.60	30.2	9.6	31.7	31.1	0.65	49.123		
300.0	300.0	300.0	300.0	0.5	0.5	17.60	30.2	9.6	31.7	30.7	0.99	31.887 CC, ES		
400.0	400.0	399.7	399.7	0.7	0.7	15.39	31.0	8.5	32.1	30.8	1.34	23.909		
500.0	500.0	499.2	499.2	0.8	0.9	-103.01	33.2	5.3	33.9	32.2	1.70	19.935		
600.0	599.9	598.2	597.9	1.0	1.1	-117.00	36.9	0.1	39.0	37.0	2.07	18.902 SF		
700.0	699.7	696.7	696.0	1.2	1.3	-131.13	41.8	-7.0	49.4	46.9	2.42	20.367		
800.0	799.3	795.1	794.0	1.4	1.5	-141.62	46.8	-14.2	63.9	61.1	2.77	23.047		
900.0	898.6	893.0	891.5	1.7	1.7	-149.01	51.8	-21.3	82.0	78.9	3.12	26.317		
972.4	970.3	963.6	961.8	1.9	1.9	-153.00	55.4	-26.5	97.1	93.8	3.36	28.890		
1,000.0	997.6	990.3	988.5	2.0	1.9	-154.31	56.8	-28.4	103.2	99.7	3.46	29.862		
1,100.0	1,096.4	1,087.5	1,085.3	2.2	2.1	-157.99	61.8	-35.6	125.6	121.8	3.80	33.066		
1,200.0	1,195.3	1,184.7	1,182.1	2.5	2.4	-160.55	66.7	-42.7	148.4	144.2	4.14	35.821		
1,300.0	1,294.2	1,281.9	1,278.9	2.8	2.6	-162.43	71.7	-49.8	171.3	166.8	4.48	38.198		
1,400.0	1,393.1	1,379.1	1,375.7	3.1	2.8	-163.86	76.7	-56.9	194.4	189.6	4.83	40.262		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-1D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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	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	24.10	42.3	18.9	46.3								
100.0	100.0	100.0	100.0	0.1	0.1	24.10	42.3	18.9	46.3	46.0	0.30	156.022					
200.0	200.0	200.0	200.0	0.3	0.3	24.10	42.3	18.9	46.3	45.6	0.65	71.686					
300.0	300.0	300.0	300.0	0.5	0.5	24.10	42.3	18.9	46.3	45.3	0.99	46.533 CC, ES					
400.0	400.0	399.4	399.4	0.7	0.7	22.71	43.3	18.1	46.9	45.6	1.34	34.915					
500.0	500.0	498.6	498.5	0.8	0.9	-92.73	46.3	15.7	49.0	47.3	1.70	28.837					
600.0	599.9	597.3	597.0	1.0	1.1	-102.45	51.4	11.8	53.7	51.6	2.06	26.015					
700.0	699.7	695.0	694.3	1.2	1.3	-113.88	58.4	6.4	62.8	60.4	2.43	25.805 SF					
800.0	799.3	791.7	790.3	1.4	1.5	-124.45	67.2	-0.5	77.5	74.7	2.80	27.717					
900.0	898.6	888.9	886.8	1.7	1.8	-132.82	76.8	-8.0	96.8	93.7	3.16	30.668					
972.4	970.3	959.0	956.4	1.9	1.9	-137.54	83.7	-13.4	112.9	109.5	3.41	33.056					
1,000.0	997.6	985.6	982.7	2.0	2.0	-139.14	86.3	-15.4	119.4	115.8	3.51	33.978					
1,100.0	1,096.4	1,082.1	1,078.5	2.2	2.3	-143.73	95.9	-22.8	143.4	139.6	3.87	37.083					
1,200.0	1,195.3	1,178.7	1,174.3	2.5	2.5	-146.99	105.4	-30.3	168.1	163.9	4.22	39.807					
1,300.0	1,294.2	1,275.2	1,270.0	2.8	2.8	-149.42	115.0	-37.7	193.2	188.7	4.58	42.184					

