

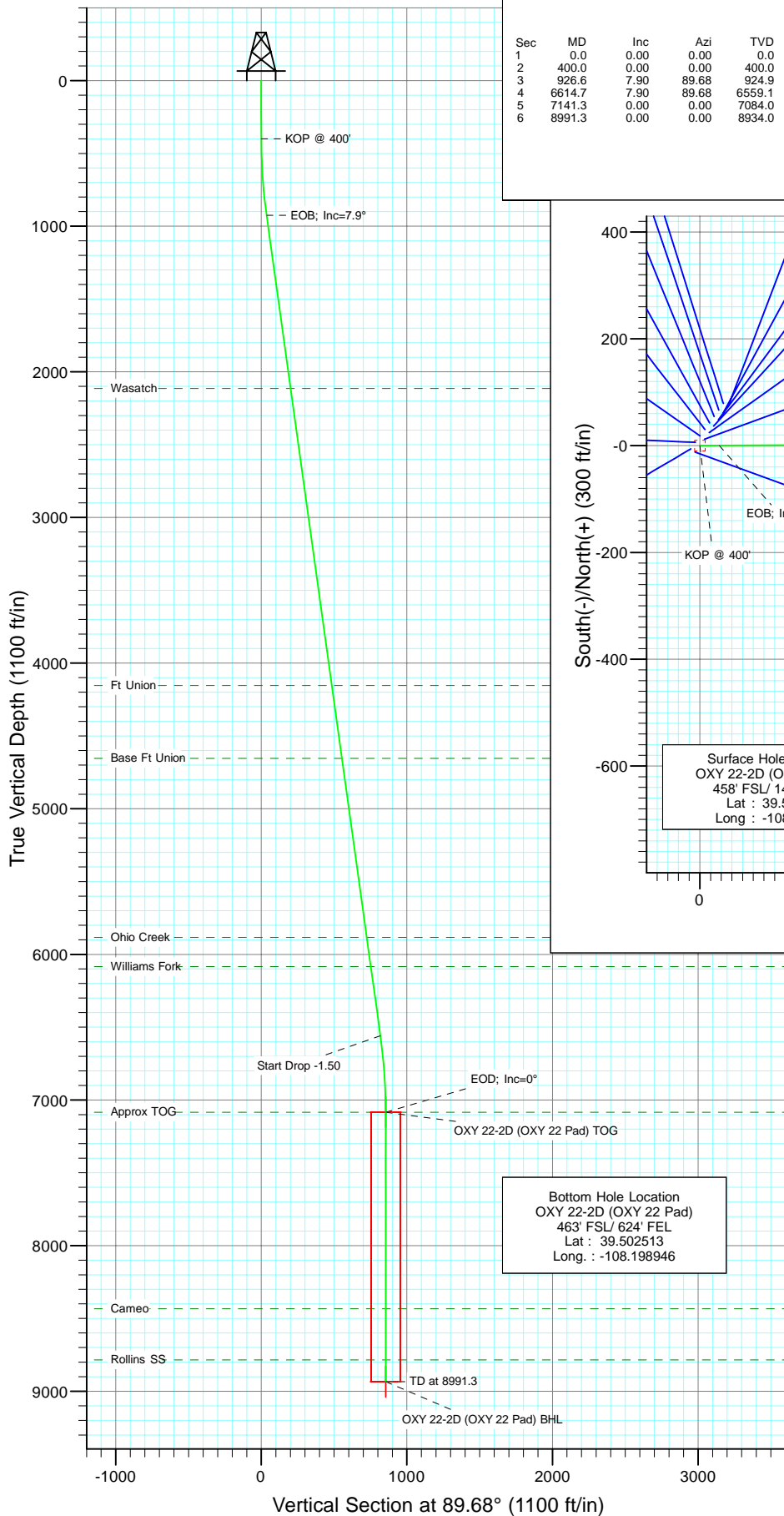


Berry Petroleum Company

Project: Garfield County
Site: SWSE S22-T6S-R97W
Well: OXY 22-2D (OXY 22 Pad)
Wellbore: DD
Design: Plan #1

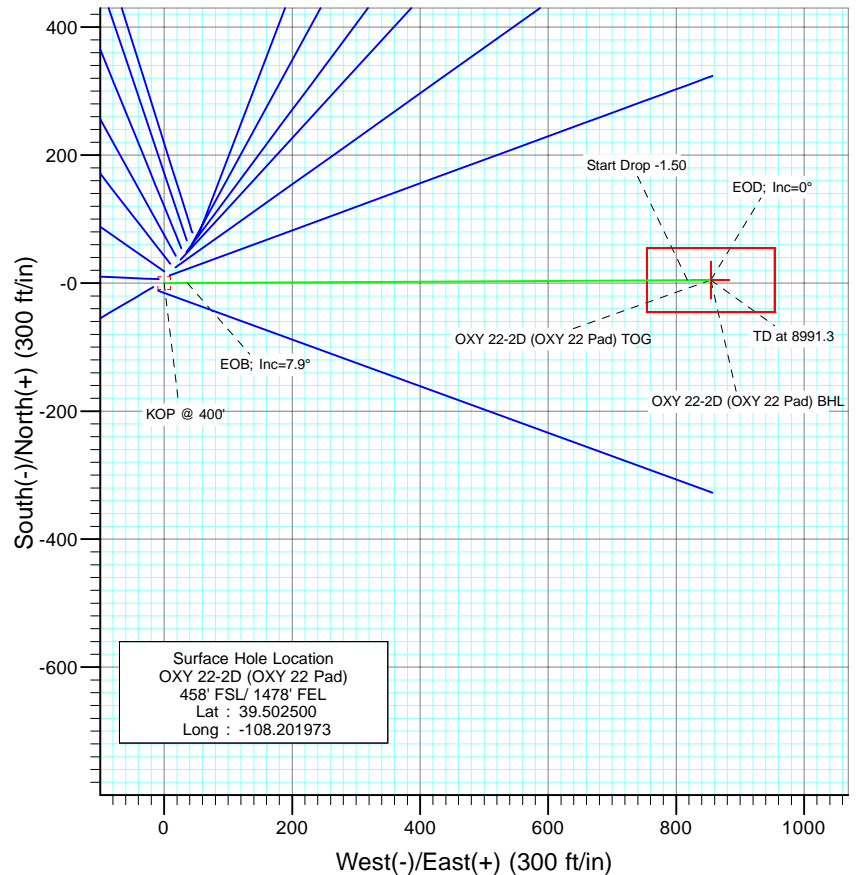


CATHEDRAL



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	826.6	7.90	89.68	824.9	0.2	36.2	1.50	89.68	36.2	
4	6614.7	7.90	89.68	6559.1	4.6	817.9	0.00	0.00	817.9	
5	7141.3	0.00	0.00	7084.0	4.8	854.1	1.50	180.00	854.2	OXY 22-2D (OXY 22 Pad) TOG
6	8991.3	0.00	0.00	8934.0	4.8	854.1	0.00	0.00	854.2	OXY 22-2D (OXY 22 Pad) BHL



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2114.0	2127.1	Wasatch
4154.0	4186.6	Ft Union
4654.0	4691.4	Base Ft Union
5884.0	5933.2	Ohio Creek
6084.0	6135.1	Williams Fork
7084.0	7141.3	Approx TOG
8434.0	8491.3	Cameo
8784.0	8841.3	Rollins SS



Azimuths to True North
Magnetic North: 10.64°

Magnetic Field
Strength: 52405.7snT
Dip Angle: 65.76°
Date: 9/30/2009
Model: IGRF200510

DESIGN DETAILS: Plan #1

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

Target	Azimuth	Origin	N/S	E/W	From TVD
OXY 22-2D (OXY 22 Pad) BHL	89.68	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 22-2D (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 22-2D (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 22-2D (OXY 22 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,619,254.95 ft	Latitude:	39.502500
	+E/-W	0.0 ft	Easting:	2,237,689.24 ft	Longitude:	-108.201973
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	9/30/2009	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	89.68

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	
926.6	7.90	89.68	924.9	0.2	36.2	1.50	1.50	0.00	89.68	
6,614.7	7.90	89.68	6,559.1	4.6	817.9	0.00	0.00	0.00	0.00	
7,141.3	0.00	0.00	7,084.0	4.8	854.1	1.50	-1.50	0.00	180.00	OXY 22-2D (OXY 22
8,991.3	0.00	0.00	8,934.0	4.8	854.1	0.00	0.00	0.00	0.00	OXY 22-2D (OXY 22

