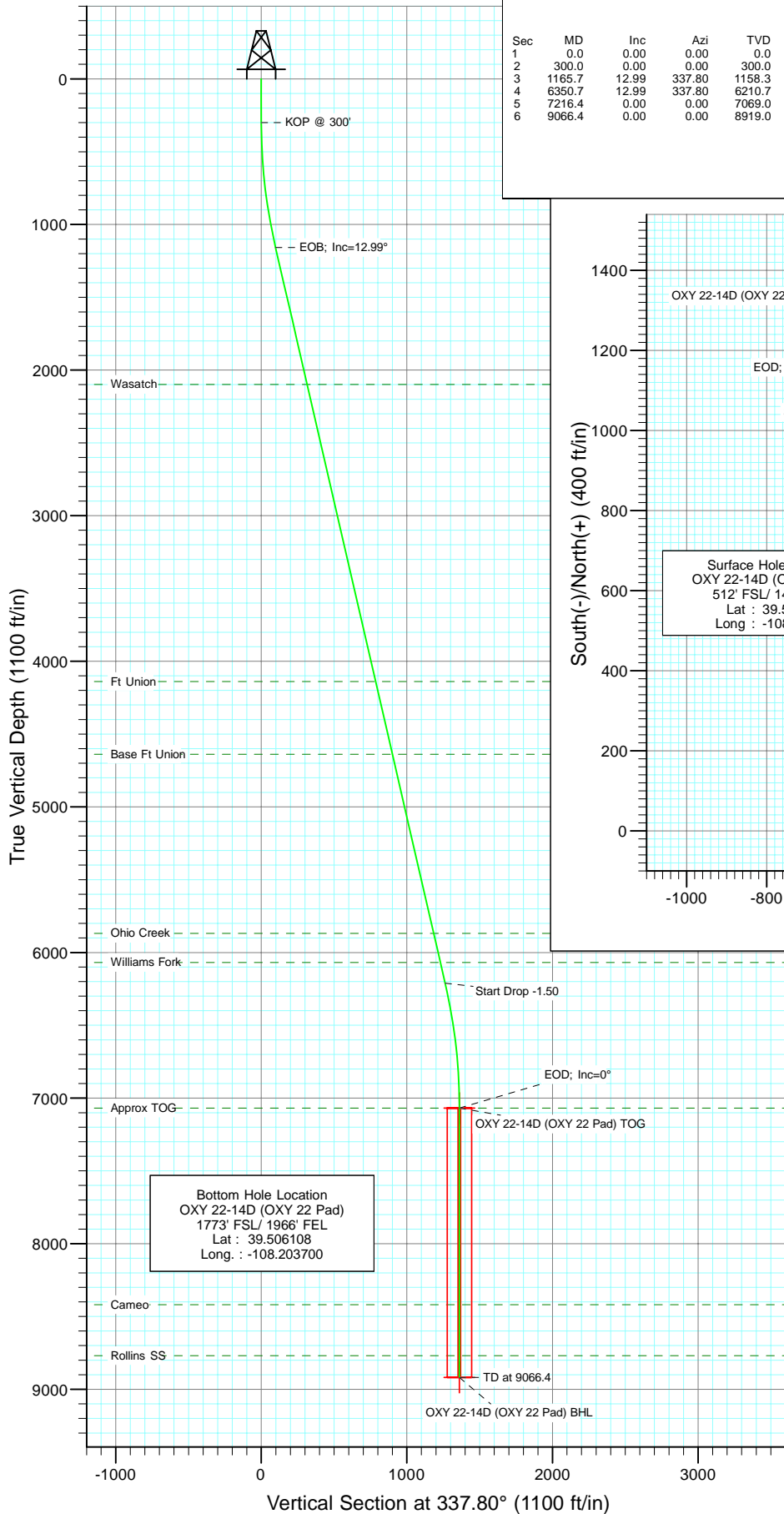




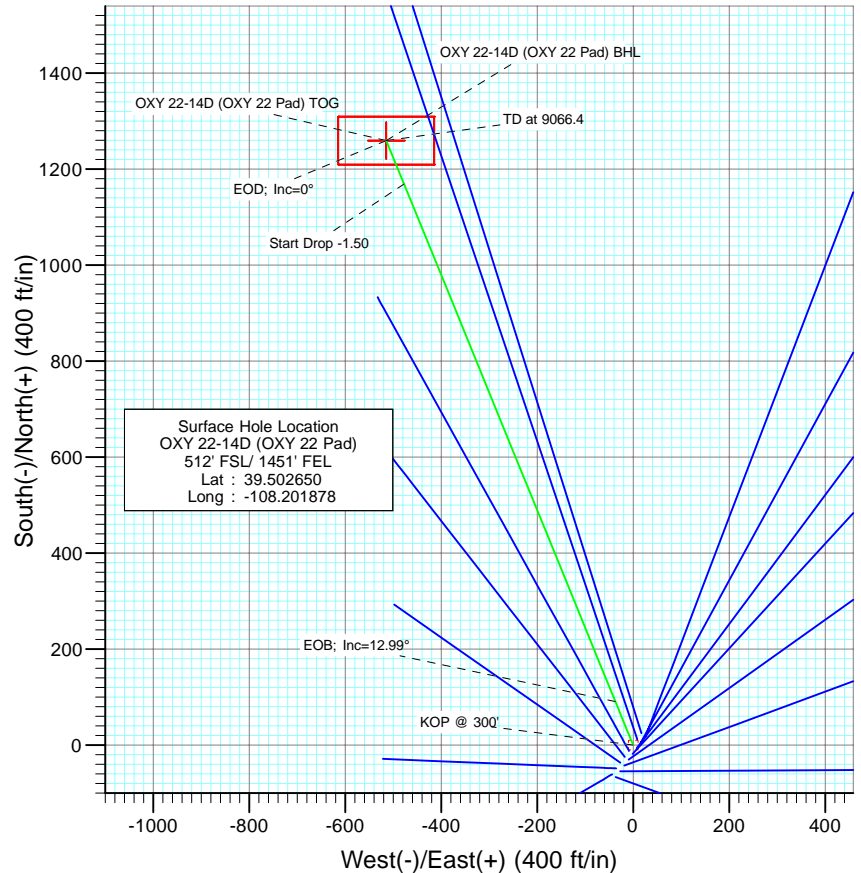
Berry Petroleum Company

Project: Garfield County
Site: SWSE S22-T6S-R97W
Well: OXY 22-14D (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	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1165.7	12.99	337.80	1158.3	90.4	-36.9	1.50	337.80	97.7	
4	6350.7	12.99	337.80	6210.7	1169.1	-477.2	0.00	0.00	1262.8	
5	7216.4	0.00	0.00	7069.0	1259.6	-514.1	1.50	180.00	1360.4	OXY 22-14D (OXY 22 Pad) TOG
6	9066.4	0.00	0.00	8919.0	1259.6	-514.1	0.00	0.00	1360.4	OXY 22-14D (OXY 22 Pad) BHL



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2099.0	2131.1	Wasatch
4139.0	4224.6	Ft Union
4639.0	4737.7	Base Ft Union
5869.0	6000.0	Ohio Creek
6069.0	6205.3	Williams Fork
7069.0	7216.4	Approx TOG
8419.0	8566.4	Cameo
8769.0	8916.4	Rollins SS



Azimuths to True North
Magnetic North: 10.64°

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

DESIGN DETAILS: Plan #1

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

Target	Azimuth	Origin	N/S	E/W	From TVD
OXY 22-14D (OXY 22 Pad) BHL	337.80	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 22-14D (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 22-14D (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 22-14D (OXY 22 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,619,308.77 ft	Latitude:	39.502650
	+E/-W	0.0 ft	Easting:	2,237,717.66 ft	Longitude:	-108.201878
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,491.0 ft

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

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	337.80

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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,165.7	12.99	337.80	1,158.3	90.4	-36.9	1.50	1.50	0.00	337.80	
6,350.7	12.99	337.80	6,210.7	1,169.1	-477.2	0.00	0.00	0.00	0.00	
7,216.4	0.00	0.00	7,069.0	1,259.6	-514.1	1.50	-1.50	0.00	180.00	OXY 22-14D (OXY 22
9,066.4	0.00	0.00	8,919.0	1,259.6	-514.1	0.00	0.00	0.00	0.00	OXY 22-14D (OXY 22