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-1D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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							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	26.84	54.6	27.7	61.2						
100.0	100.0	100.0	100.0	0.1	0.1	26.84	54.6	27.7	61.2	60.9	0.30	206.398			
200.0	200.0	200.0	200.0	0.3	0.3	26.84	54.6	27.7	61.2	60.6	0.65	94.832			
300.0	300.0	300.0	300.0	0.5	0.5	26.84	54.6	27.7	61.2	60.2	0.99	61.557 CC, ES			
400.0	400.0	399.1	399.1	0.7	0.7	25.86	55.8	27.0	62.0	60.6	1.34	46.136			
500.0	500.0	498.0	497.9	0.8	0.9	-88.07	59.1	25.2	64.2	62.5	1.70	37.849			
600.0	599.9	596.3	596.0	1.0	1.0	-95.35	64.7	22.1	68.8	66.7	2.06	33.358			
700.0	699.7	693.8	693.1	1.2	1.3	-104.54	72.4	17.8	77.0	74.6	2.44	31.611 SF			
800.0	799.3	790.1	788.7	1.4	1.5	-113.87	82.1	12.4	90.2	87.4	2.81	32.066			
900.0	898.6	884.8	882.6	1.7	1.8	-122.09	93.7	6.0	109.0	105.8	3.19	34.203			
972.4	970.3	952.4	949.2	1.9	2.0	-127.06	103.2	0.7	126.1	122.7	3.45	36.527			
1,000.0	997.6	978.1	974.5	2.0	2.1	-128.80	107.1	-1.4	133.3	129.8	3.55	37.530			
1,100.0	1,096.4	1,073.5	1,068.5	2.2	2.4	-133.92	121.7	-9.5	160.5	156.6	3.92	40.955			
1,200.0	1,195.3	1,168.9	1,162.4	2.5	2.7	-137.56	136.3	-17.6	188.6	184.3	4.29	43.990			

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-1D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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						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	28.45	66.7	36.1	75.8					
100.0	100.0	100.0	100.0	0.1	0.1	28.45	66.7	36.1	75.8	75.5	0.30	255.528		
200.0	200.0	200.0	200.0	0.3	0.3	28.45	66.7	36.1	75.8	75.2	0.65	117.405		
300.0	300.0	300.0	300.0	0.5	0.5	28.45	66.7	36.1	75.8	74.8	0.99	76.210 CC, ES		
400.0	400.0	398.7	398.7	0.7	0.7	27.71	67.8	35.6	76.6	75.3	1.34	57.075		
500.0	500.0	497.3	497.2	0.8	0.9	-85.30	71.4	34.2	79.1	77.4	1.70	46.647		
600.0	599.9	595.3	595.0	1.0	1.0	-91.04	77.2	31.8	83.6	81.5	2.06	40.620		
700.0	699.7	692.5	691.8	1.2	1.3	-98.55	85.3	28.5	91.4	88.9	2.43	37.547		
800.0	799.3	788.6	787.3	1.4	1.5	-106.65	95.6	24.3	103.5	100.7	2.82	36.748 SF		
900.0	898.6	883.2	881.0	1.7	1.8	-114.27	107.8	19.3	120.8	117.6	3.20	37.713		
972.4	970.3	950.7	947.6	1.9	2.0	-119.15	117.9	15.2	136.7	133.3	3.48	39.259		
1,000.0	997.6	976.2	972.6	2.0	2.1	-120.89	121.9	13.6	143.5	139.9	3.59	40.000		
1,100.0	1,096.4	1,067.7	1,062.5	2.2	2.4	-126.09	137.8	7.1	170.4	166.4	3.96	43.001		
1,200.0	1,195.3	1,157.8	1,150.6	2.5	2.7	-129.87	155.5	-0.1	200.6	196.3	4.33	46.280		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-1D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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 (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	29.69	78.7	44.9	90.6				
100.0	100.0	100.0	100.0	0.1	0.1	29.69	78.7	44.9	90.6	90.3	0.30	305.263	
200.0	200.0	200.0	200.0	0.3	0.3	29.69	78.7	44.9	90.6	89.9	0.65	140.256 CC, ES	
300.0	300.0	298.4	298.4	0.5	0.5	29.10	79.9	44.5	91.4	90.4	0.99	92.015	
400.0	400.0	396.7	396.6	0.7	0.7	27.39	83.5	43.3	94.1	92.7	1.35	69.738	
500.0	500.0	494.7	494.4	0.8	0.9	-85.93	89.5	41.2	98.6	96.9	1.70	57.833	
600.0	599.9	592.0	591.3	1.0	1.1	-91.13	97.7	38.5	105.4	103.3	2.07	50.846	
700.0	699.7	688.3	687.0	1.2	1.3	-97.48	108.2	34.9	115.5	113.0	2.45	47.149	
800.0	799.3	783.4	781.1	1.4	1.6	-104.17	120.8	30.7	129.7	126.9	2.83	45.817 SF	
900.0	898.6	876.9	873.4	1.7	1.9	-110.54	135.4	25.8	148.8	145.6	3.22	46.229	
972.4	970.3	943.6	938.9	1.9	2.2	-114.72	147.1	21.9	165.8	162.3	3.50	47.352	
1,000.0	997.6	968.7	963.6	2.0	2.3	-116.26	151.8	20.3	172.9	169.3	3.61	47.940	
1,100.0	1,096.4	1,059.0	1,051.8	2.2	2.6	-120.97	169.9	14.2	201.0	197.0	3.99	50.430	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-1D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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 +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	30.35	91.1	53.3	105.5					
100.0	100.0	100.0	100.0	0.1	0.1	30.35	91.1	53.3	105.5	105.2	0.30	355.678		
200.0	200.0	200.0	200.0	0.3	0.3	30.35	91.1	53.3	105.5	104.9	0.65	163.420 CC, ES		
300.0	300.0	298.2	298.1	0.5	0.5	29.85	92.3	53.0	106.4	105.4	0.99	107.122		
400.0	400.0	396.2	396.1	0.7	0.7	28.39	95.9	51.8	109.0	107.7	1.35	80.890		
500.0	500.0	493.9	493.6	0.8	0.9	-84.46	101.8	49.9	113.5	111.8	1.70	66.635		
600.0	599.9	590.9	590.2	1.0	1.1	-89.01	110.1	47.3	120.1	118.0	2.07	57.954		
700.0	699.7	687.0	685.7	1.2	1.3	-94.69	120.6	44.0	129.7	127.3	2.45	52.911		
800.0	799.3	781.9	779.6	1.4	1.6	-100.86	133.3	40.1	143.2	140.4	2.84	50.445		
900.0	898.6	875.2	871.7	1.7	1.9	-106.93	147.9	35.5	161.4	158.1	3.23	49.887 SF		
972.4	970.3	941.8	937.1	1.9	2.2	-111.03	159.6	31.8	177.5	174.0	3.52	50.405		
1,000.0	997.6	966.8	961.7	2.0	2.3	-112.56	164.3	30.3	184.4	180.7	3.63	50.791		