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Project:	Garfield County	MD Reference:	KBE @ 8506.0ft (Original Well Elev)
Site:	SWSE S22-T6S-R97W	North Reference:	True
Well:	OXY 22-2D (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	89.68	420.0	0.0	0.1	0.1	1.50	1.50	
450.0	0.75	89.68	450.0	0.0	0.3	0.3	1.50	1.50	
480.0	1.20	89.68	480.0	0.0	0.8	0.8	1.50	1.50	
510.0	1.65	89.68	510.0	0.0	1.6	1.6	1.50	1.50	
540.0	2.10	89.68	540.0	0.0	2.6	2.6	1.50	1.50	
570.0	2.55	89.68	569.9	0.0	3.8	3.8	1.50	1.50	
600.0	3.00	89.68	599.9	0.0	5.2	5.2	1.50	1.50	
630.0	3.45	89.68	629.9	0.0	6.9	6.9	1.50	1.50	
660.0	3.90	89.68	659.8	0.0	8.8	8.8	1.50	1.50	
690.0	4.35	89.68	689.7	0.1	11.0	11.0	1.50	1.50	
720.0	4.80	89.68	719.6	0.1	13.4	13.4	1.50	1.50	
750.0	5.25	89.68	749.5	0.1	16.0	16.0	1.50	1.50	
780.0	5.70	89.68	779.4	0.1	18.9	18.9	1.50	1.50	
810.0	6.15	89.68	809.2	0.1	22.0	22.0	1.50	1.50	
840.0	6.60	89.68	839.0	0.1	25.3	25.3	1.50	1.50	
870.0	7.05	89.68	868.8	0.2	28.9	28.9	1.50	1.50	
900.0	7.50	89.68	898.6	0.2	32.7	32.7	1.50	1.50	
926.6	7.90	89.68	924.9	0.2	36.2	36.2	1.50	1.50	EOB; Inc=7.9°
930.0	7.90	89.68	928.3	0.2	36.7	36.7	0.00	0.00	
960.0	7.90	89.68	958.0	0.2	40.8	40.8	0.00	0.00	
990.0	7.90	89.68	987.7	0.3	45.0	45.0	0.00	0.00	
1,020.0	7.90	89.68	1,017.4	0.3	49.1	49.1	0.00	0.00	
1,050.0	7.90	89.68	1,047.2	0.3	53.2	53.2	0.00	0.00	
1,080.0	7.90	89.68	1,076.9	0.3	57.3	57.3	0.00	0.00	
1,110.0	7.90	89.68	1,106.6	0.3	61.4	61.4	0.00	0.00	
1,140.0	7.90	89.68	1,136.3	0.4	65.6	65.6	0.00	0.00	
1,170.0	7.90	89.68	1,166.0	0.4	69.7	69.7	0.00	0.00	
1,200.0	7.90	89.68	1,195.7	0.4	73.8	73.8	0.00	0.00	
1,230.0	7.90	89.68	1,225.5	0.4	77.9	77.9	0.00	0.00	
1,260.0	7.90	89.68	1,255.2	0.5	82.1	82.1	0.00	0.00	
1,290.0	7.90	89.68	1,284.9	0.5	86.2	86.2	0.00	0.00	
1,320.0	7.90	89.68	1,314.6	0.5	90.3	90.3	0.00	0.00	
1,350.0	7.90	89.68	1,344.3	0.5	94.4	94.4	0.00	0.00	
1,380.0	7.90	89.68	1,374.0	0.5	98.5	98.5	0.00	0.00	
1,410.0	7.90	89.68	1,403.7	0.6	102.7	102.7	0.00	0.00	
1,440.0	7.90	89.68	1,433.5	0.6	106.8	106.8	0.00	0.00	
1,470.0	7.90	89.68	1,463.2	0.6	110.9	110.9	0.00	0.00	

Cathedral Energy Services

Planning Report

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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 22-2D (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	7.90	89.68	1,492.9	0.6	115.0	115.0	0.00	0.00	
1,530.0	7.90	89.68	1,522.6	0.7	119.2	119.2	0.00	0.00	
1,560.0	7.90	89.68	1,552.3	0.7	123.3	123.3	0.00	0.00	
1,590.0	7.90	89.68	1,582.0	0.7	127.4	127.4	0.00	0.00	
1,620.0	7.90	89.68	1,611.8	0.7	131.5	131.5	0.00	0.00	
1,650.0	7.90	89.68	1,641.5	0.8	135.7	135.7	0.00	0.00	
1,680.0	7.90	89.68	1,671.2	0.8	139.8	139.8	0.00	0.00	
1,710.0	7.90	89.68	1,700.9	0.8	143.9	143.9	0.00	0.00	
1,740.0	7.90	89.68	1,730.6	0.8	148.0	148.0	0.00	0.00	
1,770.0	7.90	89.68	1,760.3	0.8	152.1	152.1	0.00	0.00	
1,800.0	7.90	89.68	1,790.0	0.9	156.3	156.3	0.00	0.00	
1,830.0	7.90	89.68	1,819.8	0.9	160.4	160.4	0.00	0.00	
1,860.0	7.90	89.68	1,849.5	0.9	164.5	164.5	0.00	0.00	
1,890.0	7.90	89.68	1,879.2	0.9	168.6	168.6	0.00	0.00	
1,920.0	7.90	89.68	1,908.9	1.0	172.8	172.8	0.00	0.00	
1,950.0	7.90	89.68	1,938.6	1.0	176.9	176.9	0.00	0.00	
1,980.0	7.90	89.68	1,968.3	1.0	181.0	181.0	0.00	0.00	
2,010.0	7.90	89.68	1,998.1	1.0	185.1	185.1	0.00	0.00	
2,040.0	7.90	89.68	2,027.8	1.1	189.2	189.2	0.00	0.00	
2,070.0	7.90	89.68	2,057.5	1.1	193.4	193.4	0.00	0.00	
2,100.0	7.90	89.68	2,087.2	1.1	197.5	197.5	0.00	0.00	
2,127.1	7.90	89.68	2,114.0	1.1	201.2	201.2	0.00	0.00	Wasatch
2,130.0	7.90	89.68	2,116.9	1.1	201.6	201.6	0.00	0.00	
2,160.0	7.90	89.68	2,146.6	1.1	205.7	205.7	0.00	0.00	
2,190.0	7.90	89.68	2,176.3	1.2	209.9	209.9	0.00	0.00	
2,220.0	7.90	89.68	2,206.1	1.2	214.0	214.0	0.00	0.00	
2,250.0	7.90	89.68	2,235.8	1.2	218.1	218.1	0.00	0.00	
2,280.0	7.90	89.68	2,265.5	1.2	222.2	222.2	0.00	0.00	
2,310.0	7.90	89.68	2,295.2	1.3	226.3	226.4	0.00	0.00	
2,340.0	7.90	89.68	2,324.9	1.3	230.5	230.5	0.00	0.00	
2,370.0	7.90	89.68	2,354.6	1.3	234.6	234.6	0.00	0.00	
2,400.0	7.90	89.68	2,384.4	1.3	238.7	238.7	0.00	0.00	
2,430.0	7.90	89.68	2,414.1	1.4	242.8	242.8	0.00	0.00	
2,460.0	7.90	89.68	2,443.8	1.4	247.0	247.0	0.00	0.00	
2,490.0	7.90	89.68	2,473.5	1.4	251.1	251.1	0.00	0.00	

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
OXY 22-2D (OXY 22 Pa	0.00	0.00	7,084.0	4.8	854.1	1,619,234.31	2,238,543.15	39.502513	-108.198946
- plan misses target center by 6469.8ft at 2490.0ft MD (2473.5 TVD, 1.4 N, 251.1 E)									
- Point									
OXY 22-2D (OXY 22 Pa	0.00	0.00	8,934.0	4.8	854.1	1,619,234.31	2,238,543.15	39.502513	-108.198946
- plan misses target center by 6488.6ft at 2490.0ft MD (2473.5 TVD, 1.4 N, 251.1 E)									
- Rectangle (sides W200.0 H100.0 D0.0)									

