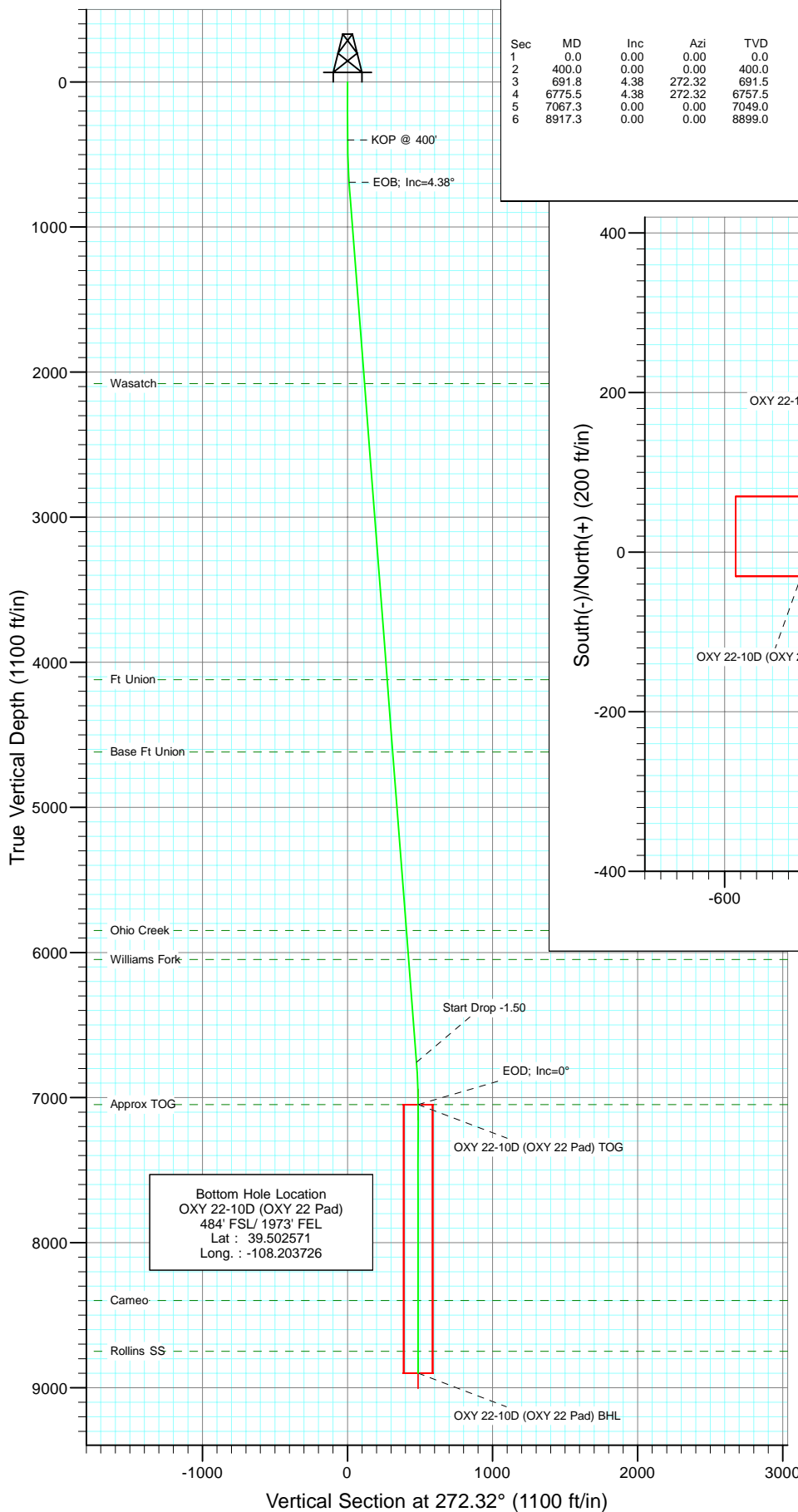




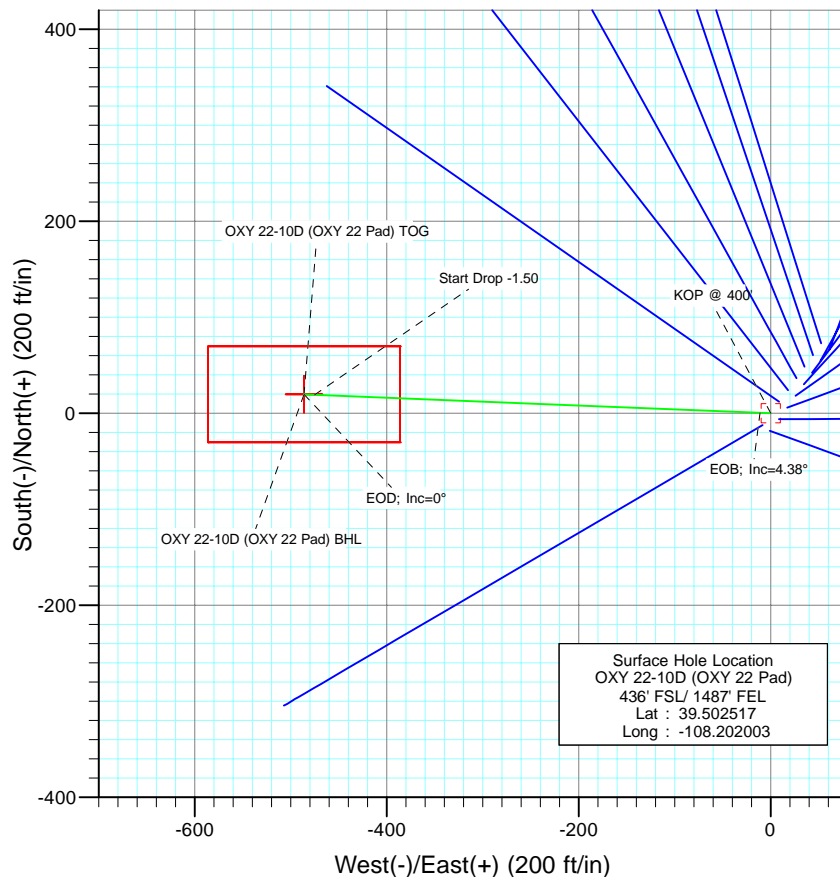
Berry Petroleum Company

Project: Garfield County
Site: SWSE S22-T6S-R97W
Well: OXY 22-10D (OXY 22 Pad)
Wellbore: DD
Design: Plan #1



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	691.8	4.38	272.32	691.5	0.5	-11.1	1.50	272.32	11.1	
4	6775.5	4.38	272.32	6757.5	19.2	-475.1	0.00	0.00	475.4	
5	7067.3	0.00	0.00	7049.0	19.7	-486.2	1.50	180.00	486.6	OXY 22-10D (OXY 22 Pad) TOG
6	8917.3	0.00	0.00	8899.0	19.7	-486.2	0.00	0.00	486.6	OXY 22-10D (OXY 22 Pad) BHL



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2079.0	2083.3	Wasatch
4119.0	4129.3	Ft Union
4619.0	4630.8	Base Ft Union
5849.0	5864.4	Ohio Creek
6049.0	6065.0	Williams Fork
7049.0	7067.3	Approx TOG
8399.0	8417.3	Cameo
8749.0	8767.3	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 22-10D (OXY 22 Pad) BHL	272.32	Slot	0.0	0.0	0.0

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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 22-10D (OXY 22 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,619,261.39 ft	Latitude:	39.502517
	+E/-W	0.0 ft	Easting:	2,237,680.96 ft	Longitude:	-108.202003
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)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	272.32

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	
691.8	4.38	272.32	691.5	0.5	-11.1	1.50	1.50	0.00	272.32	
6,775.5	4.38	272.32	6,757.5	19.2	-475.1	0.00	0.00	0.00	0.00	
7,067.3	0.00	0.00	7,049.0	19.7	-486.2	1.50	-1.50	0.00	180.00	OXY 22-10D (OXY 22
8,917.3	0.00	0.00	8,899.0	19.7	-486.2	0.00	0.00	0.00	0.00	OXY 22-10D (OXY 22

