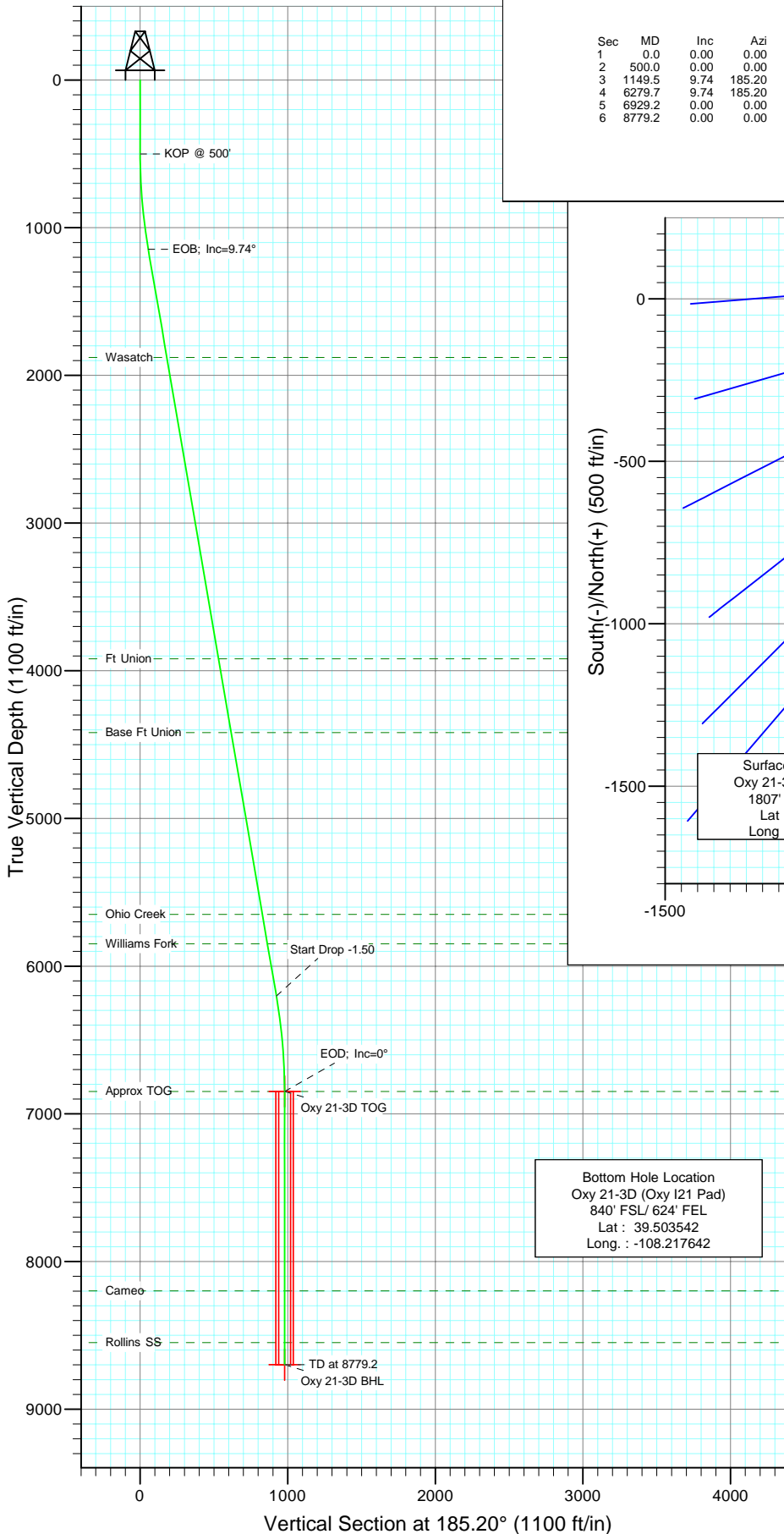




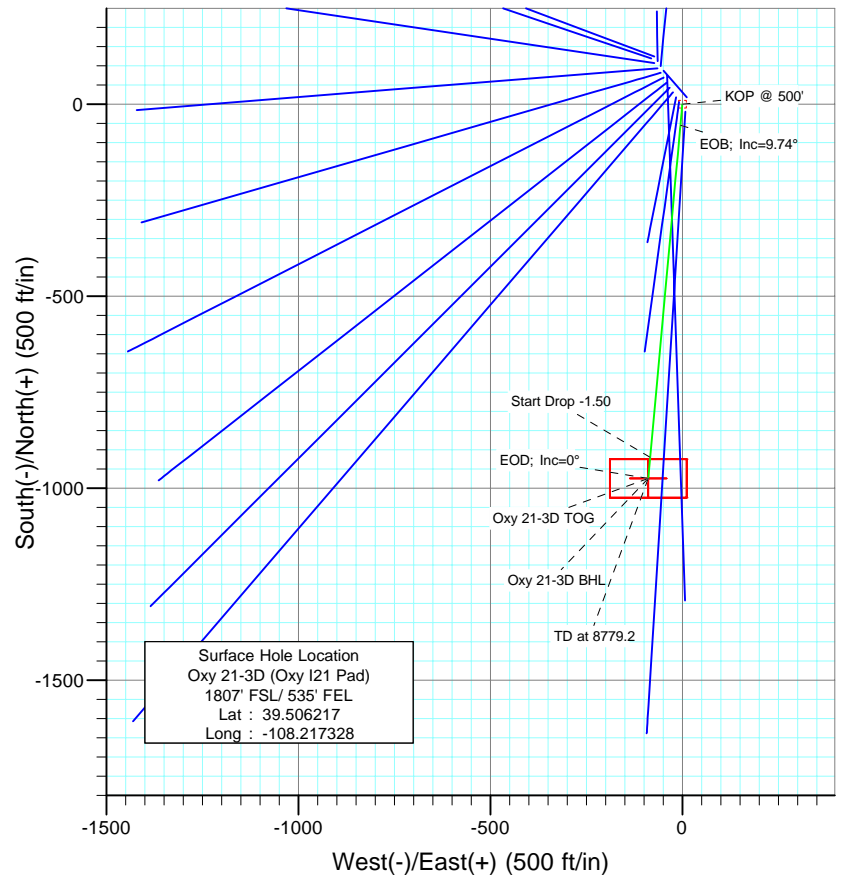
Berry Petroleum Company

Project: Garfield County  
Site: NESE S21-T6S-R97W (Oxy I21 pad)  
Well: Oxy 21-3D (Oxy I21 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	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	1149.5	9.74	185.20	1146.4	-54.9	-5.0	1.50	185.20	55.1	
4	6279.7	9.74	185.20	6202.6	-919.5	-83.6	0.00	0.00	923.3	
5	6929.2	0.00	0.00	6849.0	-974.3	-88.6	1.50	180.00	978.4	Oxy 21-3D TOG
6	8779.2	0.00	0.00	8699.0	-974.3	-88.6	0.00	0.00	978.4	Oxy 21-3D BHL



#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1879.0	1892.8	Wasatch
3919.0	3962.7	Ft Union
4419.0	4470.0	Base Ft Union
5649.0	5718.0	Ohio Creek
5849.0	5920.9	Williams Fork
6849.0	6929.2	Approx TOG
8199.0	8279.2	Cameo
8549.0	8629.2	Rollins SS



Azimuths to True North  
Magnetic North: 10.65°

Magnetic Field  
Strength: 52405.3snT  
Dip Angle: 65.76°  
Date: 10/5/2009  
Model: IGRF200510

#### DESIGN DETAILS: Plan #1

95XXX; BH  
KBE @ 8381.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
Oxy 21-3D BHL	185.20	Slot	0.0	0.0	0.0

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

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

Site		NESE S21-T6S-R97W (Oxy I21 pad)			
Site Position:		Northing:	1,620,717.92 ft	Latitude:	39.506164
From:	Lat/Long	Easting:	2,233,406.18 ft	Longitude:	-108.217300
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.71 °

Well	Oxy 21-3D (Oxy I21 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,620,737.45 ft	Latitude:	39.506217
	+E/-W	0.0 ft	Easting:	2,233,398.86 ft	Longitude:	-108.217328
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,366.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	10/5/2009	10.65	65.76	52,405

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	185.20

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,149.5	9.74	185.20	1,146.4	-54.9	-5.0	1.50	1.50	0.00	185.20	
6,279.7	9.74	185.20	6,202.6	-919.5	-83.6	0.00	0.00	0.00	0.00	
6,929.2	0.00	0.00	6,849.0	-974.3	-88.6	1.50	-1.50	0.00	180.00	Oxy 21-3D TOG
8,779.2	0.00	0.00	8,699.0	-974.3	-88.6	0.00	0.00	0.00	0.00	Oxy 21-3D BHL

# Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	0.0	0.0	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	0.0	0.0	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	
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	
420.0	0.00	0.00	420.0	0.0	0.0	0.0	0.00	0.00	
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	KOP @ 500'
510.0	0.15	185.20	510.0	0.0	0.0	0.0	1.50	1.50	
540.0	0.60	185.20	540.0	-0.2	0.0	0.2	1.50	1.50	
570.0	1.05	185.20	570.0	-0.6	-0.1	0.6	1.50	1.50	
600.0	1.50	185.20	600.0	-1.3	-0.1	1.3	1.50	1.50	
630.0	1.95	185.20	630.0	-2.2	-0.2	2.2	1.50	1.50	
660.0	2.40	185.20	660.0	-3.3	-0.3	3.4	1.50	1.50	
690.0	2.85	185.20	689.9	-4.7	-0.4	4.7	1.50	1.50	
720.0	3.30	185.20	719.9	-6.3	-0.6	6.3	1.50	1.50	
750.0	3.75	185.20	749.8	-8.1	-0.7	8.2	1.50	1.50	
780.0	4.20	185.20	779.7	-10.2	-0.9	10.3	1.50	1.50	
810.0	4.65	185.20	809.7	-12.5	-1.1	12.6	1.50	1.50	
840.0	5.10	185.20	839.6	-15.1	-1.4	15.1	1.50	1.50	
870.0	5.55	185.20	869.4	-17.8	-1.6	17.9	1.50	1.50	
900.0	6.00	185.20	899.3	-20.8	-1.9	20.9	1.50	1.50	
930.0	6.45	185.20	929.1	-24.1	-2.2	24.2	1.50	1.50	
960.0	6.90	185.20	958.9	-27.6	-2.5	27.7	1.50	1.50	
990.0	7.35	185.20	988.7	-31.3	-2.8	31.4	1.50	1.50	
1,020.0	7.80	185.20	1,018.4	-35.2	-3.2	35.3	1.50	1.50	
1,050.0	8.25	185.20	1,048.1	-39.4	-3.6	39.5	1.50	1.50	
1,080.0	8.70	185.20	1,077.8	-43.8	-4.0	44.0	1.50	1.50	
1,110.0	9.15	185.20	1,107.4	-48.4	-4.4	48.6	1.50	1.50	
1,140.0	9.60	185.20	1,137.0	-53.3	-4.8	53.5	1.50	1.50	
1,149.5	9.74	185.20	1,146.4	-54.9	-5.0	55.1	1.50	1.50	EOB; Inc=9.74°
1,170.0	9.74	185.20	1,166.6	-58.3	-5.3	58.6	0.00	0.00	
1,200.0	9.74	185.20	1,196.1	-63.4	-5.8	63.6	0.00	0.00	
1,230.0	9.74	185.20	1,225.7	-68.4	-6.2	68.7	0.00	0.00	
1,260.0	9.74	185.20	1,255.3	-73.5	-6.7	73.8	0.00	0.00	
1,290.0	9.74	185.20	1,284.8	-78.5	-7.1	78.9	0.00	0.00	
1,320.0	9.74	185.20	1,314.4	-83.6	-7.6	83.9	0.00	0.00	
1,350.0	9.74	185.20	1,344.0	-88.7	-8.1	89.0	0.00	0.00	
1,380.0	9.74	185.20	1,373.6	-93.7	-8.5	94.1	0.00	0.00	
1,410.0	9.74	185.20	1,403.1	-98.8	-9.0	99.2	0.00	0.00	
1,440.0	9.74	185.20	1,432.7	-103.8	-9.4	104.2	0.00	0.00	
1,470.0	9.74	185.20	1,462.3	-108.9	-9.9	109.3	0.00	0.00	

# Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
1,500.0	9.74	185.20	1,491.8	-113.9	-10.4	114.4	0.00	0.00	
1,530.0	9.74	185.20	1,521.4	-119.0	-10.8	119.5	0.00	0.00	
1,560.0	9.74	185.20	1,551.0	-124.0	-11.3	124.6	0.00	0.00	
1,590.0	9.74	185.20	1,580.5	-129.1	-11.7	129.6	0.00	0.00	
1,620.0	9.74	185.20	1,610.1	-134.2	-12.2	134.7	0.00	0.00	
1,650.0	9.74	185.20	1,639.7	-139.2	-12.7	139.8	0.00	0.00	
1,680.0	9.74	185.20	1,669.2	-144.3	-13.1	144.9	0.00	0.00	
1,710.0	9.74	185.20	1,698.8	-149.3	-13.6	149.9	0.00	0.00	
1,740.0	9.74	185.20	1,728.4	-154.4	-14.0	155.0	0.00	0.00	
1,770.0	9.74	185.20	1,757.9	-159.4	-14.5	160.1	0.00	0.00	
1,800.0	9.74	185.20	1,787.5	-164.5	-15.0	165.2	0.00	0.00	
1,830.0	9.74	185.20	1,817.1	-169.5	-15.4	170.2	0.00	0.00	
1,860.0	9.74	185.20	1,846.6	-174.6	-15.9	175.3	0.00	0.00	
1,890.0	9.74	185.20	1,876.2	-179.7	-16.3	180.4	0.00	0.00	
1,892.8	9.74	185.20	1,879.0	-180.1	-16.4	180.9	0.00	0.00	Wasatch
1,920.0	9.74	185.20	1,905.8	-184.7	-16.8	185.5	0.00	0.00	
1,950.0	9.74	185.20	1,935.3	-189.8	-17.3	190.6	0.00	0.00	
1,980.0	9.74	185.20	1,964.9	-194.8	-17.7	195.6	0.00	0.00	
2,010.0	9.74	185.20	1,994.5	-199.9	-18.2	200.7	0.00	0.00	
2,040.0	9.74	185.20	2,024.0	-204.9	-18.6	205.8	0.00	0.00	
2,070.0	9.74	185.20	2,053.6	-210.0	-19.1	210.9	0.00	0.00	
2,100.0	9.74	185.20	2,083.2	-215.1	-19.6	215.9	0.00	0.00	
2,130.0	9.74	185.20	2,112.7	-220.1	-20.0	221.0	0.00	0.00	
2,160.0	9.74	185.20	2,142.3	-225.2	-20.5	226.1	0.00	0.00	
2,190.0	9.74	185.20	2,171.9	-230.2	-20.9	231.2	0.00	0.00	
2,220.0	9.74	185.20	2,201.4	-235.3	-21.4	236.2	0.00	0.00	
2,250.0	9.74	185.20	2,231.0	-240.3	-21.9	241.3	0.00	0.00	
2,280.0	9.74	185.20	2,260.6	-245.4	-22.3	246.4	0.00	0.00	
2,310.0	9.74	185.20	2,290.1	-250.4	-22.8	251.5	0.00	0.00	
2,340.0	9.74	185.20	2,319.7	-255.5	-23.2	256.6	0.00	0.00	
2,370.0	9.74	185.20	2,349.3	-260.6	-23.7	261.6	0.00	0.00	
2,400.0	9.74	185.20	2,378.8	-265.6	-24.2	266.7	0.00	0.00	
2,430.0	9.74	185.20	2,408.4	-270.7	-24.6	271.8	0.00	0.00	
2,460.0	9.74	185.20	2,438.0	-275.7	-25.1	276.9	0.00	0.00	
2,490.0	9.74	185.20	2,467.5	-280.8	-25.5	281.9	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 21-3D BHL	0.00	0.00	8,699.0	-974.3	-88.6	1,619,766.20	2,233,281.16	39.503542	-108.217642
- plan misses target center by 6270.3ft at 2490.0ft MD (2467.5 TVD, -280.8 N, -25.5 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									
Oxy 21-3D TOG	0.00	0.00	6,849.0	-974.3	-88.6	1,619,766.20	2,233,281.16	39.503542	-108.217642
- plan misses target center by 4436.5ft at 2490.0ft MD (2467.5 TVD, -280.8 N, -25.5 E)									
- Point									

# Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
2,500.0	9.74	185.20	2,477.4	-282.5	-25.7	283.6	0.00	0.00	
2,600.0	9.74	185.20	2,576.0	-299.3	-27.2	300.6	0.00	0.00	
2,700.0	9.74	185.20	2,674.5	-316.2	-28.8	317.5	0.00	0.00	
2,800.0	9.74	185.20	2,773.1	-333.0	-30.3	334.4	0.00	0.00	
2,900.0	9.74	185.20	2,871.6	-349.9	-31.8	351.3	0.00	0.00	
3,000.0	9.74	185.20	2,970.2	-366.7	-33.3	368.2	0.00	0.00	
3,100.0	9.74	185.20	3,068.7	-383.6	-34.9	385.2	0.00	0.00	
3,200.0	9.74	185.20	3,167.3	-400.4	-36.4	402.1	0.00	0.00	
3,300.0	9.74	185.20	3,265.9	-417.3	-37.9	419.0	0.00	0.00	
3,400.0	9.74	185.20	3,364.4	-434.1	-39.5	435.9	0.00	0.00	
3,500.0	9.74	185.20	3,463.0	-451.0	-41.0	452.9	0.00	0.00	
3,600.0	9.74	185.20	3,561.5	-467.9	-42.5	469.8	0.00	0.00	
3,700.0	9.74	185.20	3,660.1	-484.7	-44.1	486.7	0.00	0.00	
3,800.0	9.74	185.20	3,758.6	-501.6	-45.6	503.6	0.00	0.00	
3,900.0	9.74	185.20	3,857.2	-518.4	-47.1	520.5	0.00	0.00	
3,962.7	9.74	185.20	3,919.0	-529.0	-48.1	531.2	0.00	0.00	Ft Union
4,000.0	9.74	185.20	3,955.8	-535.3	-48.7	537.5	0.00	0.00	
4,100.0	9.74	185.20	4,054.3	-552.1	-50.2	554.4	0.00	0.00	
4,200.0	9.74	185.20	4,152.9	-569.0	-51.7	571.3	0.00	0.00	
4,300.0	9.74	185.20	4,251.4	-585.8	-53.3	588.2	0.00	0.00	
4,400.0	9.74	185.20	4,350.0	-602.7	-54.8	605.2	0.00	0.00	
4,470.0	9.74	185.20	4,419.0	-614.5	-55.9	617.0	0.00	0.00	Base Ft Union
4,500.0	9.74	185.20	4,448.5	-619.5	-56.3	622.1	0.00	0.00	
4,600.0	9.74	185.20	4,547.1	-636.4	-57.9	639.0	0.00	0.00	
4,700.0	9.74	185.20	4,645.7	-653.2	-59.4	655.9	0.00	0.00	
4,800.0	9.74	185.20	4,744.2	-670.1	-60.9	672.9	0.00	0.00	
4,900.0	9.74	185.20	4,842.8	-686.9	-62.5	689.8	0.00	0.00	
5,000.0	9.74	185.20	4,941.3	-703.8	-64.0	706.7	0.00	0.00	
5,100.0	9.74	185.20	5,039.9	-720.7	-65.5	723.6	0.00	0.00	
5,200.0	9.74	185.20	5,138.5	-737.5	-67.1	740.5	0.00	0.00	
5,300.0	9.74	185.20	5,237.0	-754.4	-68.6	757.5	0.00	0.00	
5,400.0	9.74	185.20	5,335.6	-771.2	-70.1	774.4	0.00	0.00	
5,500.0	9.74	185.20	5,434.1	-788.1	-71.7	791.3	0.00	0.00	
5,600.0	9.74	185.20	5,532.7	-804.9	-73.2	808.2	0.00	0.00	
5,700.0	9.74	185.20	5,631.2	-821.8	-74.7	825.2	0.00	0.00	
5,718.0	9.74	185.20	5,649.0	-824.8	-75.0	828.2	0.00	0.00	Ohio Creek
5,800.0	9.74	185.20	5,729.8	-838.6	-76.3	842.1	0.00	0.00	
5,900.0	9.74	185.20	5,828.4	-855.5	-77.8	859.0	0.00	0.00	
5,920.9	9.74	185.20	5,849.0	-859.0	-78.1	862.6	0.00	0.00	Williams Fork
6,000.0	9.74	185.20	5,926.9	-872.3	-79.3	875.9	0.00	0.00	
6,100.0	9.74	185.20	6,025.5	-889.2	-80.9	892.9	0.00	0.00	
6,200.0	9.74	185.20	6,124.0	-906.0	-82.4	909.8	0.00	0.00	
6,279.7	9.74	185.20	6,202.6	-919.5	-83.6	923.3	0.00	0.00	Start Drop -1.50
6,300.0	9.44	185.20	6,222.6	-922.8	-83.9	926.6	1.50	-1.50	
6,400.0	7.94	185.20	6,321.4	-937.9	-85.3	941.8	1.50	-1.50	
6,500.0	6.44	185.20	6,420.7	-950.3	-86.4	954.3	1.50	-1.50	
6,600.0	4.94	185.20	6,520.2	-960.2	-87.3	964.2	1.50	-1.50	
6,700.0	3.44	185.20	6,619.9	-967.5	-88.0	971.5	1.50	-1.50	
6,800.0	1.94	185.20	6,719.8	-972.2	-88.4	976.2	1.50	-1.50	
6,900.0	0.44	185.20	6,819.8	-974.2	-88.6	978.2	1.50	-1.50	
6,929.2	0.00	0.00	6,849.0	-974.3	-88.6	978.4	1.50	-1.50	EOD; Inc=0° - Approx TOG - Oxy 21-3D TOG
7,000.0	0.00	0.00	6,919.8	-974.3	-88.6	978.4	0.00	0.00	

# Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
7,100.0	0.00	0.00	7,019.8	-974.3	-88.6	978.4	0.00	0.00	
7,200.0	0.00	0.00	7,119.8	-974.3	-88.6	978.4	0.00	0.00	
7,300.0	0.00	0.00	7,219.8	-974.3	-88.6	978.4	0.00	0.00	
7,400.0	0.00	0.00	7,319.8	-974.3	-88.6	978.4	0.00	0.00	
7,500.0	0.00	0.00	7,419.8	-974.3	-88.6	978.4	0.00	0.00	
7,600.0	0.00	0.00	7,519.8	-974.3	-88.6	978.4	0.00	0.00	
7,700.0	0.00	0.00	7,619.8	-974.3	-88.6	978.4	0.00	0.00	
7,800.0	0.00	0.00	7,719.8	-974.3	-88.6	978.4	0.00	0.00	
7,900.0	0.00	0.00	7,819.8	-974.3	-88.6	978.4	0.00	0.00	
8,000.0	0.00	0.00	7,919.8	-974.3	-88.6	978.4	0.00	0.00	
8,100.0	0.00	0.00	8,019.8	-974.3	-88.6	978.4	0.00	0.00	
8,200.0	0.00	0.00	8,119.8	-974.3	-88.6	978.4	0.00	0.00	
8,279.2	0.00	0.00	8,199.0	-974.3	-88.6	978.4	0.00	0.00	Cameo
8,300.0	0.00	0.00	8,219.8	-974.3	-88.6	978.4	0.00	0.00	
8,400.0	0.00	0.00	8,319.8	-974.3	-88.6	978.4	0.00	0.00	
8,500.0	0.00	0.00	8,419.8	-974.3	-88.6	978.4	0.00	0.00	
8,600.0	0.00	0.00	8,519.8	-974.3	-88.6	978.4	0.00	0.00	
8,629.2	0.00	0.00	8,549.0	-974.3	-88.6	978.4	0.00	0.00	Rollins SS
8,700.0	0.00	0.00	8,619.8	-974.3	-88.6	978.4	0.00	0.00	
8,779.2	0.00	0.00	8,699.0	-974.3	-88.6	978.4	0.00	0.00	TD at 8779.2 - Oxy 21-3D BHL

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting		
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Latitude	Longitude
Oxy 21-3D BHL	0.00	0.00	8,699.0	-974.3	-88.6	1,619,766.20	2,233,281.16	39.503542	-108.217642
- plan hits target center									
- Rectangle (sides W100.0 H200.0 D0.0)									
Oxy 21-3D TOG	0.00	0.00	6,849.0	-974.3	-88.6	1,619,766.20	2,233,281.16	39.503542	-108.217642
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,892.8	1,879.0	Wasatch		0.00		
3,962.7	3,919.0	Ft Union		0.00		
4,470.0	4,419.0	Base Ft Union		0.00		
5,718.0	5,649.0	Ohio Creek		0.00		
5,920.9	5,849.0	Williams Fork		0.00		
6,929.2	6,849.0	Approx TOG		0.00		
8,279.2	8,199.0	Cameo		0.00		
8,629.2	8,549.0	Rollins SS		0.00		

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
500.0	500.0	0.0	0.0	KOP @ 500'
1,149.5	1,146.4	-54.9	-5.0	EOB; Inc=9.74°
6,279.7	6,202.6	-919.5	-83.6	Start Drop -1.50
6,929.2	6,849.0	-974.3	-88.6	EOD; Inc=0°
8,779.2	8,699.0	-974.3	-88.6	TD at 8779.2

## Directional Plus

### Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,111.9ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	10/7/2009		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	8,779.2	Plan #1 (DD)	MWD	Geolink MWD	



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

### 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						
NESE S21-T6S-R97W (Oxy I21 pad)						
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	438.8	439.0	53.8	52.3	35.764	CC
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	54.0	52.2	31.106	ES
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	900.0	895.8	78.4	74.9	22.460	SF
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	446.5	446.5	69.5	68.0	45.971	CC
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	69.5	67.8	40.818	ES
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	1,200.0	1,190.7	129.8	124.7	25.450	SF
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	84.8	83.8	85.265	CC
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	400.0	399.7	85.0	83.7	63.216	ES
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	1,300.0	1,280.8	180.4	174.8	31.983	SF
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	99.5	98.5	100.020	CC, ES
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	5,000.0	4,865.9	1,096.3	1,067.1	37.512	SF
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	114.2	113.2	114.797	CC, ES
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	4,600.0	4,449.4	1,110.7	1,085.5	44.111	SF
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	129.5	128.5	130.160	CC, ES
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	4,100.0	3,927.0	1,108.9	1,088.2	53.544	SF
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	144.0	143.0	144.715	CC, ES
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	1,100.0	1,062.1	245.3	241.3	61.678	SF
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	200.0	200.0	143.9	143.2	222.788	CC, ES
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	1,100.0	1,054.4	262.4	258.4	65.138	SF
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	20.9	19.9	20.963	CC, ES
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	1,100.0	1,091.9	55.7	51.9	14.671	SF
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	1,438.2	1,446.8	25.5	18.4	3.564	CC, ES
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	1,500.0	1,508.4	25.9	18.6	3.536	SF
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	10.3	8.6	6.070	CC, ES
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	700.0	700.1	12.7	10.3	5.309	SF
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	24.5	22.8	14.463	CC, ES
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	900.0	901.4	32.2	29.1	10.314	SF
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	781.0	1,086.9	77.9	75.2	28.790	CC
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	800.0	1,105.9	77.9	75.2	28.094	ES
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	1,100.0	1,404.8	93.1	89.2	23.999	SF
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	114.0	112.3	67.348	CC, ES
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	900.0	890.2	148.1	145.0	47.994	SF
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	129.3	127.6	76.388	CC, ES
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	1,000.0	984.9	183.3	179.9	53.436	SF
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	446.5	446.6	38.8	37.3	25.316	CC
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	39.0	37.3	22.483	ES
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	800.0	797.5	54.3	51.3	18.228	SF

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-37.06	43.3	-32.7	54.3					
100.0	100.0	100.0	100.0	0.1	0.1	-37.06	43.3	-32.7	54.3	54.0	0.30	183.058		
200.0	200.0	200.0	200.0	0.3	0.3	-37.06	43.3	-32.7	54.3	53.7	0.65	84.108		
300.0	300.0	300.2	300.2	0.5	0.5	-38.43	42.4	-33.7	54.1	53.2	1.00	54.299		
400.0	400.0	400.2	400.1	0.7	0.7	-42.59	39.6	-36.4	53.8	52.5	1.36	39.646		
438.8	438.8	439.0	438.8	0.7	0.8	-44.97	38.1	-38.0	53.8	52.3	1.50	35.764 CC		
500.0	500.0	500.0	499.7	0.8	0.9	-49.54	35.0	-41.1	54.0	52.2	1.74	31.106 ES		
600.0	600.0	599.4	598.7	1.0	1.1	117.03	28.6	-47.5	56.0	53.9	2.13	26.255		
700.0	699.9	698.6	697.2	1.2	1.4	109.51	20.4	-55.7	60.9	58.4	2.56	23.846		
800.0	799.7	797.4	794.9	1.4	1.7	103.35	10.4	-65.7	68.5	65.5	3.01	22.793		
900.0	899.3	895.8	892.0	1.6	2.0	98.69	-1.3	-77.4	78.4	74.9	3.49	22.460 SF		
1,000.0	998.6	993.8	988.1	1.9	2.4	95.33	-14.7	-90.9	90.3	86.3	4.02	22.476		
1,100.0	1,097.5	1,091.4	1,083.3	2.1	2.8	93.01	-29.8	-106.0	104.1	99.5	4.60	22.632		
1,200.0	1,196.1	1,188.4	1,177.4	2.4	3.2	91.42	-46.5	-122.7	119.6	114.4	5.23	22.868		
1,300.0	1,294.7	1,284.8	1,270.3	2.7	3.7	89.61	-64.8	-141.0	136.8	130.9	5.88	23.255		
1,400.0	1,393.3	1,380.5	1,361.8	3.0	4.2	87.53	-84.5	-160.8	155.7	149.1	6.54	23.808		
1,500.0	1,491.8	1,475.3	1,451.7	3.4	4.8	85.33	-105.7	-182.0	176.4	169.2	7.19	24.521		
1,600.0	1,590.4	1,570.7	1,541.5	3.7	5.3	83.13	-128.4	-204.7	198.9	191.1	7.84	25.379		
1,700.0	1,688.9	1,667.8	1,632.8	4.0	5.9	81.27	-151.8	-228.1	222.0	213.5	8.48	26.166		
1,800.0	1,787.5	1,764.8	1,724.1	4.3	6.5	79.77	-175.2	-251.5	245.2	236.0	9.12	26.872		
1,900.0	1,886.1	1,861.9	1,815.3	4.7	7.1	78.52	-198.6	-274.9	268.5	258.7	9.76	27.505		
2,000.0	1,984.6	1,959.0	1,906.6	5.0	7.8	77.47	-222.0	-298.4	291.9	281.5	10.40	28.074		
2,100.0	2,083.2	2,056.1	1,997.9	5.3	8.4	76.58	-245.3	-321.8	315.5	304.4	11.04	28.587		
2,200.0	2,181.7	2,153.2	2,089.2	5.7	9.0	75.82	-268.7	-345.2	339.0	327.4	11.67	29.052		
2,300.0	2,280.3	2,250.3	2,180.4	6.0	9.6	75.15	-292.1	-368.6	362.7	350.4	12.30	29.475		
2,400.0	2,378.8	2,347.4	2,271.7	6.4	10.2	74.56	-315.5	-392.0	386.4	373.4	12.94	29.861		
2,500.0	2,477.4	2,444.4	2,363.0	6.7	10.8	74.04	-338.9	-415.4	410.1	396.5	13.57	30.214		
2,600.0	2,576.0	2,541.5	2,454.3	7.0	11.4	73.58	-362.3	-438.8	433.8	419.6	14.21	30.538		
2,700.0	2,674.5	2,638.6	2,545.5	7.4	12.0	73.17	-385.6	-462.2	457.6	442.7	14.84	30.837		
2,800.0	2,773.1	2,735.7	2,636.8	7.7	12.6	72.79	-409.0	-485.6	481.3	465.9	15.47	31.113		
2,900.0	2,871.6	2,832.8	2,728.1	8.0	13.3	72.46	-432.4	-509.0	505.1	489.0	16.10	31.369		
3,000.0	2,970.2	2,929.9	2,819.4	8.4	13.9	72.15	-455.8	-532.5	528.9	512.2	16.74	31.607		
3,100.0	3,068.7	3,027.0	2,910.6	8.7	14.5	71.87	-479.2	-555.9	552.8	535.4	17.37	31.829		
3,200.0	3,167.3	3,124.0	3,001.9	9.1	15.1	71.61	-502.5	-579.3	576.6	558.6	18.00	32.036		
3,300.0	3,265.9	3,221.1	3,093.2	9.4	15.7	71.37	-525.9	-602.7	600.5	581.8	18.63	32.229		
3,400.0	3,364.4	3,318.2	3,184.5	9.7	16.3	71.15	-549.3	-626.1	624.3	605.0	19.26	32.410		
3,500.0	3,463.0	3,415.3	3,275.7	10.1	17.0	70.95	-572.7	-649.5	648.2	628.3	19.89	32.581		
3,600.0	3,561.5	3,512.4	3,367.0	10.4	17.6	70.76	-596.1	-672.9	672.0	651.5	20.53	32.741		
3,700.0	3,660.1	3,609.5	3,458.3	10.8	18.2	70.59	-619.5	-696.3	695.9	674.8	21.16	32.892		
3,800.0	3,758.6	3,706.6	3,549.6	11.1	18.8	70.42	-642.8	-719.7	719.8	698.0	21.79	33.035		
3,900.0	3,857.2	3,803.7	3,640.8	11.5	19.4	70.27	-666.2	-743.1	743.7	721.3	22.42	33.170		
4,000.0	3,955.8	3,900.7	3,732.1	11.8	20.0	70.12	-689.6	-766.6	767.6	744.5	23.05	33.298		
4,100.0	4,054.3	3,997.8	3,823.4	12.1	20.6	69.99	-713.0	-790.0	791.5	767.8	23.68	33.419		
4,200.0	4,152.9	4,094.9	3,914.7	12.5	21.3	69.86	-736.4	-813.4	815.4	791.1	24.32	33.534		
4,300.0	4,251.4	4,192.0	4,005.9	12.8	21.9	69.74	-759.7	-836.8	839.3	814.3	24.95	33.644		
4,400.0	4,350.0	4,289.1	4,097.2	13.2	22.5	69.63	-783.1	-860.2	863.2	837.6	25.58	33.748		
4,500.0	4,448.5	4,386.2	4,188.5	13.5	23.1	69.52	-806.5	-883.6	887.1	860.9	26.21	33.847		
4,600.0	4,547.1	4,483.3	4,279.7	13.8	23.7	69.42	-829.9	-907.0	911.0	884.2	26.84	33.942		
4,700.0	4,645.7	4,580.3	4,371.0	14.2	24.3	69.32	-853.3	-930.4	934.9	907.5	27.47	34.033		
4,800.0	4,744.2	4,677.4	4,462.3	14.5	25.0	69.23	-876.7	-953.8	958.9	930.8	28.10	34.119		
4,900.0	4,842.8	4,774.5	4,553.6	14.9	25.6	69.14	-900.0	-977.2	982.8	954.1	28.73	34.202		
5,000.0	4,941.3	4,871.6	4,644.8	15.2	26.2	69.06	-923.4	-1,000.7	1,006.7	977.3	29.37	34.282		

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-10D (Oxy I21 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					
5,100.0	5,039.9	4,968.7	4,736.1	15.6	26.8	68.98	-946.8	-1,024.1	1,030.6	1,000.6	30.00	34.358					
5,200.0	5,138.5	5,065.8	4,827.4	15.9	27.4	68.90	-970.2	-1,047.5	1,054.6	1,023.9	30.63	34.431					
5,300.0	5,237.0	5,162.9	4,918.7	16.2	28.0	68.83	-993.6	-1,070.9	1,078.5	1,047.2	31.26	34.501					
5,400.0	5,335.6	5,259.9	5,009.9	16.6	28.7	68.76	-1,016.9	-1,094.3	1,102.4	1,070.5	31.89	34.569					