Cathedral Energy Services

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Well:	OXY 22-2D (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	7.90	89.68	2,483.4	1.4	252.5	252.5	0.00	0.00	
2,600.0	7.90	89.68	2,582.5	1.5	266.2	266.2	0.00	0.00	
2,700.0	7.90	89.68	2,681.5	1.6	279.9	279.9	0.00	0.00	
2,800.0	7.90	89.68	2,780.6	1.6	293.7	293.7	0.00	0.00	
2,900.0	7.90	89.68	2,879.6	1.7	307.4	307.4	0.00	0.00	
3,000.0	7.90	89.68	2,978.7	1.8	321.2	321.2	0.00	0.00	
3,100.0	7.90	89.68	3,077.7	1.9	334.9	334.9	0.00	0.00	
3,200.0	7.90	89.68	3,176.8	1.9	348.7	348.7	0.00	0.00	
3,300.0	7.90	89.68	3,275.8	2.0	362.4	362.4	0.00	0.00	
3,400.0	7.90	89.68	3,374.9	2.1	376.1	376.1	0.00	0.00	
3,500.0	7.90	89.68	3,473.9	2.2	389.9	389.9	0.00	0.00	
3,600.0	7.90	89.68	3,573.0	2.3	403.6	403.6	0.00	0.00	
3,700.0	7.90	89.68	3,672.0	2.3	417.4	417.4	0.00	0.00	
3,800.0	7.90	89.68	3,771.1	2.4	431.1	431.1	0.00	0.00	
3,900.0	7.90	89.68	3,870.1	2.5	444.8	444.9	0.00	0.00	
4,000.0	7.90	89.68	3,969.2	2.6	458.6	458.6	0.00	0.00	
4,100.0	7.90	89.68	4,068.2	2.6	472.3	472.3	0.00	0.00	
4,186.6	7.90	89.68	4,154.0	2.7	484.2	484.2	0.00	0.00	Ft Union
4,200.0	7.90	89.68	4,167.3	2.7	486.1	486.1	0.00	0.00	
4,300.0	7.90	89.68	4,266.3	2.8	499.8	499.8	0.00	0.00	
4,400.0	7.90	89.68	4,365.4	2.9	513.6	513.6	0.00	0.00	
4,500.0	7.90	89.68	4,464.4	2.9	527.3	527.3	0.00	0.00	
4,600.0	7.90	89.68	4,563.5	3.0	541.0	541.0	0.00	0.00	
4,691.4	7.90	89.68	4,654.0	3.1	553.6	553.6	0.00	0.00	Base Ft Union
4,700.0	7.90	89.68	4,662.5	3.1	554.8	554.8	0.00	0.00	
4,800.0	7.90	89.68	4,761.6	3.2	568.5	568.5	0.00	0.00	
4,900.0	7.90	89.68	4,860.6	3.2	582.3	582.3	0.00	0.00	
5,000.0	7.90	89.68	4,959.7	3.3	596.0	596.0	0.00	0.00	
5,100.0	7.90	89.68	5,058.7	3.4	609.8	609.8	0.00	0.00	
5,200.0	7.90	89.68	5,157.8	3.5	623.5	623.5	0.00	0.00	
5,300.0	7.90	89.68	5,256.8	3.6	637.2	637.2	0.00	0.00	
5,400.0	7.90	89.68	5,355.9	3.6	651.0	651.0	0.00	0.00	
5,500.0	7.90	89.68	5,454.9	3.7	664.7	664.7	0.00	0.00	
5,600.0	7.90	89.68	5,554.0	3.8	678.5	678.5	0.00	0.00	
5,700.0	7.90	89.68	5,653.0	3.9	692.2	692.2	0.00	0.00	
5,800.0	7.90	89.68	5,752.1	3.9	705.9	706.0	0.00	0.00	
5,900.0	7.90	89.68	5,851.1	4.0	719.7	719.7	0.00	0.00	
5,933.2	7.90	89.68	5,884.0	4.0	724.2	724.3	0.00	0.00	Ohio Creek
6,000.0	7.90	89.68	5,950.2	4.1	733.4	733.4	0.00	0.00	
6,100.0	7.90	89.68	6,049.3	4.2	747.2	747.2	0.00	0.00	
6,135.1	7.90	89.68	6,084.0	4.2	752.0	752.0	0.00	0.00	Williams Fork
6,200.0	7.90	89.68	6,148.3	4.2	760.9	760.9	0.00	0.00	
6,300.0	7.90	89.68	6,247.4	4.3	774.7	774.7	0.00	0.00	
6,400.0	7.90	89.68	6,346.4	4.4	788.4	788.4	0.00	0.00	
6,500.0	7.90	89.68	6,445.5	4.5	802.1	802.2	0.00	0.00	
6,600.0	7.90	89.68	6,544.5	4.5	815.9	815.9	0.00	0.00	
6,614.7	7.90	89.68	6,559.1	4.6	817.9	817.9	0.00	0.00	Start Drop -1.50
6,700.0	6.62	89.68	6,643.7	4.6	828.7	828.7	1.50	-1.50	
6,800.0	5.12	89.68	6,743.2	4.7	838.9	838.9	1.50	-1.50	
6,900.0	3.62	89.68	6,842.9	4.7	846.5	846.5	1.50	-1.50	
7,000.0	2.12	89.68	6,942.7	4.7	851.5	851.5	1.50	-1.50	
7,100.0	0.62	89.68	7,042.7	4.8	853.9	853.9	1.50	-1.50	

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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
7,141.3	0.00	0.00	7,084.0	4.8	854.1	854.2	1.50	-1.50	EOD; Inc=0° - Approx TOG - OXY 22-2D (OXY
7,200.0	0.00	0.00	7,142.7	4.8	854.1	854.2	0.00	0.00	
7,300.0	0.00	0.00	7,242.7	4.8	854.1	854.2	0.00	0.00	
7,400.0	0.00	0.00	7,342.7	4.8	854.1	854.2	0.00	0.00	
7,500.0	0.00	0.00	7,442.7	4.8	854.1	854.2	0.00	0.00	
7,600.0	0.00	0.00	7,542.7	4.8	854.1	854.2	0.00	0.00	
7,700.0	0.00	0.00	7,642.7	4.8	854.1	854.2	0.00	0.00	
7,800.0	0.00	0.00	7,742.7	4.8	854.1	854.2	0.00	0.00	
7,900.0	0.00	0.00	7,842.7	4.8	854.1	854.2	0.00	0.00	
8,000.0	0.00	0.00	7,942.7	4.8	854.1	854.2	0.00	0.00	
8,100.0	0.00	0.00	8,042.7	4.8	854.1	854.2	0.00	0.00	
8,200.0	0.00	0.00	8,142.7	4.8	854.1	854.2	0.00	0.00	
8,300.0	0.00	0.00	8,242.7	4.8	854.1	854.2	0.00	0.00	
8,400.0	0.00	0.00	8,342.7	4.8	854.1	854.2	0.00	0.00	
8,491.3	0.00	0.00	8,434.0	4.8	854.1	854.2	0.00	0.00	Cameo
8,500.0	0.00	0.00	8,442.7	4.8	854.1	854.2	0.00	0.00	
8,600.0	0.00	0.00	8,542.7	4.8	854.1	854.2	0.00	0.00	
8,700.0	0.00	0.00	8,642.7	4.8	854.1	854.2	0.00	0.00	
8,800.0	0.00	0.00	8,742.7	4.8	854.1	854.2	0.00	0.00	
8,841.3	0.00	0.00	8,784.0	4.8	854.1	854.2	0.00	0.00	Rollins SS
8,900.0	0.00	0.00	8,842.7	4.8	854.1	854.2	0.00	0.00	
8,991.3	0.00	0.00	8,934.0	4.8	854.1	854.2	0.00	0.00	TD at 8991.3 - OXY 22-2D (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 22-2D (OXY 22 Pa - plan hits target center - Point	0.00	0.00	7,084.0	4.8	854.1	1,619,234.31	2,238,543.15	39.502513	-108.198946
OXY 22-2D (OXY 22 Pa - plan hits target center - Rectangle (sides W100.0 H200.0 D0.0)	0.00	0.00	8,934.0	4.8	854.1	1,619,234.31	2,238,543.15	39.502513	-108.198946

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,127.1	2,114.0	Wasatch		0.00	
4,186.6	4,154.0	Ft Union		0.00	
4,691.4	4,654.0	Base Ft Union		0.00	
5,933.2	5,884.0	Ohio Creek		0.00	
6,135.1	6,084.0	Williams Fork		0.00	
7,141.3	7,084.0	Approx TOG		0.00	
8,491.3	8,434.0	Cameo		0.00	
8,841.3	8,784.0	Rollins SS		0.00	

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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'
926.6	924.9	0.2	36.2	EOB; Inc=7.9°
6,614.7	6,559.1	4.6	817.9	Start Drop -1.50
7,141.3	7,084.0	4.8	854.1	EOD; Inc=0°
8,991.3	8,934.0	4.8	854.1	TD at 8991.3