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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	272.32	420.0	0.0	-0.1	0.1	1.50	1.50	
450.0	0.75	272.32	450.0	0.0	-0.3	0.3	1.50	1.50	
480.0	1.20	272.32	480.0	0.0	-0.8	0.8	1.50	1.50	
510.0	1.65	272.32	510.0	0.1	-1.6	1.6	1.50	1.50	
540.0	2.10	272.32	540.0	0.1	-2.6	2.6	1.50	1.50	
570.0	2.55	272.32	569.9	0.2	-3.8	3.8	1.50	1.50	
600.0	3.00	272.32	599.9	0.2	-5.2	5.2	1.50	1.50	
630.0	3.45	272.32	629.9	0.3	-6.9	6.9	1.50	1.50	
660.0	3.90	272.32	659.8	0.4	-8.8	8.8	1.50	1.50	
690.0	4.35	272.32	689.7	0.4	-11.0	11.0	1.50	1.50	
691.8	4.38	272.32	691.5	0.5	-11.1	11.1	1.50	1.50	EOB; Inc=4.38°
720.0	4.38	272.32	719.6	0.5	-13.3	13.3	0.00	0.00	
750.0	4.38	272.32	749.5	0.6	-15.6	15.6	0.00	0.00	
780.0	4.38	272.32	779.5	0.7	-17.9	17.9	0.00	0.00	
810.0	4.38	272.32	809.4	0.8	-20.1	20.2	0.00	0.00	
840.0	4.38	272.32	839.3	0.9	-22.4	22.5	0.00	0.00	
870.0	4.38	272.32	869.2	1.0	-24.7	24.7	0.00	0.00	
900.0	4.38	272.32	899.1	1.1	-27.0	27.0	0.00	0.00	
930.0	4.38	272.32	929.0	1.2	-29.3	29.3	0.00	0.00	
960.0	4.38	272.32	958.9	1.3	-31.6	31.6	0.00	0.00	
990.0	4.38	272.32	988.8	1.4	-33.9	33.9	0.00	0.00	
1,020.0	4.38	272.32	1,018.8	1.5	-36.2	36.2	0.00	0.00	
1,050.0	4.38	272.32	1,048.7	1.6	-38.4	38.5	0.00	0.00	
1,080.0	4.38	272.32	1,078.6	1.6	-40.7	40.8	0.00	0.00	
1,110.0	4.38	272.32	1,108.5	1.7	-43.0	43.1	0.00	0.00	
1,140.0	4.38	272.32	1,138.4	1.8	-45.3	45.3	0.00	0.00	
1,170.0	4.38	272.32	1,168.3	1.9	-47.6	47.6	0.00	0.00	
1,200.0	4.38	272.32	1,198.2	2.0	-49.9	49.9	0.00	0.00	
1,230.0	4.38	272.32	1,228.1	2.1	-52.2	52.2	0.00	0.00	
1,260.0	4.38	272.32	1,258.1	2.2	-54.5	54.5	0.00	0.00	
1,290.0	4.38	272.32	1,288.0	2.3	-56.7	56.8	0.00	0.00	
1,320.0	4.38	272.32	1,317.9	2.4	-59.0	59.1	0.00	0.00	
1,350.0	4.38	272.32	1,347.8	2.5	-61.3	61.4	0.00	0.00	
1,380.0	4.38	272.32	1,377.7	2.6	-63.6	63.7	0.00	0.00	
1,410.0	4.38	272.32	1,407.6	2.7	-65.9	66.0	0.00	0.00	
1,440.0	4.38	272.32	1,437.5	2.8	-68.2	68.2	0.00	0.00	
1,470.0	4.38	272.32	1,467.4	2.9	-70.5	70.5	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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	4.38	272.32	1,497.4	2.9	-72.8	72.8	0.00	0.00	
1,530.0	4.38	272.32	1,527.3	3.0	-75.0	75.1	0.00	0.00	
1,560.0	4.38	272.32	1,557.2	3.1	-77.3	77.4	0.00	0.00	
1,590.0	4.38	272.32	1,587.1	3.2	-79.6	79.7	0.00	0.00	
1,620.0	4.38	272.32	1,617.0	3.3	-81.9	82.0	0.00	0.00	
1,650.0	4.38	272.32	1,646.9	3.4	-84.2	84.3	0.00	0.00	
1,680.0	4.38	272.32	1,676.8	3.5	-86.5	86.6	0.00	0.00	
1,710.0	4.38	272.32	1,706.7	3.6	-88.8	88.8	0.00	0.00	
1,740.0	4.38	272.32	1,736.7	3.7	-91.1	91.1	0.00	0.00	
1,770.0	4.38	272.32	1,766.6	3.8	-93.4	93.4	0.00	0.00	
1,800.0	4.38	272.32	1,796.5	3.9	-95.6	95.7	0.00	0.00	
1,830.0	4.38	272.32	1,826.4	4.0	-97.9	98.0	0.00	0.00	
1,860.0	4.38	272.32	1,856.3	4.1	-100.2	100.3	0.00	0.00	
1,890.0	4.38	272.32	1,886.2	4.1	-102.5	102.6	0.00	0.00	
1,920.0	4.38	272.32	1,916.1	4.2	-104.8	104.9	0.00	0.00	
1,950.0	4.38	272.32	1,946.0	4.3	-107.1	107.2	0.00	0.00	
1,980.0	4.38	272.32	1,976.0	4.4	-109.4	109.5	0.00	0.00	
2,010.0	4.38	272.32	2,005.9	4.5	-111.7	111.7	0.00	0.00	
2,040.0	4.38	272.32	2,035.8	4.6	-113.9	114.0	0.00	0.00	
2,070.0	4.38	272.32	2,065.7	4.7	-116.2	116.3	0.00	0.00	
2,083.3	4.38	272.32	2,079.0	4.7	-117.2	117.3	0.00	0.00	Wasatch
2,100.0	4.38	272.32	2,095.6	4.8	-118.5	118.6	0.00	0.00	
2,130.0	4.38	272.32	2,125.5	4.9	-120.8	120.9	0.00	0.00	
2,160.0	4.38	272.32	2,155.4	5.0	-123.1	123.2	0.00	0.00	
2,190.0	4.38	272.32	2,185.3	5.1	-125.4	125.5	0.00	0.00	
2,220.0	4.38	272.32	2,215.3	5.2	-127.7	127.8	0.00	0.00	
2,250.0	4.38	272.32	2,245.2	5.3	-130.0	130.1	0.00	0.00	
2,280.0	4.38	272.32	2,275.1	5.4	-132.2	132.4	0.00	0.00	
2,310.0	4.38	272.32	2,305.0	5.4	-134.5	134.6	0.00	0.00	
2,340.0	4.38	272.32	2,334.9	5.5	-136.8	136.9	0.00	0.00	
2,370.0	4.38	272.32	2,364.8	5.6	-139.1	139.2	0.00	0.00	
2,400.0	4.38	272.32	2,394.7	5.7	-141.4	141.5	0.00	0.00	
2,430.0	4.38	272.32	2,424.6	5.8	-143.7	143.8	0.00	0.00	
2,460.0	4.38	272.32	2,454.6	5.9	-146.0	146.1	0.00	0.00	
2,490.0	4.38	272.32	2,484.5	6.0	-148.3	148.4	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 22-10D (OXY 22 P	0.00	0.00	8,899.0	19.7	-486.2	1,619,295.53	2,237,195.58	39.502571	-108.203726
- plan misses target center by 6423.4ft at 2490.0ft MD (2484.5 TVD, 6.0 N, -148.3 E)									
- Rectangle (sides W200.0 H100.0 D0.0)									
OXY 22-10D (OXY 22 P	0.00	0.00	7,049.0	19.7	-486.2	1,619,295.53	2,237,195.58	39.502571	-108.203726
- plan misses target center by 4577.0ft at 2490.0ft MD (2484.5 TVD, 6.0 N, -148.3 E)									
- Point									