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-35.74	56.5	-40.6	69.6					
100.0	100.0	100.0	100.0	0.1	0.1	-35.74	56.5	-40.6	69.6	69.3	0.30	234.434		
200.0	200.0	200.0	200.0	0.3	0.3	-35.74	56.5	-40.6	69.6	68.9	0.65	107.713		
300.0	300.0	300.0	300.0	0.5	0.5	-35.74	56.5	-40.6	69.6	68.6	0.99	69.919		
400.0	400.0	400.1	400.0	0.7	0.7	-36.82	55.6	-41.7	69.5	68.2	1.35	51.665		
446.5	446.5	446.5	446.5	0.8	0.8	-38.06	54.7	-42.8	69.5	68.0	1.51	45.971 CC		
500.0	500.0	500.0	499.9	0.8	0.9	-40.05	53.2	-44.8	69.5	67.8	1.70	40.818 ES		
600.0	600.0	599.7	599.4	1.0	1.1	130.22	49.2	-49.9	70.9	68.8	2.08	34.135		
700.0	699.9	699.1	698.4	1.2	1.3	125.52	43.6	-57.0	74.7	72.3	2.47	30.199		
800.0	799.7	798.3	796.9	1.4	1.5	121.09	36.5	-66.2	81.1	78.1	2.90	27.902		
900.0	899.3	897.1	894.6	1.6	1.8	117.20	27.8	-77.3	89.8	86.4	3.38	26.605		
1,000.0	998.6	995.4	991.6	1.9	2.1	113.96	17.5	-90.3	101.0	97.1	3.90	25.912		
1,100.0	1,097.5	1,093.3	1,087.6	2.1	2.5	111.38	5.9	-105.3	114.4	109.9	4.47	25.570		
1,200.0	1,196.1	1,190.7	1,182.6	2.4	2.9	109.33	-7.3	-122.0	129.8	124.7	5.10	25.450 SF		
1,300.0	1,294.7	1,287.4	1,276.5	2.7	3.3	107.07	-21.8	-140.6	146.7	140.9	5.76	25.542		
1,400.0	1,393.3	1,383.5	1,369.1	3.0	3.8	104.54	-37.6	-160.8	165.0	158.5	6.45	25.593		
1,500.0	1,491.8	1,479.3	1,460.7	3.4	4.3	101.90	-54.9	-182.8	184.9	177.8	7.14	25.910		
1,600.0	1,590.4	1,576.8	1,553.7	3.7	4.8	99.55	-72.8	-205.8	205.7	197.8	7.83	26.261		
1,700.0	1,688.9	1,674.3	1,646.8	4.0	5.4	97.63	-90.8	-228.7	226.6	218.1	8.52	26.599		
1,800.0	1,787.5	1,771.8	1,739.8	4.3	5.9	96.03	-108.8	-251.7	247.9	238.6	9.21	26.917		
1,900.0	1,886.1	1,869.4	1,832.9	4.7	6.4	94.69	-126.8	-274.7	269.2	259.3	9.89	27.214		
2,000.0	1,984.6	1,966.9	1,925.9	5.0	7.0	93.54	-144.8	-297.7	290.7	280.1	10.57	27.489		
2,100.0	2,083.2	2,064.4	2,018.9	5.3	7.5	92.56	-162.8	-320.6	312.3	301.0	11.26	27.743		
2,200.0	2,181.7	2,161.9	2,112.0	5.7	8.0	91.69	-180.7	-343.6	333.9	322.0	11.93	27.979		
2,300.0	2,280.3	2,259.4	2,205.0	6.0	8.6	90.94	-198.7	-366.6	355.6	343.0	12.61	28.197		
2,400.0	2,378.8	2,356.9	2,298.1	6.4	9.1	90.27	-216.7	-389.5	377.4	364.1	13.29	28.398		
2,500.0	2,477.4	2,454.4	2,391.1	6.7	9.7	89.67	-234.7	-412.5	399.2	385.2	13.97	28.585		
2,600.0	2,576.0	2,551.9	2,484.2	7.0	10.2	89.14	-252.7	-435.5	421.0	406.4	14.64	28.759		
2,700.0	2,674.5	2,649.5	2,577.2	7.4	10.8	88.66	-270.7	-458.5	442.9	427.6	15.31	28.921		
2,800.0	2,773.1	2,747.0	2,670.3	7.7	11.3	88.22	-288.6	-481.4	464.8	448.8	15.99	29.071		
2,900.0	2,871.6	2,844.5	2,763.3	8.0	11.8	87.82	-306.6	-504.4	486.8	470.1	16.66	29.212		
3,000.0	2,970.2	2,942.0	2,856.4	8.4	12.4	87.46	-324.6	-527.4	508.7	491.4	17.34	29.344		
3,100.0	3,068.7	3,039.5	2,949.4	8.7	12.9	87.13	-342.6	-550.3	530.7	512.7	18.01	29.467		
3,200.0	3,167.3	3,137.0	3,042.5	9.1	13.5	86.82	-360.6	-573.3	552.7	534.0	18.68	29.583		
3,300.0	3,265.9	3,234.5	3,135.5	9.4	14.0	86.54	-378.6	-596.3	574.6	555.3	19.35	29.692		
3,400.0	3,364.4	3,332.0	3,228.6	9.7	14.6	86.27	-396.5	-619.2	596.7	576.6	20.03	29.795		
3,500.0	3,463.0	3,429.6	3,321.6	10.1	15.1	86.03	-414.5	-642.2	618.7	598.0	20.70	29.892		
3,600.0	3,561.5	3,527.1	3,414.6	10.4	15.7	85.80	-432.5	-665.2	640.7	619.3	21.37	29.983		
3,700.0	3,660.1	3,624.6	3,507.7	10.8	16.2	85.59	-450.5	-688.2	662.7	640.7	22.04	30.070		
3,800.0	3,758.6	3,722.1	3,600.7	11.1	16.8	85.39	-468.5	-711.1	684.8	662.1	22.71	30.152		
3,900.0	3,857.2	3,819.6	3,693.8	11.5	17.3	85.21	-486.5	-734.1	706.8	683.5	23.38	30.230		
4,000.0	3,955.8	3,917.1	3,786.8	11.8	17.9	85.03	-504.4	-757.1	728.9	704.9	24.05	30.304		
4,100.0	4,054.3	4,014.6	3,879.9	12.1	18.4	84.87	-522.4	-780.0	751.0	726.3	24.72	30.374		
4,200.0	4,152.9	4,112.1	3,972.9	12.5	19.0	84.71	-540.4	-803.0	773.0	747.7	25.39	30.441		
4,300.0	4,251.4	4,209.7	4,066.0	12.8	19.5	84.57	-558.4	-826.0	795.1	769.1	26.07	30.505		
4,400.0	4,350.0	4,307.2	4,159.0	13.2	20.1	84.43	-576.4	-849.0	817.2	790.5	26.74	30.566		
4,500.0	4,448.5	4,404.7	4,252.1	13.5	20.6	84.30	-594.4	-871.9	839.3	811.9	27.41	30.624		
4,600.0	4,547.1	4,502.2	4,345.1	13.8	21.2	84.17	-612.3	-894.9	861.4	833.3	28.08	30.680		
4,700.0	4,645.7	4,599.7	4,438.2	14.2	21.7	84.05	-630.3	-917.9	883.5	854.7	28.75	30.733		
4,800.0	4,744.2	4,697.2	4,531.2	14.5	22.3	83.94	-648.3	-940.8	905.6	876.2	29.42	30.784		
4,900.0	4,842.8	4,794.7	4,624.3	14.9	22.8	83.83	-666.3	-963.8	927.7	897.6	30.09	30.833		
5,000.0	4,941.3	4,892.3	4,717.3	15.2	23.4	83.73	-684.3	-986.8	949.8	919.0	30.76	30.880		

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-11D (Oxy I21 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)									
5,100.0	5,039.9	4,989.8	4,810.4	15.6	23.9	83.64	-702.3	-1,009.7	971.9	940.5	31.43	30.925					
5,200.0	5,138.5	5,087.3	4,903.4	15.9	24.5	83.54	-720.2	-1,032.7	994.0	961.9	32.10	30.969					
5,300.0	5,237.0	5,184.8	4,996.4	16.2	25.0	83.45	-738.2	-1,055.7	1,016.1	983.3	32.77	31.010					
5,400.0	5,335.6	5,282.3	5,089.5	16.6	25.6	83.37	-756.2	-1,078.7	1,038.2	1,004.8	33.44	31.050					
5,500.0	5,434.1	5,379.8	5,182.5	16.9	26.1	83.29	-774.2	-1,101.6	1,060.3	1,026.2	34.11	31.089					
5,600.0	5,532.7	5,477.3	5,275.6	17.3	26.7	83.21	-792.2	-1,124.6	1,082.5	1,047.7	34.78	31.126					
5,700.0	5,631.2	5,574.8	5,368.6	17.6	27.2	83.13	-810.2	-1,147.6	1,104.6	1,069.1	35.45	31.162					

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-12D (Oxy I21 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		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-34.90	69.6	-48.5	84.8					
100.0	100.0	100.0	100.0	0.1	0.1	-34.90	69.6	-48.5	84.8	84.5	0.30	285.889		
200.0	200.0	200.0	200.0	0.3	0.3	-34.90	69.6	-48.5	84.8	84.2	0.65	131.355		
300.0	300.0	300.0	300.0	0.5	0.5	-34.90	69.6	-48.5	84.8	83.8	0.99	85.265 CC		
400.0	400.0	399.7	399.7	0.7	0.7	-35.77	69.0	-49.7	85.0	83.7	1.34	63.216 ES		
500.0	500.0	499.2	499.1	0.8	0.9	-38.34	67.2	-53.2	85.7	84.0	1.70	50.357		
600.0	600.0	598.5	598.2	1.0	1.1	132.89	64.3	-58.9	88.1	86.0	2.07	42.486		
700.0	699.9	697.6	696.8	1.2	1.3	129.22	60.2	-66.9	93.3	90.8	2.47	37.831		
800.0	799.7	796.2	794.8	1.4	1.5	125.75	54.9	-77.2	101.3	98.4	2.89	35.086		
900.0	899.3	894.4	892.0	1.6	1.8	122.68	48.6	-89.6	112.1	108.8	3.35	33.510		
1,000.0	998.6	992.0	988.2	1.9	2.1	120.09	41.1	-104.2	125.6	121.8	3.85	32.648		
1,100.0	1,097.5	1,089.0	1,083.4	2.1	2.5	117.98	32.6	-120.8	141.8	137.4	4.40	32.212		
1,200.0	1,196.1	1,185.2	1,177.3	2.4	2.9	116.32	23.1	-139.5	160.3	155.3	5.00	32.042		
1,300.0	1,294.7	1,280.8	1,270.1	2.7	3.3	114.54	12.6	-160.0	180.4	174.8	5.64	31.983 SF		
1,400.0	1,393.3	1,375.9	1,361.7	3.0	3.8	112.54	1.1	-182.5	202.0	195.7	6.30	32.081		
1,500.0	1,491.8	1,473.1	1,455.1	3.4	4.2	110.67	-11.1	-206.4	224.4	217.4	6.97	32.208		
1,600.0	1,590.4	1,570.3	1,548.6	3.7	4.7	109.14	-23.4	-230.3	247.0	239.3	7.64	32.328		
1,700.0	1,688.9	1,667.5	1,642.1	4.0	5.2	107.87	-35.6	-254.2	269.7	261.4	8.31	32.440		
1,800.0	1,787.5	1,764.8	1,735.5	4.3	5.7	106.80	-47.8	-278.1	292.5	283.5	8.99	32.543		
1,900.0	1,886.1	1,862.0	1,829.0	4.7	6.2	105.88	-60.0	-301.9	315.4	305.7	9.66	32.639		
2,000.0	1,984.6	1,959.2	1,922.4	5.0	6.7	105.08	-72.2	-325.8	338.4	328.0	10.34	32.728		
2,100.0	2,083.2	2,056.4	2,015.9	5.3	7.2	104.39	-84.4	-349.7	361.4	350.4	11.01	32.810		
2,200.0	2,181.7	2,153.7	2,109.3	5.7	7.7	103.78	-96.6	-373.6	384.4	372.8	11.69	32.886		
2,300.0	2,280.3	2,250.9	2,202.8	6.0	8.2	103.24	-108.8	-397.5	407.6	395.2	12.37	32.957		
2,400.0	2,378.8	2,348.1	2,296.2	6.4	8.7	102.75	-121.0	-421.3	430.7	417.6	13.04	33.023		
2,500.0	2,477.4	2,445.4	2,389.7	6.7	9.2	102.32	-133.2	-445.2	453.8	440.1	13.72	33.084		
2,600.0	2,576.0	2,542.6	2,483.1	7.0	9.7	101.93	-145.4	-469.1	477.0	462.6	14.39	33.142		
2,700.0	2,674.5	2,639.8	2,576.6	7.4	10.2	101.57	-157.6	-493.0	500.2	485.2	15.07	33.195		
2,800.0	2,773.1	2,737.0	2,670.1	7.7	10.8	101.25	-169.8	-516.9	523.4	507.7	15.75	33.245		
2,900.0	2,871.6	2,834.3	2,763.5	8.0	11.3	100.95	-182.0	-540.7	546.7	530.3	16.42	33.292		
3,000.0	2,970.2	2,931.5	2,857.0	8.4	11.8	100.68	-194.3	-564.6	569.9	552.8	17.10	33.336		
3,100.0	3,068.7	3,028.7	2,950.4	8.7	12.3	100.43	-206.5	-588.5	593.2	575.4	17.77	33.378		
3,200.0	3,167.3	3,125.9	3,043.9	9.1	12.8	100.20	-218.7	-612.4	616.4	598.0	18.45	33.417		
3,300.0	3,265.9	3,223.2	3,137.3	9.4	13.3	99.98	-230.9	-636.3	639.7	620.6	19.12	33.454		
3,400.0	3,364.4	3,320.4	3,230.8	9.7	13.8	99.78	-243.1	-660.1	663.0	643.2	19.80	33.489		
3,500.0	3,463.0	3,417.6	3,324.2	10.1	14.3	99.59	-255.3	-684.0	686.3	665.8	20.47	33.522		
3,600.0	3,561.5	3,514.8	3,417.7	10.4	14.8	99.42	-267.5	-707.9	709.6	688.4	21.15	33.553		
3,700.0	3,660.1	3,612.1	3,511.1	10.8	15.3	99.26	-279.7	-731.8	732.9	711.1	21.82	33.583		
3,800.0	3,758.6	3,709.3	3,604.6	11.1	15.8	99.10	-291.9	-755.7	756.2	733.7	22.50	33.611		
3,900.0	3,857.2	3,806.5	3,698.1	11.5	16.3	98.96	-304.1	-779.5	779.5	756.3	23.17	33.637		
4,000.0	3,955.8	3,903.7	3,791.5	11.8	16.9	98.82	-316.3	-803.4	802.8	779.0	23.85	33.663		
4,100.0	4,054.3	4,001.0	3,885.0	12.1	17.4	98.69	-328.5	-827.3	826.2	801.6	24.52	33.687		
4,200.0	4,152.9	4,098.2	3,978.4	12.5	17.9	98.57	-340.7	-851.2	849.5	824.3	25.20	33.710		
4,300.0	4,251.4	4,195.4	4,071.9	12.8	18.4	98.46	-352.9	-875.1	872.8	846.9	25.87	33.732		
4,400.0	4,350.0	4,292.7	4,165.3	13.2	18.9	98.35	-365.2	-898.9	896.1	869.6	26.55	33.754		
4,500.0	4,448.5	4,389.9	4,258.8	13.5	19.4	98.25	-377.4	-922.8	919.5	892.3	27.22	33.774		
4,600.0	4,547.1	4,487.1	4,352.2	13.8	19.9	98.15	-389.6	-946.7	942.8	914.9	27.90	33.793		
4,700.0	4,645.7	4,584.3	4,445.7	14.2	20.4	98.06	-401.8	-970.6	966.2	937.6	28.57	33.812		
4,800.0	4,744.2	4,681.6	4,539.1	14.5	20.9	97.97	-414.0	-994.5	989.5	960.2	29.25	33.830		
4,900.0	4,842.8	4,778.8	4,632.6	14.9	21.4	97.88	-426.2	-1,018.3	1,012.8	982.9	29.92	33.847		
5,000.0	4,941.3	4,876.0	4,726.0	15.2	22.0	97.80	-438.4	-1,042.2	1,036.2	1,005.6	30.60	33.863		
5,100.0	5,039.9	4,973.2	4,819.5	15.6	22.5	97.72	-450.6	-1,066.1	1,059.5	1,028.3	31.27	33.879		

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1													<b>Offset Site Error:</b> 0.0 ft
Survey Program: 0-MWD													<b>Offset Well Error:</b> 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)			
5,200.0	5,138.5	5,070.5	4,913.0	15.9	23.0	97.65	-462.8	-1,090.0	1,082.9	1,050.9	31.95	33.894	
5,300.0	5,237.0	5,167.7	5,006.4	16.2	23.5	97.58	-475.0	-1,113.9	1,106.2	1,073.6	32.62	33.909	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-13D (Oxy I21 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	-34.55	82.0	-56.4	99.5							
100.0	100.0	100.0	100.0	0.1	0.1	-34.55	82.0	-56.4	99.5	99.2	0.30	335.362				
200.0	200.0	200.0	200.0	0.3	0.3	-34.55	82.0	-56.4	99.5	98.9	0.65	154.086				
300.0	300.0	300.0	300.0	0.5	0.5	-34.55	82.0	-56.4	99.5	98.5	0.99	100.020	CC, ES			
400.0	400.0	399.2	399.1	0.7	0.7	-35.25	81.6	-57.7	99.9	98.6	1.34	74.363				
500.0	500.0	498.2	498.1	0.8	0.9	-37.31	80.5	-61.4	101.3	99.6	1.70	59.621				
600.0	600.0	597.0	596.7	1.0	1.1	134.67	78.8	-67.5	104.7	102.6	2.07	50.667				
700.0	699.9	695.4	694.7	1.2	1.3	131.81	76.3	-76.1	111.3	108.8	2.45	45.388				
800.0	799.7	793.4	792.0	1.4	1.5	129.14	73.1	-87.0	121.0	118.2	2.86	42.280				
900.0	899.3	890.8	888.4	1.6	1.8	126.78	69.3	-100.2	133.9	130.6	3.30	40.506				
1,000.0	998.6	987.5	983.8	1.9	2.1	124.78	64.9	-115.7	149.7	146.0	3.79	39.552				
1,100.0	1,097.5	1,083.4	1,077.9	2.1	2.5	123.14	59.8	-133.3	168.6	164.3	4.31	39.097				
1,200.0	1,196.1	1,178.4	1,170.6	2.4	2.8	121.88	54.1	-153.0	190.1	185.2	4.88	38.944				
1,300.0	1,294.7	1,273.7	1,263.2	2.7	3.2	120.56	47.8	-174.9	213.2	207.8	5.48	38.928				
1,400.0	1,393.3	1,370.7	1,357.4	3.0	3.7	119.37	41.3	-197.6	236.8	230.7	6.09	38.866				
1,500.0	1,491.8	1,467.8	1,451.5	3.4	4.1	118.40	34.7	-220.3	260.4	253.7	6.71	38.785				
1,600.0	1,590.4	1,564.9	1,545.7	3.7	4.6	117.59	28.2	-243.0	284.0	276.7	7.34	38.699				
1,700.0	1,688.9	1,662.0	1,639.8	4.0	5.0	116.91	21.6	-265.7	307.8	299.8	7.97	38.612				
1,800.0	1,787.5	1,759.1	1,734.0	4.3	5.4	116.32	15.1	-288.4	331.5	322.9	8.60	38.529				
1,900.0	1,886.1	1,856.2	1,828.2	4.7	5.9	115.81	8.5	-311.2	355.3	346.0	9.24	38.451				
2,000.0	1,984.6	1,953.3	1,922.3	5.0	6.3	115.37	2.0	-333.9	379.1	369.2	9.88	38.379				
2,100.0	2,083.2	2,050.4	2,016.5	5.3	6.8	114.98	-4.6	-356.6	402.9	392.4	10.52	38.312				
2,200.0	2,181.7	2,147.4	2,110.7	5.7	7.2	114.63	-11.1	-379.3	426.7	415.6	11.16	38.250				
2,300.0	2,280.3	2,244.5	2,204.8	6.0	7.7	114.32	-17.7	-402.0	450.6	438.8	11.80	38.192				
2,400.0	2,378.8	2,341.6	2,299.0	6.4	8.1	114.04	-24.2	-424.7	474.4	462.0	12.44	38.140				
2,500.0	2,477.4	2,438.7	2,393.2	6.7	8.6	113.79	-30.8	-447.4	498.3	485.2	13.08	38.091				
2,600.0	2,576.0	2,535.8	2,487.3	7.0	9.0	113.55	-37.3	-470.1	522.2	508.5	13.73	38.046				
2,700.0	2,674.5	2,632.9	2,581.5	7.4	9.5	113.34	-43.9	-492.9	546.1	531.7	14.37	38.004				
2,800.0	2,773.1	2,730.0	2,675.7	7.7	9.9	113.15	-50.4	-515.6	570.0	555.0	15.01	37.965				
2,900.0	2,871.6	2,827.1	2,769.8	8.0	10.4	112.98	-56.9	-538.3	593.9	578.2	15.66	37.929				
3,000.0	2,970.2	2,924.1	2,864.0	8.4	10.9	112.81	-63.5	-561.0	617.8	601.5	16.30	37.895				
3,100.0	3,068.7	3,021.2	2,958.2	8.7	11.3	112.66	-70.0	-583.7	641.7	624.7	16.95	37.863				
3,200.0	3,167.3	3,118.3	3,052.3	9.1	11.8	112.52	-76.6	-606.4	665.6	648.0	17.59	37.834				
3,300.0	3,265.9	3,215.4	3,146.5	9.4	12.2	112.39	-83.1	-629.1	689.5	671.3	18.24	37.806				
3,400.0	3,364.4	3,312.5	3,240.7	9.7	12.7	112.27	-89.7	-651.8	713.4	694.5	18.88	37.781				
3,500.0	3,463.0	3,409.6	3,334.8	10.1	13.1	112.15	-96.2	-674.5	737.3	717.8	19.53	37.756				
3,600.0	3,561.5	3,506.7	3,429.0	10.4	13.6	112.05	-102.8	-697.3	761.2	741.1	20.17	37.733				
3,700.0	3,660.1	3,603.7	3,523.2	10.8	14.0	111.95	-109.3	-720.0	785.2	764.4	20.82	37.712				
3,800.0	3,758.6	3,700.8	3,617.3	11.1	14.5	111.85	-115.9	-742.7	809.1	787.6	21.47	37.691				
3,900.0	3,857.2	3,797.9	3,711.5	11.5	14.9	111.76	-122.4	-765.4	833.0	810.9	22.11	37.672				
4,000.0	3,955.8	3,895.0	3,805.7	11.8	15.4	111.68	-129.0	-788.1	857.0	834.2	22.76	37.653				
4,100.0	4,054.3	3,992.1	3,899.8	12.1	15.9	111.60	-135.5	-810.8	880.9	857.5	23.41	37.636				
4,200.0	4,152.9	4,089.2	3,994.0	12.5	16.3	111.53	-142.1	-833.5	904.8	880.8	24.05	37.620				
4,300.0	4,251.4	4,186.3	4,088.2	12.8	16.8	111.46	-148.6	-856.2	928.8	904.1	24.70	37.604				
4,400.0	4,350.0	4,283.4	4,182.3	13.2	17.2	111.39	-155.2	-879.0	952.7	927.3	25.34	37.589				
4,500.0	4,448.5	4,380.4	4,276.5	13.5	17.7	111.32	-161.7	-901.7	976.6	950.6	25.99	37.575				
4,600.0	4,547.1	4,477.5	4,370.7	13.8	18.1	111.26	-168.2	-924.4	1,000.6	973.9	26.64	37.561				
4,700.0	4,645.7	4,574.6	4,464.8	14.2	18.6	111.20	-174.8	-947.1	1,024.5	997.2	27.29	37.548				
4,800.0	4,744.2	4,671.7	4,559.0	14.5	19.0	111.15	-181.3	-969.8	1,048.4	1,020.5	27.93	37.536				
4,900.0	4,842.8	4,768.8	4,653.2	14.9	19.5	111.09	-187.9	-992.5	1,072.4	1,043.8	28.58	37.524				
5,000.0	4,941.3	4,865.9	4,747.3	15.2	19.9	111.04	-194.4	-1,015.2	1,096.3	1,067.1	29.23	37.512	SF			