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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	8,991.3	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	10.5	9.1	7.806	CC, ES
OXY 22-10D (OXY 22 Pad) - DD - Plan #1	500.0	499.7	12.7	11.0	7.512	SF
OXY 22-11D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	18.2	17.2	18.313	CC, ES
OXY 22-11D (OXY 22 Pad) - DD - Plan #1	500.0	499.2	21.8	20.2	12.871	SF
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	31.7	30.7	31.887	CC, ES
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	600.0	597.7	39.5	37.5	19.207	SF
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	46.4	45.4	46.640	CC, ES
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	700.0	694.8	60.7	58.3	25.000	SF
OXY 22-14D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	60.9	59.9	61.178	CC, ES
OXY 22-14D (OXY 22 Pad) - DD - Plan #1	800.0	790.3	84.5	81.7	30.014	SF
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	75.5	74.9	116.991	CC, ES
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	800.0	785.6	110.2	107.4	39.012	SF
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	90.5	89.8	140.104	CC, ES
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	900.0	878.5	138.4	135.2	42.808	SF
OXY 22-1D (OXY 22 Pad) - DD - Plan #1	400.0	400.0	15.2	13.9	11.314	CC, ES
OXY 22-1D (OXY 22 Pad) - DD - Plan #1	800.0	800.3	22.0	19.1	7.667	SF
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	14.9	13.9	14.947	CC, ES
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	4,900.0	4,892.2	222.8	196.1	8.350	SF
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	30.0	29.0	30.187	CC, ES
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	926.6	919.6	58.2	54.8	17.130	SF
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	44.7	44.1	69.269	CC, ES
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	1,700.0	1,676.3	203.1	195.6	27.016	SF
OXY 22-6D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	59.6	58.9	92.269	CC, ES
OXY 22-6D (OXY 22 Pad) - DD - Plan #1	1,000.0	980.0	119.7	116.0	32.494	SF
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	74.8	74.1	115.767	CC, ES
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	1,100.0	1,070.8	154.1	150.0	37.382	SF
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	90.0	89.3	139.298	CC, ES
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	1,100.0	1,066.5	170.5	166.4	41.792	SF
OXY 22-9D (OXY 22 Pad) - DD - Plan #1	400.0	400.0	18.0	16.7	13.413	CC, ES
OXY 22-9D (OXY 22 Pad) - DD - Plan #1	500.0	499.5	20.5	18.8	12.140	SF

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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	-53.80	6.2	-8.5	10.5								
100.0	100.0	100.0	100.0	0.1	0.1	-53.80	6.2	-8.5	10.5	10.2	0.30	35.358					
200.0	200.0	200.0	200.0	0.3	0.3	-53.80	6.2	-8.5	10.5	9.8	0.65	16.245					
300.0	300.0	300.0	300.0	0.5	0.5	-53.80	6.2	-8.5	10.5	9.5	0.99	10.545					
400.0	400.0	400.0	400.0	0.7	0.7	-53.80	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	-150.25	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	-160.94	6.4	-13.6	20.0	17.9	2.04	9.778					
700.0	699.7	697.5	697.2	1.2	1.2	-167.85	6.7	-20.0	32.6	30.2	2.38	13.664					
800.0	799.3	796.1	795.5	1.4	1.4	-171.52	7.0	-27.6	49.1	46.4	2.73	18.013					
900.0	898.6	894.2	893.4	1.7	1.6	-173.58	7.3	-35.0	68.3	65.2	3.06	22.282					
926.6	924.9	920.2	919.3	1.8	1.7	-173.99	7.4	-37.0	73.8	70.7	3.15	23.405					
1,000.0	997.6	992.0	990.8	2.0	1.8	-174.87	7.6	-42.5	89.4	86.0	3.41	26.241					
1,100.0	1,096.7	1,089.7	1,088.3	2.2	2.0	-175.67	7.9	-49.9	110.6	106.8	3.75	29.496					
1,200.0	1,195.7	1,187.4	1,185.7	2.5	2.2	-176.22	8.2	-57.4	131.8	127.7	4.09	32.209					
1,300.0	1,294.8	1,285.1	1,283.1	2.8	2.5	-176.61	8.5	-64.8	153.1	148.6	4.44	34.504					
1,400.0	1,393.8	1,382.8	1,380.5	3.1	2.7	-176.91	8.8	-72.3	174.3	169.5	4.78	36.470					
1,500.0	1,492.9	1,480.6	1,478.0	3.4	2.9	-177.14	9.1	-79.7	195.5	190.4	5.12	38.174					

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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	0.89	18.2	0.3	18.2					
100.0	100.0	100.0	100.0	0.1	0.1	0.89	18.2	0.3	18.2	17.9	0.30	61.403		
200.0	200.0	200.0	200.0	0.3	0.3	0.89	18.2	0.3	18.2	17.6	0.65	28.212		
300.0	300.0	300.0	300.0	0.5	0.5	0.89	18.2	0.3	18.2	17.2	0.99	18.313 CC, ES		
400.0	400.0	399.7	399.7	0.7	0.7	-2.37	19.0	-0.8	19.0	17.6	1.34	14.122		
500.0	500.0	499.2	499.1	0.8	0.9	-103.63	21.2	-4.0	21.8	20.2	1.70	12.871 SF		
600.0	599.9	598.2	597.9	1.0	1.1	-119.71	24.9	-9.3	28.8	26.8	2.05	14.054		
700.0	699.7	696.8	696.1	1.2	1.3	-132.66	29.8	-16.3	41.0	38.6	2.40	17.069		
800.0	799.3	795.3	794.2	1.4	1.5	-141.20	34.8	-23.5	56.6	53.8	2.75	20.538		
900.0	898.6	893.3	891.9	1.7	1.7	-147.06	39.8	-30.7	75.0	71.9	3.11	24.134		
926.6	924.9	919.3	917.8	1.8	1.8	-148.31	41.1	-32.6	80.4	77.2	3.20	25.104		
1,000.0	997.6	991.0	989.2	2.0	1.9	-151.21	44.8	-37.8	95.6	92.1	3.46	27.590		
1,100.0	1,096.7	1,088.7	1,086.4	2.2	2.1	-153.94	49.8	-45.0	116.5	112.7	3.82	30.490		
1,200.0	1,195.7	1,186.3	1,183.7	2.5	2.4	-155.84	54.8	-52.1	137.7	133.5	4.18	32.930		
1,300.0	1,294.8	1,284.0	1,281.0	2.8	2.6	-157.23	59.8	-59.3	158.9	154.4	4.54	35.005		
1,400.0	1,393.8	1,381.6	1,378.2	3.1	2.8	-158.29	64.8	-66.4	180.2	175.3	4.90	36.788		
1,500.0	1,492.9	1,479.3	1,475.5	3.4	3.0	-159.13	69.8	-73.5	201.6	196.3	5.26	38.334		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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							
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	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	399.5	399.5	0.7	0.7	15.72	31.3	8.8	32.5	31.1	1.34	24.172	
500.0	500.0	498.8	498.7	0.8	0.9	-81.16	34.3	6.4	34.7	33.0	1.70	20.445	
600.0	599.9	597.7	597.4	1.0	1.1	-93.49	39.4	2.5	39.5	37.5	2.06	19.207 SF	
700.0	699.7	695.7	694.9	1.2	1.3	-106.88	46.4	-3.0	48.9	46.4	2.42	20.171	
800.0	799.3	792.8	791.4	1.4	1.5	-118.08	55.3	-9.9	63.7	60.9	2.79	22.844	
900.0	898.6	890.4	888.2	1.7	1.8	-126.40	64.9	-17.4	82.5	79.3	3.16	26.103	
926.6	924.9	916.2	913.9	1.8	1.8	-128.22	67.5	-19.4	88.0	84.7	3.26	26.990	
1,000.0	997.6	987.6	984.7	2.0	2.0	-132.47	74.5	-24.9	103.7	100.2	3.54	29.313	
1,100.0	1,096.7	1,084.8	1,081.2	2.2	2.3	-136.53	84.1	-32.4	125.7	121.8	3.92	32.079	
1,200.0	1,195.7	1,182.1	1,177.6	2.5	2.5	-139.38	93.7	-39.8	148.2	143.9	4.30	34.431	
1,300.0	1,294.8	1,279.3	1,274.1	2.8	2.8	-141.48	103.3	-47.3	170.9	166.2	4.69	36.436	
1,400.0	1,393.8	1,376.5	1,370.5	3.1	3.1	-143.09	113.0	-54.8	193.7	188.7	5.08	38.158	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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	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	23.28	42.6	18.3	46.4								
100.0	100.0	100.0	100.0	0.1	0.1	23.28	42.6	18.3	46.4	46.1	0.30	156.382					
200.0	200.0	200.0	200.0	0.3	0.3	23.28	42.6	18.3	46.4	45.8	0.65	71.851					
300.0	300.0	300.0	300.0	0.5	0.5	23.28	42.6	18.3	46.4	45.4	0.99	46.640	CC, ES				
400.0	400.0	399.2	399.2	0.7	0.7	22.05	43.7	17.7	47.2	45.9	1.34	35.145					
500.0	500.0	498.3	498.2	0.8	0.9	-72.49	47.1	15.8	49.3	47.6	1.70	29.077					
600.0	599.9	596.9	596.6	1.0	1.1	-81.39	52.7	12.8	53.3	51.3	2.06	25.897					
700.0	699.7	694.8	694.0	1.2	1.3	-92.39	60.4	8.5	60.7	58.3	2.43	25.000	SF				
800.0	799.3	791.6	790.2	1.4	1.5	-103.19	70.2	3.0	72.9	70.1	2.81	25.989					
900.0	898.6	887.1	884.8	1.7	1.8	-112.28	82.0	-3.5	90.5	87.3	3.19	28.359					
926.6	924.9	912.2	909.6	1.8	1.9	-114.34	85.4	-5.4	96.1	92.8	3.29	29.168					
1,000.0	997.6	981.5	977.9	2.0	2.1	-119.25	95.6	-11.0	113.0	109.5	3.58	31.586					
1,100.0	1,096.7	1,077.9	1,072.8	2.2	2.4	-124.04	110.4	-19.2	137.7	133.7	3.98	34.636					
1,200.0	1,195.7	1,174.3	1,167.7	2.5	2.7	-127.38	125.1	-27.4	163.0	158.6	4.38	37.230					
1,300.0	1,294.8	1,270.7	1,262.6	2.8	3.0	-129.82	139.8	-35.5	188.7	183.9	4.79	39.426					