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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	4.38	272.32	2,494.4	6.0	-149.0	149.1	0.00	0.00	
2,600.0	4.38	272.32	2,594.2	6.3	-156.6	156.8	0.00	0.00	
2,700.0	4.38	272.32	2,693.9	6.7	-164.3	164.4	0.00	0.00	
2,800.0	4.38	272.32	2,793.6	7.0	-171.9	172.0	0.00	0.00	
2,900.0	4.38	272.32	2,893.3	7.3	-179.5	179.7	0.00	0.00	
3,000.0	4.38	272.32	2,993.0	7.6	-187.1	187.3	0.00	0.00	
3,100.0	4.38	272.32	3,092.7	7.9	-194.8	194.9	0.00	0.00	
3,200.0	4.38	272.32	3,192.4	8.2	-202.4	202.6	0.00	0.00	
3,300.0	4.38	272.32	3,292.1	8.5	-210.0	210.2	0.00	0.00	
3,400.0	4.38	272.32	3,391.8	8.8	-217.6	217.8	0.00	0.00	
3,500.0	4.38	272.32	3,491.5	9.1	-225.3	225.5	0.00	0.00	
3,600.0	4.38	272.32	3,591.2	9.4	-232.9	233.1	0.00	0.00	
3,700.0	4.38	272.32	3,690.9	9.7	-240.5	240.7	0.00	0.00	
3,800.0	4.38	272.32	3,790.7	10.0	-248.2	248.4	0.00	0.00	
3,900.0	4.38	272.32	3,890.4	10.4	-255.8	256.0	0.00	0.00	
4,000.0	4.38	272.32	3,990.1	10.7	-263.4	263.6	0.00	0.00	
4,100.0	4.38	272.32	4,089.8	11.0	-271.0	271.3	0.00	0.00	
4,129.3	4.38	272.32	4,119.0	11.1	-273.3	273.5	0.00	0.00	Ft Union
4,200.0	4.38	272.32	4,189.5	11.3	-278.7	278.9	0.00	0.00	
4,300.0	4.38	272.32	4,289.2	11.6	-286.3	286.5	0.00	0.00	
4,400.0	4.38	272.32	4,388.9	11.9	-293.9	294.1	0.00	0.00	
4,500.0	4.38	272.32	4,488.6	12.2	-301.5	301.8	0.00	0.00	
4,600.0	4.38	272.32	4,588.3	12.5	-309.2	309.4	0.00	0.00	
4,630.8	4.38	272.32	4,619.0	12.6	-311.5	311.8	0.00	0.00	Base Ft Union
4,700.0	4.38	272.32	4,688.0	12.8	-316.8	317.0	0.00	0.00	
4,800.0	4.38	272.32	4,787.7	13.1	-324.4	324.7	0.00	0.00	
4,900.0	4.38	272.32	4,887.4	13.4	-332.0	332.3	0.00	0.00	
5,000.0	4.38	272.32	4,987.2	13.8	-339.7	339.9	0.00	0.00	
5,100.0	4.38	272.32	5,086.9	14.1	-347.3	347.6	0.00	0.00	
5,200.0	4.38	272.32	5,186.6	14.4	-354.9	355.2	0.00	0.00	
5,300.0	4.38	272.32	5,286.3	14.7	-362.5	362.8	0.00	0.00	
5,400.0	4.38	272.32	5,386.0	15.0	-370.2	370.5	0.00	0.00	
5,500.0	4.38	272.32	5,485.7	15.3	-377.8	378.1	0.00	0.00	
5,600.0	4.38	272.32	5,585.4	15.6	-385.4	385.7	0.00	0.00	
5,700.0	4.38	272.32	5,685.1	15.9	-393.0	393.4	0.00	0.00	
5,800.0	4.38	272.32	5,784.8	16.2	-400.7	401.0	0.00	0.00	
5,864.4	4.38	272.32	5,849.0	16.4	-405.6	405.9	0.00	0.00	Ohio Creek
5,900.0	4.38	272.32	5,884.5	16.5	-408.3	408.6	0.00	0.00	
6,000.0	4.38	272.32	5,984.2	16.8	-415.9	416.3	0.00	0.00	
6,065.0	4.38	272.32	6,049.0	17.0	-420.9	421.2	0.00	0.00	Williams Fork
6,100.0	4.38	272.32	6,083.9	17.1	-423.5	423.9	0.00	0.00	
6,200.0	4.38	272.32	6,183.7	17.5	-431.2	431.5	0.00	0.00	
6,300.0	4.38	272.32	6,283.4	17.8	-438.8	439.2	0.00	0.00	
6,400.0	4.38	272.32	6,383.1	18.1	-446.4	446.8	0.00	0.00	
6,500.0	4.38	272.32	6,482.8	18.4	-454.0	454.4	0.00	0.00	
6,600.0	4.38	272.32	6,582.5	18.7	-461.7	462.1	0.00	0.00	
6,700.0	4.38	272.32	6,682.2	19.0	-469.3	469.7	0.00	0.00	
6,775.5	4.38	272.32	6,757.5	19.2	-475.1	475.4	0.00	0.00	Start Drop -1.50
6,800.0	4.01	272.32	6,781.9	19.3	-476.8	477.2	1.50	-1.50	
6,900.0	2.51	272.32	6,881.7	19.5	-482.5	482.9	1.50	-1.50	
7,000.0	1.01	272.32	6,981.7	19.7	-485.6	486.0	1.50	-1.50	
7,067.3	0.00	0.00	7,049.0	19.7	-486.2	486.6	1.50	-1.50	EOD; Inc=0° - Approx TOG - OXY 22-10D (OX)

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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
7,100.0	0.00	0.00	7,081.7	19.7	-486.2	486.6	0.00	0.00	
7,200.0	0.00	0.00	7,181.7	19.7	-486.2	486.6	0.00	0.00	
7,300.0	0.00	0.00	7,281.7	19.7	-486.2	486.6	0.00	0.00	
7,400.0	0.00	0.00	7,381.7	19.7	-486.2	486.6	0.00	0.00	
7,500.0	0.00	0.00	7,481.7	19.7	-486.2	486.6	0.00	0.00	
7,600.0	0.00	0.00	7,581.7	19.7	-486.2	486.6	0.00	0.00	
7,700.0	0.00	0.00	7,681.7	19.7	-486.2	486.6	0.00	0.00	
7,800.0	0.00	0.00	7,781.7	19.7	-486.2	486.6	0.00	0.00	
7,900.0	0.00	0.00	7,881.7	19.7	-486.2	486.6	0.00	0.00	
8,000.0	0.00	0.00	7,981.7	19.7	-486.2	486.6	0.00	0.00	
8,100.0	0.00	0.00	8,081.7	19.7	-486.2	486.6	0.00	0.00	
8,200.0	0.00	0.00	8,181.7	19.7	-486.2	486.6	0.00	0.00	
8,300.0	0.00	0.00	8,281.7	19.7	-486.2	486.6	0.00	0.00	
8,400.0	0.00	0.00	8,381.7	19.7	-486.2	486.6	0.00	0.00	
8,417.3	0.00	0.00	8,399.0	19.7	-486.2	486.6	0.00	0.00	Cameo
8,500.0	0.00	0.00	8,481.7	19.7	-486.2	486.6	0.00	0.00	
8,600.0	0.00	0.00	8,581.7	19.7	-486.2	486.6	0.00	0.00	
8,700.0	0.00	0.00	8,681.7	19.7	-486.2	486.6	0.00	0.00	
8,767.3	0.00	0.00	8,749.0	19.7	-486.2	486.6	0.00	0.00	Rollins SS
8,800.0	0.00	0.00	8,781.7	19.7	-486.2	486.6	0.00	0.00	
8,900.0	0.00	0.00	8,881.7	19.7	-486.2	486.6	0.00	0.00	
8,917.3	0.00	0.00	8,899.0	19.7	-486.2	486.6	0.00	0.00	TD at 8917.3 - OXY 22-10D (OXY 22 Pad) BHL

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
OXY 22-10D (OXY 22 P - plan hits target center - Rectangle (sides W100.0 H200.0 D0.0)	0.00	0.00	8,899.0	19.7	-486.2	1,619,295.53	2,237,195.58	39.502571	-108.203726
OXY 22-10D (OXY 22 P - plan hits target center - Point	0.00	0.00	7,049.0	19.7	-486.2	1,619,295.53	2,237,195.58	39.502571	-108.203726

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,083.3	2,079.0	Wasatch		0.00	
4,129.3	4,119.0	Ft Union		0.00	
4,630.8	4,619.0	Base Ft Union		0.00	
5,864.4	5,849.0	Ohio Creek		0.00	
6,065.0	6,049.0	Williams Fork		0.00	
7,067.3	7,049.0	Approx TOG		0.00	
8,417.3	8,399.0	Cameo		0.00	
8,767.3	8,749.0	Rollins SS		0.00	

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
400.0	400.0	0.0	0.0	KOP @ 400'
691.8	691.5	0.5	-11.1	EOB; Inc=4.38°
6,775.5	6,757.5	19.2	-475.1	Start Drop -1.50
7,067.3	7,049.0	19.7	-486.2	EOD; Inc=0°
8,917.3	8,899.0	19.7	-486.2	TD at 8917.3