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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	12.99	337.80	2,458.5	368.0	-150.2	397.5	0.00	0.00	
2,600.0	12.99	337.80	2,555.9	388.8	-158.7	420.0	0.00	0.00	
2,700.0	12.99	337.80	2,653.4	409.6	-167.2	442.4	0.00	0.00	
2,800.0	12.99	337.80	2,750.8	430.4	-175.7	464.9	0.00	0.00	
2,900.0	12.99	337.80	2,848.3	451.2	-184.2	487.4	0.00	0.00	
3,000.0	12.99	337.80	2,945.7	472.0	-192.7	509.9	0.00	0.00	
3,100.0	12.99	337.80	3,043.1	492.9	-201.2	532.3	0.00	0.00	
3,200.0	12.99	337.80	3,140.6	513.7	-209.7	554.8	0.00	0.00	
3,300.0	12.99	337.80	3,238.0	534.5	-218.1	577.3	0.00	0.00	
3,400.0	12.99	337.80	3,335.5	555.3	-226.6	599.7	0.00	0.00	
3,500.0	12.99	337.80	3,432.9	576.1	-235.1	622.2	0.00	0.00	
3,600.0	12.99	337.80	3,530.4	596.9	-243.6	644.7	0.00	0.00	
3,700.0	12.99	337.80	3,627.8	617.7	-252.1	667.1	0.00	0.00	
3,800.0	12.99	337.80	3,725.2	638.5	-260.6	689.6	0.00	0.00	
3,900.0	12.99	337.80	3,822.7	659.3	-269.1	712.1	0.00	0.00	
4,000.0	12.99	337.80	3,920.1	680.1	-277.6	734.6	0.00	0.00	
4,100.0	12.99	337.80	4,017.6	700.9	-286.1	757.0	0.00	0.00	
4,200.0	12.99	337.80	4,115.0	721.7	-294.6	779.5	0.00	0.00	
4,224.6	12.99	337.80	4,139.0	726.8	-296.7	785.0	0.00	0.00	Ft Union
4,300.0	12.99	337.80	4,212.5	742.5	-303.1	802.0	0.00	0.00	
4,400.0	12.99	337.80	4,309.9	763.3	-311.5	824.4	0.00	0.00	
4,500.0	12.99	337.80	4,407.3	784.1	-320.0	846.9	0.00	0.00	
4,600.0	12.99	337.80	4,504.8	804.9	-328.5	869.4	0.00	0.00	
4,700.0	12.99	337.80	4,602.2	825.7	-337.0	891.8	0.00	0.00	
4,737.7	12.99	337.80	4,639.0	833.6	-340.2	900.3	0.00	0.00	Base Ft Union
4,800.0	12.99	337.80	4,699.7	846.5	-345.5	914.3	0.00	0.00	
4,900.0	12.99	337.80	4,797.1	867.3	-354.0	936.8	0.00	0.00	
5,000.0	12.99	337.80	4,894.6	888.1	-362.5	959.3	0.00	0.00	
5,100.0	12.99	337.80	4,992.0	908.9	-371.0	981.7	0.00	0.00	
5,200.0	12.99	337.80	5,089.4	929.7	-379.5	1,004.2	0.00	0.00	
5,300.0	12.99	337.80	5,186.9	950.5	-388.0	1,026.7	0.00	0.00	
5,400.0	12.99	337.80	5,284.3	971.3	-396.5	1,049.1	0.00	0.00	
5,500.0	12.99	337.80	5,381.8	992.1	-405.0	1,071.6	0.00	0.00	
5,600.0	12.99	337.80	5,479.2	1,013.0	-413.4	1,094.1	0.00	0.00	
5,700.0	12.99	337.80	5,576.7	1,033.8	-421.9	1,116.5	0.00	0.00	
5,800.0	12.99	337.80	5,674.1	1,054.6	-430.4	1,139.0	0.00	0.00	
5,900.0	12.99	337.80	5,771.5	1,075.4	-438.9	1,161.5	0.00	0.00	
6,000.0	12.99	337.80	5,869.0	1,096.2	-447.4	1,184.0	0.00	0.00	Ohio Creek
6,100.0	12.99	337.80	5,966.4	1,117.0	-455.9	1,206.4	0.00	0.00	
6,200.0	12.99	337.80	6,063.9	1,137.8	-464.4	1,228.9	0.00	0.00	
6,205.3	12.99	337.80	6,069.0	1,138.9	-464.8	1,230.1	0.00	0.00	Williams Fork
6,300.0	12.99	337.80	6,161.3	1,158.6	-472.9	1,251.4	0.00	0.00	
6,350.7	12.99	337.80	6,210.7	1,169.1	-477.2	1,262.8	0.00	0.00	Start Drop -1.50
6,400.0	12.25	337.80	6,258.8	1,179.1	-481.3	1,273.5	1.50	-1.50	
6,500.0	10.75	337.80	6,356.8	1,197.5	-488.8	1,293.5	1.50	-1.50	
6,600.0	9.25	337.80	6,455.3	1,213.6	-495.3	1,310.8	1.50	-1.50	
6,700.0	7.75	337.80	6,554.2	1,227.3	-500.9	1,325.6	1.50	-1.50	
6,800.0	6.25	337.80	6,653.4	1,238.6	-505.5	1,337.8	1.50	-1.50	
6,900.0	4.75	337.80	6,753.0	1,247.4	-509.1	1,347.3	1.50	-1.50	
7,000.0	3.25	337.80	6,852.7	1,253.9	-511.8	1,354.3	1.50	-1.50	
7,100.0	1.75	337.80	6,952.6	1,257.9	-513.4	1,358.7	1.50	-1.50	
7,200.0	0.25	337.80	7,052.6	1,259.5	-514.1	1,360.4	1.50	-1.50	

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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
7,216.4	0.00	0.00	7,069.0	1,259.6	-514.1	1,360.4	1.50	-1.50	EOD; Inc=0° - Approx TOG - OXY 22-14D (OX
7,300.0	0.00	0.00	7,152.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,400.0	0.00	0.00	7,252.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,500.0	0.00	0.00	7,352.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,600.0	0.00	0.00	7,452.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,700.0	0.00	0.00	7,552.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,800.0	0.00	0.00	7,652.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,900.0	0.00	0.00	7,752.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,000.0	0.00	0.00	7,852.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,100.0	0.00	0.00	7,952.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,200.0	0.00	0.00	8,052.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,300.0	0.00	0.00	8,152.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,400.0	0.00	0.00	8,252.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,500.0	0.00	0.00	8,352.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,566.4	0.00	0.00	8,419.0	1,259.6	-514.1	1,360.4	0.00	0.00	Cameo
8,600.0	0.00	0.00	8,452.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,700.0	0.00	0.00	8,552.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,800.0	0.00	0.00	8,652.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,900.0	0.00	0.00	8,752.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,916.4	0.00	0.00	8,769.0	1,259.6	-514.1	1,360.4	0.00	0.00	Rollins SS
9,000.0	0.00	0.00	8,852.6	1,259.6	-514.1	1,360.4	0.00	0.00	
9,066.4	0.00	0.00	8,919.0	1,259.6	-514.1	1,360.4	0.00	0.00	TD at 9066.4 - OXY 22-14D (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 22-14D (OXY 22 P - plan hits target center - Point	0.00	0.00	7,069.0	1,259.6	-514.1	1,620,583.06	2,237,241.25	39.506108	-108.203700
OXY 22-14D (OXY 22 P - plan hits target center - Rectangle (sides W100.0 H200.0 D0.0)	0.00	0.00	8,919.0	1,259.6	-514.1	1,620,583.06	2,237,241.25	39.506108	-108.203700

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,131.1	2,099.0	Wasatch		0.00	
4,224.6	4,139.0	Ft Union		0.00	
4,737.7	4,639.0	Base Ft Union		0.00	
6,000.0	5,869.0	Ohio Creek		0.00	
6,205.3	6,069.0	Williams Fork		0.00	
7,216.4	7,069.0	Approx TOG		0.00	
8,566.4	8,419.0	Cameo		0.00	
8,916.4	8,769.0	Rollins SS		0.00	