Cathedral Energy Services

Anticollision Report

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

Offset Design SWSE S22-T6S-R97W - OXY 22-2D (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									
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	37.76	12.0	9.3	15.2						
100.0	100.0	100.0	100.0	0.1	0.1	37.76	12.0	9.3	15.2	14.9	0.30	51.246			
200.0	200.0	200.0	200.0	0.3	0.3	37.76	12.0	9.3	15.2	14.6	0.65	23.545			
300.0	300.0	300.0	300.0	0.5	0.5	37.76	12.0	9.3	15.2	14.2	0.99	15.284			
400.0	400.0	400.0	400.0	0.7	0.7	37.76	12.0	9.3	15.2	13.9	1.34	11.314 CC, ES			
500.0	500.0	499.8	499.7	0.8	0.8	-73.04	12.0	10.6	15.6	13.9	1.69	9.214			
600.0	599.9	599.5	599.4	1.0	1.0	-75.19	12.0	14.5	16.9	14.8	2.06	8.197			
700.0	699.7	699.2	698.9	1.2	1.2	-78.14	12.1	21.0	19.0	16.5	2.44	7.765			
800.0	799.3	798.9	798.2	1.4	1.4	-81.29	12.1	30.1	22.0	19.1	2.87	7.662 SF			
900.0	898.6	898.5	897.1	1.7	1.7	-84.25	12.2	41.8	25.9	22.6	3.35	7.739			
972.4	970.3	970.8	968.7	1.9	1.9	-86.62	12.3	51.6	29.3	25.5	3.73	7.842			
1,000.0	997.6	998.3	996.0	2.0	1.9	-87.82	12.3	55.4	30.5	26.7	3.88	7.871			
1,100.0	1,096.4	1,098.2	1,094.9	2.2	2.2	-91.43	12.4	69.1	35.3	30.9	4.44	7.957			
1,200.0	1,195.3	1,198.0	1,193.8	2.5	2.5	-94.18	12.4	82.9	40.2	35.2	5.01	8.026			
1,300.0	1,294.2	1,297.9	1,292.7	2.8	2.8	-96.33	12.5	96.6	45.1	39.5	5.58	8.082			
1,400.0	1,393.1	1,397.8	1,391.6	3.1	3.1	-98.06	12.6	110.3	50.1	44.0	6.16	8.129			
1,500.0	1,491.9	1,497.6	1,490.5	3.4	3.4	-99.47	12.7	124.0	55.1	48.4	6.75	8.170			
1,600.0	1,590.8	1,597.5	1,589.5	3.7	3.6	-100.64	12.7	137.7	60.2	52.9	7.34	8.205			
1,700.0	1,689.7	1,697.4	1,688.4	4.1	3.9	-101.63	12.8	151.5	65.3	57.4	7.93	8.236			
1,800.0	1,788.6	1,797.2	1,787.3	4.4	4.2	-102.48	12.9	165.2	70.4	61.9	8.52	8.264			
1,900.0	1,887.5	1,897.1	1,886.2	4.7	4.5	-103.21	13.0	178.9	75.5	66.4	9.11	8.288			
2,000.0	1,986.3	1,997.0	1,985.1	5.0	4.8	-103.86	13.0	192.6	80.6	70.9	9.70	8.310			
2,100.0	2,085.2	2,096.8	2,084.1	5.3	5.1	-104.42	13.1	206.4	85.7	75.4	10.29	8.330			
2,200.0	2,184.1	2,196.7	2,183.0	5.6	5.4	-104.92	13.2	220.1	90.9	80.0	10.89	8.348			
2,300.0	2,283.0	2,296.6	2,281.9	5.9	5.7	-105.37	13.3	233.8	96.0	84.5	11.48	8.365			