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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	8,916.6	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 22-11D (OXY 22 Pad) - DD - Plan #1	347.3	347.3	14.9	13.7	12.812	CC
OXY 22-11D (OXY 22 Pad) - DD - Plan #1	400.0	400.0	14.9	13.6	11.085	ES
OXY 22-11D (OXY 22 Pad) - DD - Plan #1	600.0	599.7	19.0	17.0	9.149	SF
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	30.1	29.1	30.223	CC, ES
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	691.8	690.1	42.9	40.4	17.531	SF
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	45.2	44.2	45.460	CC, ES
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	800.0	795.5	70.9	68.0	24.557	SF
OXY 22-14D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	59.9	58.9	60.235	CC, ES
OXY 22-14D (OXY 22 Pad) - DD - Plan #1	900.0	891.2	100.8	97.5	30.550	SF
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	74.8	74.1	115.815	CC, ES
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	1,000.0	981.3	146.5	142.7	38.657	SF
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	89.8	89.1	139.036	CC, ES
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	1,100.0	1,073.8	181.2	177.0	42.750	SF
OXY 22-1D (OXY 22 Pad) - DD - Plan #1	400.0	400.0	18.2	16.9	13.570	CC, ES
OXY 22-1D (OXY 22 Pad) - DD - Plan #1	600.0	599.2	22.2	20.2	10.838	SF
OXY 22-2D (OXY 22 Pad) - DD - Plan #1	400.0	400.0	10.5	9.1	7.806	CC, ES
OXY 22-2D (OXY 22 Pad) - DD - Plan #1	500.0	499.7	12.7	11.0	7.512	SF
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	18.2	17.2	18.267	CC, ES
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	400.0	399.5	19.5	18.1	14.484	SF
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	31.7	30.7	31.876	CC, ES
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	500.0	498.1	37.9	36.3	22.456	SF
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	45.8	45.2	70.947	CC, ES
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	600.0	593.5	70.1	68.1	34.457	SF
OXY 22-6D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	60.4	59.8	93.527	CC, ES
OXY 22-6D (OXY 22 Pad) - DD - Plan #1	600.0	592.1	84.3	82.2	41.433	SF
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	75.4	74.7	116.715	CC, ES
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	691.8	679.2	112.5	110.2	47.582	SF
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	90.5	89.9	140.161	CC, ES
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	800.0	781.0	145.5	142.7	52.417	SF
OXY 22-9D (OXY 22 Pad) - DD - Plan #1	400.0	400.0	15.0	13.7	11.162	CC, ES
OXY 22-9D (OXY 22 Pad) - DD - Plan #1	691.8	690.6	19.7	17.3	8.215	SF

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis					
0.0	0.0	0.0	0.0	0.0	0.0	36.04	12.0	8.7	14.9							
100.0	100.0	100.0	100.0	0.1	0.1	36.04	12.0	8.7	14.9	14.6	0.30	50.103				
200.0	200.0	200.0	200.0	0.3	0.3	36.04	12.0	8.7	14.9	14.2	0.65	23.020				
300.0	300.0	300.0	300.0	0.5	0.5	36.04	12.0	8.7	14.9	13.9	0.99	14.943				
347.3	347.3	347.3	347.3	0.6	0.6	34.92	12.2	8.5	14.9	13.7	1.16	12.812 CC				
400.0	400.0	400.0	400.0	0.7	0.7	31.01	12.8	7.7	14.9	13.6	1.34	11.085 ES				
500.0	500.0	499.9	499.8	0.8	0.9	108.74	15.0	4.5	16.0	14.3	1.70	9.409				
600.0	599.9	599.7	599.4	1.0	1.1	100.77	18.7	-0.9	19.0	17.0	2.08	9.149 SF				
691.8	691.5	691.3	690.6	1.2	1.3	96.76	23.3	-7.4	23.2	20.7	2.45	9.464				
700.0	699.7	699.5	698.8	1.2	1.3	96.66	23.7	-8.0	23.6	21.1	2.48	9.495				
800.0	799.4	799.3	798.3	1.4	1.5	95.74	28.8	-15.3	28.3	25.5	2.89	9.799				
900.0	899.1	899.2	897.7	1.6	1.7	95.09	33.9	-22.6	33.1	29.8	3.31	10.007				
1,000.0	998.8	999.1	997.2	1.8	1.9	94.60	39.0	-29.9	37.9	34.2	3.74	10.156				
1,100.0	1,098.5	1,099.0	1,096.7	2.1	2.2	94.22	44.1	-37.2	42.7	38.6	4.16	10.268				
1,200.0	1,198.2	1,198.9	1,196.2	2.3	2.4	93.92	49.2	-44.6	47.6	43.0	4.59	10.354				
1,300.0	1,297.9	1,298.8	1,295.7	2.5	2.6	93.67	54.3	-51.9	52.4	47.3	5.02	10.422				
1,400.0	1,397.7	1,398.7	1,395.2	2.7	2.9	93.47	59.4	-59.2	57.2	51.7	5.46	10.476				
1,500.0	1,497.4	1,498.5	1,494.7	2.9	3.1	93.29	64.5	-66.5	62.0	56.1	5.89	10.521				
1,600.0	1,597.1	1,598.4	1,594.1	3.1	3.3	93.15	69.6	-73.8	66.8	60.5	6.32	10.559				
1,700.0	1,696.8	1,698.3	1,693.6	3.4	3.5	93.02	74.7	-81.1	71.6	64.8	6.76	10.591				
1,800.0	1,796.5	1,798.2	1,793.1	3.6	3.8	92.90	79.8	-88.4	76.4	69.2	7.19	10.618				
1,900.0	1,896.2	1,898.1	1,892.6	3.8	4.0	92.81	85.0	-95.7	81.2	73.6	7.63	10.642				
2,000.0	1,995.9	1,998.0	1,992.1	4.0	4.2	92.72	90.1	-103.0	86.0	77.9	8.07	10.663				
2,100.0	2,095.6	2,097.8	2,091.6	4.2	4.5	92.64	95.2	-110.4	90.8	82.3	8.50	10.681				
2,200.0	2,195.3	2,197.7	2,191.1	4.4	4.7	92.57	100.3	-117.7	95.6	86.7	8.94	10.697				
2,300.0	2,295.0	2,297.6	2,290.5	4.7	4.9	92.50	105.4	-125.0	100.4	91.1	9.38	10.711				
2,400.0	2,394.7	2,397.5	2,390.0	4.9	5.2	92.45	110.5	-132.3	105.2	95.4	9.81	10.724				
2,500.0	2,494.4	2,497.4	2,489.5	5.1	5.4	92.39	115.6	-139.6	110.1	99.8	10.25	10.736				
2,600.0	2,594.2	2,597.3	2,589.0	5.3	5.6	92.34	120.7	-146.9	114.9	104.2	10.69	10.746				
2,700.0	2,693.9	2,697.1	2,688.5	5.5	5.9	92.30	125.8	-154.2	119.7	108.5	11.13	10.756				
2,800.0	2,793.6	2,797.0	2,788.0	5.8	6.1	92.26	130.9	-161.5	124.5	112.9	11.56	10.764				
2,900.0	2,893.3	2,896.9	2,887.5	6.0	6.3	92.22	136.0	-168.8	129.3	117.3	12.00	10.772				
3,000.0	2,993.0	2,996.8	2,986.9	6.2	6.6	92.18	141.1	-176.2	134.1	121.7	12.44	10.780				
3,100.0	3,092.7	3,096.7	3,086.4	6.4	6.8	92.15	146.2	-183.5	138.9	126.0	12.88	10.787				
3,200.0	3,192.4	3,196.6	3,185.9	6.6	7.0	92.12	151.3	-190.8	143.7	130.4	13.32	10.793				
3,300.0	3,292.1	3,296.5	3,285.4	6.8	7.3	92.09	156.4	-198.1	148.5	134.8	13.75	10.799				
3,400.0	3,391.8	3,396.3	3,384.9	7.1	7.5	92.06	161.5	-205.4	153.3	139.1	14.19	10.804				
3,500.0	3,491.5	3,496.2	3,484.4	7.3	7.7	92.04	166.6	-212.7	158.1	143.5	14.63	10.809				
3,600.0	3,591.2	3,596.1	3,583.9	7.5	8.0	92.02	171.7	-220.0	163.0	147.9	15.07	10.814				
3,700.0	3,690.9	3,696.0	3,683.3	7.7	8.2	91.99	176.8	-227.3	167.8	152.3	15.51	10.819				
3,800.0	3,790.7	3,795.9	3,782.8	7.9	8.4	91.97	181.9	-234.6	172.6	156.6	15.95	10.823				
3,900.0	3,890.4	3,895.8	3,882.3	8.2	8.7	91.95	187.0	-242.0	177.4	161.0	16.38	10.827				
4,000.0	3,990.1	3,995.6	3,981.8	8.4	8.9	91.93	192.1	-249.3	182.2	165.4	16.82	10.830				
4,100.0	4,089.8	4,095.5	4,081.3	8.6	9.1	91.91	197.2	-256.6	187.0	169.7	17.26	10.834				
4,200.0	4,189.5	4,195.4	4,180.8	8.8	9.4	91.90	202.3	-263.9	191.8	174.1	17.70	10.837				
4,300.0	4,289.2	4,295.3	4,280.3	9.0	9.6	91.88	207.4	-271.2	196.6	178.5	18.14	10.840				
4,400.0	4,388.9	4,395.2	4,379.7	9.3	9.8	91.87	212.5	-278.5	201.4	182.9	18.58	10.843				
4,500.0	4,488.6	4,495.1	4,479.2	9.5	10.1	91.85	217.6	-285.8	206.2	187.2	19.01	10.846				
4,600.0	4,588.3	4,594.9	4,578.7	9.7	10.3	91.84	222.7	-293.1	211.0	191.6	19.45	10.849				
4,700.0	4,688.0	4,694.8	4,678.2	9.9	10.5	91.82	227.8	-300.4	215.9	196.0	19.89	10.851				