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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	12.99	337.80	2,458.5	368.0	-150.2	397.5	0.00	0.00	
2,600.0	12.99	337.80	2,555.9	388.8	-158.7	420.0	0.00	0.00	
2,700.0	12.99	337.80	2,653.4	409.6	-167.2	442.4	0.00	0.00	
2,800.0	12.99	337.80	2,750.8	430.4	-175.7	464.9	0.00	0.00	
2,900.0	12.99	337.80	2,848.3	451.2	-184.2	487.4	0.00	0.00	
3,000.0	12.99	337.80	2,945.7	472.0	-192.7	509.9	0.00	0.00	
3,100.0	12.99	337.80	3,043.1	492.9	-201.2	532.3	0.00	0.00	
3,200.0	12.99	337.80	3,140.6	513.7	-209.7	554.8	0.00	0.00	
3,300.0	12.99	337.80	3,238.0	534.5	-218.1	577.3	0.00	0.00	
3,400.0	12.99	337.80	3,335.5	555.3	-226.6	599.7	0.00	0.00	
3,500.0	12.99	337.80	3,432.9	576.1	-235.1	622.2	0.00	0.00	
3,600.0	12.99	337.80	3,530.4	596.9	-243.6	644.7	0.00	0.00	
3,700.0	12.99	337.80	3,627.8	617.7	-252.1	667.1	0.00	0.00	
3,800.0	12.99	337.80	3,725.2	638.5	-260.6	689.6	0.00	0.00	
3,900.0	12.99	337.80	3,822.7	659.3	-269.1	712.1	0.00	0.00	
4,000.0	12.99	337.80	3,920.1	680.1	-277.6	734.6	0.00	0.00	
4,100.0	12.99	337.80	4,017.6	700.9	-286.1	757.0	0.00	0.00	
4,200.0	12.99	337.80	4,115.0	721.7	-294.6	779.5	0.00	0.00	
4,224.6	12.99	337.80	4,139.0	726.8	-296.7	785.0	0.00	0.00	Ft Union
4,300.0	12.99	337.80	4,212.5	742.5	-303.1	802.0	0.00	0.00	
4,400.0	12.99	337.80	4,309.9	763.3	-311.5	824.4	0.00	0.00	
4,500.0	12.99	337.80	4,407.3	784.1	-320.0	846.9	0.00	0.00	
4,600.0	12.99	337.80	4,504.8	804.9	-328.5	869.4	0.00	0.00	
4,700.0	12.99	337.80	4,602.2	825.7	-337.0	891.8	0.00	0.00	
4,737.7	12.99	337.80	4,639.0	833.6	-340.2	900.3	0.00	0.00	Base Ft Union
4,800.0	12.99	337.80	4,699.7	846.5	-345.5	914.3	0.00	0.00	
4,900.0	12.99	337.80	4,797.1	867.3	-354.0	936.8	0.00	0.00	
5,000.0	12.99	337.80	4,894.6	888.1	-362.5	959.3	0.00	0.00	
5,100.0	12.99	337.80	4,992.0	908.9	-371.0	981.7	0.00	0.00	
5,200.0	12.99	337.80	5,089.4	929.7	-379.5	1,004.2	0.00	0.00	
5,300.0	12.99	337.80	5,186.9	950.5	-388.0	1,026.7	0.00	0.00	
5,400.0	12.99	337.80	5,284.3	971.3	-396.5	1,049.1	0.00	0.00	
5,500.0	12.99	337.80	5,381.8	992.1	-405.0	1,071.6	0.00	0.00	
5,600.0	12.99	337.80	5,479.2	1,013.0	-413.4	1,094.1	0.00	0.00	
5,700.0	12.99	337.80	5,576.7	1,033.8	-421.9	1,116.5	0.00	0.00	
5,800.0	12.99	337.80	5,674.1	1,054.6	-430.4	1,139.0	0.00	0.00	
5,900.0	12.99	337.80	5,771.5	1,075.4	-438.9	1,161.5	0.00	0.00	
6,000.0	12.99	337.80	5,869.0	1,096.2	-447.4	1,184.0	0.00	0.00	Ohio Creek
6,100.0	12.99	337.80	5,966.4	1,117.0	-455.9	1,206.4	0.00	0.00	
6,200.0	12.99	337.80	6,063.9	1,137.8	-464.4	1,228.9	0.00	0.00	
6,205.3	12.99	337.80	6,069.0	1,138.9	-464.8	1,230.1	0.00	0.00	Williams Fork
6,300.0	12.99	337.80	6,161.3	1,158.6	-472.9	1,251.4	0.00	0.00	
6,350.7	12.99	337.80	6,210.7	1,169.1	-477.2	1,262.8	0.00	0.00	Start Drop -1.50
6,400.0	12.25	337.80	6,258.8	1,179.1	-481.3	1,273.5	1.50	-1.50	
6,500.0	10.75	337.80	6,356.8	1,197.5	-488.8	1,293.5	1.50	-1.50	
6,600.0	9.25	337.80	6,455.3	1,213.6	-495.3	1,310.8	1.50	-1.50	
6,700.0	7.75	337.80	6,554.2	1,227.3	-500.9	1,325.6	1.50	-1.50	
6,800.0	6.25	337.80	6,653.4	1,238.6	-505.5	1,337.8	1.50	-1.50	
6,900.0	4.75	337.80	6,753.0	1,247.4	-509.1	1,347.3	1.50	-1.50	
7,000.0	3.25	337.80	6,852.7	1,253.9	-511.8	1,354.3	1.50	-1.50	
7,100.0	1.75	337.80	6,952.6	1,257.9	-513.4	1,358.7	1.50	-1.50	
7,200.0	0.25	337.80	7,052.6	1,259.5	-514.1	1,360.4	1.50	-1.50	

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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
7,216.4	0.00	0.00	7,069.0	1,259.6	-514.1	1,360.4	1.50	-1.50	EOD; Inc=0° - Approx TOG - OXY 22-14D (OX
7,300.0	0.00	0.00	7,152.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,400.0	0.00	0.00	7,252.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,500.0	0.00	0.00	7,352.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,600.0	0.00	0.00	7,452.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,700.0	0.00	0.00	7,552.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,800.0	0.00	0.00	7,652.6	1,259.6	-514.1	1,360.4	0.00	0.00	
7,900.0	0.00	0.00	7,752.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,000.0	0.00	0.00	7,852.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,100.0	0.00	0.00	7,952.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,200.0	0.00	0.00	8,052.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,300.0	0.00	0.00	8,152.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,400.0	0.00	0.00	8,252.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,500.0	0.00	0.00	8,352.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,566.4	0.00	0.00	8,419.0	1,259.6	-514.1	1,360.4	0.00	0.00	Cameo
8,600.0	0.00	0.00	8,452.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,700.0	0.00	0.00	8,552.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,800.0	0.00	0.00	8,652.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,900.0	0.00	0.00	8,752.6	1,259.6	-514.1	1,360.4	0.00	0.00	
8,916.4	0.00	0.00	8,769.0	1,259.6	-514.1	1,360.4	0.00	0.00	Rollins SS
9,000.0	0.00	0.00	8,852.6	1,259.6	-514.1	1,360.4	0.00	0.00	
9,066.4	0.00	0.00	8,919.0	1,259.6	-514.1	1,360.4	0.00	0.00	TD at 9066.4 - OXY 22-14D (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 22-14D (OXY 22 P - plan hits target center - Point	0.00	0.00	7,069.0	1,259.6	-514.1	1,620,583.06	2,237,241.25	39.506108	-108.203700
OXY 22-14D (OXY 22 P - plan hits target center - Rectangle (sides W200.0 H100.0 D0.0)	0.00	0.00	8,919.0	1,259.6	-514.1	1,620,583.06	2,237,241.25	39.506108	-108.203700

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,131.1	2,099.0	Wasatch		0.00	
4,224.6	4,139.0	Ft Union		0.00	
4,737.7	4,639.0	Base Ft Union		0.00	
6,000.0	5,869.0	Ohio Creek		0.00	
6,205.3	6,069.0	Williams Fork		0.00	
7,216.4	7,069.0	Approx TOG		0.00	
8,566.4	8,419.0	Cameo		0.00	
8,916.4	8,769.0	Rollins SS		0.00	

Cathedral Energy Services

Planning Report

Database:	US EDM 2003.21 Multi Users DB	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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)	
300.0	300.0	0.0	0.0	KOP @ 300'
1,165.7	1,158.3	90.4	-36.9	EOB; Inc=12.99°
6,350.7	6,210.7	1,169.1	-477.2	Start Drop -1.50
7,216.4	7,069.0	1,259.6	-514.1	EOD; Inc=0°
9,066.4	8,919.0	1,259.6	-514.1	TD at 9066.4

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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	9,066.4	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	300.0	300.0	59.9	58.9	60.235	CC, ES
OXY 22-10D (OXY 22 Pad) - DD - Plan #1	900.0	895.3	101.1	97.8	30.588	SF
OXY 22-11D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	45.1	44.1	45.292	CC, ES
OXY 22-11D (OXY 22 Pad) - DD - Plan #1	1,000.0	998.5	80.0	76.1	20.364	SF
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	29.9	28.9	30.019	CC
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	400.0	400.2	30.2	28.8	22.415	ES
OXY 22-12D (OXY 22 Pad) - DD - Plan #1	1,000.0	1,000.7	47.6	43.5	11.709	SF
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	14.7	13.7	14.778	CC
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	400.0	400.2	14.8	13.5	11.018	ES
OXY 22-13D (OXY 22 Pad) - DD - Plan #1	1,100.0	1,101.0	24.4	19.6	5.080	SF
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	14.9	14.2	23.020	CC, ES
OXY 22-15D (OXY 22 Pad) - DD - Plan #1	1,200.0	1,194.4	38.2	33.5	8.080	SF
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	29.9	29.2	46.245	CC, ES
OXY 22-16D (OXY 22 Pad) - DD - Plan #1	1,300.0	1,290.6	58.4	52.9	10.504	SF
OXY 22-1D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	75.8	74.8	76.210	CC, ES
OXY 22-1D (OXY 22 Pad) - DD - Plan #1	800.0	796.0	104.1	101.3	36.916	SF
OXY 22-2D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	60.9	59.9	61.178	CC, ES
OXY 22-2D (OXY 22 Pad) - DD - Plan #1	800.0	798.7	85.0	82.2	30.183	SF
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	46.3	45.3	46.525	CC
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	400.0	400.8	46.3	45.0	34.410	ES
OXY 22-3D (OXY 22 Pad) - DD - Plan #1	700.0	701.0	55.6	53.1	22.472	SF
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	362.8	363.2	31.6	30.4	26.023	CC
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	400.0	400.6	31.6	30.3	23.507	ES
OXY 22-4D (OXY 22 Pad) - DD - Plan #1	700.0	700.9	40.6	38.1	16.456	SF
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	418.9	419.4	15.8	14.4	11.111	CC, ES
OXY 22-5D (OXY 22 Pad) - DD - Plan #1	500.0	500.6	17.0	15.3	9.802	SF
OXY 22-6D (OXY 22 Pad) - DD - Plan #1	244.8	244.8	10.0	9.2	12.511	CC
OXY 22-6D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	10.1	9.1	10.132	ES
OXY 22-6D (OXY 22 Pad) - DD - Plan #1	400.0	399.9	12.0	10.6	8.818	SF
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	17.8	17.1	27.506	CC, ES
OXY 22-7D (OXY 22 Pad) - DD - Plan #1	500.0	498.5	26.9	25.2	15.666	SF
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	200.0	200.0	31.7	31.1	49.106	CC, ES
OXY 22-8D (OXY 22 Pad) - DD - Plan #1	900.0	891.4	74.4	70.9	20.937	SF
OXY 22-9D (OXY 22 Pad) - DD - Plan #1	300.0	300.0	74.9	73.9	75.309	CC, ES
OXY 22-9D (OXY 22 Pad) - DD - Plan #1	800.0	790.7	112.4	109.6	39.721	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 22-14D (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 22-14D (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	-143.94	-48.4	-35.3	59.9						
100.0	100.0	100.0	100.0	0.1	0.1	-143.94	-48.4	-35.3	59.9	59.6	0.30	201.965			
200.0	200.0	200.0	200.0	0.3	0.3	-143.94	-48.4	-35.3	59.9	59.3	0.65	92.795			
300.0	300.0	300.0	300.0	0.5	0.5	-143.94	-48.4	-35.3	59.9	58.9	0.99	60.235 CC, ES			
400.0	400.0	400.0	400.0	0.7	0.7	-122.78	-48.4	-35.3	60.6	59.3	1.34	45.076			
500.0	499.9	499.1	499.1	0.9	0.8	-124.72	-48.4	-36.6	63.5	61.8	1.70	37.361			
600.0	599.7	598.0	598.0	1.1	1.0	-126.33	-48.2	-40.4	69.2	67.2	2.07	33.480			
700.0	699.3	696.8	696.5	1.3	1.2	-127.48	-48.0	-46.8	77.8	75.4	2.46	31.640			
800.0	798.6	796.2	795.6	1.5	1.4	-129.03	-47.7	-54.4	88.6	85.7	2.87	30.824			
900.0	897.5	895.3	894.4	1.8	1.6	-131.33	-47.4	-61.9	101.1	97.8	3.31	30.588 SF			
1,000.0	996.1	994.1	993.0	2.1	1.8	-134.03	-47.1	-69.5	115.6	111.8	3.75	30.817			
1,100.0	1,094.2	1,092.5	1,091.1	2.5	2.0	-136.86	-46.8	-77.0	132.1	127.9	4.20	31.440			
1,165.7	1,158.3	1,156.9	1,155.3	2.8	2.2	-138.71	-46.6	-81.9	144.2	139.7	4.50	32.049			
1,200.0	1,191.7	1,190.5	1,188.8	2.9	2.3	-139.69	-46.5	-84.4	150.8	146.2	4.65	32.397			
1,300.0	1,289.2	1,288.4	1,286.3	3.3	2.5	-142.11	-46.2	-91.9	170.2	165.1	5.10	33.346			
1,400.0	1,386.6	1,386.2	1,383.9	3.7	2.7	-144.04	-45.8	-99.4	189.9	184.3	5.55	34.204			