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



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-14D (Oxy I21 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	-34.63	94.0	-64.9	114.2					
100.0	100.0	100.0	100.0	0.1	0.1	-34.63	94.0	-64.9	114.2	113.9	0.30	384.909		
200.0	200.0	200.0	200.0	0.3	0.3	-34.63	94.0	-64.9	114.2	113.6	0.65	176.850		
300.0	300.0	300.0	300.0	0.5	0.5	-34.63	94.0	-64.9	114.2	113.2	0.99	114.797 CC, ES		
400.0	400.0	398.5	398.5	0.7	0.7	-35.18	93.9	-66.2	114.9	113.5	1.34	85.566		
500.0	500.0	496.9	496.8	0.8	0.9	-36.78	93.6	-70.0	116.9	115.2	1.69	68.977		
600.0	600.0	595.0	594.7	1.0	1.0	135.85	93.1	-76.2	121.4	119.3	2.06	58.986		
700.0	699.9	692.7	692.0	1.2	1.3	133.73	92.4	-85.0	129.3	126.9	2.43	53.134		
800.0	799.7	789.9	788.5	1.4	1.5	131.78	91.5	-96.2	140.8	137.9	2.83	49.722		
900.0	899.3	886.3	884.0	1.6	1.8	130.10	90.4	-109.7	155.6	152.4	3.25	47.812		
1,000.0	998.6	981.9	978.3	1.9	2.1	128.69	89.1	-125.4	173.8	170.1	3.71	46.836		
1,100.0	1,097.5	1,076.5	1,071.2	2.1	2.4	127.53	87.7	-143.3	195.2	191.0	4.20	46.436		
1,200.0	1,196.1	1,170.0	1,162.5	2.4	2.8	126.69	86.1	-163.2	219.7	214.9	4.74	46.374		
1,300.0	1,294.7	1,265.3	1,255.1	2.7	3.2	125.85	84.3	-185.3	245.6	240.3	5.30	46.384		
1,400.0	1,393.3	1,361.7	1,348.9	3.0	3.6	125.14	82.5	-207.9	271.7	265.8	5.87	46.305		
1,500.0	1,491.8	1,458.2	1,442.7	3.4	4.0	124.55	80.6	-230.4	297.8	291.3	6.45	46.191		
1,600.0	1,590.4	1,554.7	1,536.6	3.7	4.5	124.06	78.8	-252.9	323.9	316.9	7.03	46.062		
1,700.0	1,688.9	1,651.2	1,630.4	4.0	4.9	123.65	77.0	-275.4	350.1	342.5	7.62	45.930		
1,800.0	1,787.5	1,747.7	1,724.2	4.3	5.3	123.29	75.2	-298.0	376.2	368.0	8.21	45.800		
1,900.0	1,886.1	1,844.2	1,818.0	4.7	5.7	122.97	73.4	-320.5	402.4	393.6	8.81	45.675		
2,000.0	1,984.6	1,940.7	1,911.8	5.0	6.2	122.70	71.6	-343.0	428.6	419.2	9.41	45.557		
2,100.0	2,083.2	2,037.2	2,005.6	5.3	6.6	122.45	69.8	-365.6	454.8	444.8	10.01	45.446		
2,200.0	2,181.7	2,133.7	2,099.4	5.7	7.0	122.24	67.9	-388.1	481.0	470.4	10.61	45.343		
2,300.0	2,280.3	2,230.2	2,193.2	6.0	7.5	122.04	66.1	-410.6	507.2	496.0	11.21	45.246		
2,400.0	2,378.8	2,326.6	2,287.0	6.4	7.9	121.87	64.3	-433.1	533.4	521.6	11.81	45.156		
2,500.0	2,477.4	2,423.1	2,380.8	6.7	8.3	121.71	62.5	-455.7	559.6	547.2	12.42	45.072		
2,600.0	2,576.0	2,519.6	2,474.6	7.0	8.8	121.57	60.7	-478.2	585.9	572.8	13.02	44.993		
2,700.0	2,674.5	2,616.1	2,568.4	7.4	9.2	121.43	58.9	-500.7	612.1	598.5	13.63	44.920		
2,800.0	2,773.1	2,712.6	2,662.2	7.7	9.6	121.31	57.1	-523.2	638.3	624.1	14.23	44.851		
2,900.0	2,871.6	2,809.1	2,756.0	8.0	10.1	121.20	55.2	-545.8	664.6	649.7	14.84	44.787		
3,000.0	2,970.2	2,905.6	2,849.8	8.4	10.5	121.10	53.4	-568.3	690.8	675.3	15.44	44.727		
3,100.0	3,068.7	3,002.1	2,943.6	8.7	11.0	121.00	51.6	-590.8	717.0	701.0	16.05	44.670		
3,200.0	3,167.3	3,098.6	3,037.5	9.1	11.4	120.91	49.8	-613.4	743.3	726.6	16.66	44.617		
3,300.0	3,265.9	3,195.1	3,131.3	9.4	11.8	120.83	48.0	-635.9	769.5	752.2	17.27	44.567		
3,400.0	3,364.4	3,291.6	3,225.1	9.7	12.3	120.75	46.2	-658.4	795.7	777.9	17.87	44.519		
3,500.0	3,463.0	3,388.0	3,318.9	10.1	12.7	120.68	44.4	-680.9	822.0	803.5	18.48	44.475		
3,600.0	3,561.5	3,484.5	3,412.7	10.4	13.1	120.61	42.5	-703.5	848.2	829.1	19.09	44.433		
3,700.0	3,660.1	3,581.0	3,506.5	10.8	13.6	120.55	40.7	-726.0	874.5	854.8	19.70	44.393		
3,800.0	3,758.6	3,677.5	3,600.3	11.1	14.0	120.49	38.9	-748.5	900.7	880.4	20.31	44.355		
3,900.0	3,857.2	3,774.0	3,694.1	11.5	14.5	120.43	37.1	-771.0	926.9	906.0	20.92	44.319		
4,000.0	3,955.8	3,870.5	3,787.9	11.8	14.9	120.38	35.3	-793.6	953.2	931.7	21.52	44.285		
4,100.0	4,054.3	3,967.0	3,881.7	12.1	15.3	120.33	33.5	-816.1	979.4	957.3	22.13	44.252		
4,200.0	4,152.9	4,063.5	3,975.5	12.5	15.8	120.28	31.7	-838.6	1,005.7	982.9	22.74	44.221		
4,300.0	4,251.4	4,160.0	4,069.3	12.8	16.2	120.23	29.8	-861.2	1,031.9	1,008.6	23.35	44.191		
4,400.0	4,350.0	4,256.5	4,163.1	13.2	16.6	120.19	28.0	-883.7	1,058.2	1,034.2	23.96	44.163		
4,500.0	4,448.5	4,353.0	4,256.9	13.5	17.1	120.15	26.2	-906.2	1,084.4	1,059.9	24.57	44.136		
4,600.0	4,547.1	4,449.4	4,350.7	13.8	17.5	120.11	24.4	-928.7	1,110.7	1,085.5	25.18	44.111 SF		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-15D (Oxy I21 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	-34.21	107.1	-72.8	129.5					
100.0	100.0	100.0	100.0	0.1	0.1	-34.21	107.1	-72.8	129.5	129.2	0.30	436.417		
200.0	200.0	200.0	200.0	0.3	0.3	-34.21	107.1	-72.8	129.5	128.8	0.65	200.516		
300.0	300.0	300.0	300.0	0.5	0.5	-34.21	107.1	-72.8	129.5	128.5	0.99	130.160 CC, ES		
400.0	400.0	397.7	397.7	0.7	0.7	-34.61	107.3	-74.0	130.4	129.0	1.34	97.237		
500.0	500.0	495.3	495.3	0.8	0.8	-35.79	107.8	-77.7	133.0	131.3	1.69	78.733		
600.0	600.0	592.7	592.4	1.0	1.0	137.46	108.7	-83.9	138.5	136.5	2.05	67.688		
700.0	699.9	689.5	688.9	1.2	1.3	136.02	110.0	-92.4	147.8	145.4	2.41	61.280		
800.0	799.7	785.7	784.4	1.4	1.5	134.76	111.6	-103.3	160.9	158.1	2.79	57.611		
900.0	899.3	881.1	878.9	1.6	1.8	133.71	113.6	-116.4	177.8	174.6	3.20	55.640		
1,000.0	998.6	975.4	971.9	1.9	2.1	132.87	115.9	-131.7	198.3	194.6	3.62	54.741		
1,100.0	1,097.5	1,068.5	1,063.4	2.1	2.4	132.20	118.4	-149.0	222.3	218.3	4.08	54.517		
1,200.0	1,196.1	1,160.4	1,153.1	2.4	2.8	131.77	121.3	-168.2	249.7	245.1	4.57	54.688		
1,300.0	1,294.7	1,253.0	1,243.2	2.7	3.2	131.32	124.5	-189.6	278.9	273.8	5.08	54.946		
1,400.0	1,393.3	1,348.5	1,335.9	3.0	3.6	130.89	127.8	-212.1	308.5	302.9	5.61	55.037		
1,500.0	1,491.8	1,444.0	1,428.7	3.4	4.0	130.53	131.2	-234.5	338.1	332.0	6.14	55.050		
1,600.0	1,590.4	1,539.5	1,521.4	3.7	4.4	130.23	134.5	-257.0	367.7	361.0	6.68	55.018		
1,700.0	1,688.9	1,635.0	1,614.2	4.0	4.8	129.98	137.9	-279.5	397.3	390.1	7.23	54.959		
1,800.0	1,787.5	1,730.5	1,707.0	4.3	5.3	129.76	141.2	-301.9	427.0	419.2	7.78	54.885		
1,900.0	1,886.1	1,826.0	1,799.7	4.7	5.7	129.57	144.6	-324.4	456.6	448.3	8.33	54.804		
2,000.0	1,984.6	1,921.5	1,892.5	5.0	6.1	129.40	147.9	-346.9	486.2	477.3	8.89	54.721		
2,100.0	2,083.2	2,017.0	1,985.2	5.3	6.6	129.25	151.2	-369.3	515.9	506.4	9.44	54.637		
2,200.0	2,181.7	2,112.5	2,078.0	5.7	7.0	129.12	154.6	-391.8	545.5	535.5	10.00	54.555		
2,300.0	2,280.3	2,208.0	2,170.8	6.0	7.4	129.00	157.9	-414.3	575.1	564.6	10.56	54.475		
2,400.0	2,378.8	2,303.5	2,263.5	6.4	7.9	128.89	161.3	-436.7	604.8	593.7	11.12	54.399		
2,500.0	2,477.4	2,399.0	2,356.3	6.7	8.3	128.80	164.6	-459.2	634.4	622.7	11.68	54.326		
2,600.0	2,576.0	2,494.5	2,449.0	7.0	8.7	128.71	168.0	-481.7	664.1	651.8	12.24	54.256		
2,700.0	2,674.5	2,590.0	2,541.8	7.4	9.2	128.63	171.3	-504.1	693.7	680.9	12.80	54.190		
2,800.0	2,773.1	2,685.5	2,634.6	7.7	9.6	128.55	174.7	-526.6	723.4	710.0	13.36	54.127		
2,900.0	2,871.6	2,781.0	2,727.3	8.0	10.0	128.48	178.0	-549.1	753.0	739.1	13.93	54.067		
3,000.0	2,970.2	2,876.5	2,820.1	8.4	10.5	128.42	181.3	-571.5	782.7	768.2	14.49	54.010		
3,100.0	3,068.7	2,972.0	2,912.8	8.7	10.9	128.36	184.7	-594.0	812.3	797.3	15.06	53.957		
3,200.0	3,167.3	3,067.5	3,005.6	9.1	11.4	128.31	188.0	-616.5	842.0	826.4	15.62	53.906		
3,300.0	3,265.9	3,163.0	3,098.3	9.4	11.8	128.26	191.4	-638.9	871.6	855.4	16.18	53.857		
3,400.0	3,364.4	3,258.5	3,191.1	9.7	12.2	128.21	194.7	-661.4	901.3	884.5	16.75	53.811		
3,500.0	3,463.0	3,354.0	3,283.9	10.1	12.7	128.17	198.1	-683.9	930.9	913.6	17.31	53.767		
3,600.0	3,561.5	3,449.5	3,376.6	10.4	13.1	128.12	201.4	-706.3	960.6	942.7	17.88	53.725		
3,700.0	3,660.1	3,545.0	3,469.4	10.8	13.6	128.09	204.8	-728.8	990.2	971.8	18.45	53.686		
3,800.0	3,758.6	3,640.5	3,562.1	11.1	14.0	128.05	208.1	-751.3	1,019.9	1,000.9	19.01	53.648		
3,900.0	3,857.2	3,736.0	3,654.9	11.5	14.4	128.01	211.5	-773.7	1,049.6	1,030.0	19.58	53.611		
4,000.0	3,955.8	3,831.5	3,747.7	11.8	14.9	127.98	214.8	-796.2	1,079.2	1,059.1	20.14	53.577		
4,100.0	4,054.3	3,927.0	3,840.4	12.1	15.3	127.95	218.1	-818.7	1,108.9	1,088.2	20.71	53.544 SF		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-16D (Oxy I21 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	-30.37	124.2	-72.8	144.0					
100.0	100.0	100.0	100.0	0.1	0.1	-30.37	124.2	-72.8	144.0	143.7	0.30	485.219		
200.0	200.0	200.0	200.0	0.3	0.3	-30.37	124.2	-72.8	144.0	143.3	0.65	222.939		
300.0	300.0	300.0	300.0	0.5	0.5	-30.37	124.2	-72.8	144.0	143.0	0.99	144.715 CC, ES		
400.0	400.0	397.1	397.1	0.7	0.7	-30.68	124.6	-74.0	145.0	143.6	1.34	108.228		
500.0	500.0	494.1	494.1	0.8	0.8	-31.58	125.9	-77.4	148.0	146.3	1.69	87.760		
600.0	600.0	590.9	590.6	1.0	1.0	142.05	128.1	-83.2	154.0	152.0	2.04	75.573		
700.0	699.9	687.1	686.4	1.2	1.3	140.98	131.1	-91.1	164.3	161.9	2.40	68.530		
800.0	799.7	782.5	781.2	1.4	1.5	140.07	134.9	-101.3	178.6	175.8	2.77	64.551		
900.0	899.3	877.0	874.8	1.6	1.8	139.32	139.5	-113.5	196.9	193.7	3.15	62.498		
1,000.0	998.6	970.2	966.8	1.9	2.0	138.72	144.8	-127.7	219.2	215.6	3.55	61.687		
1,100.0	1,097.5	1,062.1	1,057.1	2.1	2.4	138.25	150.9	-143.7	245.3	241.3	3.98	61.678 SF		
1,200.0	1,196.1	1,152.5	1,145.4	2.4	2.7	137.99	157.5	-161.5	275.0	270.6	4.43	62.134		
1,300.0	1,294.7	1,241.6	1,232.1	2.7	3.1	137.71	164.8	-180.9	306.8	301.9	4.89	62.730		
1,400.0	1,393.3	1,335.8	1,323.4	3.0	3.5	137.35	173.0	-202.5	339.6	334.2	5.38	63.118		
1,500.0	1,491.8	1,430.3	1,415.0	3.4	3.9	137.06	181.1	-224.2	372.3	366.5	5.88	63.374		
1,600.0	1,590.4	1,524.7	1,506.6	3.7	4.4	136.81	189.2	-245.8	405.2	398.8	6.38	63.540		
1,700.0	1,688.9	1,619.2	1,598.2	4.0	4.8	136.60	197.4	-267.5	438.0	431.1	6.88	63.647		
1,800.0	1,787.5	1,713.6	1,689.7	4.3	5.2	136.42	205.5	-289.1	470.8	463.4	7.39	63.712		
1,900.0	1,886.1	1,808.1	1,781.3	4.7	5.7	136.26	213.7	-310.8	503.6	495.7	7.90	63.749		
2,000.0	1,984.6	1,902.5	1,872.9	5.0	6.1	136.13	221.8	-332.5	536.4	528.0	8.41	63.767		
2,100.0	2,083.2	1,997.0	1,964.5	5.3	6.6	136.01	229.9	-354.1	569.2	560.3	8.93	63.770		
2,200.0	2,181.7	2,091.5	2,056.0	5.7	7.0	135.90	238.1	-375.8	602.1	592.6	9.44	63.764		
2,300.0	2,280.3	2,185.9	2,147.6	6.0	7.4	135.80	246.2	-397.4	634.9	624.9	9.96	63.751		
2,400.0	2,378.8	2,280.4	2,239.2	6.4	7.9	135.71	254.4	-419.1	667.7	657.2	10.48	63.734		
2,500.0	2,477.4	2,374.8	2,330.8	6.7	8.3	135.63	262.5	-440.8	700.5	689.6	11.00	63.713		
2,600.0	2,576.0	2,469.3	2,422.3	7.0	8.8	135.56	270.6	-462.4	733.4	721.9	11.51	63.690		
2,700.0	2,674.5	2,563.7	2,513.9	7.4	9.2	135.49	278.8	-484.1	766.2	754.2	12.03	63.666		
2,800.0	2,773.1	2,658.2	2,605.5	7.7	9.6	135.43	286.9	-505.7	799.0	786.5	12.56	63.641		
2,900.0	2,871.6	2,752.6	2,697.1	8.0	10.1	135.38	295.1	-527.4	831.9	818.8	13.08	63.616		
3,000.0	2,970.2	2,847.1	2,788.6	8.4	10.5	135.33	303.2	-549.1	864.7	851.1	13.60	63.590		
3,100.0	3,068.7	2,941.5	2,880.2	8.7	11.0	135.28	311.3	-570.7	897.5	883.4	14.12	63.565		
3,200.0	3,167.3	3,036.0	2,971.8	9.1	11.4	135.23	319.5	-592.4	930.4	915.7	14.64	63.540		
3,300.0	3,265.9	3,130.4	3,063.4	9.4	11.9	135.19	327.6	-614.0	963.2	948.0	15.16	63.516		
3,400.0	3,364.4	3,224.9	3,154.9	9.7	12.3	135.15	335.8	-635.7	996.0	980.4	15.69	63.492		
3,500.0	3,463.0	3,319.3	3,246.5	10.1	12.7	135.12	343.9	-657.4	1,028.9	1,012.7	16.21	63.469		
3,600.0	3,561.5	3,413.8	3,338.1	10.4	13.2	135.08	352.1	-679.0	1,061.7	1,045.0	16.73	63.446		
3,700.0	3,660.1	3,508.3	3,429.7	10.8	13.6	135.05	360.2	-700.7	1,094.6	1,077.3	17.26	63.424		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-17D (Oxy I21 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	-34.12	119.1	-80.7	143.9					
100.0	100.0	100.0	100.0	0.1	0.1	-34.12	119.1	-80.7	143.9	143.6	0.30	484.890		
200.0	200.0	200.0	200.0	0.3	0.3	-34.12	119.1	-80.7	143.9	143.2	0.65	222.788 CC, ES		
300.0	300.0	297.1	297.1	0.5	0.5	-34.41	119.5	-81.9	144.9	143.9	0.99	146.304		
400.0	400.0	394.0	393.9	0.7	0.7	-35.27	120.7	-85.4	147.9	146.6	1.34	110.659		
500.0	500.0	490.7	490.4	0.8	0.9	-36.62	122.7	-91.2	153.1	151.4	1.69	90.775		
600.0	600.0	587.0	586.3	1.0	1.1	136.66	125.4	-99.2	161.4	159.4	2.05	78.854		
700.0	699.9	682.6	681.3	1.2	1.3	135.41	128.9	-109.5	173.8	171.4	2.41	72.068		
800.0	799.7	777.4	775.2	1.4	1.6	134.44	133.1	-122.0	190.2	187.4	2.79	68.220		
900.0	899.3	871.1	867.6	1.6	1.9	133.72	138.0	-136.4	210.5	207.3	3.18	66.187		
1,000.0	998.6	963.5	958.4	1.9	2.2	133.22	143.5	-152.7	234.6	231.0	3.59	65.299		
1,100.0	1,097.5	1,054.4	1,047.3	2.1	2.6	132.87	149.6	-170.8	262.4	258.4	4.03	65.138 SF		
1,200.0	1,196.1	1,143.8	1,134.2	2.4	3.0	132.77	156.3	-190.6	293.7	289.2	4.49	65.394		
1,300.0	1,294.7	1,231.9	1,219.4	2.7	3.4	132.68	163.5	-211.9	327.0	322.1	4.97	65.764		
1,400.0	1,393.3	1,318.7	1,302.8	3.0	3.9	132.43	171.3	-234.8	362.3	356.8	5.47	66.269		
1,500.0	1,491.8	1,404.2	1,384.3	3.4	4.4	132.08	179.5	-259.0	399.3	393.4	5.97	66.894		
1,600.0	1,590.4	1,488.3	1,464.0	3.7	4.9	131.66	188.1	-284.5	438.2	431.7	6.48	67.600		
1,700.0	1,688.9	1,570.9	1,541.6	4.0	5.4	131.19	197.1	-311.2	478.8	471.8	7.00	68.391		
1,800.0	1,787.5	1,652.0	1,617.3	4.3	6.0	130.70	206.5	-339.0	521.2	513.6	7.52	69.266		
1,900.0	1,886.1	1,731.7	1,691.0	4.7	6.5	130.19	216.3	-367.7	565.2	557.2	8.05	70.218		
2,000.0	1,984.6	1,809.8	1,762.6	5.0	7.1	129.68	226.3	-397.3	611.0	602.4	8.58	71.238		
2,100.0	2,083.2	1,886.3	1,832.1	5.3	7.8	129.17	236.5	-427.6	658.4	649.3	9.11	72.299		
2,200.0	2,181.7	1,961.3	1,899.6	5.7	8.4	128.66	247.0	-458.6	707.4	697.7	9.64	73.401		
2,300.0	2,280.3	2,034.7	1,965.0	6.0	9.0	128.17	257.7	-490.1	757.9	747.8	10.17	74.555		
2,400.0	2,378.8	2,100.0	2,022.6	6.4	9.6	127.73	267.5	-519.1	810.0	799.4	10.67	75.919		
2,500.0	2,477.4	2,176.8	2,089.7	6.7	10.3	127.23	279.5	-554.5	863.5	852.3	11.22	76.970		
2,600.0	2,576.0	2,245.4	2,149.1	7.0	11.0	126.78	290.5	-587.2	918.5	906.8	11.74	78.216		
2,700.0	2,674.5	2,312.5	2,206.5	7.4	11.7	126.34	301.7	-620.1	974.9	962.7	12.26	79.503		
2,800.0	2,773.1	2,380.1	2,263.7	7.7	12.4	125.92	313.2	-654.2	1,032.6	1,019.9	12.79	80.769		
2,900.0	2,871.6	2,461.1	2,331.9	8.0	13.3	125.44	327.2	-695.4	1,090.9	1,077.6	13.35	81.711		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-1D (Oxy I21 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	157.74	-19.3	7.9	20.9					
100.0	100.0	100.0	100.0	0.1	0.1	157.74	-19.3	7.9	20.9	20.6	0.30	70.288		
200.0	200.0	200.0	200.0	0.3	0.3	157.74	-19.3	7.9	20.9	20.2	0.65	32.294		
300.0	300.0	300.0	300.0	0.5	0.5	157.74	-19.3	7.9	20.9	19.9	0.99	20.963 CC, ES		
400.0	400.0	399.5	399.5	0.7	0.7	159.21	-20.6	7.8	22.0	20.7	1.34	16.402		
500.0	500.0	498.8	498.8	0.8	0.9	162.79	-24.5	7.6	25.6	23.9	1.69	15.146		
600.0	600.0	598.0	597.7	1.0	1.1	-19.02	-30.9	7.2	30.6	28.5	2.04	14.970		
700.0	699.9	697.1	696.3	1.2	1.3	-16.70	-39.9	6.6	35.6	33.2	2.39	14.871		
800.0	799.7	796.0	794.6	1.4	1.5	-15.07	-51.4	5.9	40.6	37.9	2.74	14.807		
900.0	899.3	894.8	892.4	1.6	1.8	-13.89	-65.4	5.0	45.6	42.6	3.09	14.758		
1,000.0	998.6	993.4	989.6	1.9	2.1	-13.03	-81.9	4.0	50.7	47.2	3.44	14.715		
1,100.0	1,097.5	1,091.9	1,086.3	2.1	2.5	-12.41	-100.9	2.8	55.7	51.9	3.80	14.671 SF		
1,200.0	1,196.1	1,190.3	1,182.3	2.4	2.9	-11.91	-122.4	1.5	61.1	56.9	4.16	14.693		
1,300.0	1,294.7	1,288.4	1,277.4	2.7	3.3	-11.19	-146.2	0.0	68.6	64.1	4.51	15.201		
1,400.0	1,393.3	1,386.0	1,371.4	3.0	3.8	-10.33	-172.4	-1.6	78.7	73.8	4.87	16.168		
1,500.0	1,491.8	1,484.7	1,466.0	3.4	4.3	-9.49	-200.6	-3.3	90.6	85.4	5.22	17.362		
1,600.0	1,590.4	1,584.0	1,561.1	3.7	4.8	-8.83	-229.0	-5.1	102.7	97.1	5.57	18.421		
1,700.0	1,688.9	1,683.3	1,656.2	4.0	5.3	-8.31	-257.4	-6.9	114.7	108.8	5.93	19.358		
1,800.0	1,787.5	1,782.5	1,751.3	4.3	5.8	-7.89	-285.9	-8.6	126.8	120.5	6.28	20.190		
1,900.0	1,886.1	1,881.8	1,846.4	4.7	6.3	-7.55	-314.3	-10.4	138.9	132.2	6.63	20.936		
2,000.0	1,984.6	1,981.1	1,941.5	5.0	6.8	-7.25	-342.7	-12.2	150.9	144.0	6.99	21.608		
2,100.0	2,083.2	2,080.3	2,036.6	5.3	7.3	-7.01	-371.2	-13.9	163.0	155.7	7.34	22.215		
2,200.0	2,181.7	2,179.6	2,131.7	5.7	7.9	-6.79	-399.6	-15.7	175.1	167.4	7.69	22.768		
2,300.0	2,280.3	2,278.9	2,226.8	6.0	8.4	-6.61	-428.0	-17.5	187.2	179.1	8.04	23.273		
2,400.0	2,378.8	2,378.1	2,321.9	6.4	8.9	-6.44	-456.5	-19.2	199.3	190.9	8.39	23.735		
2,500.0	2,477.4	2,477.4	2,416.9	6.7	9.4	-6.30	-484.9	-21.0	211.3	202.6	8.75	24.161		
2,600.0	2,576.0	2,576.7	2,512.0	7.0	9.9	-6.17	-513.3	-22.8	223.4	214.3	9.10	24.554		
2,700.0	2,674.5	2,675.9	2,607.1	7.4	10.5	-6.05	-541.8	-24.5	235.5	226.0	9.45	24.918		
2,800.0	2,773.1	2,775.2	2,702.2	7.7	11.0	-5.95	-570.2	-26.3	247.6	237.8	9.80	25.256		
2,900.0	2,871.6	2,874.5	2,797.3	8.0	11.5	-5.85	-598.7	-28.0	259.7	249.5	10.15	25.571		
3,000.0	2,970.2	2,973.7	2,892.4	8.4	12.0	-5.77	-627.1	-29.8	271.8	261.2	10.51	25.865		
3,100.0	3,068.7	3,073.0	2,987.5	8.7	12.6	-5.69	-655.5	-31.6	283.8	273.0	10.86	26.140		
3,200.0	3,167.3	3,172.3	3,082.6	9.1	13.1	-5.61	-684.0	-33.3	295.9	284.7	11.21	26.397		
3,300.0	3,265.9	3,271.5	3,177.7	9.4	13.6	-5.55	-712.4	-35.1	308.0	296.5	11.56	26.639		
3,400.0	3,364.4	3,370.8	3,272.8	9.7	14.1	-5.49	-740.8	-36.9	320.1	308.2	11.91	26.867		
3,500.0	3,463.0	3,470.1	3,367.8	10.1	14.7	-5.43	-769.3	-38.6	332.2	319.9	12.27	27.082		
3,600.0	3,561.5	3,569.3	3,462.9	10.4	15.2	-5.37	-797.7	-40.4	344.3	331.7	12.62	27.285		
3,700.0	3,660.1	3,668.6	3,558.0	10.8	15.7	-5.32	-826.1	-42.2	356.4	343.4	12.97	27.477		
3,800.0	3,758.6	3,767.9	3,653.1	11.1	16.2	-5.28	-854.6	-43.9	368.5	355.1	13.32	27.659		
3,900.0	3,857.2	3,867.1	3,748.2	11.5	16.8	-5.23	-883.0	-45.7	380.5	366.9	13.67	27.832		
4,000.0	3,955.8	3,966.4	3,843.3	11.8	17.3	-5.19	-911.4	-47.5	392.6	378.6	14.03	27.996		
4,100.0	4,054.3	4,065.7	3,938.4	12.1	17.8	-5.16	-939.9	-49.2	404.7	390.4	14.38	28.151		
4,200.0	4,152.9	4,164.9	4,033.5	12.5	18.3	-5.12	-968.3	-51.0	416.8	402.1	14.73	28.300		
4,300.0	4,251.4	4,264.2	4,128.6	12.8	18.9	-5.09	-996.8	-52.7	428.9	413.8	15.08	28.442		
4,400.0	4,350.0	4,363.5	4,223.6	13.2	19.4	-5.05	-1,025.2	-54.5	441.0	425.6	15.43	28.577		
4,500.0	4,448.5	4,462.7	4,318.7	13.5	19.9	-5.02	-1,053.6	-56.3	453.1	437.3	15.78	28.706		
4,600.0	4,547.1	4,562.0	4,413.8	13.8	20.4	-4.99	-1,082.1	-58.0	465.2	449.0	16.14	28.830		
4,700.0	4,645.7	4,661.3	4,508.9	14.2	21.0	-4.97	-1,110.5	-59.8	477.3	460.8	16.49	28.948		
4,800.0	4,744.2	4,760.5	4,604.0	14.5	21.5	-4.94	-1,138.9	-61.6	489.4	472.5	16.84	29.061		
4,900.0	4,842.8	4,859.8	4,699.1	14.9	22.0	-4.91	-1,167.4	-63.3	501.5	484.3	17.19	29.170		
5,000.0	4,941.3	4,959.1	4,794.2	15.2	22.5	-4.89	-1,195.8	-65.1	513.5	496.0	17.54	29.275		
5,100.0	5,039.9	5,058.3	4,889.3	15.6	23.1	-4.87	-1,224.2	-66.9	525.6	507.7	17.89	29.375		