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 22-10D (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 22-10D (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 (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	36.91	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	101.337		
200.0	200.0	200.0	200.0	0.3	0.3	36.91	24.0	18.1	30.1	29.4	0.65	46.560		
300.0	300.0	300.0	300.0	0.5	0.5	36.91	24.0	18.1	30.1	29.1	0.99	30.223 CC, ES		
400.0	400.0	399.8	399.8	0.7	0.7	34.55	25.1	17.3	30.4	29.1	1.34	22.651		
500.0	500.0	499.4	499.3	0.8	0.9	117.57	28.1	14.9	32.4	30.7	1.70	19.047		
600.0	599.9	598.9	598.6	1.0	1.1	113.54	33.3	10.9	36.8	34.7	2.08	17.719		
691.8	691.5	690.1	689.4	1.2	1.3	110.78	39.7	5.8	42.9	40.4	2.44	17.531 SF		
700.0	699.7	698.2	697.5	1.2	1.3	110.58	40.4	5.3	43.5	41.0	2.48	17.550		
800.0	799.4	797.3	795.9	1.4	1.5	107.22	49.5	-1.8	51.9	49.0	2.90	17.908		
900.0	899.1	896.9	894.7	1.6	1.8	104.12	59.4	-9.4	61.0	57.7	3.33	18.329		
1,000.0	998.8	996.4	993.4	1.8	2.0	101.83	69.2	-17.1	70.2	66.5	3.76	18.672		
1,100.0	1,098.5	1,095.9	1,092.2	2.1	2.3	100.08	79.0	-24.7	79.5	75.3	4.20	18.956		
1,200.0	1,198.2	1,195.5	1,190.9	2.3	2.6	98.69	88.9	-32.4	88.9	84.3	4.63	19.195		
1,300.0	1,297.9	1,295.0	1,289.7	2.5	2.8	97.56	98.7	-40.0	98.3	93.2	5.07	19.399		
1,400.0	1,397.7	1,394.6	1,388.5	2.7	3.1	96.64	108.5	-47.7	107.7	102.2	5.50	19.574		
1,500.0	1,497.4	1,494.1	1,487.2	2.9	3.4	95.86	118.4	-55.4	117.2	111.2	5.94	19.727		
1,600.0	1,597.1	1,593.6	1,586.0	3.1	3.7	95.20	128.2	-63.0	126.7	120.3	6.38	19.861		
1,700.0	1,696.8	1,693.2	1,684.7	3.4	3.9	94.63	138.1	-70.7	136.1	129.3	6.81	19.979		
1,800.0	1,796.5	1,792.7	1,783.5	3.6	4.2	94.13	147.9	-78.3	145.6	138.4	7.25	20.084		
1,900.0	1,896.2	1,892.3	1,882.2	3.8	4.5	93.70	157.7	-86.0	155.1	147.5	7.69	20.178		
2,000.0	1,995.9	1,991.8	1,981.0	4.0	4.8	93.31	167.6	-93.6	164.7	156.5	8.13	20.263		
2,100.0	2,095.6	2,091.3	2,079.8	4.2	5.0	92.97	177.4	-101.3	174.2	165.6	8.56	20.340		
2,200.0	2,195.3	2,190.9	2,178.5	4.4	5.3	92.66	187.2	-109.0	183.7	174.7	9.00	20.410		
2,300.0	2,295.0	2,290.4	2,277.3	4.7	5.6	92.39	197.1	-116.6	193.2	183.8	9.44	20.474		
2,400.0	2,394.7	2,390.0	2,376.0	4.9	5.9	92.14	206.9	-124.3	202.8	192.9	9.88	20.533		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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					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	36.35	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	152.424		
200.0	200.0	200.0	200.0	0.3	0.3	36.35	36.4	26.8	45.2	44.6	0.65	70.033		
300.0	300.0	300.0	300.0	0.5	0.5	36.35	36.4	26.8	45.2	44.2	0.99	45.460 CC, ES		
400.0	400.0	399.5	399.5	0.7	0.7	34.88	37.6	26.2	45.8	44.4	1.34	34.081		
500.0	500.0	498.9	498.8	0.8	0.9	119.69	41.0	24.3	48.3	46.6	1.70	28.390		
600.0	599.9	598.0	597.7	1.0	1.1	117.19	46.6	21.2	53.4	51.3	2.07	25.785		
691.8	691.5	688.8	688.2	1.2	1.3	115.42	53.7	17.2	60.4	58.0	2.43	24.823		
700.0	699.7	696.9	696.2	1.2	1.3	115.29	54.4	16.8	61.2	58.7	2.47	24.788		
800.0	799.4	795.5	794.1	1.4	1.5	113.00	64.5	11.3	70.9	68.0	2.89	24.557 SF		
900.0	899.1	893.5	891.1	1.6	1.8	109.85	76.7	4.5	82.3	78.9	3.32	24.755		
1,000.0	998.8	991.4	987.6	1.8	2.1	106.36	91.0	-3.4	95.5	91.7	3.77	25.341		
1,100.0	1,098.5	1,090.2	1,085.0	2.1	2.4	103.39	106.0	-11.8	109.5	105.3	4.21	25.994		
1,200.0	1,198.2	1,189.1	1,182.3	2.3	2.8	101.11	121.1	-20.2	123.8	119.2	4.66	26.579		
1,300.0	1,297.9	1,288.0	1,279.7	2.5	3.1	99.29	136.2	-28.5	138.2	133.1	5.10	27.100		
1,400.0	1,397.7	1,386.8	1,377.0	2.7	3.4	97.82	151.3	-36.9	152.8	147.2	5.54	27.564		
1,500.0	1,497.4	1,485.7	1,474.4	2.9	3.8	96.61	166.4	-45.3	167.4	161.4	5.98	27.978		
1,600.0	1,597.1	1,584.6	1,571.7	3.1	4.1	95.59	181.5	-53.6	182.1	175.6	6.42	28.348		
1,700.0	1,696.8	1,683.5	1,669.1	3.4	4.4	94.72	196.6	-62.0	196.8	189.9	6.86	28.680		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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	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	201.965				
200.0	200.0	200.0	200.0	0.3	0.3	36.06	48.4	35.3	59.9	59.3	0.65	92.795				
300.0	300.0	300.0	300.0	0.5	0.5	36.06	48.4	35.3	59.9	58.9	0.99	60.235 CC, ES				
400.0	400.0	399.2	399.1	0.7	0.7	35.02	49.6	34.8	60.6	59.3	1.34	45.137				
500.0	500.0	498.2	498.1	0.8	0.9	120.73	53.2	33.3	63.5	61.8	1.70	37.380				
600.0	599.9	597.0	596.7	1.0	1.1	119.05	59.1	30.9	69.2	67.1	2.07	33.487				
691.8	691.5	687.4	686.8	1.2	1.3	117.88	66.6	27.9	76.9	74.5	2.43	31.729				
700.0	699.7	695.5	694.8	1.2	1.3	117.80	67.4	27.5	77.7	75.3	2.46	31.637				
800.0	799.4	793.6	792.2	1.4	1.5	116.21	77.9	23.2	88.4	85.6	2.87	30.808				
900.0	899.1	891.2	888.8	1.6	1.8	113.88	90.7	18.0	100.8	97.5	3.30	30.550 SF				
1,000.0	998.8	988.2	984.4	1.8	2.1	111.16	105.7	11.9	115.1	111.4	3.74	30.748				
1,100.0	1,098.5	1,084.4	1,078.9	2.1	2.4	108.31	122.8	4.9	131.4	127.2	4.19	31.328				
1,200.0	1,198.2	1,180.2	1,172.5	2.3	2.8	105.48	141.9	-2.9	149.8	145.2	4.64	32.252				
1,300.0	1,297.9	1,278.1	1,267.8	2.5	3.2	103.03	162.3	-11.2	169.2	164.1	5.10	33.205				
1,400.0	1,397.7	1,376.0	1,363.2	2.7	3.6	101.08	182.6	-19.5	188.9	183.3	5.54	34.069				