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-143.94	-36.4	-26.5	45.1					
100.0	100.0	100.0	100.0	0.1	0.1	-143.94	-36.4	-26.5	45.1	44.8	0.30	151.862		
200.0	200.0	200.0	200.0	0.3	0.3	-143.94	-36.4	-26.5	45.1	44.4	0.65	69.774		
300.0	300.0	300.0	300.0	0.5	0.5	-143.94	-36.4	-26.5	45.1	44.1	0.99	45.292 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-121.48	-35.7	-27.6	45.8	44.4	1.35	33.996		
500.0	499.9	499.9	499.8	0.9	0.9	-120.77	-33.4	-30.8	47.9	46.2	1.71	27.999		
600.0	599.7	599.8	599.5	1.1	1.1	-119.71	-29.7	-36.2	51.5	49.4	2.10	24.483		
700.0	699.3	699.6	698.9	1.3	1.3	-118.89	-24.7	-43.3	56.5	54.0	2.53	22.361		
800.0	798.6	799.4	798.3	1.5	1.5	-120.08	-19.6	-50.6	62.9	59.9	2.98	21.104		
900.0	897.5	899.0	897.6	1.8	1.7	-122.84	-14.5	-57.9	70.6	67.1	3.45	20.472		
1,000.0	996.1	998.5	996.6	2.1	1.9	-126.55	-9.5	-65.2	80.0	76.1	3.93	20.364 SF		
1,100.0	1,094.2	1,097.6	1,095.3	2.5	2.2	-130.70	-4.4	-72.4	91.3	86.9	4.41	20.727		
1,165.7	1,158.3	1,162.6	1,160.0	2.8	2.3	-133.47	-1.1	-77.2	100.0	95.3	4.71	21.208		
1,200.0	1,191.7	1,196.4	1,193.8	2.9	2.4	-134.89	0.7	-79.7	104.8	99.9	4.87	21.508		
1,300.0	1,289.2	1,295.2	1,292.1	3.3	2.6	-138.38	5.7	-86.9	119.1	113.8	5.33	22.367		
1,400.0	1,386.6	1,393.9	1,390.5	3.7	2.8	-141.11	10.7	-94.1	133.8	128.0	5.77	23.184		
1,500.0	1,484.1	1,492.7	1,488.8	4.1	3.1	-143.31	15.8	-101.3	148.7	142.5	6.21	23.944		
1,600.0	1,581.5	1,591.4	1,587.2	4.5	3.3	-145.10	20.8	-108.6	163.8	157.1	6.65	24.645		
1,700.0	1,678.9	1,690.1	1,685.5	5.0	3.5	-146.58	25.9	-115.8	179.0	171.9	7.08	25.289		
1,800.0	1,776.4	1,788.9	1,783.8	5.4	3.8	-147.84	30.9	-123.0	194.3	186.8	7.51	25.880		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		SWSE S22-T6S-R97W - OXY 22-12D (OXY 22 Pad) - DD - Plan #1										Offset Site Error:		0.0 ft	
Survey Program: 0-MWD												Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)					
0.0	0.0	0.0	0.0	0.0	0.0	-144.80	-24.4	-17.2	29.9						
100.0	100.0	100.0	100.0	0.1	0.1	-144.80	-24.4	-17.2	29.9	29.6	0.30	100.651			
200.0	200.0	200.0	200.0	0.3	0.3	-144.80	-24.4	-17.2	29.9	29.2	0.65	46.245			
300.0	300.0	300.0	300.0	0.5	0.5	-144.80	-24.4	-17.2	29.9	28.9	0.99	30.019 CC			
400.0	400.0	400.2	400.2	0.7	0.7	-122.31	-23.4	-18.0	30.2	28.8	1.35	22.415 ES			
500.0	499.9	500.4	500.4	0.9	0.9	-121.46	-20.3	-20.4	31.2	29.5	1.71	18.206			
600.0	599.7	600.6	600.3	1.1	1.1	-120.16	-15.1	-24.5	32.8	30.7	2.10	15.593			
700.0	699.3	700.8	700.1	1.3	1.3	-118.55	-7.8	-30.1	35.1	32.6	2.54	13.841			
800.0	798.6	800.9	799.5	1.5	1.5	-116.85	1.4	-37.3	38.1	35.1	3.02	12.621			
900.0	897.5	900.8	898.6	1.8	1.8	-117.52	11.3	-45.0	42.2	38.7	3.54	11.933			
1,000.0	996.1	1,000.7	997.7	2.1	2.1	-120.82	21.2	-52.7	47.6	43.5	4.06	11.709 SF			
1,100.0	1,094.2	1,100.3	1,096.5	2.5	2.3	-125.71	31.0	-60.3	54.5	50.0	4.58	11.919			
1,165.7	1,158.3	1,165.7	1,161.4	2.8	2.5	-129.33	37.5	-65.4	60.2	55.3	4.90	12.297			
1,200.0	1,191.7	1,199.8	1,195.2	2.9	2.6	-131.19	40.8	-68.0	63.4	58.4	5.05	12.548			
1,300.0	1,289.2	1,299.1	1,293.8	3.3	2.9	-135.66	50.7	-75.6	73.2	67.7	5.51	13.278			
1,400.0	1,386.6	1,398.5	1,392.4	3.7	3.1	-139.06	60.5	-83.3	83.2	77.3	5.95	13.980			
1,500.0	1,484.1	1,497.9	1,491.0	4.1	3.4	-141.73	70.3	-90.9	93.5	87.1	6.39	14.635			
1,600.0	1,581.5	1,597.3	1,589.6	4.5	3.7	-143.86	80.1	-98.6	104.0	97.2	6.82	15.240			
1,700.0	1,678.9	1,696.7	1,688.2	5.0	3.9	-145.60	90.0	-106.2	114.6	107.3	7.25	15.795			
1,800.0	1,776.4	1,796.1	1,786.8	5.4	4.2	-147.05	99.8	-113.9	125.2	117.5	7.68	16.303			
1,900.0	1,873.8	1,895.5	1,885.4	5.8	4.5	-148.27	109.6	-121.5	135.9	127.8	8.11	16.768			
2,000.0	1,971.3	1,994.8	1,984.0	6.2	4.8	-149.31	119.4	-129.1	146.7	138.2	8.53	17.195			
2,100.0	2,068.7	2,094.2	2,082.6	6.7	5.1	-150.21	129.2	-136.8	157.5	148.6	8.96	17.588			
2,200.0	2,166.2	2,193.6	2,181.2	7.1	5.3	-150.99	139.1	-144.4	168.4	159.0	9.38	17.949			
2,300.0	2,263.6	2,293.0	2,279.8	7.5	5.6	-151.68	148.9	-152.1	179.3	169.5	9.81	18.282			
2,400.0	2,361.0	2,392.4	2,378.4	7.9	5.9	-152.29	158.7	-159.7	190.2	179.9	10.23	18.591			
2,500.0	2,458.5	2,491.8	2,477.0	8.4	6.2	-152.83	168.5	-167.4	201.1	190.4	10.65	18.877			