2,400.0	2,381.9	2,396.4	2,380.8	6.2	6.0	-105.77	13.3	247.5	101.2	89.1	12.07	8.380			
2,500.0	2,480.7	2,496.3	2,479.7	6.5	6.3	-106.13	13.4	261.3	106.3	93.7	12.67	8.394			
2,600.0	2,579.6	2,596.1	2,578.6	6.9	6.6	-106.46	13.5	275.0	111.5	98.2	13.26	8.407			
2,700.0	2,678.5	2,696.0	2,677.6	7.2	6.9	-106.76	13.6	288.7	116.6	102.8	13.85	8.418			
2,800.0	2,777.4	2,795.9	2,776.5	7.5	7.2	-107.03	13.7	302.4	121.8	107.3	14.45	8.429			
2,900.0	2,876.3	2,895.7	2,875.4	7.8	7.5	-107.29	13.7	316.2	127.0	111.9	15.04	8.440			
3,000.0	2,975.1	2,995.6	2,974.3	8.1	7.8	-107.52	13.8	329.9	132.1	116.5	15.64	8.449			
3,100.0	3,074.0	3,095.5	3,073.2	8.4	8.1	-107.73	13.9	343.6	137.3	121.1	16.23	8.458			
3,200.0	3,172.9	3,195.3	3,172.1	8.7	8.4	-107.93	14.0	357.3	142.5	125.6	16.83	8.466			
3,300.0	3,271.8	3,295.2	3,271.1	9.0	8.7	-108.12	14.0	371.0	147.6	130.2	17.42	8.474			
3,400.0	3,370.6	3,395.1	3,370.0	9.4	8.9	-108.29	14.1	384.8	152.8	134.8	18.02	8.481			
3,500.0	3,469.5	3,494.9	3,468.9	9.7	9.2	-108.45	14.2	398.5	158.0	139.4	18.61	8.488			
3,600.0	3,568.4	3,594.8	3,567.8	10.0	9.5	-108.60	14.3	412.2	163.2	144.0	19.21	8.495			
3,700.0	3,667.3	3,694.7	3,666.7	10.3	9.8	-108.75	14.3	425.9	168.3	148.5	19.80	8.501			
3,800.0	3,766.2	3,794.5	3,765.7	10.6	10.1	-108.88	14.4	439.7	173.5	153.1	20.40	8.507			
3,900.0	3,865.0	3,894.4	3,864.6	10.9	10.4	-109.00	14.5	453.4	178.7	157.7	20.99	8.512			
4,000.0	3,963.9	3,994.3	3,963.5	11.3	10.7	-109.12	14.6	467.1	183.9	162.3	21.59	8.518			
4,100.0	4,062.8	4,094.1	4,062.4	11.6	11.0	-109.24	14.6	480.8	189.1	166.9	22.18	8.523			
4,200.0	4,161.7	4,194.0	4,161.3	11.9	11.3	-109.34	14.7	494.6	194.2	171.5	22.78	8.527			
4,300.0	4,260.6	4,293.9	4,260.2	12.2	11.6	-109.44	14.8	508.3	199.4	176.1	23.37	8.532			
4,400.0	4,359.4	4,393.7	4,359.2	12.5	11.9	-109.54	14.9	522.0	204.6	180.6	23.97	8.536			
4,500.0	4,458.3	4,493.6	4,458.1	12.8	12.2	-109.63	15.0	535.7	209.8	185.2	24.56	8.540			
4,600.0	4,557.2	4,593.4	4,557.0	13.1	12.5	-109.72	15.0	549.5	215.0	189.8	25.16	8.544			
4,700.0	4,656.1	4,693.3	4,655.9	13.5	12.8	-109.80	15.1	563.2	220.2	194.4	25.76	8.548			
4,800.0	4,755.0	4,793.2	4,754.8	13.8	13.1	-109.88	15.2	576.9	225.3	199.0	26.35	8.552			