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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	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	252.068		
200.0	200.0	200.0	200.0	0.3	0.3	36.06	60.5	44.0	74.8	74.1	0.65	115.815 CC, ES		
300.0	300.0	298.9	298.8	0.5	0.5	35.26	61.7	43.6	75.5	74.6	0.99	76.029		
400.0	400.0	397.6	397.5	0.7	0.7	32.99	65.3	42.4	77.9	76.6	1.35	57.896		
500.0	500.0	496.1	495.8	0.8	0.9	117.92	71.3	40.4	82.7	81.0	1.71	48.324		
600.0	599.9	594.2	593.5	1.0	1.1	115.74	79.7	37.5	90.5	88.4	2.09	43.323		
691.8	691.5	683.9	682.6	1.2	1.3	114.28	89.5	34.3	100.3	97.9	2.46	40.822		
700.0	699.7	691.9	690.5	1.2	1.4	114.19	90.4	33.9	101.3	98.8	2.49	40.674		
800.0	799.4	789.0	786.7	1.4	1.6	112.68	103.4	29.6	114.4	111.5	2.91	39.290		
900.0	899.1	885.5	881.9	1.6	2.0	110.73	118.6	24.5	129.5	126.1	3.35	38.680		
1,000.0	998.8	981.3	975.9	1.8	2.3	108.58	136.0	18.7	146.5	142.7	3.79	38.657 SF		
1,100.0	1,098.5	1,076.2	1,068.6	2.1	2.7	106.37	155.3	12.2	165.7	161.5	4.24	39.095		
1,200.0	1,198.2	1,170.2	1,159.8	2.3	3.1	104.20	176.6	5.0	187.0	182.3	4.69	39.904		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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				Total Uncertainty Axis	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)			
0.0	0.0	0.0	0.0	0.0	0.0	35.77	72.8	52.5	89.8				
100.0	100.0	100.0	100.0	0.1	0.1	35.77	72.8	52.5	89.8	89.5	0.30	302.608	
200.0	200.0	200.0	200.0	0.3	0.3	35.77	72.8	52.5	89.8	89.1	0.65	139.036 CC, ES	
300.0	300.0	298.6	298.6	0.5	0.5	35.13	74.1	52.1	90.6	89.6	0.99	91.182	
400.0	400.0	397.0	397.0	0.7	0.7	33.26	77.7	51.0	93.0	91.6	1.34	69.133	
500.0	500.0	495.3	495.0	0.8	0.9	118.65	83.7	49.1	97.8	96.1	1.71	57.221	
600.0	599.9	593.1	592.5	1.0	1.1	116.79	92.1	46.4	105.7	103.6	2.09	50.648	
691.8	691.5	682.6	681.3	1.2	1.3	115.51	101.9	43.4	115.6	113.1	2.45	47.092	
700.0	699.7	690.5	689.2	1.2	1.4	115.42	102.9	43.1	116.6	114.1	2.49	46.864	
800.0	799.4	787.4	785.1	1.4	1.6	114.06	115.9	39.0	129.8	126.9	2.91	44.623	
900.0	899.1	883.6	880.0	1.6	1.9	112.30	131.1	34.2	144.9	141.6	3.34	43.337	
1,000.0	998.8	979.1	973.7	1.8	2.3	110.31	148.4	28.7	162.0	158.2	3.79	42.766	
1,100.0	1,098.5	1,073.8	1,066.2	2.1	2.7	108.22	167.8	22.6	181.2	177.0	4.24	42.750 SF	
1,200.0	1,198.2	1,167.5	1,157.1	2.3	3.1	106.15	189.1	15.9	202.5	197.8	4.69	43.175	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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 22-1D (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							
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	-177.34	-18.2	-0.8	18.2				
100.0	100.0	100.0	100.0	0.1	0.1	-177.34	-18.2	-0.8	18.2	17.9	0.30	61.462	
200.0	200.0	200.0	200.0	0.3	0.3	-177.34	-18.2	-0.8	18.2	17.6	0.65	28.239	
300.0	300.0	300.0	300.0	0.5	0.5	-177.34	-18.2	-0.8	18.2	17.2	0.99	18.331	
400.0	400.0	400.0	400.0	0.7	0.7	-177.34	-18.2	-0.8	18.2	16.9	1.34	13.570 CC, ES	
500.0	500.0	499.8	499.8	0.8	0.8	-97.45	-18.7	0.4	18.8	17.1	1.69	11.088	
600.0	599.9	599.2	599.1	1.0	1.0	-116.82	-20.0	4.0	22.2	20.2	2.05	10.838 SF	
691.8	691.5	689.7	689.5	1.2	1.2	-134.60	-22.0	9.5	30.5	28.1	2.38	12.839	
700.0	699.7	697.8	697.5	1.2	1.2	-135.93	-22.2	10.1	31.5	29.1	2.41	13.107	
800.0	799.4	795.5	794.8	1.4	1.4	-147.45	-25.2	18.4	46.1	43.3	2.75	16.752	
900.0	899.1	892.3	891.0	1.6	1.7	-153.68	-29.1	28.9	64.1	61.0	3.09	20.718	
1,000.0	998.8	988.5	986.2	1.8	1.9	-157.30	-33.7	41.6	84.9	81.5	3.43	24.735	
1,100.0	1,098.5	1,086.0	1,082.6	2.1	2.2	-159.55	-38.7	55.3	106.8	103.0	3.78	28.286	
1,200.0	1,198.2	1,183.5	1,179.0	2.3	2.5	-161.04	-43.6	69.0	128.8	124.7	4.12	31.266	
1,300.0	1,297.9	1,281.0	1,275.4	2.5	2.8	-162.09	-48.6	82.7	150.9	146.4	4.46	33.797	
1,400.0	1,397.7	1,378.5	1,371.8	2.7	3.1	-162.87	-53.6	96.4	172.9	168.1	4.81	35.970	
1,500.0	1,497.4	1,476.0	1,468.2	2.9	3.4	-163.48	-58.6	110.0	195.1	189.9	5.15	37.855	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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: 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	126.20	-6.2	8.5	10.5				
100.0	100.0	100.0	100.0	0.1	0.1	126.20	-6.2	8.5	10.5	10.2	0.30	35.358	
200.0	200.0	200.0	200.0	0.3	0.3	126.20	-6.2	8.5	10.5	9.8	0.65	16.245	
300.0	300.0	300.0	300.0	0.5	0.5	126.20	-6.2	8.5	10.5	9.5	0.99	10.545	
400.0	400.0	400.0	400.0	0.7	0.7	126.20	-6.2	8.5	10.5	9.1	1.34	7.806 CC, ES	
500.0	500.0	499.7	499.7	0.8	0.8	-152.89	-6.2	9.8	12.7	11.0	1.69	7.512 SF	
600.0	599.9	599.0	598.9	1.0	1.0	-163.58	-6.2	13.6	20.0	17.9	2.04	9.779	
691.8	691.5	689.5	689.2	1.2	1.2	-170.07	-6.1	19.4	31.3	29.0	2.36	13.304	
700.0	699.7	697.5	697.2	1.2	1.2	-170.50	-6.1	20.0	32.6	30.2	2.38	13.662	
800.0	799.4	795.1	794.4	1.4	1.4	-174.16	-6.1	28.9	49.0	46.3	2.73	17.961	
900.0	899.1	891.8	890.4	1.6	1.7	-176.22	-6.0	40.1	68.0	64.9	3.07	22.153	
1,000.0	998.8	988.9	986.6	1.8	1.9	-177.51	-5.9	53.3	89.0	85.6	3.41	26.091	
1,100.0	1,098.5	1,086.6	1,083.4	2.1	2.2	-178.31	-5.9	66.7	110.3	106.5	3.76	29.353	
1,200.0	1,198.2	1,184.3	1,180.2	2.3	2.5	-178.86	-5.8	80.1	131.5	127.4	4.10	32.073	
1,300.0	1,297.9	1,282.0	1,277.0	2.5	2.7	-179.26	-5.7	93.5	152.7	148.3	4.44	34.375	
1,400.0	1,397.7	1,379.7	1,373.8	2.7	3.0	-179.56	-5.6	107.0	174.0	169.2	4.79	36.347	
1,500.0	1,497.4	1,477.5	1,470.6	2.9	3.3	-179.79	-5.6	120.4	195.2	190.1	5.13	38.057	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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 22-3D (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	71.29	5.8	17.2	18.2					
100.0	100.0	100.0	100.0	0.1	0.1	71.29	5.8	17.2	18.2	17.9	0.30	61.247		
200.0	200.0	200.0	200.0	0.3	0.3	71.29	5.8	17.2	18.2	17.5	0.65	28.141		