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-1D (Oxy I21 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)				
5,200.0	5,138.5	5,157.6	4,984.4	15.9	23.6	-4.85	-1,252.7	-68.6	537.7	519.5	18.25	29.471		
5,300.0	5,237.0	5,256.9	5,079.5	16.2	24.1	-4.83	-1,281.1	-70.4	549.8	531.2	18.60	29.564		
5,400.0	5,335.6	5,356.1	5,174.5	16.6	24.6	-4.81	-1,309.5	-72.2	561.9	543.0	18.95	29.654		
5,500.0	5,434.1	5,455.4	5,269.6	16.9	25.2	-4.79	-1,338.0	-73.9	574.0	554.7	19.30	29.740		
5,600.0	5,532.7	5,554.7	5,364.7	17.3	25.7	-4.77	-1,366.4	-75.7	586.1	566.4	19.65	29.823		
5,700.0	5,631.2	5,653.9	5,459.8	17.6	26.2	-4.75	-1,394.9	-77.4	598.2	578.2	20.00	29.903		
5,800.0	5,729.8	5,753.2	5,554.9	17.9	26.7	-4.74	-1,423.3	-79.2	610.3	589.9	20.36	29.980		
5,900.0	5,828.4	5,852.5	5,650.0	18.3	27.3	-4.72	-1,451.7	-81.0	622.4	601.7	20.71	30.055		
6,000.0	5,926.9	5,953.3	5,746.6	18.6	27.8	-4.70	-1,480.6	-82.8	634.4	613.4	21.06	30.123		
6,100.0	6,025.5	6,072.7	5,861.6	19.0	28.4	-4.70	-1,512.7	-84.8	644.7	623.3	21.45	30.059		
6,200.0	6,124.0	6,192.8	5,978.2	19.3	28.9	-4.71	-1,541.4	-86.5	651.9	630.1	21.84	29.851		
6,300.0	6,222.6	6,313.3	6,096.0	19.7	29.4	-4.74	-1,566.5	-88.1	656.0	633.8	22.23	29.513		
6,400.0	6,321.4	6,434.0	6,214.8	20.0	29.8	-4.77	-1,587.9	-89.4	658.7	636.1	22.60	29.146		
6,500.0	6,420.7	6,554.8	6,334.3	20.2	30.1	-4.80	-1,605.6	-90.5	660.9	638.0	22.96	28.783		
6,600.0	6,520.2	6,675.7	6,454.4	20.4	30.4	-4.82	-1,619.5	-91.4	662.5	639.2	23.31	28.421		
6,700.0	6,619.9	6,796.7	6,575.0	20.6	30.6	-4.84	-1,629.6	-92.0	663.6	640.0	23.65	28.060		
6,800.0	6,719.8	6,917.7	6,695.8	20.8	30.8	-4.85	-1,635.9	-92.4	664.1	640.2	23.98	27.699		
6,900.0	6,819.8	7,038.7	6,816.8	20.9	30.9	-4.85	-1,638.3	-92.6	664.1	639.8	24.29	27.338		
6,972.9	6,892.6	7,114.6	6,892.6	21.0	30.9	-4.86	-1,638.3	-92.6	663.8	639.2	24.54	27.054		
7,000.0	6,919.8	7,141.7	6,919.8	21.0	30.9	-179.66	-1,638.3	-92.6	664.0	639.4	24.62	26.966		
7,100.0	7,019.8	7,241.7	7,019.8	21.1	31.0	-179.66	-1,638.3	-92.6	664.0	639.1	24.97	26.589		
7,200.0	7,119.8	7,341.7	7,119.8	21.2	31.1	-179.66	-1,638.3	-92.6	664.0	638.7	25.32	26.223		
7,300.0	7,219.8	7,441.7	7,219.8	21.3	31.1	-179.66	-1,638.3	-92.6	664.0	638.4	25.67	25.866		
7,400.0	7,319.8	7,541.7	7,319.8	21.4	31.2	-179.66	-1,638.3	-92.6	664.0	638.0	26.02	25.519		
7,500.0	7,419.8	7,641.7	7,419.8	21.5	31.3	-179.66	-1,638.3	-92.6	664.0	637.7	26.37	25.181		
7,600.0	7,519.8	7,741.7	7,519.8	21.6	31.4	-179.66	-1,638.3	-92.6	664.0	637.3	26.72	24.852		
7,700.0	7,619.8	7,841.7	7,619.8	21.7	31.4	-179.66	-1,638.3	-92.6	664.0	637.0	27.07	24.532		
7,800.0	7,719.8	7,941.7	7,719.8	21.8	31.5	-179.66	-1,638.3	-92.6	664.0	636.6	27.42	24.219		
7,900.0	7,819.8	8,041.7	7,819.8	21.9	31.6	-179.66	-1,638.3	-92.6	664.0	636.3	27.77	23.915		
8,000.0	7,919.8	8,141.7	7,919.8	22.0	31.7	-179.66	-1,638.3	-92.6	664.0	635.9	28.12	23.618		
8,100.0	8,019.8	8,241.7	8,019.8	22.2	31.8	-179.66	-1,638.3	-92.6	664.0	635.6	28.46	23.328		
8,200.0	8,119.8	8,341.7	8,119.8	22.3	31.8	-179.66	-1,638.3	-92.6	664.0	635.2	28.81	23.046		
8,300.0	8,219.8	8,441.7	8,219.8	22.4	31.9	-179.66	-1,638.3	-92.6	664.0	634.9	29.16	22.770		
8,400.0	8,319.8	8,541.7	8,319.8	22.5	32.0	-179.66	-1,638.3	-92.6	664.0	634.5	29.51	22.500		
8,500.0	8,419.8	8,641.7	8,419.8	22.6	32.1	-179.66	-1,638.3	-92.6	664.0	634.2	29.86	22.237		
8,600.0	8,519.8	8,741.7	8,519.8	22.7	32.2	-179.66	-1,638.3	-92.6	664.0	633.8	30.21	21.980		
8,700.0	8,619.8	8,841.7	8,619.8	22.8	32.2	-179.66	-1,638.3	-92.6	664.0	633.5	30.56	21.729		
8,746.7	8,666.4	8,888.4	8,666.4	22.9	32.3	-179.66	-1,638.3	-92.6	664.0	633.3	30.72	21.614		
8,779.2	8,699.0	8,906.0	8,684.0	22.9	32.3	-179.66	-1,638.3	-92.6	664.2	633.4	30.81	21.558		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-2D (Oxy I21 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	-28.40	73.6	-39.8	83.6					
100.0	100.0	100.0	100.0	0.1	0.1	-28.40	73.6	-39.8	83.6	83.3	0.30	281.909		
200.0	200.0	200.0	200.0	0.3	0.3	-28.40	73.6	-39.8	83.6	83.0	0.65	129.526		
300.0	300.0	302.0	302.0	0.5	0.5	-28.82	72.2	-39.7	82.5	81.5	1.00	82.538		
400.0	400.0	403.8	403.7	0.7	0.7	-30.16	68.1	-39.6	78.9	77.5	1.36	58.224		
500.0	500.0	505.3	505.0	0.8	0.9	-32.67	61.4	-39.4	73.1	71.4	1.72	42.536		
600.0	600.0	606.6	605.8	1.0	1.1	138.73	52.0	-39.0	66.2	64.1	2.09	31.730		
700.0	699.9	707.6	706.1	1.2	1.4	134.78	39.9	-38.6	59.4	56.9	2.48	23.921		
800.0	799.7	808.4	805.8	1.4	1.7	130.06	25.3	-38.1	52.7	49.8	2.92	18.031		
900.0	899.3	909.0	904.9	1.6	2.0	124.25	8.0	-37.5	46.2	42.8	3.43	13.457		
1,000.0	998.6	1,009.3	1,003.3	1.9	2.4	116.87	-11.8	-36.9	40.0	36.0	4.05	9.889		
1,100.0	1,097.5	1,109.4	1,100.8	2.1	2.8	107.29	-34.1	-36.1	34.5	29.7	4.79	7.190		
1,200.0	1,196.1	1,209.1	1,197.9	2.4	3.2	97.21	-57.1	-35.3	30.2	24.6	5.60	5.405		
1,300.0	1,294.7	1,308.9	1,294.9	2.7	3.7	85.05	-80.2	-34.5	27.2	20.8	6.38	4.264		
1,400.0	1,393.3	1,408.7	1,392.0	3.0	4.1	70.69	-103.2	-33.7	25.7	18.7	7.01	3.665		
1,438.2	1,430.9	1,446.8	1,429.0	3.2	4.3	64.90	-112.1	-33.4	25.5	18.4	7.17	3.564 CC, ES		
1,500.0	1,491.8	1,508.4	1,489.1	3.4	4.5	55.58	-126.3	-32.9	25.9	18.6	7.32	3.536 SF		
1,600.0	1,590.4	1,608.2	1,586.1	3.7	4.9	41.65	-149.4	-32.1	27.8	20.5	7.35	3.784		
1,700.0	1,688.9	1,708.0	1,683.2	4.0	5.4	30.10	-172.4	-31.3	31.1	23.9	7.26	4.290		
1,800.0	1,787.5	1,807.7	1,780.3	4.3	5.8	21.06	-195.5	-30.6	35.5	28.3	7.19	4.931		
1,900.0	1,886.1	1,907.5	1,877.3	4.7	6.2	14.11	-218.6	-29.8	40.5	33.3	7.21	5.613		
2,000.0	1,984.6	2,007.3	1,974.4	5.0	6.7	8.74	-241.6	-29.0	45.9	38.6	7.32	6.273		
2,100.0	2,083.2	2,107.1	2,071.4	5.3	7.1	4.55	-264.7	-28.2	51.7	44.2	7.52	6.883		
2,200.0	2,181.7	2,206.8	2,168.5	5.7	7.6	1.21	-287.8	-27.4	57.7	50.0	7.77	7.435		
2,300.0	2,280.3	2,306.6	2,265.6	6.0	8.0	-1.49	-310.8	-26.6	63.9	55.8	8.06	7.928		
2,400.0	2,378.8	2,406.4	2,362.6	6.4	8.4	-3.71	-333.9	-25.8	70.2	61.8	8.39	8.369		
2,500.0	2,477.4	2,506.1	2,459.7	6.7	8.9	-5.56	-356.9	-25.0	76.6	67.8	8.74	8.763		
2,600.0	2,576.0	2,605.9	2,556.8	7.0	9.3	-7.13	-380.0	-24.2	83.0	73.9	9.10	9.117		
2,700.0	2,674.5	2,705.7	2,653.8	7.4	9.7	-8.47	-403.1	-23.4	89.5	80.0	9.48	9.436		
2,800.0	2,773.1	2,805.4	2,750.9	7.7	10.2	-9.63	-426.1	-22.6	96.0	86.2	9.87	9.725		
2,900.0	2,871.6	2,905.2	2,847.9	8.0	10.6	-10.65	-449.2	-21.9	102.6	92.3	10.27	9.989		
3,000.0	2,970.2	3,005.0	2,945.0	8.4	11.0	-11.54	-472.3	-21.1	109.2	98.5	10.67	10.229		
3,100.0	3,068.7	3,104.7	3,042.1	8.7	11.5	-12.33	-495.3	-20.3	115.8	104.7	11.08	10.451		
3,200.0	3,167.3	3,204.5	3,139.1	9.1	11.9	-13.03	-518.4	-19.5	122.5	111.0	11.49	10.655		
3,300.0	3,265.9	3,304.3	3,236.2	9.4	12.4	-13.66	-541.5	-18.7	129.1	117.2	11.91	10.843		
3,400.0	3,364.4	3,404.0	3,333.3	9.7	12.8	-14.23	-564.5	-17.9	135.8	123.5	12.32	11.018		
3,500.0	3,463.0	3,503.8	3,430.3	10.1	13.2	-14.74	-587.6	-17.1	142.5	129.7	12.74	11.181		
3,600.0	3,561.5	3,603.6	3,527.4	10.4	13.7	-15.21	-610.7	-16.3	149.1	136.0	13.16	11.333		
3,700.0	3,660.1	3,703.4	3,624.4	10.8	14.1	-15.64	-633.7	-15.5	155.9	142.3	13.58	11.475		
3,800.0	3,758.6	3,803.1	3,721.5	11.1	14.5	-16.03	-656.8	-14.7	162.6	148.6	14.00	11.608		
3,900.0	3,857.2	3,902.9	3,818.6	11.5	15.0	-16.40	-679.8	-13.9	169.3	154.8	14.43	11.734		
4,000.0	3,955.8	4,002.7	3,915.6	11.8	15.4	-16.73	-702.9	-13.2	176.0	161.1	14.85	11.851		
4,100.0	4,054.3	4,102.4	4,012.7	12.1	15.9	-17.04	-726.0	-12.4	182.7	167.5	15.27	11.963		
4,200.0	4,152.9	4,202.2	4,109.8	12.5	16.3	-17.33	-749.0	-11.6	189.5	173.8	15.70	12.068		
4,300.0	4,251.4	4,302.0	4,206.8	12.8	16.7	-17.60	-772.1	-10.8	196.2	180.1	16.13	12.167		
4,400.0	4,350.0	4,401.7	4,303.9	13.2	17.2	-17.85	-795.2	-10.0	202.9	186.4	16.55	12.261		
4,500.0	4,448.5	4,501.5	4,401.0	13.5	17.6	-18.08	-818.2	-9.2	209.7	192.7	16.98	12.350		
4,600.0	4,547.1	4,601.3	4,498.0	13.8	18.0	-18.30	-841.3	-8.4	216.4	199.0	17.40	12.435		
4,700.0	4,645.7	4,701.0	4,595.1	14.2	18.5	-18.51	-864.4	-7.6	223.2	205.4	17.83	12.516		
4,800.0	4,744.2	4,800.8	4,692.1	14.5	18.9	-18.70	-887.4	-6.8	229.9	211.7	18.26	12.593		
4,900.0	4,842.8	4,900.6	4,789.2	14.9	19.4	-18.89	-910.5	-6.0	236.7	218.0	18.69	12.667		
5,000.0	4,941.3	5,000.3	4,886.3	15.2	19.8	-19.06	-933.5	-5.2	243.5	224.3	19.11	12.737		