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

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	36.91	24.0	18.1	30.1					
100.0	100.0	100.0	100.0	0.1	0.1	36.91	24.0	18.1	30.1	29.8	0.30	101.349		
200.0	200.0	200.0	200.0	0.3	0.3	36.91	24.0	18.1	30.1	29.4	0.65	46.566		
300.0	300.0	300.0	300.0	0.5	0.5	36.91	24.0	18.1	30.1	29.1	0.99	30.227 CC, ES		
400.0	400.0	399.3	399.3	0.7	0.7	38.20	24.5	19.3	31.2	29.8	1.34	23.204		
500.0	500.0	498.5	498.5	0.8	0.9	-70.43	25.8	22.9	34.1	32.4	1.69	20.121		
600.0	599.9	597.6	597.3	1.0	1.1	-71.00	28.0	28.9	38.4	36.3	2.06	18.674		
700.0	699.7	696.6	695.9	1.2	1.3	-72.89	31.1	37.4	44.1	41.6	2.44	18.078		
800.0	799.3	795.3	793.9	1.4	1.5	-75.48	35.1	48.2	51.3	48.4	2.86	17.940		
900.0	898.6	894.2	891.9	1.7	1.8	-78.49	39.9	61.1	59.8	56.5	3.32	17.991		
972.4	970.3	966.3	963.2	1.9	2.0	-81.41	43.4	70.8	66.0	62.3	3.70	17.856		
1,000.0	997.6	993.8	990.4	2.0	2.1	-82.63	44.8	74.5	68.4	64.6	3.84	17.791		
1,100.0	1,096.4	1,093.3	1,088.8	2.2	2.4	-86.41	49.7	87.9	77.2	72.9	4.39	17.583		
1,200.0	1,195.3	1,192.7	1,187.3	2.5	2.7	-89.41	54.6	101.3	86.4	81.4	4.96	17.422		
1,300.0	1,294.2	1,292.2	1,285.8	2.8	2.9	-91.83	59.6	114.7	95.7	90.1	5.53	17.299		
1,400.0	1,393.1	1,391.7	1,384.2	3.1	3.2	-93.82	64.5	128.1	105.1	99.0	6.11	17.203		
1,500.0	1,491.9	1,491.2	1,482.7	3.4	3.5	-95.48	69.4	141.4	114.7	108.0	6.69	17.130		
1,600.0	1,590.8	1,590.7	1,581.2	3.7	3.8	-96.88	74.3	154.8	124.3	117.0	7.28	17.072		
1,700.0	1,689.7	1,690.2	1,679.6	4.1	4.1	-98.09	79.2	168.2	134.0	126.1	7.87	17.027		
1,800.0	1,788.6	1,789.7	1,778.1	4.4	4.4	-99.12	84.2	181.6	143.7	135.3	8.46	16.991		
1,900.0	1,887.5	1,889.2	1,876.6	4.7	4.7	-100.03	89.1	195.0	153.5	144.4	9.05	16.963		
2,000.0	1,986.3	1,988.7	1,975.0	5.0	5.0	-100.83	94.0	208.4	163.3	153.7	9.64	16.940		
2,100.0	2,085.2	2,088.2	2,073.5	5.3	5.3	-101.54	98.9	221.8	173.2	162.9	10.23	16.922		
2,200.0	2,184.1	2,187.7	2,172.0	5.6	5.7	-102.17	103.9	235.2	183.0	172.2	10.83	16.907		
2,300.0	2,283.0	2,287.2	2,270.4	5.9	6.0	-102.74	108.8	248.5	192.9	181.5	11.42	16.895		
2,400.0	2,381.9	2,386.7	2,368.9	6.2	6.3	-103.25	113.7	261.9	202.8	190.8	12.01	16.886 SF		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-1D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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							
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	36.35	36.4	26.8	45.2				
100.0	100.0	100.0	100.0	0.1	0.1	36.35	36.4	26.8	45.2	44.9	0.30	152.436	
200.0	200.0	200.0	200.0	0.3	0.3	36.35	36.4	26.8	45.2	44.6	0.65	70.038	