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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	26.13	54.6	26.8	60.9					
100.0	100.0	100.0	100.0	0.1	0.1	26.13	54.6	26.8	60.9	60.6	0.30	205.125		
200.0	200.0	200.0	200.0	0.3	0.3	26.13	54.6	26.8	60.9	60.2	0.65	94.247		
300.0	300.0	300.0	300.0	0.5	0.5	26.13	54.6	26.8	60.9	59.9	0.99	61.178 CC, ES		
400.0	400.0	398.9	398.9	0.7	0.7	25.24	55.8	26.3	61.7	60.4	1.34	45.974		
500.0	500.0	497.7	497.6	0.8	0.9	-67.99	59.4	24.9	63.9	62.2	1.70	37.706		
600.0	599.9	596.0	595.7	1.0	1.0	-74.72	65.3	22.5	67.6	65.5	2.06	32.868		
700.0	699.7	693.7	693.0	1.2	1.3	-83.55	73.4	19.1	74.0	71.6	2.43	30.465		
800.0	799.3	790.3	789.0	1.4	1.5	-93.03	83.7	14.9	84.5	81.7	2.81	30.014 SF		
900.0	898.6	885.8	883.5	1.7	1.8	-101.83	96.1	9.9	99.8	96.6	3.21	31.074		
926.6	924.9	910.9	908.3	1.8	1.9	-103.95	99.8	8.4	104.7	101.4	3.32	31.568		
1,000.0	997.6	980.0	976.4	2.0	2.1	-109.16	110.5	4.0	120.0	116.4	3.61	33.239		
1,100.0	1,096.7	1,073.1	1,067.8	2.2	2.4	-114.37	126.8	-2.7	144.1	140.1	4.01	35.911		
1,200.0	1,195.7	1,165.7	1,158.3	2.5	2.8	-118.00	145.1	-10.1	171.4	167.0	4.42	38.767		
1,300.0	1,294.8	1,260.3	1,250.5	2.8	3.1	-120.65	164.8	-18.1	200.3	195.5	4.84	41.381		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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					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	28.07	66.7	35.6	75.5					
100.0	100.0	100.0	100.0	0.1	0.1	28.07	66.7	35.6	75.5	75.3	0.30	254.627		
200.0	200.0	200.0	200.0	0.3	0.3	28.07	66.7	35.6	75.5	74.9	0.65	116.991 CC, ES		
300.0	300.0	298.6	298.6	0.5	0.5	27.38	67.9	35.1	76.4	75.4	0.99	76.945		
400.0	400.0	397.1	397.1	0.7	0.7	25.39	71.5	33.9	79.2	77.8	1.35	58.833		
500.0	500.0	495.3	495.1	0.8	0.9	-68.04	77.5	31.9	83.4	81.7	1.70	48.983		
600.0	599.9	593.0	592.3	1.0	1.1	-73.89	85.8	29.1	89.4	87.3	2.07	43.194		
700.0	699.7	689.8	688.5	1.2	1.4	-81.05	96.4	25.6	98.0	95.5	2.44	40.112		
800.0	799.3	785.6	783.3	1.4	1.6	-88.62	109.1	21.3	110.2	107.4	2.82	39.012 SF		
900.0	898.6	880.1	876.5	1.7	1.9	-95.83	123.9	16.3	126.7	123.5	3.22	39.358		
926.6	924.9	905.0	901.0	1.8	2.0	-97.62	128.2	14.9	131.9	128.6	3.33	39.659		
1,000.0	997.6	973.3	968.0	2.0	2.3	-102.21	140.6	10.7	147.8	144.2	3.62	40.821		
1,100.0	1,096.7	1,065.3	1,057.9	2.2	2.6	-107.06	159.2	4.5	172.7	168.7	4.03	42.894		
1,200.0	1,195.7	1,156.1	1,146.1	2.5	3.0	-110.64	179.5	-2.3	200.8	196.4	4.44	45.258		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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							
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	29.11	79.0	44.0	90.5				
100.0	100.0	100.0	100.0	0.1	0.1	29.11	79.0	44.0	90.5	90.2	0.30	304.932	
200.0	200.0	200.0	200.0	0.3	0.3	29.11	79.0	44.0	90.5	89.8	0.65	140.104	CC, ES
300.0	300.0	298.4	298.4	0.5	0.5	28.54	80.3	43.6	91.4	90.4	0.99	92.010	
400.0	400.0	396.6	396.5	0.7	0.7	26.87	83.9	42.5	94.1	92.7	1.34	69.962	
500.0	500.0	494.6	494.3	0.8	0.9	-65.98	89.9	40.6	98.3	96.6	1.70	57.702	
600.0	599.9	592.0	591.3	1.0	1.1	-71.02	98.2	38.0	103.9	101.8	2.07	50.190	
700.0	699.7	688.6	687.2	1.2	1.3	-77.34	108.8	34.7	111.8	109.4	2.45	45.726	
800.0	799.3	784.1	781.9	1.4	1.6	-84.28	121.6	30.7	123.1	120.2	2.83	43.455	
900.0	898.6	878.5	874.9	1.7	1.9	-91.17	136.4	26.0	138.4	135.2	3.23	42.808	SF
926.6	924.9	903.3	899.3	1.8	2.0	-92.92	140.6	24.7	143.2	139.9	3.34	42.877	
1,000.0	997.6	971.4	966.2	2.0	2.3	-97.52	153.1	20.7	158.1	154.5	3.64	43.483	
1,100.0	1,096.7	1,063.3	1,056.0	2.2	2.6	-102.55	171.7	14.9	181.9	177.8	4.04	44.986	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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							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	-142.24	-12.0	-9.3	15.2							
100.0	100.0	100.0	100.0	0.1	0.1	-142.24	-12.0	-9.3	15.2	14.9	0.30	51.246				
200.0	200.0	200.0	200.0	0.3	0.3	-142.24	-12.0	-9.3	15.2	14.6	0.65	23.545				
300.0	300.0	300.0	300.0	0.5	0.5	-142.24	-12.0	-9.3	15.2	14.2	0.99	15.284				
400.0	400.0	400.0	400.0	0.7	0.7	-142.24	-12.0	-9.3	15.2	13.9	1.34	11.314	CC, ES			
500.0	500.0	500.1	500.1	0.8	0.8	127.28	-12.5	-8.1	15.6	13.9	1.69	9.212				
600.0	599.9	600.2	600.1	1.0	1.0	125.10	-13.8	-4.4	16.9	14.8	2.06	8.197				
700.0	699.7	700.3	700.0	1.2	1.2	122.11	-16.1	1.8	19.0	16.5	2.44	7.767				
800.0	799.3	800.3	799.6	1.4	1.4	118.90	-19.2	10.4	22.0	19.1	2.87	7.667	SF			
900.0	898.6	900.3	898.9	1.7	1.7	115.88	-23.2	21.4	26.0	22.6	3.35	7.746				
926.6	924.9	926.9	925.2	1.8	1.8	115.13	-24.4	24.8	27.2	23.7	3.49	7.785				
1,000.0	997.6	1,000.3	997.8	2.0	2.0	112.26	-28.1	34.8	30.6	26.7	3.88	7.876				
1,100.0	1,096.7	1,100.1	1,096.6	2.2	2.2	108.66	-33.2	48.8	35.4	30.9	4.44	7.961				
1,200.0	1,195.7	1,200.0	1,195.3	2.5	2.5	105.92	-38.3	62.8	40.2	35.2	5.01	8.028				
1,300.0	1,294.8	1,299.9	1,294.0	2.8	2.8	103.77	-43.4	76.9	45.2	39.6	5.59	8.083				
1,400.0	1,393.8	1,399.7	1,392.8	3.1	3.1	102.05	-48.5	90.9	50.2	44.0	6.17	8.130				
1,500.0	1,492.9	1,499.6	1,491.5	3.4	3.4	100.64	-53.6	104.9	55.2	48.4	6.76	8.171				
1,600.0	1,591.9	1,599.4	1,590.3	3.7	3.7	99.47	-58.7	118.9	60.3	52.9	7.34	8.206				
1,700.0	1,691.0	1,699.3	1,689.0	3.9	4.1	98.48	-63.8	132.9	65.3	57.4	7.93	8.237				
1,800.0	1,790.0	1,799.2	1,787.8	4.2	4.4	97.63	-68.9	146.9	70.4	61.9	8.52	8.264				
1,900.0	1,889.1	1,899.0	1,886.5	4.5	4.7	96.90	-74.0	160.9	75.5	66.4	9.11	8.288				
2,000.0	1,988.1	1,998.9	1,985.3	4.8	5.0	96.26	-79.1	174.9	80.7	71.0	9.71	8.310				
2,100.0	2,087.2	2,098.8	2,084.0	5.1	5.3	95.70	-84.2	188.9	85.8	75.5	10.30	8.330				
2,200.0	2,186.3	2,198.6	2,182.8	5.4	5.6	95.20	-89.3	203.0	90.9	80.0	10.89	8.348				
2,300.0	2,285.3	2,298.5	2,281.5	5.7	5.9	94.75	-94.4	217.0	96.1	84.6	11.49	8.365				
2,400.0	2,384.4	2,398.4	2,380.2	6.0	6.2	94.35	-99.5	231.0	101.2	89.1	12.08	8.380				
2,500.0	2,483.4	2,498.2	2,479.0	6.3	6.5	93.99	-104.6	245.0	106.4	93.7	12.67	8.394				
2,600.0	2,582.5	2,598.1	2,577.7	6.6	6.8	93.66	-109.7	259.0	111.5	98.3	13.27	8.406				
2,700.0	2,681.5	2,698.0	2,676.5	6.9	7.2	93.36	-114.8	273.0	116.7	102.8	13.86	8.418				
2,800.0	2,780.6	2,797.8	2,775.2	7.2	7.5	93.08	-119.9	287.0	121.8	107.4	14.46	8.429				
2,900.0	2,879.6	2,897.7	2,874.0	7.5	7.8	92.83	-125.0	301.0	127.0	112.0	15.05	8.439				
3,000.0	2,978.7	2,997.6	2,972.7	7.8	8.1	92.60	-130.1	315.0	132.2	116.5	15.64	8.449				
3,100.0	3,077.7	3,097.4	3,071.5	8.1	8.4	92.38	-135.2	329.0	137.3	121.1	16.24	8.458				
3,200.0	3,176.8	3,197.3	3,170.2	8.4	8.7	92.19	-140.3	343.1	142.5	125.7	16.83	8.466				
3,300.0	3,275.8	3,297.2	3,269.0	8.7	9.0	92.00	-145.4	357.1	147.7	130.3	17.43	8.474				
3,400.0	3,374.9	3,397.0	3,367.7	9.0	9.4	91.83	-150.5	371.1	152.9	134.8	18.02	8.481				
3,500.0	3,473.9	3,496.9	3,466.4	9.3	9.7	91.67	-155.6	385.1	158.0	139.4	18.62	8.488				
3,600.0	3,573.0	3,596.7	3,565.2	9.6	10.0	91.51	-160.7	399.1	163.2	144.0	19.21	8.495				
3,700.0	3,672.0	3,696.6	3,663.9	9.9	10.3	91.37	-165.8	413.1	168.4	148.6	19.81	8.501				
3,800.0	3,771.1	3,796.5	3,762.7	10.2	10.6	91.24	-170.9	427.1	173.6	153.2	20.40	8.507				
3,900.0	3,870.1	3,896.3	3,861.4	10.4	10.9	91.11	-176.0	441.1	178.8	157.8	21.00	8.512				
4,000.0	3,969.2	3,996.2	3,960.2	10.7	11.2	91.00	-181.1	455.1	183.9	162.3	21.60	8.517				
4,100.0	4,068.2	4,096.1	4,058.9	11.0	11.6	90.88	-186.2	469.2	189.1	166.9	22.19	8.522				
4,200.0	4,167.3	4,195.9	4,157.7	11.3	11.9	90.78	-191.3	483.2	194.3	171.5	22.79	8.527				
4,300.0	4,266.3	4,295.8	4,256.4	11.6	12.2	90.68	-196.4	497.2	199.5	176.1	23.38	8.532				
4,400.0	4,365.4	4,395.7	4,355.2	11.9	12.5	90.58	-201.5	511.2	204.7	180.7	23.98	8.536				
4,500.0	4,464.4	4,495.5	4,453.9	12.2	12.8	90.49	-206.6	525.2	209.8	185.3	24.57	8.540				
4,600.0	4,563.5	4,595.4	4,552.6	12.5	13.1	90.40	-211.7	539.2	215.0	189.9	25.17	8.544				
4,700.0	4,662.5	4,695.3	4,651.4	12.8	13.4	90.32	-216.8	553.2	220.2	194.4	25.76	8.548				
4,800.0	4,761.6	4,795.1	4,750.1	13.1	13.8	90.24	-221.9	567.2	225.4	199.0	26.36	8.551				