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-2D (Oxy I21 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		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,100.0	5,039.9	5,100.1	4,983.3	15.6	20.2	-19.22	-956.6	-4.5	250.2	230.7	19.54	12.804		
5,200.0	5,138.5	5,199.9	5,080.4	15.9	20.7	-19.38	-979.7	-3.7	257.0	237.0	19.97	12.868		
5,300.0	5,237.0	5,299.7	5,177.5	16.2	21.1	-19.53	-1,002.7	-2.9	263.7	243.3	20.40	12.930		
5,400.0	5,335.6	5,399.4	5,274.5	16.6	21.6	-19.67	-1,025.8	-2.1	270.5	249.7	20.83	12.989		
5,500.0	5,434.1	5,499.2	5,371.6	16.9	22.0	-19.80	-1,048.9	-1.3	277.3	256.0	21.25	13.045		
5,600.0	5,532.7	5,599.0	5,468.6	17.3	22.4	-19.92	-1,071.9	-0.5	284.0	262.4	21.68	13.100		
5,700.0	5,631.2	5,698.7	5,565.7	17.6	22.9	-20.05	-1,095.0	0.3	290.8	268.7	22.11	13.152		
5,800.0	5,729.8	5,798.5	5,662.8	17.9	23.3	-20.16	-1,118.1	1.1	297.6	275.0	22.54	13.202		
5,900.0	5,828.4	5,898.3	5,759.8	18.3	23.7	-20.27	-1,141.1	1.9	304.4	281.4	22.97	13.251		
6,000.0	5,926.9	5,998.0	5,856.9	18.6	24.2	-20.38	-1,164.2	2.7	311.1	287.7	23.40	13.297		
6,100.0	6,025.5	6,097.8	5,954.0	19.0	24.6	-20.48	-1,187.2	3.5	317.9	294.1	23.83	13.342		
6,200.0	6,124.0	6,205.9	6,059.5	19.3	25.1	-20.64	-1,210.9	4.3	323.5	299.2	24.29	13.319		
6,300.0	6,222.6	6,314.9	6,166.4	19.7	25.4	-20.92	-1,231.8	5.0	326.3	301.6	24.78	13.171		
6,400.0	6,321.4	6,423.9	6,274.0	20.0	25.8	-21.22	-1,249.6	5.6	328.1	302.9	25.25	12.996		
6,500.0	6,420.7	6,533.0	6,382.0	20.2	26.1	-21.46	-1,264.3	6.1	329.6	303.9	25.69	12.831		
6,600.0	6,520.2	6,642.1	6,490.5	20.4	26.3	-21.65	-1,275.9	6.5	330.7	304.6	26.09	12.677		
6,700.0	6,619.9	6,751.3	6,599.4	20.6	26.5	-21.80	-1,284.5	6.8	331.5	305.0	26.45	12.532		
6,800.0	6,719.8	6,860.4	6,708.4	20.8	26.7	-21.89	-1,289.9	7.0	332.0	305.2	26.78	12.395		
6,900.0	6,819.8	6,969.6	6,817.5	20.9	26.8	-21.93	-1,292.2	7.1	332.1	305.0	27.07	12.266		
7,000.0	6,919.8	7,071.9	6,919.8	21.0	26.8	163.26	-1,292.3	7.1	332.1	304.7	27.37	12.130		
7,100.0	7,019.8	7,171.9	7,019.8	21.1	26.9	163.26	-1,292.3	7.1	332.1	304.4	27.69	11.993		
7,200.0	7,119.8	7,271.9	7,119.8	21.2	27.0	163.26	-1,292.3	7.1	332.1	304.1	28.00	11.859		
7,300.0	7,219.8	7,371.9	7,219.8	21.3	27.1	163.26	-1,292.3	7.1	332.1	303.7	28.32	11.727		
7,400.0	7,319.8	7,471.9	7,319.8	21.4	27.2	163.26	-1,292.3	7.1	332.1	303.4	28.63	11.598		
7,500.0	7,419.8	7,571.9	7,419.8	21.5	27.3	163.26	-1,292.3	7.1	332.1	303.1	28.95	11.471		
7,600.0	7,519.8	7,671.9	7,519.8	21.6	27.3	163.26	-1,292.3	7.1	332.1	302.8	29.26	11.347		
7,700.0	7,619.8	7,771.9	7,619.8	21.7	27.4	163.26	-1,292.3	7.1	332.1	302.5	29.58	11.225		
7,800.0	7,719.8	7,871.9	7,719.8	21.8	27.5	163.26	-1,292.3	7.1	332.1	302.2	29.90	11.105		
7,900.0	7,819.8	7,971.9	7,819.8	21.9	27.6	163.26	-1,292.3	7.1	332.1	301.8	30.22	10.988		
8,000.0	7,919.8	8,071.9	7,919.8	22.0	27.7	163.26	-1,292.3	7.1	332.1	301.5	30.54	10.873		
8,100.0	8,019.8	8,171.9	8,019.8	22.2	27.8	163.26	-1,292.3	7.1	332.1	301.2	30.86	10.760		
8,200.0	8,119.8	8,271.9	8,119.8	22.3	27.9	163.26	-1,292.3	7.1	332.1	300.9	31.18	10.650		
8,300.0	8,219.8	8,371.9	8,219.8	22.4	28.0	163.26	-1,292.3	7.1	332.1	300.6	31.50	10.541		
8,400.0	8,319.8	8,471.9	8,319.8	22.5	28.1	163.26	-1,292.3	7.1	332.1	300.2	31.82	10.434		
8,500.0	8,419.8	8,571.9	8,419.8	22.6	28.1	163.26	-1,292.3	7.1	332.1	299.9	32.15	10.329		
8,600.0	8,519.8	8,671.9	8,519.8	22.7	28.2	163.26	-1,292.3	7.1	332.1	299.6	32.47	10.227		
8,700.0	8,619.8	8,771.9	8,619.8	22.8	28.3	163.26	-1,292.3	7.1	332.1	299.3	32.79	10.126		
8,751.1	8,670.8	8,822.9	8,670.8	22.9	28.4	163.26	-1,292.3	7.1	332.1	299.1	32.96	10.075		
8,779.2	8,699.0	8,846.1	8,694.0	22.9	28.4	163.26	-1,292.3	7.1	332.1	299.1	33.04	10.051		



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-4D (Oxy I21 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	-55.45	5.8	-8.5	10.3					
100.0	100.0	100.0	100.0	0.1	0.1	-55.45	5.8	-8.5	10.3	10.0	0.30	34.637		
200.0	200.0	200.0	200.0	0.3	0.3	-55.45	5.8	-8.5	10.3	9.6	0.65	15.914		
300.0	300.0	300.0	300.0	0.5	0.5	-55.45	5.8	-8.5	10.3	9.3	0.99	10.330		
400.0	400.0	400.0	400.0	0.7	0.7	-55.45	5.8	-8.5	10.3	8.9	1.34	7.647		
500.0	500.0	500.0	500.0	0.8	0.8	-55.45	5.8	-8.5	10.3	8.6	1.69	6.070 CC, ES		
600.0	600.0	600.0	600.0	1.0	1.0	125.31	5.8	-8.5	11.0	8.9	2.04	5.375		
700.0	699.9	700.1	700.1	1.2	1.2	134.81	4.5	-8.6	12.7	10.3	2.39	5.309 SF		
800.0	799.7	800.4	800.3	1.4	1.4	141.52	0.6	-9.2	14.8	12.0	2.75	5.374		
900.0	899.3	900.7	900.3	1.6	1.6	146.18	-5.9	-10.1	17.1	14.0	3.11	5.484		
1,000.0	998.6	1,001.0	1,000.3	1.9	1.8	149.40	-15.0	-11.3	19.5	16.0	3.48	5.600		
1,100.0	1,097.5	1,101.1	1,099.7	2.1	2.0	152.51	-26.0	-12.8	22.6	18.8	3.85	5.875		
1,200.0	1,196.1	1,200.9	1,198.9	2.4	2.2	156.77	-37.1	-14.4	27.8	23.6	4.21	6.608		
1,300.0	1,294.7	1,300.8	1,298.2	2.7	2.5	159.89	-48.1	-15.9	33.4	28.8	4.57	7.316		
1,400.0	1,393.3	1,400.6	1,397.4	3.0	2.7	162.11	-59.2	-17.4	39.1	34.2	4.92	7.937		
1,500.0	1,491.8	1,500.4	1,496.6	3.4	3.0	163.76	-70.2	-18.9	44.8	39.5	5.28	8.485		
1,600.0	1,590.4	1,600.2	1,595.8	3.7	3.2	165.04	-81.3	-20.5	50.5	44.9	5.63	8.969		
1,700.0	1,688.9	1,700.1	1,695.0	4.0	3.5	166.06	-92.4	-22.0	56.3	50.3	5.99	9.399		
1,800.0	1,787.5	1,799.9	1,794.2	4.3	3.7	166.89	-103.4	-23.5	62.0	55.7	6.34	9.784		
1,900.0	1,886.1	1,899.7	1,893.4	4.7	4.0	167.58	-114.5	-25.0	67.8	61.1	6.69	10.131		
2,000.0	1,984.6	1,999.6	1,992.6	5.0	4.2	168.16	-125.5	-26.6	73.6	66.5	7.05	10.443		
2,100.0	2,083.2	2,099.4	2,091.8	5.3	4.5	168.65	-136.6	-28.1	79.4	72.0	7.40	10.727		
2,200.0	2,181.7	2,199.2	2,191.0	5.7	4.7	169.08	-147.7	-29.6	85.2	77.4	7.75	10.986		
2,300.0	2,280.3	2,299.1	2,290.2	6.0	5.0	169.45	-158.7	-31.1	91.0	82.9	8.11	11.222		
2,400.0	2,378.8	2,398.9	2,389.4	6.4	5.2	169.78	-169.8	-32.7	96.8	88.3	8.46	11.440		
2,500.0	2,477.4	2,498.7	2,488.6	6.7	5.5	170.07	-180.8	-34.2	102.6	93.8	8.81	11.640		
2,600.0	2,576.0	2,598.5	2,587.8	7.0	5.8	170.33	-191.9	-35.7	108.4	99.2	9.17	11.825		
2,700.0	2,674.5	2,698.4	2,687.0	7.4	6.0	170.57	-202.9	-37.2	114.2	104.7	9.52	11.996		
2,800.0	2,773.1	2,798.2	2,786.2	7.7	6.3	170.78	-214.0	-38.7	120.0	110.2	9.87	12.156		
2,900.0	2,871.6	2,898.0	2,885.4	8.0	6.5	170.97	-225.1	-40.3	125.9	115.6	10.23	12.304		
3,000.0	2,970.2	2,997.9	2,984.6	8.4	6.8	171.15	-236.1	-41.8	131.7	121.1	10.58	12.443		
3,100.0	3,068.7	3,097.7	3,083.8	8.7	7.0	171.31	-247.2	-43.3	137.5	126.6	10.94	12.573		
3,200.0	3,167.3	3,197.5	3,183.0	9.1	7.3	171.45	-258.2	-44.8	143.3	132.0	11.29	12.695		
3,300.0	3,265.9	3,297.4	3,282.2	9.4	7.6	171.59	-269.3	-46.4	149.1	137.5	11.64	12.810		
3,400.0	3,364.4	3,397.2	3,381.4	9.7	7.8	171.71	-280.4	-47.9	154.9	143.0	12.00	12.917		
3,500.0	3,463.0	3,497.0	3,480.6	10.1	8.1	171.83	-291.4	-49.4	160.8	148.4	12.35	13.019		
3,600.0	3,561.5	3,596.8	3,579.8	10.4	8.3	171.94	-302.5	-50.9	166.6	153.9	12.70	13.115		
3,700.0	3,660.1	3,696.7	3,679.0	10.8	8.6	172.04	-313.5	-52.5	172.4	159.4	13.06	13.206		
3,800.0	3,758.6	3,796.5	3,778.2	11.1	8.9	172.13	-324.6	-54.0	178.2	164.8	13.41	13.293		
3,900.0	3,857.2	3,896.3	3,877.4	11.5	9.1	172.22	-335.7	-55.5	184.1	170.3	13.76	13.374		
4,000.0	3,955.8	3,996.2	3,976.7	11.8	9.4	172.30	-346.7	-57.0	189.9	175.8	14.12	13.452		
4,100.0	4,054.3	4,096.0	4,075.9	12.1	9.6	172.38	-357.8	-58.5	195.7	181.2	14.47	13.526		
4,200.0	4,152.9	4,195.8	4,175.1	12.5	9.9	172.45	-368.8	-60.1	201.5	186.7	14.82	13.597		
4,300.0	4,251.4	4,295.7	4,274.3	12.8	10.2	172.52	-379.9	-61.6	207.4	192.2	15.18	13.664		
4,400.0	4,350.0	4,395.5	4,373.5	13.2	10.4	172.59	-391.0	-63.1	213.2	197.7	15.53	13.728		
4,500.0	4,448.5	4,495.3	4,472.7	13.5	10.7	172.65	-402.0	-64.6	219.0	203.1	15.88	13.790		
4,600.0	4,547.1	4,595.1	4,571.9	13.8	10.9	172.71	-413.1	-66.2	224.8	208.6	16.24	13.848		
4,700.0	4,645.7	4,695.0	4,671.1	14.2	11.2	172.77	-424.1	-67.7	230.7	214.1	16.59	13.905		
4,800.0	4,744.2	4,794.8	4,770.3	14.5	11.5	172.82	-435.2	-69.2	236.5	219.5	16.94	13.958		
4,900.0	4,842.8	4,894.6	4,869.5	14.9	11.7	172.87	-446.3	-70.7	242.3	225.0	17.30	14.010		
5,000.0	4,941.3	4,994.5	4,968.7	15.2	12.0	172.92	-457.3	-72.3	248.1	230.5	17.65	14.060		
5,100.0	5,039.9	5,094.3	5,067.9	15.6	12.2	172.96	-468.4	-73.8	254.0	236.0	18.00	14.107		