300.0	300.0	300.0	300.0	0.5	0.5	36.35	36.4	26.8	45.2	44.2	0.99	45.463	CC, ES
400.0	400.0	398.9	398.9	0.7	0.7	36.84	37.2	27.8	46.5	45.1	1.34	34.597	
500.0	500.0	497.6	497.5	0.8	0.9	-73.20	39.4	31.0	49.8	48.1	1.69	29.436	
600.0	599.9	596.2	595.9	1.0	1.0	-74.97	43.1	36.2	54.8	52.8	2.05	26.768	
700.0	699.7	694.5	693.8	1.2	1.3	-77.88	48.2	43.4	61.7	59.3	2.42	25.467	
800.0	799.3	792.5	791.1	1.4	1.5	-81.34	54.8	52.6	70.7	67.8	2.83	24.957	
900.0	898.6	890.0	887.7	1.7	1.8	-84.89	62.8	63.9	81.8	78.5	3.28	24.899	SF
972.4	970.3	960.4	957.1	1.9	2.0	-87.36	69.4	73.2	91.3	87.6	3.64	25.046	
1,000.0	997.6	987.6	984.0	2.0	2.1	-88.30	72.1	77.0	95.1	91.3	3.79	25.118	
1,100.0	1,096.4	1,086.5	1,081.3	2.2	2.4	-91.18	82.0	90.9	109.3	105.0	4.32	25.298	
1,200.0	1,195.3	1,185.4	1,178.7	2.5	2.7	-93.39	91.8	104.7	123.6	118.8	4.87	25.396	
1,300.0	1,294.2	1,284.2	1,276.1	2.8	3.1	-95.14	101.7	118.6	138.1	132.7	5.43	25.447	
1,400.0	1,393.1	1,383.1	1,373.5	3.1	3.4	-96.56	111.5	132.4	152.7	146.7	6.00	25.470	
1,500.0	1,491.9	1,482.0	1,470.9	3.4	3.7	-97.73	121.4	146.2	167.4	160.8	6.57	25.477	
1,600.0	1,590.8	1,580.8	1,568.3	3.7	4.1	-98.71	131.2	160.1	182.1	175.0	7.15	25.475	
1,700.0	1,689.7	1,679.7	1,665.7	4.1	4.4	-99.54	141.1	173.9	196.9	189.2	7.73	25.467	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-1D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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: 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	36.06	48.4	35.3	59.9					
100.0	100.0	100.0	100.0	0.1	0.1	36.06	48.4	35.3	59.9	59.6	0.30	201.977		
200.0	200.0	200.0	200.0	0.3	0.3	36.06	48.4	35.3	59.9	59.3	0.65	92.800 CC, ES		
300.0	300.0	298.4	298.4	0.5	0.5	36.19	49.4	36.1	61.2	60.2	0.99	61.592		
400.0	400.0	396.8	396.7	0.7	0.7	36.56	52.2	38.7	65.1	63.7	1.35	48.217		
500.0	500.0	494.8	494.5	0.8	0.9	-73.83	56.8	43.0	71.1	69.4	1.69	42.163		
600.0	599.9	592.6	591.9	1.0	1.1	-75.70	63.3	48.9	79.0	76.9	2.04	38.710		
700.0	699.7	689.9	688.5	1.2	1.4	-78.51	71.6	56.5	88.9	86.5	2.41	36.877		
800.0	799.3	786.6	784.3	1.4	1.6	-81.78	81.6	65.6	101.1	98.3	2.81	35.976		
900.0	898.6	882.7	879.1	1.7	1.9	-85.16	93.3	76.4	115.7	112.4	3.25	35.608		
972.4	970.3	951.8	947.0	1.9	2.2	-87.54	102.8	85.1	127.9	124.3	3.60	35.557 SF		
1,000.0	997.6	978.1	972.7	2.0	2.3	-88.45	106.7	88.6	132.9	129.2	3.73	35.598		
1,100.0	1,096.4	1,076.1	1,068.7	2.2	2.7	-91.28	121.3	101.9	151.6	147.3	4.25	35.652		
1,200.0	1,195.3	1,174.1	1,164.7	2.5	3.0	-93.49	135.8	115.3	170.5	165.7	4.79	35.626		
1,300.0	1,294.2	1,272.1	1,260.7	2.8	3.4	-95.26	150.4	128.6	189.6	184.3	5.33	35.558		