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-144.84	-12.0	-8.5	14.7					
100.0	100.0	100.0	100.0	0.1	0.1	-144.84	-12.0	-8.5	14.7	14.4	0.30	49.550		
200.0	200.0	200.0	200.0	0.3	0.3	-144.84	-12.0	-8.5	14.7	14.1	0.65	22.766		
300.0	300.0	300.0	300.0	0.5	0.5	-144.84	-12.0	-8.5	14.7	13.7	0.99	14.778 CC		
400.0	400.0	400.2	400.2	0.7	0.7	-122.34	-10.9	-9.1	14.8	13.5	1.35	11.018 ES		
500.0	499.9	500.3	500.2	0.9	0.9	-121.46	-7.4	-11.0	15.2	13.5	1.71	8.911		
600.0	599.7	600.5	600.2	1.1	1.1	-120.10	-1.7	-14.2	15.9	13.8	2.10	7.583		
700.0	699.3	700.7	699.9	1.3	1.3	-118.39	6.3	-18.6	16.9	14.4	2.53	6.677		
800.0	798.6	800.8	799.4	1.5	1.5	-116.45	16.7	-24.4	18.2	15.1	3.02	6.022		
900.0	897.5	901.0	898.5	1.8	1.8	-114.43	29.2	-31.3	19.7	16.2	3.57	5.528		
1,000.0	996.1	1,001.0	997.1	2.1	2.1	-112.74	44.0	-39.5	21.6	17.5	4.19	5.165		
1,100.0	1,094.2	1,101.0	1,095.5	2.5	2.5	-115.60	59.2	-48.0	24.4	19.6	4.81	5.080 SF		
1,165.7	1,158.3	1,166.6	1,160.2	2.8	2.7	-119.82	69.3	-53.5	27.0	21.8	5.18	5.206		
1,200.0	1,191.7	1,200.9	1,193.9	2.9	2.8	-122.24	74.5	-56.4	28.5	23.1	5.36	5.320		
1,300.0	1,289.2	1,300.7	1,292.2	3.3	3.1	-127.98	89.7	-64.9	33.2	27.4	5.86	5.669		
1,400.0	1,386.6	1,400.5	1,390.5	3.7	3.5	-132.26	105.0	-73.3	38.2	31.8	6.34	6.021		
1,500.0	1,484.1	1,500.4	1,488.8	4.1	3.8	-135.55	120.2	-81.8	43.3	36.5	6.81	6.358		
1,600.0	1,581.5	1,600.2	1,587.1	4.5	4.2	-138.13	135.5	-90.2	48.5	41.2	7.27	6.672		
1,700.0	1,678.9	1,700.1	1,685.4	5.0	4.5	-140.21	150.7	-98.7	53.8	46.1	7.73	6.963		
1,800.0	1,776.4	1,799.9	1,783.7	5.4	4.8	-141.92	166.0	-107.1	59.2	51.0	8.19	7.230		
1,900.0	1,873.8	1,899.8	1,882.0	5.8	5.2	-143.33	181.2	-115.6	64.6	56.0	8.64	7.475		
2,000.0	1,971.3	1,999.6	1,980.3	6.2	5.5	-144.53	196.5	-124.0	70.0	61.0	9.10	7.700		
2,100.0	2,068.7	2,099.4	2,078.7	6.7	5.9	-145.56	211.7	-132.5	75.5	66.0	9.55	7.907		
2,200.0	2,166.2	2,199.3	2,177.0	7.1	6.2	-146.45	227.0	-140.9	81.0	71.0	10.00	8.097		
2,300.0	2,263.6	2,299.1	2,275.3	7.5	6.6	-147.22	242.2	-149.4	86.5	76.1	10.46	8.273		
2,400.0	2,361.0	2,399.0	2,373.6	7.9	6.9	-147.90	257.5	-157.8	92.0	81.1	10.91	8.436		
2,500.0	2,458.5	2,498.8	2,471.9	8.4	7.3	-148.51	272.7	-166.3	97.6	86.2	11.36	8.586		
2,600.0	2,555.9	2,598.6	2,570.2	8.8	7.6	-149.05	288.0	-174.7	103.1	91.3	11.82	8.726		
2,700.0	2,653.4	2,698.5	2,668.5	9.2	8.0	-149.53	303.2	-183.2	108.7	96.4	12.27	8.857		
2,800.0	2,750.8	2,798.3	2,766.8	9.6	8.3	-149.97	318.5	-191.6	114.2	101.5	12.72	8.978		
2,900.0	2,848.3	2,898.2	2,865.1	10.1	8.7	-150.36	333.7	-200.1	119.8	106.6	13.18	9.092		
3,000.0	2,945.7	2,998.0	2,963.4	10.5	9.0	-150.73	349.0	-208.5	125.4	111.7	13.63	9.199		
3,100.0	3,043.1	3,097.9	3,061.7	10.9	9.4	-151.06	364.2	-217.0	130.9	116.9	14.08	9.299		
3,200.0	3,140.6	3,197.7	3,160.0	11.4	9.7	-151.36	379.5	-225.4	136.5	122.0	14.54	9.393		
3,300.0	3,238.0	3,297.5	3,258.4	11.8	10.1	-151.64	394.7	-233.9	142.1	127.1	14.99	9.481		
3,400.0	3,335.5	3,397.4	3,356.7	12.2	10.4	-151.90	409.9	-242.3	147.7	132.2	15.44	9.565		
3,500.0	3,432.9	3,497.2	3,455.0	12.6	10.8	-152.14	425.2	-250.8	153.3	137.4	15.89	9.644		
3,600.0	3,530.4	3,597.1	3,553.3	13.1	11.1	-152.36	440.4	-259.2	158.9	142.5	16.35	9.718		
3,700.0	3,627.8	3,696.9	3,651.6	13.5	11.5	-152.57	455.7	-267.7	164.5	147.7	16.80	9.789		
3,800.0	3,725.2	3,796.7	3,749.9	13.9	11.8	-152.76	470.9	-276.1	170.1	152.8	17.25	9.856		
3,900.0	3,822.7	3,896.6	3,848.2	14.4	12.2	-152.94	486.2	-284.6	175.7	157.9	17.71	9.920		
4,000.0	3,920.1	3,996.4	3,946.5	14.8	12.5	-153.11	501.4	-293.1	181.3	163.1	18.16	9.981		
4,100.0	4,017.6	4,096.3	4,044.8	15.2	12.9	-153.27	516.7	-301.5	186.9	168.2	18.61	10.039		
4,200.0	4,115.0	4,196.1	4,143.1	15.7	13.2	-153.43	531.9	-310.0	192.5	173.4	19.07	10.094		
4,300.0	4,212.5	4,296.0	4,241.4	16.1	13.6	-153.57	547.2	-318.4	198.1	178.5	19.52	10.146		
4,400.0	4,309.9	4,395.8	4,339.7	16.5	13.9	-153.70	562.4	-326.9	203.7	183.7	19.97	10.197		
4,500.0	4,407.3	4,495.6	4,438.0	16.9	14.3	-153.83	577.7	-335.3	209.3	188.8	20.43	10.245		
4,600.0	4,504.8	4,595.5	4,536.4	17.4	14.6	-153.95	592.9	-343.8	214.9	194.0	20.88	10.291		
4,700.0	4,602.2	4,695.3	4,634.7	17.8	15.0	-154.07	608.2	-352.2	220.5	199.1	21.33	10.335		