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-4D (Oxy I21 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		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,200.0	5,138.5	5,194.1	5,167.1	15.9	12.5	173.01	-479.4	-75.3	259.8	241.4	18.36	14.153		
5,300.0	5,237.0	5,294.0	5,266.3	16.2	12.8	173.05	-490.5	-76.8	265.6	246.9	18.71	14.197		
5,400.0	5,335.6	5,393.8	5,365.5	16.6	13.0	173.09	-501.6	-78.3	271.4	252.4	19.06	14.240		
5,500.0	5,434.1	5,493.6	5,464.7	16.9	13.3	173.13	-512.6	-79.9	277.3	257.9	19.42	14.281		
5,600.0	5,532.7	5,593.4	5,563.9	17.3	13.5	173.16	-523.7	-81.4	283.1	263.3	19.77	14.320		
5,700.0	5,631.2	5,693.3	5,663.1	17.6	13.8	173.20	-534.7	-82.9	288.9	268.8	20.12	14.359		
5,800.0	5,729.8	5,793.1	5,762.3	17.9	14.1	173.23	-545.8	-84.4	294.7	274.3	20.48	14.395		
5,900.0	5,828.4	5,892.9	5,861.5	18.3	14.3	173.27	-556.8	-86.0	300.6	279.7	20.83	14.431		
6,000.0	5,926.9	5,992.8	5,960.7	18.6	14.6	173.30	-567.9	-87.5	306.4	285.2	21.18	14.465		
6,100.0	6,025.5	6,092.6	6,059.9	19.0	14.9	173.33	-579.0	-89.0	312.2	290.7	21.54	14.499		
6,200.0	6,124.0	6,192.4	6,159.1	19.3	15.1	173.36	-590.0	-90.5	318.1	296.2	21.89	14.531		
6,300.0	6,222.6	6,292.3	6,258.3	19.7	15.4	173.39	-601.1	-92.1	323.8	301.6	22.25	14.557		
6,400.0	6,321.4	6,392.2	6,357.6	20.0	15.6	173.38	-612.2	-93.6	327.8	305.2	22.61	14.499		
6,500.0	6,420.7	6,489.8	6,454.6	20.2	15.9	173.33	-622.9	-95.1	329.3	306.4	22.97	14.340		
6,600.0	6,520.2	6,581.9	6,546.4	20.4	16.1	173.28	-631.3	-96.2	330.1	306.8	23.30	14.166		
6,700.0	6,619.9	6,674.1	6,638.3	20.6	16.3	173.23	-637.6	-97.1	330.6	306.9	23.62	13.996		
6,800.0	6,719.8	6,766.2	6,730.3	20.8	16.4	173.21	-641.6	-97.6	330.8	306.9	23.92	13.828		
6,900.0	6,819.8	6,858.3	6,822.5	20.9	16.5	173.19	-643.5	-97.9	330.9	306.7	24.22	13.663		
7,000.0	6,919.8	6,955.6	6,919.8	21.0	16.7	-1.61	-643.6	-97.9	330.9	306.3	24.54	13.480		
7,100.0	7,019.8	7,055.6	7,019.8	21.1	16.8	-1.61	-643.6	-97.9	330.9	306.0	24.89	13.293		
7,200.0	7,119.8	7,155.6	7,119.8	21.2	16.9	-1.61	-643.6	-97.9	330.9	305.6	25.24	13.111		
7,300.0	7,219.8	7,255.6	7,219.8	21.3	17.1	-1.61	-643.6	-97.9	330.9	305.3	25.58	12.933		
7,400.0	7,319.8	7,355.6	7,319.8	21.4	17.2	-1.61	-643.6	-97.9	330.9	304.9	25.93	12.761		
7,500.0	7,419.8	7,455.6	7,419.8	21.5	17.3	-1.61	-643.6	-97.9	330.9	304.6	26.27	12.593		
7,600.0	7,519.8	7,555.6	7,519.8	21.6	17.4	-1.61	-643.6	-97.9	330.9	304.2	26.62	12.429		
7,700.0	7,619.8	7,655.6	7,619.8	21.7	17.6	-1.61	-643.6	-97.9	330.9	303.9	26.97	12.269		
7,800.0	7,719.8	7,755.6	7,719.8	21.8	17.7	-1.61	-643.6	-97.9	330.9	303.5	27.31	12.114		
7,900.0	7,819.8	7,855.6	7,819.8	21.9	17.8	-1.61	-643.6	-97.9	330.9	303.2	27.66	11.962		
8,000.0	7,919.8	7,955.6	7,919.8	22.0	18.0	-1.61	-643.6	-97.9	330.9	302.9	28.01	11.814		
8,100.0	8,019.8	8,055.6	8,019.8	22.2	18.1	-1.61	-643.6	-97.9	330.9	302.5	28.35	11.670		
8,200.0	8,119.8	8,155.6	8,119.8	22.3	18.2	-1.61	-643.6	-97.9	330.9	302.2	28.70	11.529		
8,300.0	8,219.8	8,255.6	8,219.8	22.4	18.4	-1.61	-643.6	-97.9	330.9	301.8	29.05	11.391		
8,400.0	8,319.8	8,355.6	8,319.8	22.5	18.5	-1.61	-643.6	-97.9	330.9	301.5	29.39	11.257		
8,500.0	8,419.8	8,455.6	8,419.8	22.6	18.7	-1.61	-643.6	-97.9	330.9	301.1	29.74	11.126		
8,600.0	8,519.8	8,555.6	8,519.8	22.7	18.8	-1.61	-643.6	-97.9	330.9	300.8	30.09	10.997		
8,700.0	8,619.8	8,655.6	8,619.8	22.8	18.9	-1.61	-643.6	-97.9	330.9	300.4	30.43	10.872		
8,779.2	8,699.0	8,734.9	8,699.0	22.9	19.0	-1.61	-643.6	-97.9	330.9	300.2	30.71	10.775		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-5D (Oxy I21 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	-41.94	18.2	-16.4	24.5					
100.0	100.0	100.0	100.0	0.1	0.1	-41.94	18.2	-16.4	24.5	24.2	0.30	82.522		
200.0	200.0	200.0	200.0	0.3	0.3	-41.94	18.2	-16.4	24.5	23.8	0.65	37.915		
300.0	300.0	300.0	300.0	0.5	0.5	-41.94	18.2	-16.4	24.5	23.5	0.99	24.612		
400.0	400.0	400.0	400.0	0.7	0.7	-41.94	18.2	-16.4	24.5	23.1	1.34	18.219		
500.0	500.0	500.0	500.0	0.8	0.8	-41.94	18.2	-16.4	24.5	22.8	1.69	14.463	CC, ES	
600.0	600.0	600.0	600.0	1.0	1.0	135.02	18.2	-16.4	25.4	23.4	2.04	12.434		
700.0	699.9	700.4	700.4	1.2	1.2	138.69	16.9	-16.6	27.4	25.0	2.39	11.442		
800.0	799.7	800.9	800.8	1.4	1.4	141.43	13.0	-17.4	29.7	26.9	2.75	10.778		
900.0	899.3	901.4	901.0	1.6	1.6	143.41	6.6	-18.7	32.2	29.1	3.12	10.314	SF	
1,000.0	998.6	1,001.3	1,000.7	1.9	1.8	146.46	-0.8	-20.1	36.2	32.7	3.49	10.359		
1,100.0	1,097.5	1,101.0	1,100.1	2.1	2.0	150.70	-8.1	-21.6	42.5	38.6	3.86	11.019		
1,200.0	1,196.1	1,200.6	1,199.4	2.4	2.2	154.96	-15.4	-23.0	51.0	46.8	4.21	12.115		
1,300.0	1,294.7	1,300.1	1,298.7	2.7	2.4	158.13	-22.8	-24.5	60.1	55.5	4.57	13.151		
1,400.0	1,393.3	1,399.7	1,398.0	3.0	2.6	160.47	-30.1	-25.9	69.3	64.4	4.92	14.069		
1,500.0	1,491.8	1,499.2	1,497.2	3.4	2.8	162.25	-37.4	-27.3	78.6	73.3	5.28	14.884		
1,600.0	1,590.4	1,598.8	1,596.5	3.7	3.0	163.66	-44.7	-28.8	87.9	82.3	5.63	15.608		
1,700.0	1,688.9	1,698.3	1,695.7	4.0	3.2	164.80	-52.1	-30.2	97.3	91.3	5.98	16.255		
1,800.0	1,787.5	1,797.8	1,795.0	4.3	3.4	165.73	-59.4	-31.7	106.7	100.4	6.34	16.836		
1,900.0	1,886.1	1,897.4	1,894.3	4.7	3.6	166.52	-66.7	-33.1	116.1	109.4	6.69	17.360		
2,000.0	1,984.6	1,996.9	1,993.5	5.0	3.9	167.18	-74.0	-34.6	125.6	118.5	7.04	17.834		
2,100.0	2,083.2	2,096.5	2,092.8	5.3	4.1	167.76	-81.4	-36.0	135.0	127.6	7.39	18.266		
2,200.0	2,181.7	2,196.0	2,192.1	5.7	4.3	168.26	-88.7	-37.5	144.5	136.8	7.74	18.659		
2,300.0	2,280.3	2,295.6	2,291.3	6.0	4.5	168.69	-96.0	-38.9	154.0	145.9	8.10	19.020		
2,400.0	2,378.8	2,395.1	2,390.6	6.4	4.7	169.08	-103.3	-40.4	163.5	155.0	8.45	19.352		
2,500.0	2,477.4	2,494.6	2,489.8	6.7	4.9	169.42	-110.7	-41.8	173.0	164.2	8.80	19.658		
2,600.0	2,576.0	2,594.2	2,589.1	7.0	5.1	169.73	-118.0	-43.3	182.5	173.4	9.15	19.942		
2,700.0	2,674.5	2,693.7	2,688.4	7.4	5.4	170.01	-125.3	-44.7	192.0	182.5	9.50	20.204		
2,800.0	2,773.1	2,793.3	2,787.6	7.7	5.6	170.26	-132.6	-46.1	201.5	191.7	9.86	20.449		
2,900.0	2,871.6	2,892.8	2,886.9	8.0	5.8	170.49	-140.0	-47.6	211.0	200.8	10.21	20.677		
3,000.0	2,970.2	2,992.4	2,986.2	8.4	6.0	170.70	-147.3	-49.0	220.6	210.0	10.56	20.890		
3,100.0	3,068.7	3,091.9	3,085.4	8.7	6.2	170.89	-154.6	-50.5	230.1	219.2	10.91	21.090		
3,200.0	3,167.3	3,191.4	3,184.7	9.1	6.4	171.06	-161.9	-51.9	239.6	228.4	11.26	21.277		
3,300.0	3,265.9	3,291.0	3,283.9	9.4	6.7	171.23	-169.3	-53.4	249.2	237.5	11.61	21.453		
3,400.0	3,364.4	3,390.5	3,383.2	9.7	6.9	171.38	-176.6	-54.8	258.7	246.7	11.97	21.619		
3,500.0	3,463.0	3,490.1	3,482.5	10.1	7.1	171.52	-183.9	-56.3	268.2	255.9	12.32	21.776		
3,600.0	3,561.5	3,589.6	3,581.7	10.4	7.3	171.65	-191.3	-57.7	277.7	265.1	12.67	21.924		
3,700.0	3,660.1	3,689.1	3,681.0	10.8	7.5	171.77	-198.6	-59.2	287.3	274.3	13.02	22.064		
3,800.0	3,758.6	3,788.7	3,780.2	11.1	7.7	171.88	-205.9	-60.6	296.8	283.4	13.37	22.197		
3,900.0	3,857.2	3,888.2	3,879.5	11.5	7.9	171.99	-213.2	-62.1	306.4	292.6	13.72	22.323		
4,000.0	3,955.8	3,987.8	3,978.8	11.8	8.2	172.09	-220.6	-63.5	315.9	301.8	14.08	22.443		
4,100.0	4,054.3	4,087.3	4,078.0	12.1	8.4	172.19	-227.9	-64.9	325.4	311.0	14.43	22.557		
4,200.0	4,152.9	4,186.9	4,177.3	12.5	8.6	172.28	-235.2	-66.4	335.0	320.2	14.78	22.666		
4,300.0	4,251.4	4,286.4	4,276.6	12.8	8.8	172.36	-242.5	-67.8	344.5	329.4	15.13	22.770		
4,400.0	4,350.0	4,385.9	4,375.8	13.2	9.0	172.44	-249.9	-69.3	354.1	338.6	15.48	22.869		
4,500.0	4,448.5	4,485.5	4,475.1	13.5	9.2	172.52	-257.2	-70.7	363.6	347.8	15.83	22.963		
4,600.0	4,547.1	4,585.0	4,574.3	13.8	9.5	172.59	-264.5	-72.2	373.1	357.0	16.19	23.054		
4,700.0	4,645.7	4,684.6	4,673.6	14.2	9.7	172.65	-271.8	-73.6	382.7	366.2	16.54	23.141		
4,800.0	4,744.2	4,784.1	4,772.9	14.5	9.9	172.72	-279.2	-75.1	392.2	375.3	16.89	23.224		
4,900.0	4,842.8	4,883.7	4,872.1	14.9	10.1	172.78	-286.5	-76.5	401.8	384.5	17.24	23.304		
5,000.0	4,941.3	4,983.2	4,971.4	15.2	10.3	172.84	-293.8	-78.0	411.3	393.7	17.59	23.381		
5,100.0	5,039.9	5,082.7	5,070.7	15.6	10.5	172.90	-301.1	-79.4	420.9	402.9	17.94	23.454		