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 22-2D (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 22-2D (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: O-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	36.03	12.0	8.7	14.9					
100.0	100.0	100.0	100.0	0.1	0.1	36.03	12.0	8.7	14.9	14.6	0.30	50.115		
200.0	200.0	200.0	200.0	0.3	0.3	36.03	12.0	8.7	14.9	14.2	0.65	23.026		
300.0	300.0	300.0	300.0	0.5	0.5	36.03	12.0	8.7	14.9	13.9	0.99	14.947 CC, ES		
400.0	400.0	399.7	399.6	0.7	0.7	38.63	12.5	10.0	16.0	14.6	1.34	11.879		
500.0	500.0	499.2	499.1	0.8	0.9	-47.92	13.8	13.6	18.5	16.8	1.69	10.929		
600.0	599.9	598.7	598.4	1.0	1.1	-47.48	16.1	19.7	21.6	19.6	2.05	10.545		
700.0	699.7	698.1	697.4	1.2	1.3	-48.78	19.2	28.2	25.3	22.9	2.42	10.436		
800.0	799.3	797.4	796.0	1.4	1.5	-51.07	23.2	39.1	29.5	26.7	2.83	10.460		
900.0	898.6	896.9	894.5	1.7	1.8	-54.17	28.0	52.2	34.2	30.9	3.27	10.464		
926.6	924.9	923.5	920.8	1.8	1.9	-55.35	29.3	55.7	35.3	31.9	3.39	10.388		
1,000.0	997.6	996.8	993.4	2.0	2.1	-58.62	32.9	65.6	38.2	34.4	3.76	10.150		
1,100.0	1,096.7	1,096.7	1,092.2	2.2	2.4	-62.35	37.9	79.0	42.3	38.0	4.28	9.875		
1,200.0	1,195.7	1,196.6	1,191.1	2.5	2.7	-65.40	42.8	92.5	46.6	41.7	4.82	9.650		
1,300.0	1,294.8	1,296.4	1,289.9	2.8	3.0	-67.93	47.7	105.9	50.9	45.6	5.38	9.466		
1,400.0	1,393.8	1,396.3	1,388.8	3.1	3.3	-70.06	52.7	119.4	55.4	49.4	5.95	9.315		
1,500.0	1,492.9	1,496.2	1,487.6	3.4	3.6	-71.87	57.6	132.8	59.9	53.4	6.52	9.190		
1,600.0	1,591.9	1,596.1	1,586.5	3.7	3.9	-73.42	62.6	146.2	64.5	57.4	7.10	9.086		
1,700.0	1,691.0	1,696.0	1,685.3	3.9	4.2	-74.77	67.5	159.7	69.1	61.4	7.68	8.999		
1,800.0	1,790.0	1,795.8	1,784.2	4.2	4.5	-75.94	72.4	173.1	73.8	65.5	8.27	8.924		
1,900.0	1,889.1	1,895.7	1,883.0	4.5	4.8	-76.98	77.4	186.6	78.4	69.6	8.85	8.861		
2,000.0	1,988.1	1,995.6	1,981.9	4.8	5.1	-77.90	82.3	200.0	83.2	73.7	9.44	8.806		
2,100.0	2,087.2	2,095.5	2,080.7	5.1	5.4	-78.72	87.3	213.4	87.9	77.8	10.03	8.759		
2,200.0	2,186.3	2,195.4	2,179.6	5.4	5.7	-79.46	92.2	226.9	92.6	82.0	10.62	8.717		
2,300.0	2,285.3	2,295.3	2,278.4	5.7	6.0	-80.13	97.2	240.3	97.4	86.1	11.22	8.681		
2,400.0	2,384.4	2,395.1	2,377.3	6.0	6.3	-80.73	102.1	253.8	102.1	90.3	11.81	8.649		
2,500.0	2,483.4	2,495.0	2,476.1	6.3	6.6	-81.28	107.0	267.2	106.9	94.5	12.40	8.620		
2,600.0	2,582.5	2,594.9	2,575.0	6.6	6.9	-81.79	112.0	280.6	111.7	98.7	13.00	8.594		
2,700.0	2,681.5	2,694.8	2,673.8	6.9	7.2	-82.25	116.9	294.1	116.5	102.9	13.59	8.571		
2,800.0	2,780.6	2,794.7	2,772.7	7.2	7.5	-82.67	121.9	307.5	121.3	107.1	14.18	8.550		
2,900.0	2,879.6	2,894.5	2,871.5	7.5	7.8	-83.07	126.8	321.0	126.1	111.3	14.78	8.531		
3,000.0	2,978.7	2,994.4	2,970.4	7.8	8.1	-83.43	131.7	334.4	130.9	115.5	15.37	8.514		
3,100.0	3,077.7	3,094.3	3,069.2	8.1	8.4	-83.77	136.7	347.8	135.7	119.7	15.97	8.499		
3,200.0	3,176.8	3,194.2	3,168.1	8.4	8.7	-84.08	141.6	361.3	140.5	124.0	16.56	8.484		
3,300.0	3,275.8	3,294.1	3,266.9	8.7	9.0	-84.38	146.6	374.7	145.3	128.2	17.16	8.471		
3,400.0	3,374.9	3,393.9	3,365.8	9.0	9.3	-84.65	151.5	388.2	150.2	132.4	17.75	8.459		
3,500.0	3,473.9	3,493.8	3,464.6	9.3	9.6	-84.91	156.4	401.6	155.0	136.6	18.35	8.448		
3,600.0	3,573.0	3,593.7	3,563.5	9.6	9.9	-85.15	161.4	415.0	159.8	140.9	18.94	8.437		
3,700.0	3,672.0	3,693.6	3,662.3	9.9	10.3	-85.38	166.3	428.5	164.7	145.1	19.54	8.428		
3,800.0	3,771.1	3,793.5	3,761.2	10.2	10.6	-85.60	171.3	441.9	169.5	149.4	20.13	8.419		
3,900.0	3,870.1	3,893.3	3,860.0	10.4	10.9	-85.80	176.2	455.4	174.3	153.6	20.73	8.410		
4,000.0	3,969.2	3,993.2	3,958.9	10.7	11.2	-85.99	181.1	468.8	179.2	157.9	21.32	8.402		
4,100.0	4,068.2	4,093.1	4,057.7	11.0	11.5	-86.17	186.1	482.2	184.0	162.1	21.92	8.395		
4,200.0	4,167.3	4,193.0	4,156.6	11.3	11.8	-86.35	191.0	495.7	188.9	166.3	22.52	8.388		
4,300.0	4,266.3	4,292.9	4,255.4	11.6	12.1	-86.51	196.0	509.1	193.7	170.6	23.11	8.382		
4,400.0	4,365.4	4,392.8	4,354.3	11.9	12.4	-86.67	200.9	522.6	198.6	174.9	23.71	8.376		
4,500.0	4,464.4	4,492.6	4,453.1	12.2	12.7	-86.82	205.8	536.0	203.4	179.1	24.30	8.370		
4,600.0	4,563.5	4,592.5	4,552.0	12.5	13.0	-86.96	210.8	549.4	208.3	183.4	24.90	8.365		
4,700.0	4,662.5	4,692.4	4,650.8	12.8	13.3	-87.09	215.7	562.9	213.1	187.6	25.49	8.359		
4,800.0	4,761.6	4,792.3	4,749.7	13.1	13.6	-87.22	220.7	576.3	218.0	191.9	26.09	8.355		
4,900.0	4,860.6	4,892.2	4,848.5	13.4	13.9	-87.35	225.6	589.8	222.8	196.1	26.68	8.350 SF		