300.0	300.0	300.0	300.0	0.5	0.5	71.29	5.8	17.2	18.2	17.2	0.99	18.267 CC, ES		
400.0	400.0	399.5	399.5	0.7	0.7	71.20	6.3	18.4	19.5	18.1	1.34	14.484 SF		
500.0	500.0	498.8	498.7	0.8	0.9	159.73	7.6	22.1	24.6	22.9	1.69	14.551		
600.0	599.9	597.5	597.2	1.0	1.1	161.49	9.8	28.1	34.8	32.7	2.04	17.074		
691.8	691.5	687.3	686.6	1.2	1.3	162.94	12.6	35.6	48.6	46.2	2.35	20.636		
700.0	699.7	695.3	694.6	1.2	1.3	163.06	12.9	36.4	50.0	47.6	2.38	20.990		
800.0	799.4	792.0	790.6	1.4	1.5	163.94	16.7	46.9	68.7	66.0	2.73	25.213		
900.0	899.1	888.6	886.3	1.6	1.8	164.27	21.4	59.5	89.8	86.7	3.07	29.222		
1,000.0	998.8	986.3	983.0	1.8	2.1	164.45	26.2	72.7	111.2	107.8	3.42	32.527		
1,100.0	1,098.5	1,084.0	1,079.6	2.1	2.3	164.57	31.0	85.8	132.7	129.0	3.77	35.221		
1,200.0	1,198.2	1,181.6	1,176.3	2.3	2.6	164.66	35.9	98.9	154.2	150.1	4.12	37.457		
1,300.0	1,297.9	1,279.3	1,273.0	2.5	2.9	164.72	40.7	112.1	175.7	171.2	4.46	39.342		
1,400.0	1,397.7	1,377.0	1,369.6	2.7	3.2	164.78	45.5	125.2	197.1	192.3	4.81	40.954		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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	54.95	18.2	26.0	31.7				
100.0	100.0	100.0	100.0	0.1	0.1	54.95	18.2	26.0	31.7	31.4	0.30	106.878	
200.0	200.0	200.0	200.0	0.3	0.3	54.95	18.2	26.0	31.7	31.1	0.65	49.106	
300.0	300.0	300.0	300.0	0.5	0.5	54.95	18.2	26.0	31.7	30.7	0.99	31.876	CC, ES
400.0	400.0	399.2	399.1	0.7	0.7	54.93	19.0	27.0	33.0	31.7	1.34	24.561	
500.0	500.0	498.1	498.0	0.8	0.9	143.73	21.2	30.1	37.9	36.3	1.69	22.456	SF
600.0	599.9	596.5	596.2	1.0	1.1	146.21	24.9	35.3	47.6	45.6	2.04	23.372	
691.8	691.5	686.1	685.4	1.2	1.2	148.63	29.5	41.8	60.7	58.4	2.36	25.762	
700.0	699.7	694.0	693.3	1.2	1.3	148.84	30.0	42.5	62.1	59.7	2.39	26.024	
800.0	799.4	790.6	789.3	1.4	1.5	150.66	36.4	51.6	80.1	77.3	2.74	29.265	
900.0	899.1	886.2	884.0	1.6	1.8	151.57	44.2	62.5	100.6	97.5	3.09	32.571	
1,000.0	998.8	981.5	977.9	1.8	2.1	151.98	53.3	75.3	123.4	119.9	3.44	35.880	
1,100.0	1,098.5	1,078.7	1,073.7	2.1	2.4	152.22	63.0	88.9	146.9	143.1	3.79	38.714	
1,200.0	1,198.2	1,175.9	1,169.4	2.3	2.7	152.39	72.7	102.5	170.5	166.3	4.15	41.058	
1,300.0	1,297.9	1,273.1	1,265.2	2.5	3.0	152.52	82.4	116.1	194.0	189.5	4.51	43.024	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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				Total Uncertainty Axis	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)				
0.0	0.0	0.0	0.0	0.0	0.0	48.71	30.2	34.4	45.8					
100.0	100.0	100.0	100.0	0.1	0.1	48.71	30.2	34.4	45.8	45.5	0.30	154.414		
200.0	200.0	200.0	200.0	0.3	0.3	48.71	30.2	34.4	45.8	45.2	0.65	70.947 CC, ES		
300.0	300.0	298.8	298.8	0.5	0.5	48.54	31.2	35.3	47.1	46.1	0.99	47.348		
400.0	400.0	397.5	397.4	0.7	0.7	48.09	34.0	37.9	51.0	49.6	1.35	37.665		
500.0	500.0	495.8	495.5	0.8	0.9	135.97	38.7	42.2	58.3	56.6	1.69	34.581		
600.0	599.9	593.5	592.8	1.0	1.1	137.30	45.2	48.1	70.1	68.1	2.03	34.457 SF		
691.8	691.5	682.2	681.0	1.2	1.3	138.93	52.7	55.0	84.9	82.5	2.36	35.987		
700.0	699.7	690.1	688.8	1.2	1.4	139.09	53.4	55.6	86.4	84.0	2.39	36.178		
800.0	799.4	785.8	783.5	1.4	1.6	140.55	63.3	64.7	106.0	103.2	2.74	38.616		
900.0	899.1	880.5	876.9	1.6	1.9	141.33	74.8	75.2	128.0	124.9	3.10	41.253		
1,000.0	998.8	975.0	969.7	1.8	2.3	141.69	88.0	87.3	152.4	148.9	3.46	44.006		
1,100.0	1,098.5	1,070.7	1,063.5	2.1	2.6	141.88	102.2	100.4	178.0	174.2	3.83	46.487		
1,200.0	1,198.2	1,167.4	1,158.1	2.3	3.0	142.02	116.6	113.5	203.6	199.4	4.20	48.510		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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					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	45.63	42.2	43.2	60.4					
100.0	100.0	100.0	100.0	0.1	0.1	45.63	42.2	43.2	60.4	60.1	0.30	203.559		
200.0	200.0	200.0	200.0	0.3	0.3	45.63	42.2	43.2	60.4	59.8	0.65	93.527 CC, ES		
300.0	300.0	298.4	298.4	0.5	0.5	45.44	43.3	43.9	61.7	60.7	0.99	62.034		
400.0	400.0	396.8	396.7	0.7	0.7	44.94	46.3	46.2	65.5	64.1	1.35	48.458		
500.0	500.0	494.7	494.4	0.8	0.9	132.57	51.4	50.0	72.7	71.1	1.69	43.166		
600.0	599.9	592.1	591.4	1.0	1.1	133.51	58.4	55.2	84.3	82.2	2.03	41.433 SF		
691.8	691.5	680.6	679.4	1.2	1.3	134.83	66.5	61.2	98.7	96.3	2.36	41.815		
700.0	699.7	688.5	687.2	1.2	1.3	134.97	67.3	61.8	100.1	97.7	2.39	41.916		
800.0	799.4	783.9	781.7	1.4	1.6	136.26	78.0	69.8	119.2	116.5	2.75	43.380		
900.0	899.1	878.4	874.9	1.6	1.9	136.96	90.4	79.0	140.8	137.7	3.11	45.243		
1,000.0	998.8	971.9	966.7	1.8	2.3	137.29	104.6	89.6	164.7	161.2	3.48	47.366		
1,100.0	1,098.5	1,064.2	1,056.9	2.1	2.6	137.37	120.3	101.3	190.8	187.0	3.84	49.667		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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	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	43.54	54.6	51.9	75.4							
100.0	100.0	100.0	100.0	0.1	0.1	43.54	54.6	51.9	75.4	75.1	0.30	254.026				
200.0	200.0	200.0	200.0	0.3	0.3	43.54	54.6	51.9	75.4	74.7	0.65	116.715 CC, ES				
300.0	300.0	298.1	298.1	0.5	0.5	43.30	55.7	52.5	76.6	75.6	0.99	77.115				
400.0	400.0	396.1	396.0	0.7	0.7	42.61	59.1	54.3	80.3	79.0	1.35	59.519				
500.0	500.0	493.8	493.5	0.8	0.9	129.86	64.6	57.3	87.4	85.7	1.68	51.875				
600.0	599.9	590.8	590.1	1.0	1.1	130.24	72.2	61.5	98.6	96.6	2.04	48.439				
691.8	691.5	679.2	677.9	1.2	1.3	131.06	81.0	66.3	112.5	110.2	2.37	47.582 SF				
700.0	699.7	687.0	685.7	1.2	1.3	131.16	81.9	66.7	113.9	111.5	2.39	47.583				
800.0	799.4	782.3	780.1	1.4	1.6	132.04	93.5	73.1	132.4	129.6	2.76	47.967				
900.0	899.1	876.8	873.2	1.6	1.9	132.44	107.2	80.5	153.2	150.1	3.13	48.949				
1,000.0	998.8	970.2	965.0	1.8	2.3	132.52	122.6	88.9	176.4	172.9	3.50	50.336				
1,100.0	1,098.5	1,062.5	1,055.2	2.1	2.6	132.40	139.8	98.3	201.7	197.9	3.88	52.010				