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 22-14D (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 22-14D (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	36.04	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	CC, ES
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	299.8	299.7	0.5	0.5	32.16	13.3	8.3	15.7	14.7	1.00	15.716	
400.0	400.0	399.4	399.3	0.7	0.7	47.90	17.0	7.1	17.5	16.1	1.35	12.949	
500.0	499.9	499.0	498.7	0.9	0.9	43.09	23.1	5.0	19.6	17.9	1.71	11.434	
600.0	599.7	598.6	597.8	1.1	1.1	39.60	31.7	2.1	21.9	19.8	2.09	10.493	
700.0	699.3	698.0	696.6	1.3	1.4	37.11	42.8	-1.6	24.4	21.9	2.47	9.846	
800.0	798.6	797.4	795.0	1.5	1.7	35.39	56.2	-6.1	26.9	24.1	2.88	9.364	
900.0	897.5	896.8	892.9	1.8	2.0	34.25	72.1	-11.4	29.6	26.3	3.30	8.974	
1,000.0	996.1	996.0	990.3	2.1	2.4	33.56	90.4	-17.6	32.4	28.6	3.75	8.639	
1,100.0	1,094.2	1,095.2	1,087.1	2.5	2.8	33.22	111.0	-24.5	35.2	31.0	4.22	8.333	
1,165.7	1,158.3	1,160.4	1,150.3	2.8	3.1	33.14	125.9	-29.5	37.1	32.5	4.55	8.141	
1,200.0	1,191.7	1,194.4	1,183.2	2.9	3.2	33.03	134.0	-32.2	38.2	33.5	4.73	8.080	SF
1,300.0	1,289.2	1,293.5	1,278.6	3.3	3.7	31.63	159.4	-40.7	43.0	37.8	5.20	8.264	
1,400.0	1,386.6	1,393.3	1,374.5	3.7	4.2	30.02	185.7	-49.6	48.6	42.9	5.65	8.603	
1,500.0	1,484.1	1,493.2	1,470.4	4.1	4.7	28.74	212.0	-58.4	54.2	48.1	6.09	8.902	
1,600.0	1,581.5	1,593.0	1,566.3	4.5	5.2	27.71	238.3	-67.3	59.9	53.3	6.53	9.169	
1,700.0	1,678.9	1,692.8	1,662.2	5.0	5.7	26.85	264.7	-76.1	65.5	58.6	6.97	9.407	
1,800.0	1,776.4	1,792.7	1,758.1	5.4	6.2	26.13	291.0	-84.9	71.2	63.8	7.40	9.621	
1,900.0	1,873.8	1,892.5	1,854.0	5.8	6.7	25.52	317.3	-93.8	76.9	69.1	7.84	9.814	
2,000.0	1,971.3	1,992.3	1,949.9	6.2	7.2	24.99	343.6	-102.6	82.6	74.3	8.27	9.989	
2,100.0	2,068.7	2,092.2	2,045.8	6.7	7.7	24.53	370.0	-111.5	88.3	79.6	8.70	10.149	
2,200.0	2,166.2	2,192.0	2,141.7	7.1	8.3	24.13	396.3	-120.3	94.0	84.9	9.13	10.294	
2,300.0	2,263.6	2,291.8	2,237.6	7.5	8.8	23.77	422.6	-129.1	99.7	90.2	9.56	10.428	
2,400.0	2,361.0	2,391.7	2,333.5	7.9	9.3	23.45	448.9	-138.0	105.5	95.5	9.99	10.551	
2,500.0	2,458.5	2,491.5	2,429.4	8.4	9.8	23.16	475.3	-146.8	111.2	100.8	10.42	10.664	
2,600.0	2,555.9	2,591.3	2,525.3	8.8	10.3	22.90	501.6	-155.7	116.9	106.0	10.85	10.769	
2,700.0	2,653.4	2,691.2	2,621.1	9.2	10.8	22.67	527.9	-164.5	122.6	111.3	11.28	10.867	
2,800.0	2,750.8	2,791.0	2,717.0	9.6	11.3	22.46	554.2	-173.4	128.3	116.6	11.71	10.958	
2,900.0	2,848.3	2,890.8	2,812.9	10.1	11.9	22.26	580.6	-182.2	134.1	121.9	12.14	11.043	
3,000.0	2,945.7	2,990.7	2,908.8	10.5	12.4	22.08	606.9	-191.0	139.8	127.2	12.57	11.122	
3,100.0	3,043.1	3,090.5	3,004.7	10.9	12.9	21.92	633.2	-199.9	145.5	132.5	13.00	11.197	
3,200.0	3,140.6	3,190.3	3,100.6	11.4	13.4	21.76	659.5	-208.7	151.3	137.8	13.43	11.266	
3,300.0	3,238.0	3,290.2	3,196.5	11.8	13.9	21.62	685.9	-217.6	157.0	143.1	13.85	11.332	
3,400.0	3,335.5	3,390.0	3,292.4	12.2	14.4	21.49	712.2	-226.4	162.7	148.5	14.28	11.394	
3,500.0	3,432.9	3,489.9	3,388.3	12.6	14.9	21.37	738.5	-235.2	168.5	153.8	14.71	11.452	
3,600.0	3,530.4	3,589.7	3,484.2	13.1	15.5	21.25	764.9	-244.1	174.2	159.1	15.14	11.508	
3,700.0	3,627.8	3,689.5	3,580.1	13.5	16.0	21.15	791.2	-252.9	179.9	164.4	15.57	11.560	
3,800.0	3,725.2	3,789.4	3,676.0	13.9	16.5	21.05	817.5	-261.8	185.7	169.7	15.99	11.610	
3,900.0	3,822.7	3,889.2	3,771.9	14.4	17.0	20.95	843.8	-270.6	191.4	175.0	16.42	11.657	
4,000.0	3,920.1	3,989.0	3,867.8	14.8	17.5	20.86	870.2	-279.5	197.2	180.3	16.85	11.702	
4,100.0	4,017.6	4,088.9	3,963.7	15.2	18.0	20.78	896.5	-288.3	202.9	185.6	17.28	11.745	
4,200.0	4,115.0	4,188.7	4,059.6	15.7	18.6	20.70	922.8	-297.1	208.6	190.9	17.70	11.785	
4,300.0	4,212.5	4,288.5	4,155.5	16.1	19.1	20.62	949.1	-306.0	214.4	196.2	18.13	11.824	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	35.20	24.4	17.2	29.9					
100.0	100.0	100.0	100.0	0.1	0.1	35.20	24.4	17.2	29.9	29.6	0.30	100.651		
200.0	200.0	200.0	200.0	0.3	0.3	35.20	24.4	17.2	29.9	29.2	0.65	46.245 CC, ES		
300.0	300.0	299.5	299.5	0.5	0.5	33.27	25.6	16.8	30.7	29.7	1.00	30.798		
400.0	400.0	398.9	398.8	0.7	0.7	52.04	29.3	15.7	32.5	31.1	1.35	24.039		
500.0	499.9	498.3	498.0	0.9	0.9	49.23	35.5	13.7	34.5	32.8	1.72	20.091		
600.0	599.7	597.6	596.9	1.1	1.1	47.00	44.1	11.0	36.8	34.7	2.10	17.493		
700.0	699.3	696.8	695.4	1.3	1.4	45.27	55.2	7.5	39.2	36.7	2.51	15.637		
800.0	798.6	796.0	793.5	1.5	1.7	43.98	68.7	3.3	41.8	38.8	2.94	14.226		
900.0	897.5	895.1	891.2	1.8	2.0	43.07	84.6	-1.7	44.5	41.1	3.40	13.100		
1,000.0	996.1	994.1	988.4	2.1	2.4	42.47	102.9	-7.4	47.4	43.5	3.89	12.165		
1,100.0	1,094.2	1,093.0	1,084.9	2.5	2.8	42.15	123.5	-13.9	50.3	45.9	4.43	11.362		
1,165.7	1,158.3	1,158.0	1,148.0	2.8	3.1	42.06	138.4	-18.6	52.4	47.6	4.81	10.889		
1,200.0	1,191.7	1,191.9	1,180.8	2.9	3.2	41.95	146.6	-21.2	53.6	48.5	5.01	10.695		
1,300.0	1,289.2	1,290.6	1,275.9	3.3	3.7	40.63	171.9	-29.2	58.4	52.9	5.56	10.504 SF		
1,400.0	1,386.6	1,389.0	1,369.9	3.7	4.2	38.25	199.5	-37.8	65.4	59.4	6.06	10.805		
1,500.0	1,484.1	1,487.0	1,462.8	4.1	4.8	35.31	229.3	-47.2	74.7	68.2	6.48	11.524		
1,600.0	1,581.5	1,585.8	1,555.8	4.5	5.4	32.40	261.0	-57.2	85.9	79.0	6.87	12.510		
1,700.0	1,678.9	1,685.1	1,649.3	5.0	6.0	30.11	293.0	-67.2	97.3	90.1	7.24	13.433		
1,800.0	1,776.4	1,784.4	1,742.7	5.4	6.6	28.31	325.0	-77.3	108.9	101.2	7.63	14.277		
1,900.0	1,873.8	1,883.6	1,836.1	5.8	7.2	26.85	357.0	-87.3	120.5	112.5	8.01	15.048		
2,000.0	1,971.3	1,982.9	1,929.6	6.2	7.8	25.65	389.0	-97.4	132.2	123.8	8.39	15.754		
2,100.0	2,068.7	2,082.2	2,023.0	6.7	8.4	24.65	421.0	-107.5	143.9	135.2	8.78	16.401		
2,200.0	2,166.2	2,181.5	2,116.5	7.1	9.0	23.79	453.0	-117.5	155.7	146.6	9.16	16.996		
2,300.0	2,263.6	2,280.7	2,209.9	7.5	9.6	23.06	485.0	-127.6	167.5	158.0	9.55	17.544		
2,400.0	2,361.0	2,380.0	2,303.3	7.9	10.2	22.43	517.0	-137.6	179.4	169.4	9.94	18.050		
2,500.0	2,458.5	2,479.3	2,396.8	8.4	10.8	21.87	549.0	-147.7	191.2	180.9	10.33	18.518		
2,600.0	2,555.9	2,578.6	2,490.2	8.8	11.4	21.38	581.0	-157.7	203.1	192.4	10.72	18.953		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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				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	-151.55	-66.7	-36.1	75.8				
100.0	100.0	100.0	100.0	0.1	0.1	-151.55	-66.7	-36.1	75.8	75.5	0.30	255.528	
200.0	200.0	200.0	200.0	0.3	0.3	-151.55	-66.7	-36.1	75.8	75.2	0.65	117.405	
300.0	300.0	300.0	300.0	0.5	0.5	-151.55	-66.7	-36.1	75.8	74.8	0.99	76.210 CC, ES	
400.0	400.0	400.0	400.0	0.7	0.7	-130.09	-66.7	-36.1	76.7	75.3	1.34	57.005	
500.0	499.9	500.1	500.1	0.9	0.8	-133.19	-67.1	-34.9	79.1	77.4	1.70	46.554	
600.0	599.7	599.7	599.6	1.1	1.0	-139.07	-68.4	-31.2	83.7	81.7	2.06	40.564	
700.0	699.3	698.4	698.1	1.3	1.2	-146.76	-70.6	-25.2	91.7	89.2	2.44	37.577	
800.0	798.6	796.0	795.3	1.5	1.4	-155.03	-73.7	-16.8	104.1	101.3	2.82	36.916 SF	
900.0	897.5	892.1	890.8	1.8	1.7	-162.83	-77.5	-6.4	121.8	118.6	3.20	38.076	
1,000.0	996.1	986.8	984.5	2.1	1.9	-169.58	-82.0	6.1	144.9	141.4	3.57	40.621	
1,100.0	1,094.2	1,081.8	1,078.4	2.5	2.2	-174.84	-86.9	19.5	172.6	168.7	3.93	43.911	
1,165.7	1,158.3	1,143.8	1,139.7	2.8	2.4	-177.50	-90.1	28.2	192.8	188.6	4.17	46.261	
1,200.0	1,191.7	1,176.1	1,171.7	2.9	2.5	-178.69	-91.7	32.7	203.7	199.4	4.29	47.428	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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						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	-153.87	-54.6	-26.8	60.9				
100.0	100.0	100.0	100.0	0.1	0.1	-153.87	-54.6	-26.8	60.9	60.6	0.30	205.125	
200.0	200.0	200.0	200.0	0.3	0.3	-153.87	-54.6	-26.8	60.9	60.2	0.65	94.247	
300.0	300.0	300.0	300.0	0.5	0.5	-153.87	-54.6	-26.8	60.9	59.9	0.99	61.178 CC, ES	
400.0	400.0	400.0	400.0	0.7	0.7	-132.56	-54.6	-26.8	61.7	60.4	1.34	45.917	
500.0	499.9	500.5	500.5	0.9	0.8	-136.22	-54.6	-25.5	64.0	62.3	1.70	37.631	
600.0	599.7	600.7	600.6	1.1	1.0	-143.13	-54.6	-21.5	67.7	65.6	2.06	32.820	
700.0	699.3	700.2	699.9	1.3	1.2	-152.20	-54.6	-15.0	74.3	71.9	2.44	30.499	
800.0	798.6	798.7	798.0	1.5	1.4	-161.90	-54.5	-6.0	85.0	82.2	2.82	30.183 SF	
900.0	897.5	896.0	894.6	1.8	1.7	-170.92	-54.5	5.3	100.7	97.5	3.21	31.426	
1,000.0	996.1	992.5	990.3	2.1	1.9	-178.34	-54.4	18.5	121.5	117.9	3.59	33.799	
1,100.0	1,094.2	1,088.7	1,085.5	2.5	2.2	176.41	-54.3	31.7	146.3	142.3	3.99	36.692	
1,165.7	1,158.3	1,151.5	1,147.7	2.8	2.4	173.86	-54.3	40.3	164.4	160.1	4.25	38.713	
1,200.0	1,191.7	1,184.2	1,180.1	2.9	2.5	172.76	-54.2	44.8	174.2	169.8	4.39	39.705	
1,300.0	1,289.2	1,279.6	1,274.6	3.3	2.7	170.17	-54.2	57.9	203.2	198.4	4.81	42.264	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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	-157.03	-42.6	-18.1	46.3					