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 22-2D (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 22-2D (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							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	35.63	24.4	17.5	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	35.63	24.4	17.5	30.0	29.7	0.30	101.214		
200.0	200.0	200.0	200.0	0.3	0.3	35.63	24.4	17.5	30.0	29.4	0.65	46.504		
300.0	300.0	300.0	300.0	0.5	0.5	35.63	24.4	17.5	30.0	29.0	0.99	30.187	CC, ES	
400.0	400.0	399.2	399.2	0.7	0.7	36.40	25.2	18.5	31.3	29.9	1.34	23.261		
500.0	500.0	498.4	498.3	0.8	0.9	-52.97	27.4	21.7	34.2	32.5	1.69	20.202		
600.0	599.9	597.4	597.1	1.0	1.1	-54.63	31.1	26.9	38.0	36.0	2.05	18.564		
700.0	699.7	696.3	695.6	1.2	1.3	-57.61	36.3	34.2	42.8	40.4	2.42	17.708		
800.0	799.3	795.0	793.6	1.4	1.5	-61.32	43.0	43.6	48.8	46.0	2.82	17.301		
900.0	898.6	893.5	891.1	1.7	1.8	-65.28	51.1	55.0	56.1	52.8	3.27	17.140		
926.6	924.9	919.6	916.9	1.8	1.9	-66.32	53.5	58.4	58.2	54.8	3.40	17.130	SF	
1,000.0	997.6	992.2	988.4	2.0	2.1	-68.75	60.6	68.3	64.9	61.1	3.76	17.231		
1,100.0	1,096.7	1,091.7	1,086.4	2.2	2.4	-71.23	70.5	82.3	74.3	70.0	4.28	17.344		
1,200.0	1,195.7	1,191.2	1,184.5	2.5	2.8	-73.16	80.4	96.2	83.8	79.0	4.82	17.393		
1,300.0	1,294.8	1,290.7	1,282.5	2.8	3.1	-74.69	90.3	110.1	93.4	88.1	5.37	17.407		
1,400.0	1,393.8	1,390.2	1,380.5	3.1	3.4	-75.93	100.2	124.1	103.1	97.2	5.92	17.401		
1,500.0	1,492.9	1,489.7	1,478.6	3.4	3.8	-76.96	110.1	138.0	112.8	106.3	6.49	17.384		
1,600.0	1,591.9	1,589.2	1,576.6	3.7	4.1	-77.83	120.0	151.9	122.5	115.5	7.06	17.362		
1,700.0	1,691.0	1,688.7	1,674.6	3.9	4.4	-78.57	129.9	165.9	132.3	124.6	7.63	17.337		
1,800.0	1,790.0	1,788.2	1,772.7	4.2	4.8	-79.20	139.9	179.8	142.0	133.8	8.20	17.311		
1,900.0	1,889.1	1,887.8	1,870.7	4.5	5.1	-79.76	149.8	193.7	151.8	143.0	8.78	17.285		
2,000.0	1,988.1	1,987.3	1,968.7	4.8	5.5	-80.25	159.7	207.7	161.6	152.3	9.36	17.261		
2,100.0	2,087.2	2,086.8	2,066.7	5.1	5.8	-80.68	169.6	221.6	171.4	161.5	9.95	17.237		
2,200.0	2,186.3	2,186.3	2,164.8	5.4	6.2	-81.07	179.5	235.5	181.2	170.7	10.53	17.214		
2,300.0	2,285.3	2,285.8	2,262.8	5.7	6.5	-81.41	189.4	249.5	191.1	180.0	11.11	17.193		
2,400.0	2,384.4	2,385.3	2,360.8	6.0	6.8	-81.72	199.3	263.4	200.9	189.2	11.70	17.173		
2,500.0	2,483.4	2,484.8	2,458.9	6.3	7.2	-82.01	209.2	277.3	210.7	198.5	12.29	17.154		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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							
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	35.47	36.4	26.0	44.7				
100.0	100.0	100.0	100.0	0.1	0.1	35.47	36.4	26.0	44.7	44.4	0.30	150.762	
200.0	200.0	200.0	200.0	0.3	0.3	35.47	36.4	26.0	44.7	44.1	0.65	69.269	CC, ES
300.0	300.0	298.8	298.8	0.5	0.5	35.67	37.4	26.8	46.0	45.0	0.99	46.256	
400.0	400.0	397.5	397.4	0.7	0.7	36.19	40.2	29.4	49.9	48.5	1.35	36.860	
500.0	500.0	496.0	495.7	0.8	0.9	-53.77	44.9	33.7	55.5	53.8	1.69	32.895	
600.0	599.9	594.3	593.6	1.0	1.1	-55.63	51.4	39.7	62.2	60.2	2.04	30.480	
700.0	699.7	692.2	690.9	1.2	1.4	-58.49	59.8	47.3	70.1	67.7	2.41	29.102	
800.0	799.3	789.8	787.5	1.4	1.6	-61.92	70.0	56.7	79.3	76.5	2.80	28.308	
900.0	898.6	887.0	883.3	1.7	2.0	-65.56	81.9	67.6	90.1	86.9	3.24	27.824	
926.6	924.9	912.8	908.7	1.8	2.1	-66.53	85.3	70.7	93.3	89.9	3.36	27.740	
1,000.0	997.6	984.0	978.5	2.0	2.3	-68.95	95.6	80.1	102.9	99.2	3.72	27.683	
1,100.0	1,096.7	1,082.9	1,075.4	2.2	2.7	-71.51	110.3	93.6	116.9	112.6	4.22	27.667	
1,200.0	1,195.7	1,181.8	1,172.2	2.5	3.1	-73.51	124.9	107.0	131.0	126.3	4.75	27.589	
1,300.0	1,294.8	1,280.7	1,269.1	2.8	3.4	-75.13	139.6	120.5	145.3	140.0	5.29	27.480	
1,400.0	1,393.8	1,379.6	1,366.0	3.1	3.8	-76.46	154.3	133.9	159.7	153.8	5.84	27.361	
1,500.0	1,492.9	1,478.5	1,462.8	3.4	4.2	-77.56	169.0	147.4	174.1	167.7	6.39	27.241	
1,600.0	1,591.9	1,577.4	1,559.7	3.7	4.6	-78.50	183.7	160.8	188.6	181.6	6.95	27.125	
1,700.0	1,691.0	1,676.3	1,656.6	3.9	5.0	-79.30	198.4	174.3	203.1	195.6	7.52	27.016	SF