Cathedral Energy Services

Anticollision Report

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

Offset Design SWSE S22-T6S-R97W - OXY 22-6D (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	36.06	60.5	44.0	74.8						
100.0	100.0	100.0	100.0	0.1	0.1	36.06	60.5	44.0	74.8	74.5	0.30	252.039			
200.0	200.0	200.0	200.0	0.3	0.3	36.06	60.5	44.0	74.8	74.1	0.65	115.802	CC, ES		
300.0	300.0	298.1	298.0	0.5	0.5	36.07	61.5	44.8	76.1	75.1	0.99	76.582			
400.0	400.0	396.0	395.9	0.7	0.7	36.10	64.5	47.0	79.9	78.6	1.35	59.256			
500.0	500.0	493.7	493.4	0.8	0.9	-74.60	69.5	50.8	86.0	84.3	1.68	51.069			
600.0	599.9	591.0	590.3	1.0	1.1	-76.62	76.5	56.0	93.9	91.9	2.04	46.148			
700.0	699.7	687.9	686.5	1.2	1.3	-79.52	85.4	62.6	104.1	101.7	2.40	43.311			
800.0	799.3	784.1	781.8	1.4	1.6	-82.89	96.2	70.6	116.6	113.8	2.79	41.708			
900.0	898.6	879.6	876.0	1.7	1.9	-86.39	108.8	80.0	131.7	128.5	3.22	40.848			
972.4	970.3	948.2	943.4	1.9	2.2	-88.86	119.0	87.6	144.4	140.8	3.56	40.533			
1,000.0	997.6	974.2	968.9	2.0	2.3	-89.81	123.2	90.7	149.6	145.9	3.69	40.494	SF		
1,100.0	1,096.4	1,068.0	1,060.5	2.2	2.7	-92.60	139.2	102.6	170.3	166.1	4.19	40.638			
1,200.0	1,195.3	1,161.4	1,151.3	2.5	3.1	-94.52	157.0	115.9	193.5	188.8	4.70	41.141			

Cathedral Energy Services

Anticollision Report

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

Offset Design												SWSE S22-T6S-R97W - OXY 22-7D (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	35.92	72.9	52.8	90.0								
100.0	100.0	100.0	100.0	0.1	0.1	35.92	72.9	52.8	90.0	89.7	0.30	303.177					
200.0	200.0	200.0	200.0	0.3	0.3	35.92	72.9	52.8	90.0	89.3	0.65	139.298	CC, ES				
300.0	300.0	297.7	297.7	0.5	0.5	35.82	73.9	53.4	91.2	90.2	0.99	91.889					
400.0	400.0	395.3	395.2	0.7	0.7	35.53	77.2	55.2	95.0	93.7	1.35	70.484					
500.0	500.0	492.6	492.3	0.8	0.9	-75.51	82.7	58.1	101.0	99.4	1.68	60.074					
600.0	599.9	589.5	588.8	1.0	1.1	-77.81	90.3	62.3	109.0	107.0	2.03	53.624					
700.0	699.7	685.9	684.6	1.2	1.3	-80.96	100.0	67.5	119.3	116.9	2.40	49.761					
800.0	799.3	781.5	779.3	1.4	1.6	-84.58	111.7	73.9	132.1	129.3	2.78	47.477					
900.0	898.6	876.3	872.8	1.7	1.9	-88.33	125.3	81.3	147.8	144.6	3.20	46.190					
972.4	970.3	944.4	939.7	1.9	2.2	-90.99	136.4	87.3	161.1	157.6	3.53	45.691					
1,000.0	997.6	970.1	964.9	2.0	2.3	-92.02	140.8	89.8	166.6	162.9	3.65	45.605	SF				
1,100.0	1,096.4	1,063.0	1,055.7	2.2	2.6	-95.14	158.1	99.2	188.4	184.2	4.13	45.649					