100.0	100.0	100.0	100.0	0.1	0.1	-157.03	-42.6	-18.1	46.3	46.0	0.30	155.995		
200.0	200.0	200.0	200.0	0.3	0.3	-157.03	-42.6	-18.1	46.3	45.6	0.65	71.673		
300.0	300.0	300.0	300.0	0.5	0.5	-157.03	-42.6	-18.1	46.3	45.3	0.99	46.525 CC		
310.4	310.4	310.5	310.5	0.5	0.5	-134.86	-42.6	-18.0	46.3	45.3	1.03	44.870		
400.0	400.0	400.8	400.8	0.7	0.7	-137.19	-42.2	-16.8	46.3	45.0	1.35	34.410 ES		
500.0	499.9	501.4	501.3	0.9	0.9	-144.14	-40.8	-13.1	47.0	45.3	1.71	27.535		
600.0	599.7	601.5	601.2	1.1	1.1	-154.96	-38.5	-6.9	49.5	47.4	2.08	23.795		
700.0	699.3	701.0	700.3	1.3	1.3	-167.69	-35.4	1.7	55.6	53.1	2.47	22.472 SF		
800.0	798.6	799.7	798.3	1.5	1.5	-179.82	-31.4	12.6	66.5	63.6	2.89	23.008		
900.0	897.5	897.6	895.2	1.8	1.8	170.42	-26.6	25.4	82.4	79.1	3.32	24.822		
1,000.0	996.1	995.0	991.6	2.1	2.1	164.08	-21.8	38.6	102.6	98.8	3.77	27.241		
1,100.0	1,094.2	1,092.0	1,087.6	2.5	2.4	160.18	-17.0	51.6	125.9	121.7	4.22	29.821		
1,165.7	1,158.3	1,155.4	1,150.3	2.8	2.5	158.50	-13.9	60.1	142.7	138.2	4.53	31.518		
1,200.0	1,191.7	1,188.4	1,183.0	2.9	2.6	157.86	-12.2	64.6	151.8	147.1	4.69	32.338		
1,300.0	1,289.2	1,284.7	1,278.4	3.3	2.9	156.35	-7.5	77.5	178.3	173.1	5.18	34.401		
1,400.0	1,386.6	1,381.1	1,373.7	3.7	3.2	155.23	-2.7	90.5	204.9	199.3	5.68	36.077		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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					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	-162.88	-30.2	-9.3	31.6					
100.0	100.0	100.0	100.0	0.1	0.1	-162.88	-30.2	-9.3	31.6	31.3	0.30	106.616		
200.0	200.0	200.0	200.0	0.3	0.3	-162.88	-30.2	-9.3	31.6	31.0	0.65	48.986		
300.0	300.0	300.0	300.0	0.5	0.5	-162.88	-30.2	-9.3	31.6	30.6	0.99	31.798		
362.8	362.8	363.2	363.2	0.6	0.6	-141.85	-29.9	-8.9	31.6	30.4	1.22	26.023 CC		
400.0	400.0	400.6	400.6	0.7	0.7	-143.65	-29.5	-8.2	31.6	30.3	1.35	23.507 ES		
500.0	499.9	501.1	501.0	0.9	0.9	-152.42	-27.2	-5.0	32.2	30.5	1.70	18.893		
600.0	599.7	601.3	601.0	1.1	1.1	-165.80	-23.3	0.4	34.6	32.5	2.07	16.698		
700.0	699.3	700.9	700.2	1.3	1.3	179.40	-18.0	7.8	40.6	38.1	2.47	16.456 SF		
800.0	798.6	800.0	798.6	1.5	1.5	166.56	-11.3	17.3	51.1	48.2	2.90	17.609		
900.0	897.5	898.3	895.8	1.8	1.8	156.93	-3.1	28.8	65.9	62.6	3.38	19.532		
1,000.0	996.1	995.8	992.0	2.1	2.1	150.16	6.3	42.1	84.9	81.0	3.89	21.800		
1,100.0	1,094.2	1,093.2	1,088.0	2.5	2.4	146.32	16.0	55.7	106.8	102.4	4.43	24.086		
1,165.7	1,158.3	1,157.0	1,150.8	2.8	2.6	144.89	22.3	64.6	122.5	117.7	4.80	25.525		
1,200.0	1,191.7	1,190.2	1,183.5	2.9	2.8	144.42	25.7	69.3	130.9	125.9	4.99	26.217		
1,300.0	1,289.2	1,287.1	1,278.9	3.3	3.1	143.33	35.3	82.8	155.6	150.0	5.57	27.926		
1,400.0	1,386.6	1,384.0	1,374.4	3.7	3.4	142.54	45.0	96.4	180.3	174.1	6.16	29.281		
1,500.0	1,484.1	1,480.8	1,469.8	4.1	3.7	141.95	54.6	110.0	205.0	198.3	6.75	30.377		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (OXY 22 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	US EDM 2003.21 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design SWSE S22-T6S-R97W - OXY 22-5D (OXY 22 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
							+N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-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	61.447		
200.0	200.0	200.0	200.0	0.3	0.3	-177.34	-18.2	-0.8	18.2	17.6	0.65	28.232		
300.0	300.0	300.3	300.3	0.5	0.5	179.86	-17.2	0.0	17.2	16.2	1.00	17.318		
400.0	400.0	400.6	400.5	0.7	0.7	-169.45	-14.3	2.7	15.9	14.5	1.35	11.725		
418.9	418.8	419.4	419.3	0.7	0.7	-172.85	-13.6	3.4	15.8	14.4	1.42	11.111 CC, ES		
500.0	499.9	500.6	500.3	0.9	0.9	169.77	-9.5	7.1	17.0	15.3	1.73	9.802 SF		
600.0	599.7	600.2	599.5	1.1	1.1	149.70	-2.8	13.3	22.4	20.3	2.15	10.438		
700.0	699.3	699.4	698.0	1.3	1.4	136.85	5.8	21.2	32.1	29.5	2.59	12.388		
800.0	798.6	798.1	795.6	1.5	1.7	129.60	16.2	30.7	45.4	42.3	3.08	14.744		
900.0	897.5	896.0	892.2	1.8	2.0	125.45	28.4	41.9	61.7	58.1	3.61	17.093		
1,000.0	996.1	993.4	987.7	2.1	2.3	122.96	42.3	54.6	81.0	76.8	4.20	19.293		
1,100.0	1,094.2	1,091.1	1,083.5	2.5	2.7	122.17	56.8	67.9	102.1	97.2	4.82	21.164		
1,165.7	1,158.3	1,155.2	1,146.2	2.8	3.0	122.35	66.4	76.6	116.7	111.4	5.25	22.216		
1,200.0	1,191.7	1,188.6	1,178.9	2.9	3.1	122.63	71.3	81.1	124.4	119.0	5.48	22.711		
1,300.0	1,289.2	1,286.0	1,274.3	3.3	3.5	123.27	85.8	94.4	147.1	141.0	6.15	23.921		
1,400.0	1,386.6	1,383.4	1,369.7	3.7	3.8	123.74	100.3	107.6	169.8	163.0	6.83	24.870		
1,500.0	1,484.1	1,480.7	1,465.1	4.1	4.2	124.09	114.7	120.9	192.5	185.0	7.51	25.632		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
							+N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	128.16	-6.2	7.9	10.0					
100.0	100.0	100.0	100.0	0.1	0.1	128.16	-6.2	7.9	10.0	9.8	0.30	33.864		
200.0	200.0	200.0	200.0	0.3	0.3	128.16	-6.2	7.9	10.0	9.4	0.65	15.559		
244.8	244.8	244.8	244.8	0.4	0.4	126.66	-6.0	8.1	10.0	9.2	0.80	12.511 CC		
300.0	300.0	300.0	300.0	0.5	0.5	120.71	-5.2	8.7	10.1	9.1	1.00	10.132 ES		
400.0	400.0	399.9	399.8	0.7	0.7	127.82	-2.0	11.0	12.0	10.6	1.36	8.818 SF		
500.0	499.9	499.5	499.2	0.9	0.9	117.60	3.2	14.9	17.0	15.2	1.73	9.803		
600.0	599.7	598.9	598.2	1.1	1.1	112.84	10.5	20.3	24.8	22.7	2.13	11.631		
700.0	699.3	697.9	696.5	1.3	1.4	110.98	19.8	27.2	35.3	32.7	2.57	13.698		
800.0	798.6	796.4	794.0	1.5	1.7	110.39	31.1	35.6	48.2	45.2	3.06	15.744		
900.0	897.5	894.3	890.5	1.8	2.0	110.36	44.3	45.5	63.6	60.0	3.61	17.652		
1,000.0	996.1	991.6	985.9	2.1	2.3	110.54	59.4	56.7	81.5	77.3	4.21	19.374		
1,100.0	1,094.2	1,088.1	1,080.1	2.5	2.7	110.79	76.2	69.3	101.8	96.9	4.87	20.897		
1,165.7	1,158.3	1,151.1	1,141.3	2.8	3.0	110.95	88.3	78.2	116.4	111.1	5.33	21.827		
1,200.0	1,191.7	1,184.4	1,173.6	2.9	3.2	111.14	94.9	83.1	124.3	118.7	5.58	22.268		
1,300.0	1,289.2	1,281.7	1,267.9	3.3	3.6	111.57	114.1	97.5	147.4	141.1	6.32	23.324		
1,400.0	1,386.6	1,379.0	1,362.2	3.7	4.0	111.88	133.4	111.8	170.5	163.4	7.06	24.128		
1,500.0	1,484.1	1,476.3	1,456.5	4.1	4.5	112.12	152.6	126.1	193.5	185.7	7.82	24.756		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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							
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	69.60	6.2	16.6	17.8				
100.0	100.0	100.0	100.0	0.1	0.1	69.60	6.2	16.6	17.8	17.5	0.30	59.866	
200.0	200.0	200.0	200.0	0.3	0.3	69.60	6.2	16.6	17.8	17.1	0.65	27.506 CC, ES	
300.0	300.0	299.6	299.6	0.5	0.5	66.99	7.3	17.3	18.8	17.8	1.00	18.846	
400.0	400.0	399.2	399.1	0.7	0.7	86.22	10.8	19.1	21.8	20.5	1.35	16.194	
500.0	499.9	498.5	498.2	0.9	0.9	86.44	16.4	22.2	26.9	25.2	1.72	15.666 SF	
600.0	599.7	597.6	596.9	1.1	1.1	88.37	24.4	26.5	33.9	31.8	2.11	16.057	
700.0	699.3	696.4	695.0	1.3	1.4	90.89	34.5	32.1	42.9	40.4	2.55	16.860	
800.0	798.6	794.9	792.5	1.5	1.7	93.39	46.8	38.8	54.1	51.0	3.03	17.815	
900.0	897.5	892.8	889.0	1.8	2.0	95.63	61.2	46.6	67.3	63.7	3.58	18.785	
1,000.0	996.1	990.3	984.7	2.1	2.3	97.54	77.7	55.6	82.7	78.5	4.20	19.700	
1,100.0	1,094.2	1,087.2	1,079.2	2.5	2.7	99.14	96.3	65.7	100.2	95.3	4.88	20.531	
1,165.7	1,158.3	1,150.5	1,140.7	2.8	3.0	100.04	109.5	72.9	112.9	107.5	5.37	21.033	
1,200.0	1,191.7	1,183.4	1,172.6	2.9	3.2	100.50	116.8	76.9	119.8	114.2	5.62	21.301	
1,300.0	1,289.2	1,279.1	1,264.8	3.3	3.6	101.04	139.2	89.1	141.1	134.7	6.40	22.051	
1,400.0	1,386.6	1,374.6	1,356.2	3.7	4.1	100.78	163.5	102.3	163.8	156.6	7.18	22.805	
1,500.0	1,484.1	1,471.8	1,449.0	4.1	4.7	100.38	189.0	116.2	187.1	179.1	7.99	23.429	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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	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 CC, ES	
300.0	300.0	299.3	299.3	0.5	0.5	53.69	19.4	26.4	32.8	31.8	1.00	32.961	
400.0	400.0	398.5	398.4	0.7	0.7	74.51	23.0	27.8	35.8	34.4	1.35	26.560	
500.0	499.9	497.6	497.3	0.9	0.9	75.01	29.0	30.1	40.3	38.5	1.71	23.525	
600.0	599.7	596.4	595.7	1.1	1.1	76.77	37.4	33.3	46.3	44.2	2.10	22.037	
700.0	699.3	695.0	693.7	1.3	1.4	79.22	48.1	37.4	53.9	51.4	2.53	21.331	
800.0	798.6	793.4	791.0	1.5	1.7	81.89	61.2	42.4	63.3	60.3	3.01	21.031	
900.0	897.5	891.4	887.6	1.8	2.0	84.50	76.5	48.2	74.4	70.9	3.55	20.937 SF	
1,000.0	996.1	989.0	983.4	2.1	2.3	86.91	94.1	54.9	87.3	83.2	4.17	20.946	
1,100.0	1,094.2	1,086.1	1,078.2	2.5	2.7	89.06	113.8	62.4	102.1	97.2	4.86	21.004	
1,165.7	1,158.3	1,149.7	1,139.9	2.8	3.0	90.31	127.9	67.8	112.8	107.4	5.35	21.063	
1,200.0	1,191.7	1,182.8	1,172.0	2.9	3.2	90.94	135.7	70.8	118.7	113.0	5.62	21.124	
1,300.0	1,289.2	1,279.0	1,264.7	3.3	3.6	91.92	159.7	79.9	136.9	130.5	6.40	21.387	
1,400.0	1,386.6	1,374.7	1,356.2	3.7	4.2	91.97	185.6	89.9	156.8	149.6	7.20	21.765	
1,500.0	1,484.1	1,469.6	1,446.4	4.1	4.7	91.41	213.5	100.5	178.3	170.2	8.02	22.235	
1,600.0	1,581.5	1,564.9	1,536.1	4.5	5.3	90.47	243.5	111.9	201.2	192.4	8.83	22.792	