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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 (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	35.63	48.4	34.7	59.6					
100.0	100.0	100.0	100.0	0.1	0.1	35.63	48.4	34.7	59.6	59.3	0.30	200.821		
200.0	200.0	200.0	200.0	0.3	0.3	35.63	48.4	34.7	59.6	58.9	0.65	92.269	CC, ES	
300.0	300.0	298.4	298.4	0.5	0.5	35.65	49.5	35.5	60.9	59.9	0.99	61.230		
400.0	400.0	396.8	396.7	0.7	0.7	35.71	52.5	37.7	64.7	63.4	1.35	47.894		
500.0	500.0	494.9	494.6	0.8	0.9	-54.67	57.6	41.5	70.4	68.7	1.69	41.783		
600.0	599.9	592.7	592.0	1.0	1.1	-56.73	64.6	46.7	77.2	75.1	2.04	37.901		
700.0	699.7	690.2	688.9	1.2	1.4	-59.72	73.6	53.5	85.2	82.8	2.40	35.517		
800.0	799.3	787.3	785.0	1.4	1.6	-63.27	84.6	61.6	94.8	92.0	2.79	34.009		
900.0	898.6	883.9	880.3	1.7	2.0	-67.05	97.4	71.2	106.2	103.0	3.22	33.009		
926.6	924.9	909.5	905.5	1.8	2.0	-68.06	101.1	73.9	109.5	106.2	3.34	32.815		
1,000.0	997.6	980.0	974.6	2.0	2.3	-70.65	112.1	82.1	119.7	116.0	3.68	32.494	SF	
1,100.0	1,096.7	1,075.6	1,067.9	2.2	2.7	-73.22	128.6	94.4	135.8	131.7	4.17	32.544		
1,200.0	1,195.7	1,171.1	1,160.6	2.5	3.1	-74.90	146.9	108.0	154.4	149.8	4.68	32.988		
1,300.0	1,294.8	1,269.1	1,255.7	2.8	3.5	-76.15	166.3	122.4	173.9	168.7	5.21	33.375		
1,400.0	1,393.8	1,367.1	1,350.7	3.1	4.0	-77.16	185.7	136.8	193.4	187.6	5.75	33.643		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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	35.54	60.8	43.5	74.8					
100.0	100.0	100.0	100.0	0.1	0.1	35.54	60.8	43.5	74.8	74.5	0.30	251.964		
200.0	200.0	200.0	200.0	0.3	0.3	35.54	60.8	43.5	74.8	74.1	0.65	115.767	CC, ES	
300.0	300.0	298.1	298.1	0.5	0.5	35.42	61.9	44.1	76.0	75.0	0.99	76.532		
400.0	400.0	396.0	395.9	0.7	0.7	35.10	65.2	45.9	79.9	78.5	1.35	59.149		
500.0	500.0	493.7	493.4	0.8	0.9	-55.69	70.7	48.9	85.5	83.8	1.68	50.779		
600.0	599.9	591.2	590.5	1.0	1.1	-58.08	78.4	53.0	92.3	90.2	2.03	45.375		
700.0	699.7	688.2	686.9	1.2	1.3	-61.39	88.2	58.4	100.5	98.1	2.39	41.964		
800.0	799.3	784.8	782.5	1.4	1.6	-65.25	100.1	64.8	110.4	107.7	2.78	39.763		
900.0	898.6	880.8	877.2	1.7	1.9	-69.35	114.0	72.4	122.4	119.2	3.20	38.305		
926.6	924.9	906.2	902.1	1.8	2.0	-70.45	118.0	74.6	126.0	122.6	3.31	38.025		
1,000.0	997.6	976.1	970.8	2.0	2.3	-73.31	129.8	81.0	136.8	133.2	3.65	37.512		
1,100.0	1,096.7	1,070.8	1,063.3	2.2	2.7	-76.34	147.6	90.7	154.1	150.0	4.12	37.382	SF	
1,200.0	1,195.7	1,164.7	1,154.5	2.5	3.1	-78.50	167.3	101.4	174.1	169.5	4.62	37.706		
1,300.0	1,294.8	1,257.8	1,244.4	2.8	3.5	-79.98	188.7	113.1	196.5	191.3	5.12	38.344		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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	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	297.8	297.7	0.5	0.5	35.71	74.0	53.2	91.2	90.2	0.99	91.851	
400.0	400.0	395.4	395.3	0.7	0.7	35.13	77.5	54.5	94.9	93.6	1.35	70.391	
500.0	500.0	492.8	492.5	0.8	0.9	-55.95	83.3	56.8	100.4	98.7	1.68	59.623	
600.0	599.9	589.8	589.2	1.0	1.1	-58.59	91.4	59.9	107.0	105.0	2.03	52.606	
700.0	699.7	686.5	685.2	1.2	1.3	-62.15	101.8	63.8	115.1	112.8	2.39	48.085	
800.0	799.3	782.5	780.3	1.4	1.6	-66.29	114.3	68.6	125.2	122.4	2.77	45.124	
900.0	898.6	877.9	874.3	1.7	1.9	-70.70	128.9	74.2	137.4	134.2	3.18	43.168	
926.6	924.9	903.1	899.2	1.8	2.0	-71.88	133.1	75.8	141.1	137.8	3.30	42.793	
1,000.0	997.6	972.5	967.3	2.0	2.3	-75.02	145.6	80.5	152.4	148.7	3.62	42.085	
1,100.0	1,096.7	1,066.5	1,059.1	2.2	2.7	-78.47	164.3	87.7	170.5	166.4	4.08	41.792	SF
1,200.0	1,195.7	1,159.6	1,149.5	2.5	3.1	-81.10	184.9	95.5	191.4	186.8	4.55	42.030	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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							
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	-110.08	-6.2	-16.9	18.0				
100.0	100.0	100.0	100.0	0.1	0.1	-110.08	-6.2	-16.9	18.0	17.7	0.30	60.753	
200.0	200.0	200.0	200.0	0.3	0.3	-110.08	-6.2	-16.9	18.0	17.4	0.65	27.914	
300.0	300.0	300.0	300.0	0.5	0.5	-110.08	-6.2	-16.9	18.0	17.0	0.99	18.119	
400.0	400.0	400.0	400.0	0.7	0.7	-110.08	-6.2	-16.9	18.0	16.7	1.34	13.413 CC, ES	
500.0	500.0	499.5	499.5	0.8	0.8	160.81	-6.8	-18.0	20.5	18.8	1.69	12.140 SF	
600.0	599.9	598.6	598.5	1.0	1.0	161.91	-8.8	-21.4	28.1	26.0	2.04	13.770	
700.0	699.7	696.9	696.6	1.2	1.2	162.81	-12.0	-26.9	40.6	38.2	2.39	17.027	
800.0	799.3	794.8	794.1	1.4	1.4	163.47	-16.4	-34.3	57.9	55.1	2.73	21.179	
900.0	898.6	892.8	891.7	1.7	1.6	164.26	-20.9	-42.0	77.9	74.8	3.08	25.316	
926.6	924.9	918.7	917.5	1.8	1.7	164.48	-22.1	-44.1	83.7	80.5	3.17	26.397	
1,000.0	997.6	990.3	988.8	2.0	1.9	165.05	-25.4	-49.7	99.8	96.4	3.43	29.112	
1,100.0	1,096.7	1,087.9	1,086.0	2.2	2.1	165.58	-29.9	-57.4	121.8	118.0	3.78	32.208	
1,200.0	1,195.7	1,185.4	1,183.1	2.5	2.3	165.95	-34.4	-65.1	143.8	139.7	4.14	34.773	
1,300.0	1,294.8	1,283.0	1,280.2	2.8	2.5	166.22	-38.9	-72.8	165.8	161.3	4.49	36.931	
1,400.0	1,393.8	1,380.5	1,377.4	3.1	2.7	166.42	-43.5	-80.5	187.8	183.0	4.84	38.771	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-2D (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 22-2D (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 22-2D (OXY 22 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.70°