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-1D (OXY 22 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8506.0ft (Original Well Elev)
Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-1D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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					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	36.18	84.9	62.1	105.2					
100.0	100.0	100.0	100.0	0.1	0.1	36.18	84.9	62.1	105.2	104.9	0.30	354.400		
200.0	200.0	200.0	200.0	0.3	0.3	36.18	84.9	62.1	105.2	104.5	0.65	162.832 CC, ES		
300.0	300.0	297.4	297.4	0.5	0.5	36.01	86.0	62.5	106.4	105.4	0.99	107.208		
400.0	400.0	394.7	394.6	0.7	0.7	35.50	89.5	63.8	110.1	108.7	1.35	81.681		
500.0	500.0	491.7	491.4	0.8	0.9	-75.80	95.3	66.0	115.9	114.2	1.68	68.920		
600.0	599.9	588.2	587.6	1.0	1.1	-78.31	103.3	69.1	123.8	121.7	2.03	60.845		
700.0	699.7	684.2	682.9	1.2	1.3	-81.68	113.5	73.0	133.9	131.5	2.40	55.861		
800.0	799.3	779.3	777.1	1.4	1.6	-85.53	125.8	77.7	146.8	144.0	2.78	52.815		
900.0	898.6	873.5	870.0	1.7	1.9	-89.54	140.2	83.2	162.7	159.6	3.19	51.043		
972.4	970.3	941.1	936.4	1.9	2.2	-92.39	151.8	87.6	176.4	172.9	3.50	50.334		
1,000.0	997.6	966.6	961.5	2.0	2.3	-93.50	156.5	89.4	182.0	178.4	3.63	50.196 SF		

Cathedral Energy Services

Anticollision Report

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

Offset Design SWSE S22-T6S-R97W - OXY 22-9D (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	-52.57	5.8	-7.6	9.6					
100.0	100.0	100.0	100.0	0.1	0.1	-52.57	5.8	-7.6	9.6	9.3	0.30	32.338		
200.0	200.0	200.0	200.0	0.3	0.3	-52.57	5.8	-7.6	9.6	8.9	0.65	14.858		
300.0	300.0	300.0	300.0	0.5	0.5	-52.57	5.8	-7.6	9.6	8.6	0.99	9.645		
400.0	400.0	400.0	400.0	0.7	0.7	-52.57	5.8	-7.6	9.6	8.3	1.34	7.139 CC, ES		
500.0	500.0	499.8	499.8	0.8	0.8	-170.60	5.2	-8.7	11.5	9.8	1.69	6.762 SF		
600.0	599.9	599.4	599.3	1.0	1.0	176.33	3.2	-12.1	17.8	15.7	2.04	8.686		
700.0	699.7	698.2	697.9	1.2	1.2	167.79	0.0	-17.7	29.1	26.7	2.40	12.122		
800.0	799.3	796.5	795.8	1.4	1.4	163.28	-4.4	-25.1	45.0	42.2	2.75	16.351		
900.0	898.6	894.7	893.6	1.7	1.6	161.66	-9.0	-32.9	63.8	60.7	3.11	20.515		
972.4	970.3	965.6	964.2	1.9	1.8	161.34	-12.2	-38.5	79.0	75.6	3.37	23.422		
1,000.0	997.6	992.5	991.0	2.0	1.9	161.33	-13.5	-40.6	85.0	81.5	3.47	24.468		
1,100.0	1,096.4	1,090.1	1,088.1	2.2	2.1	161.29	-18.0	-48.3	106.8	102.9	3.84	27.787		
1,200.0	1,195.3	1,187.6	1,185.3	2.5	2.3	161.26	-22.5	-56.0	128.6	124.4	4.22	30.508		
1,300.0	1,294.2	1,285.2	1,282.5	2.8	2.5	161.25	-27.0	-63.7	150.4	145.8	4.59	32.779		
1,400.0	1,393.1	1,382.8	1,379.7	3.1	2.8	161.23	-31.5	-71.4	172.2	167.3	4.96	34.700		
1,500.0	1,491.9	1,480.4	1,476.9	3.4	3.0	161.22	-36.1	-79.1	194.0	188.7	5.34	36.346		

Cathedral Energy Services

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Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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 22-1D (OXY 22 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.70°