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	42.57	66.7	61.2	90.5				
100.0	100.0	100.0	100.0	0.1	0.1	42.57	66.7	61.2	90.5	90.2	0.30	305.055	
200.0	200.0	200.0	200.0	0.3	0.3	42.57	66.7	61.2	90.5	89.9	0.65	140.161	CC, ES
300.0	300.0	297.8	297.8	0.5	0.5	42.28	67.8	61.7	91.7	90.7	0.99	92.362	
400.0	400.0	395.5	395.4	0.7	0.7	41.46	71.3	63.0	95.3	93.9	1.35	70.685	
500.0	500.0	492.9	492.6	0.8	0.9	128.39	77.1	65.2	102.1	100.4	1.69	60.560	
600.0	599.9	589.8	589.1	1.0	1.1	128.28	85.2	68.3	112.9	110.9	2.04	55.368	
691.8	691.5	678.0	676.7	1.2	1.3	128.61	94.6	71.9	126.4	124.0	2.37	53.242	
700.0	699.7	685.8	684.5	1.2	1.3	128.67	95.5	72.2	127.7	125.3	2.40	53.142	
800.0	799.4	781.0	778.8	1.4	1.6	129.09	107.9	77.0	145.5	142.7	2.78	52.417	SF
900.0	899.1	875.4	871.9	1.6	1.9	129.12	122.3	82.5	165.6	162.4	3.15	52.489	
1,000.0	998.8	968.8	963.7	1.8	2.3	128.89	138.7	88.7	187.9	184.4	3.54	53.114	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-10D (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 22-10D (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	-145.65	-12.4	-8.5	15.0					
100.0	100.0	100.0	100.0	0.1	0.1	-145.65	-12.4	-8.5	15.0	14.7	0.30	50.558		
200.0	200.0	200.0	200.0	0.3	0.3	-145.65	-12.4	-8.5	15.0	14.4	0.65	23.229		
300.0	300.0	300.0	300.0	0.5	0.5	-145.65	-12.4	-8.5	15.0	14.0	0.99	15.079		
400.0	400.0	400.0	400.0	0.7	0.7	-145.65	-12.4	-8.5	15.0	13.7	1.34	11.162 CC, ES		
500.0	500.0	499.6	499.6	0.8	0.8	-59.99	-13.0	-9.6	15.5	13.8	1.69	9.150		
600.0	599.9	599.2	599.2	1.0	1.0	-65.34	-15.0	-12.9	17.1	15.0	2.05	8.330		
691.8	691.5	690.6	690.4	1.2	1.2	-71.67	-18.0	-18.0	19.7	17.3	2.40	8.215 SF		
700.0	699.7	698.8	698.5	1.2	1.2	-72.23	-18.3	-18.5	20.0	17.6	2.43	8.230		
800.0	799.4	798.5	797.8	1.4	1.4	-76.09	-22.7	-26.1	24.5	21.7	2.82	8.678		
900.0	899.1	898.3	897.2	1.6	1.7	-78.26	-27.3	-34.0	29.3	26.1	3.23	9.084		
1,000.0	998.8	998.2	996.7	1.8	1.9	-79.81	-32.0	-41.9	34.2	30.6	3.64	9.388		
1,100.0	1,098.5	1,098.1	1,096.2	2.1	2.1	-80.98	-36.6	-49.8	39.1	35.0	4.06	9.623		
1,200.0	1,198.2	1,198.0	1,195.6	2.3	2.3	-81.88	-41.2	-57.7	44.0	39.5	4.49	9.808		
1,300.0	1,297.9	1,297.9	1,295.1	2.5	2.6	-82.61	-45.8	-65.5	48.9	44.0	4.91	9.957		
1,400.0	1,397.7	1,397.7	1,394.5	2.7	2.8	-83.20	-50.4	-73.4	53.8	48.5	5.34	10.079		
1,500.0	1,497.4	1,497.6	1,494.0	2.9	3.0	-83.70	-55.1	-81.3	58.7	53.0	5.77	10.182		
1,600.0	1,597.1	1,597.5	1,593.4	3.1	3.2	-84.11	-59.7	-89.2	63.7	57.5	6.20	10.268		
1,700.0	1,696.8	1,697.4	1,692.9	3.4	3.5	-84.47	-64.3	-97.1	68.6	61.9	6.63	10.342		
1,800.0	1,796.5	1,797.2	1,792.4	3.6	3.7	-84.78	-68.9	-105.0	73.5	66.4	7.06	10.406		
1,900.0	1,896.2	1,897.1	1,891.8	3.8	3.9	-85.05	-73.5	-112.9	78.4	70.9	7.50	10.461		
2,000.0	1,995.9	1,997.0	1,991.3	4.0	4.2	-85.29	-78.2	-120.7	83.4	75.4	7.93	10.510		
2,100.0	2,095.6	2,096.9	2,090.7	4.2	4.4	-85.50	-82.8	-128.6	88.3	79.9	8.37	10.554		
2,200.0	2,195.3	2,196.8	2,190.2	4.4	4.7	-85.69	-87.4	-136.5	93.2	84.4	8.80	10.592		
2,300.0	2,295.0	2,296.6	2,289.7	4.7	4.9	-85.86	-92.0	-144.4	98.2	88.9	9.24	10.627		
2,400.0	2,394.7	2,396.5	2,389.1	4.9	5.1	-86.02	-96.6	-152.3	103.1	93.4	9.67	10.658		
2,500.0	2,494.4	2,496.4	2,488.6	5.1	5.4	-86.16	-101.3	-160.2	108.0	97.9	10.11	10.687		
2,600.0	2,594.2	2,596.3	2,588.0	5.3	5.6	-86.28	-105.9	-168.1	113.0	102.4	10.55	10.712		
2,700.0	2,693.9	2,696.1	2,687.5	5.5	5.8	-86.40	-110.5	-175.9	117.9	106.9	10.98	10.736		
2,800.0	2,793.6	2,796.0	2,787.0	5.8	6.1	-86.51	-115.1	-183.8	122.8	111.4	11.42	10.758		
2,900.0	2,893.3	2,895.9	2,886.4	6.0	6.3	-86.61	-119.7	-191.7	127.8	115.9	11.86	10.778		
3,000.0	2,993.0	2,995.8	2,985.9	6.2	6.5	-86.70	-124.4	-199.6	132.7	120.4	12.29	10.796		
3,100.0	3,092.7	3,095.7	3,085.3	6.4	6.8	-86.79	-129.0	-207.5	137.7	124.9	12.73	10.813		
3,200.0	3,192.4	3,195.5	3,184.8	6.6	7.0	-86.86	-133.6	-215.4	142.6	129.4	13.17	10.829		
3,300.0	3,292.1	3,295.4	3,284.2	6.8	7.2	-86.94	-138.2	-223.3	147.5	133.9	13.61	10.844		
3,400.0	3,391.8	3,395.3	3,383.7	7.1	7.5	-87.01	-142.8	-231.1	152.5	138.4	14.04	10.857		
3,500.0	3,491.5	3,495.2	3,483.2	7.3	7.7	-87.07	-147.5	-239.0	157.4	142.9	14.48	10.870		
3,600.0	3,591.2	3,595.0	3,582.6	7.5	7.9	-87.13	-152.1	-246.9	162.3	147.4	14.92	10.882		
3,700.0	3,690.9	3,694.9	3,682.1	7.7	8.2	-87.19	-156.7	-254.8	167.3	151.9	15.36	10.894		
3,800.0	3,790.7	3,794.8	3,781.5	7.9	8.4	-87.25	-161.3	-262.7	172.2	156.4	15.79	10.904		
3,900.0	3,890.4	3,894.7	3,881.0	8.2	8.7	-87.30	-165.9	-270.6	177.2	160.9	16.23	10.914		
4,000.0	3,990.1	3,994.6	3,980.5	8.4	8.9	-87.35	-170.6	-278.5	182.1	165.4	16.67	10.924		
4,100.0	4,089.8	4,094.4	4,079.9	8.6	9.1	-87.39	-175.2	-286.3	187.0	169.9	17.11	10.933		
4,200.0	4,189.5	4,194.3	4,179.4	8.8	9.4	-87.43	-179.8	-294.2	192.0	174.4	17.55	10.941		
4,300.0	4,289.2	4,294.2	4,278.8	9.0	9.6	-87.48	-184.4	-302.1	196.9	178.9	17.98	10.949		
4,400.0	4,388.9	4,394.1	4,378.3	9.3	9.8	-87.52	-189.0	-310.0	201.9	183.4	18.42	10.957		
4,500.0	4,488.6	4,493.9	4,477.8	9.5	10.1	-87.55	-193.7	-317.9	206.8	187.9	18.86	10.964		
4,600.0	4,588.3	4,593.8	4,577.2	9.7	10.3	-87.59	-198.3	-325.8	211.7	192.4	19.30	10.971		
4,700.0	4,688.0	4,693.7	4,676.7	9.9	10.5	-87.62	-202.9	-333.7	216.7	196.9	19.74	10.978		

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

Cathedral Energy Services

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Reference Site:	SWSE S22-T6S-R97W	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	OXY 22-10D (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 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 22-10D (OXY 22 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.70°