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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	-144.28	-60.8	-43.7	74.9					
100.0	100.0	100.0	100.0	0.1	0.1	-144.28	-60.8	-43.7	74.9	74.6	0.30	252.506		
200.0	200.0	200.0	200.0	0.3	0.3	-144.28	-60.8	-43.7	74.9	74.3	0.65	116.016		
300.0	300.0	300.0	300.0	0.5	0.5	-144.28	-60.8	-43.7	74.9	73.9	0.99	75.309 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-122.91	-60.8	-43.7	75.6	74.3	1.34	56.230		
500.0	499.9	498.1	498.1	0.9	0.8	-124.84	-61.5	-44.8	79.0	77.3	1.70	46.537		
600.0	599.7	595.9	595.8	1.1	1.0	-127.12	-63.4	-48.1	86.2	84.2	2.06	41.879		
700.0	699.3	693.2	692.9	1.3	1.2	-129.41	-66.5	-53.4	97.4	95.0	2.44	40.007		
800.0	798.6	790.7	790.0	1.5	1.4	-131.52	-70.8	-60.8	112.4	109.6	2.83	39.721 SF		
900.0	897.5	889.1	888.0	1.8	1.6	-133.84	-75.4	-68.5	129.6	126.4	3.24	39.981		
1,000.0	996.1	987.0	985.5	2.1	1.8	-136.26	-79.9	-76.3	148.9	145.3	3.67	40.591		
1,100.0	1,094.2	1,084.4	1,082.5	2.5	2.1	-138.66	-84.4	-84.0	170.4	166.3	4.11	41.492		
1,165.7	1,158.3	1,148.1	1,145.9	2.8	2.2	-140.18	-87.3	-89.0	185.7	181.3	4.40	42.238		
1,200.0	1,191.7	1,181.3	1,179.0	2.9	2.3	-141.01	-88.9	-91.6	193.9	189.4	4.55	42.640		

Cathedral Energy Services

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well OXY 22-14D (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 22-14D (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 22-14D (OXY 22 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.70°