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-5D (Oxy I21 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		
5,200.0	5,138.5	5,182.3	5,169.9	15.9	10.8	172.95	-308.5	-80.9	430.4	412.1	18.30	23.525		
5,300.0	5,237.0	5,281.8	5,269.2	16.2	11.0	173.00	-315.8	-82.3	440.0	421.3	18.65	23.593		
5,400.0	5,335.6	5,381.4	5,368.4	16.6	11.2	173.05	-323.1	-83.7	449.5	430.5	19.00	23.659		
5,500.0	5,434.1	5,480.9	5,467.7	16.9	11.4	173.10	-330.4	-85.2	459.1	439.7	19.35	23.722		
5,600.0	5,532.7	5,580.5	5,567.0	17.3	11.6	173.14	-337.8	-86.6	468.6	448.9	19.70	23.784		
5,700.0	5,631.2	5,680.0	5,666.2	17.6	11.8	173.19	-345.1	-88.1	478.2	458.1	20.05	23.843		
5,800.0	5,729.8	5,773.8	5,759.7	17.9	12.0	173.23	-351.7	-89.4	488.0	467.6	20.40	23.928		
5,900.0	5,828.4	5,861.9	5,847.8	18.3	12.2	173.32	-356.2	-90.3	499.9	479.1	20.72	24.122		
6,000.0	5,926.9	5,949.6	5,935.4	18.6	12.3	173.45	-358.6	-90.8	513.9	492.9	21.04	24.422		
6,100.0	6,025.5	6,039.6	6,025.5	19.0	12.5	173.63	-359.1	-90.9	530.1	508.8	21.37	24.813		
6,200.0	6,124.0	6,138.2	6,124.0	19.3	12.6	173.83	-359.1	-90.9	547.0	525.3	21.70	25.205		
6,300.0	6,222.6	6,236.8	6,222.6	19.7	12.8	174.02	-359.1	-90.9	563.7	541.7	22.04	25.576		
6,400.0	6,321.4	6,335.6	6,321.4	20.0	12.9	174.20	-359.1	-90.9	578.8	556.4	22.40	25.842		
6,500.0	6,420.7	6,434.8	6,420.7	20.2	13.1	174.34	-359.1	-90.9	591.2	568.5	22.74	25.995		
6,600.0	6,520.2	6,534.3	6,520.2	20.4	13.2	174.45	-359.1	-90.9	601.1	578.0	23.08	26.039		
6,700.0	6,619.9	6,634.1	6,619.9	20.6	13.4	174.52	-359.1	-90.9	608.4	584.9	23.42	25.981		
6,800.0	6,719.8	6,734.0	6,719.8	20.8	13.5	174.57	-359.1	-90.9	613.0	589.3	23.74	25.825		
6,900.0	6,819.8	6,833.9	6,819.8	20.9	13.7	174.59	-359.1	-90.9	615.1	591.0	24.05	25.574		
7,000.0	6,919.8	6,933.9	6,919.8	21.0	13.8	-0.21	-359.1	-90.9	615.2	590.8	24.39	25.227		
7,100.0	7,019.8	7,033.9	7,019.8	21.1	14.0	-0.21	-359.1	-90.9	615.2	590.5	24.73	24.872		
7,200.0	7,119.8	7,133.9	7,119.8	21.2	14.1	-0.21	-359.1	-90.9	615.2	590.1	25.08	24.528		
7,300.0	7,219.8	7,233.9	7,219.8	21.3	14.3	-0.21	-359.1	-90.9	615.2	589.8	25.43	24.193		
7,400.0	7,319.8	7,333.9	7,319.8	21.4	14.4	-0.21	-359.1	-90.9	615.2	589.4	25.78	23.867		
7,500.0	7,419.8	7,433.9	7,419.8	21.5	14.6	-0.21	-359.1	-90.9	615.2	589.1	26.12	23.549		
7,600.0	7,519.8	7,533.9	7,519.8	21.6	14.7	-0.21	-359.1	-90.9	615.2	588.7	26.47	23.240		
7,700.0	7,619.8	7,633.9	7,619.8	21.7	14.9	-0.21	-359.1	-90.9	615.2	588.4	26.82	22.939		
7,800.0	7,719.8	7,733.9	7,719.8	21.8	15.1	-0.21	-359.1	-90.9	615.2	588.0	27.17	22.645		
7,900.0	7,819.8	7,833.9	7,819.8	21.9	15.2	-0.21	-359.1	-90.9	615.2	587.7	27.52	22.359		
8,000.0	7,919.8	7,933.9	7,919.8	22.0	15.4	-0.21	-359.1	-90.9	615.2	587.3	27.86	22.080		
8,100.0	8,019.8	8,033.9	8,019.8	22.2	15.5	-0.21	-359.1	-90.9	615.2	587.0	28.21	21.808		
8,200.0	8,119.8	8,133.9	8,119.8	22.3	15.7	-0.21	-359.1	-90.9	615.2	586.6	28.56	21.542		
8,300.0	8,219.8	8,233.9	8,219.8	22.4	15.8	-0.21	-359.1	-90.9	615.2	586.3	28.91	21.283		
8,400.0	8,319.8	8,333.9	8,319.8	22.5	16.0	-0.21	-359.1	-90.9	615.2	586.0	29.25	21.030		
8,500.0	8,419.8	8,433.9	8,419.8	22.6	16.2	-0.21	-359.1	-90.9	615.2	585.6	29.60	20.783		
8,600.0	8,519.8	8,533.9	8,519.8	22.7	16.3	-0.21	-359.1	-90.9	615.2	585.3	29.95	20.541		
8,700.0	8,619.8	8,633.9	8,619.8	22.8	16.5	-0.21	-359.1	-90.9	615.2	584.9	30.30	20.305		
8,779.2	8,699.0	8,713.2	8,699.0	22.9	16.6	-0.21	-359.1	-90.9	615.2	584.6	30.57	20.122		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-6D (Oxy I21 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	300.0	300.0	0.0	0.0	-29.14	87.1	-48.5	99.7					
100.0	100.0	400.0	400.0	0.1	0.1	-29.14	87.1	-48.5	99.7	99.4	0.30	335.914		
200.0	200.0	500.0	500.0	0.3	0.3	-29.14	87.1	-48.5	99.7	99.0	0.65	154.339		
300.0	300.0	602.6	602.6	0.5	0.5	-28.97	86.0	-47.6	98.4	97.4	1.00	98.409		
400.0	400.0	705.0	704.9	0.7	0.7	-28.44	82.9	-44.9	94.4	93.1	1.35	69.786		
500.0	500.0	806.4	806.1	0.8	0.9	-27.48	77.9	-40.5	88.0	86.3	1.71	51.633		
600.0	600.0	906.2	905.7	1.0	1.1	149.06	72.6	-35.8	82.2	80.2	2.06	39.944		
700.0	699.9	1,006.1	1,005.3	1.2	1.3	151.94	67.2	-31.1	78.8	76.4	2.41	32.639		
781.0	780.7	1,086.9	1,085.9	1.4	1.5	155.05	62.8	-27.3	77.9	75.2	2.71	28.790 CC		
800.0	799.7	1,105.9	1,104.9	1.4	1.5	155.86	61.8	-26.4	77.9	75.2	2.77	28.094 ES		
900.0	899.3	1,205.7	1,204.4	1.6	1.7	160.47	56.4	-21.7	79.9	76.8	3.14	25.457		
1,000.0	998.6	1,305.3	1,303.7	1.9	1.9	165.28	51.1	-17.0	85.0	81.4	3.51	24.212		
1,100.0	1,097.5	1,404.8	1,402.9	2.1	2.2	169.82	45.7	-12.3	93.1	89.2	3.88	23.999 SF		
1,200.0	1,196.1	1,503.9	1,501.8	2.4	2.4	173.75	40.4	-7.6	103.9	99.7	4.25	24.450		
1,300.0	1,294.7	1,603.1	1,600.7	2.7	2.6	176.95	35.1	-2.9	115.5	110.9	4.63	24.950		
1,400.0	1,393.3	1,702.2	1,699.6	3.0	2.8	179.57	29.7	1.7	127.4	122.4	5.01	25.422		
1,500.0	1,491.8	1,800.0	1,797.1	3.4	3.0	-178.31	24.5	6.3	139.6	134.2	5.39	25.880		
1,600.0	1,590.4	1,897.4	1,894.4	3.7	3.2	-177.03	20.6	9.8	153.0	147.2	5.75	26.586		
1,700.0	1,688.9	1,993.7	1,990.6	4.0	3.3	-176.61	18.6	11.5	168.1	162.0	6.09	27.577		
1,800.0	1,787.5	2,090.5	2,087.5	4.3	3.5	-176.80	18.2	11.9	184.7	178.2	6.42	28.742		
1,900.0	1,886.1	2,189.1	2,186.1	4.7	3.6	-177.07	18.2	11.9	201.6	194.8	6.76	29.828		
2,000.0	1,984.6	2,287.7	2,284.6	5.0	3.8	-177.30	18.2	11.9	218.5	211.4	7.09	30.806		
2,100.0	2,083.2	2,386.2	2,383.2	5.3	4.0	-177.49	18.2	11.9	235.4	227.9	7.43	31.691		
2,200.0	2,181.7	2,484.8	2,481.7	5.7	4.1	-177.66	18.2	11.9	252.3	244.5	7.76	32.496		
2,300.0	2,280.3	2,583.3	2,580.3	6.0	4.3	-177.81	18.2	11.9	269.2	261.1	8.10	33.231		
2,400.0	2,378.8	2,681.9	2,678.8	6.4	4.4	-177.94	18.2	11.9	286.1	277.7	8.44	33.904		
2,500.0	2,477.4	2,780.4	2,777.4	6.7	4.6	-178.05	18.2	11.9	303.0	294.2	8.78	34.524		
2,600.0	2,576.0	2,879.0	2,876.0	7.0	4.8	-178.16	18.2	11.9	319.9	310.8	9.12	35.095		
2,700.0	2,674.5	2,977.6	2,974.5	7.4	4.9	-178.25	18.2	11.9	336.8	327.4	9.46	35.623		
2,800.0	2,773.1	3,076.1	3,073.1	7.7	5.1	-178.33	18.2	11.9	353.8	344.0	9.80	36.113		
2,900.0	2,871.6	3,174.7	3,171.6	8.0	5.2	-178.41	18.2	11.9	370.7	360.5	10.14	36.569		
3,000.0	2,970.2	3,273.2	3,270.2	8.4	5.4	-178.48	18.2	11.9	387.6	377.1	10.48	36.994		
3,100.0	3,068.7	3,371.8	3,368.7	8.7	5.6	-178.54	18.2	11.9	404.5	393.7	10.82	37.392		
3,200.0	3,167.3	3,470.3	3,467.3	9.1	5.7	-178.60	18.2	11.9	421.4	410.3	11.16	37.764		
3,300.0	3,265.9	3,568.9	3,565.9	9.4	5.9	-178.65	18.2	11.9	438.3	426.8	11.50	38.113		
3,400.0	3,364.4	3,667.5	3,664.4	9.7	6.1	-178.70	18.2	11.9	455.3	443.4	11.84	38.441		
3,500.0	3,463.0	3,766.0	3,763.0	10.1	6.2	-178.75	18.2	11.9	472.2	460.0	12.19	38.751		
3,600.0	3,561.5	3,864.6	3,861.5	10.4	6.4	-178.79	18.2	11.9	489.1	476.6	12.53	39.043		
3,700.0	3,660.1	3,963.1	3,960.1	10.8	6.6	-178.83	18.2	11.9	506.0	493.2	12.87	39.318		
3,800.0	3,758.6	4,061.7	4,058.6	11.1	6.7	-178.87	18.2	11.9	522.9	509.7	13.21	39.579		
3,900.0	3,857.2	4,160.3	4,157.2	11.5	6.9	-178.91	18.2	11.9	539.9	526.3	13.56	39.827		
4,000.0	3,955.8	4,258.8	4,255.8	11.8	7.1	-178.94	18.2	11.9	556.8	542.9	13.90	40.061		
4,100.0	4,054.3	4,357.4	4,354.3	12.1	7.2	-178.97	18.2	11.9	573.7	559.5	14.24	40.284		
4,200.0	4,152.9	4,455.9	4,452.9	12.5	7.4	-179.00	18.2	11.9	590.6	576.0	14.58	40.497		
4,300.0	4,251.4	4,554.5	4,551.4	12.8	7.6	-179.03	18.2	11.9	607.5	592.6	14.93	40.699		
4,400.0	4,350.0	4,653.0	4,650.0	13.2	7.7	-179.05	18.2	11.9	624.5	609.2	15.27	40.892		
4,500.0	4,448.5	4,751.6	4,748.5	13.5	7.9	-179.08	18.2	11.9	641.4	625.8	15.61	41.076		
4,600.0	4,547.1	4,850.2	4,847.1	13.8	8.1	-179.10	18.2	11.9	658.3	642.3	15.96	41.252		
4,700.0	4,645.7	4,948.7	4,945.7	14.2	8.2	-179.13	18.2	11.9	675.2	658.9	16.30	41.420		
4,800.0	4,744.2	5,047.3	5,044.2	14.5	8.4	-179.15	18.2	11.9	692.1	675.5	16.65	41.581		
4,900.0	4,842.8	5,145.8	5,142.8	14.9	8.6	-179.17	18.2	11.9	709.1	692.1	16.99	41.736		
5,000.0	4,941.3	5,244.4	5,241.3	15.2	8.8	-179.19	18.2	11.9	726.0	708.7	17.33	41.884		

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-6D (Oxy I21 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		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,100.0	5,039.9	5,342.9	5,339.9	15.6	8.9	-179.21	18.2	11.9	742.9	725.2	17.68	42.026		
5,200.0	5,138.5	5,441.5	5,438.5	15.9	9.1	-179.22	18.2	11.9	759.8	741.8	18.02	42.163		
5,300.0	5,237.0	5,540.1	5,537.0	16.2	9.3	-179.24	18.2	11.9	776.8	758.4	18.37	42.295		
5,400.0	5,335.6	5,638.6	5,635.6	16.6	9.4	-179.26	18.2	11.9	793.7	775.0	18.71	42.421		
5,500.0	5,434.1	5,737.2	5,734.1	16.9	9.6	-179.27	18.2	11.9	810.6	791.5	19.05	42.543		
5,600.0	5,532.7	5,835.7	5,832.7	17.3	9.8	-179.29	18.2	11.9	827.5	808.1	19.40	42.660		
5,700.0	5,631.2	5,934.3	5,931.2	17.6	9.9	-179.30	18.2	11.9	844.4	824.7	19.74	42.774		
5,800.0	5,729.8	6,032.8	6,029.8	17.9	10.1	-179.31	18.2	11.9	861.4	841.3	20.09	42.883		
5,900.0	5,828.4	6,131.4	6,128.4	18.3	10.3	-179.33	18.2	11.9	878.3	857.9	20.43	42.988		
6,000.0	5,926.9	6,230.0	6,226.9	18.6	10.4	-179.34	18.2	11.9	895.2	874.4	20.78	43.090		
6,100.0	6,025.5	6,328.5	6,325.5	19.0	10.6	-179.35	18.2	11.9	912.1	891.0	21.12	43.189		
6,200.0	6,124.0	6,427.1	6,424.0	19.3	10.8	-179.36	18.2	11.9	929.0	907.6	21.46	43.284		
6,300.0	6,222.6	6,525.6	6,522.6	19.7	11.0	-179.38	18.2	11.9	945.9	924.1	21.82	43.360		
6,400.0	6,321.4	6,624.5	6,621.4	20.0	11.1	-179.39	18.2	11.9	961.0	938.8	22.19	43.312		
6,500.0	6,420.7	6,723.7	6,720.7	20.2	11.3	-179.40	18.2	11.9	973.5	951.0	22.55	43.167		
6,600.0	6,520.2	6,823.2	6,820.2	20.4	11.5	-179.41	18.2	11.9	983.4	960.5	22.91	42.930		
6,700.0	6,619.9	6,922.9	6,919.9	20.6	11.6	-179.41	18.2	11.9	990.8	967.5	23.25	42.607		
6,800.0	6,719.8	7,022.8	7,019.8	20.8	11.8	-179.42	18.2	11.9	995.4	971.9	23.59	42.199		
6,900.0	6,819.8	7,122.8	7,119.8	20.9	12.0	-179.42	18.2	11.9	997.5	973.6	23.91	41.712		
7,000.0	6,919.8	7,222.8	7,219.8	21.0	12.2	5.78	18.2	11.9	997.6	973.4	24.25	41.132		
7,100.0	7,019.8	7,322.8	7,319.8	21.1	12.3	5.78	18.2	11.9	997.6	973.0	24.60	40.549		
7,200.0	7,119.8	7,422.8	7,419.8	21.2	12.5	5.78	18.2	11.9	997.6	972.7	24.95	39.982		
7,300.0	7,219.8	7,522.8	7,519.8	21.3	12.7	5.78	18.2	11.9	997.6	972.3	25.30	39.430		
7,400.0	7,319.8	7,622.8	7,619.8	21.4	12.9	5.78	18.2	11.9	997.6	972.0	25.65	38.894		
7,500.0	7,419.8	7,722.8	7,719.8	21.5	13.0	5.78	18.2	11.9	997.6	971.6	26.00	38.372		
7,600.0	7,519.8	7,822.8	7,819.8	21.6	13.2	5.78	18.2	11.9	997.6	971.3	26.35	37.863		
7,700.0	7,619.8	7,922.8	7,919.8	21.7	13.4	5.78	18.2	11.9	997.6	970.9	26.70	37.368		
7,800.0	7,719.8	8,022.8	8,019.8	21.8	13.5	5.78	18.2	11.9	997.6	970.6	27.05	36.886		
7,900.0	7,819.8	8,122.8	8,119.8	21.9	13.7	5.78	18.2	11.9	997.6	970.2	27.40	36.416		
8,000.0	7,919.8	8,222.8	8,219.8	22.0	13.9	5.78	18.2	11.9	997.6	969.9	27.74	35.958		
8,100.0	8,019.8	8,322.8	8,319.8	22.2	14.1	5.78	18.2	11.9	997.6	969.5	28.09	35.512		
8,200.0	8,119.8	8,422.8	8,419.8	22.3	14.2	5.78	18.2	11.9	997.6	969.2	28.44	35.076		
8,300.0	8,219.8	8,522.8	8,519.8	22.4	14.4	5.78	18.2	11.9	997.6	968.8	28.79	34.651		
8,400.0	8,319.8	8,622.8	8,619.8	22.5	14.6	5.78	18.2	11.9	997.6	968.5	29.14	34.236		
8,500.0	8,419.8	8,722.8	8,719.8	22.6	14.8	5.78	18.2	11.9	997.6	968.1	29.49	33.830		
8,600.0	8,519.8	8,822.8	8,819.8	22.7	14.8	5.78	18.2	11.9	1,002.2	972.5	29.67	33.777		
8,700.0	8,619.8	8,922.8	8,919.8	22.8	14.8	5.78	18.2	11.9	1,016.7	986.8	29.85	34.063		
8,779.2	8,699.0	8,972.0	8,972.0	22.9	14.8	5.78	18.2	11.9	1,034.8	1,004.9	29.99	34.512		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-7D (Oxy I21 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	-29.67	99.1	-56.4	114.0					
100.0	100.0	100.0	100.0	0.1	0.1	-29.67	99.1	-56.4	114.0	113.7	0.30	384.280		
200.0	200.0	200.0	200.0	0.3	0.3	-29.67	99.1	-56.4	114.0	113.4	0.65	176.561		
300.0	300.0	300.0	300.0	0.5	0.5	-29.67	99.1	-56.4	114.0	113.0	0.99	114.610		
400.0	400.0	400.0	400.0	0.7	0.7	-29.67	99.1	-56.4	114.0	112.7	1.34	84.841		
500.0	500.0	500.0	500.0	0.8	0.8	-29.67	99.1	-56.4	114.0	112.3	1.69	67.348 CC, ES		
600.0	600.0	597.6	597.5	1.0	1.0	145.83	100.3	-56.3	116.1	114.1	2.04	56.988		
700.0	699.9	694.7	694.6	1.2	1.2	147.77	104.0	-56.0	122.6	120.2	2.38	51.421		
800.0	799.7	791.6	791.3	1.4	1.4	150.56	110.1	-55.4	133.7	130.9	2.73	48.896		
900.0	899.3	890.2	889.7	1.6	1.6	153.57	117.2	-54.7	148.1	145.0	3.09	47.994 SF		
1,000.0	998.6	988.4	987.6	1.9	1.8	156.39	124.3	-54.0	165.3	161.8	3.44	48.100		
1,100.0	1,097.5	1,086.1	1,085.0	2.1	2.0	158.94	131.3	-53.4	185.2	181.4	3.78	48.956		
1,200.0	1,196.1	1,183.2	1,181.9	2.4	2.2	161.24	138.3	-52.7	207.5	203.4	4.13	50.265		
1,300.0	1,294.7	1,280.3	1,278.8	2.7	2.4	163.16	145.2	-52.0	230.4	225.9	4.48	51.482		
1,400.0	1,393.3	1,377.4	1,375.6	3.0	2.6	164.73	152.2	-51.4	253.5	248.7	4.82	52.587		
1,500.0	1,491.8	1,474.5	1,472.4	3.4	2.8	166.05	159.2	-50.7	276.8	271.6	5.16	53.587		
1,600.0	1,590.4	1,571.6	1,569.2	3.7	3.0	167.16	166.2	-50.0	300.1	294.6	5.51	54.494		
1,700.0	1,688.9	1,668.6	1,666.1	4.0	3.2	168.10	173.1	-49.4	323.6	317.7	5.85	55.318		
1,800.0	1,787.5	1,765.7	1,762.9	4.3	3.4	168.93	180.1	-48.7	347.1	340.9	6.19	56.067		
1,900.0	1,886.1	1,862.8	1,859.7	4.7	3.6	169.64	187.1	-48.0	370.7	364.2	6.53	56.751		
2,000.0	1,984.6	1,959.9	1,956.5	5.0	3.8	170.27	194.1	-47.4	394.4	387.5	6.87	57.376		
2,100.0	2,083.2	2,057.0	2,053.4	5.3	4.0	170.83	201.0	-46.7	418.0	410.8	7.21	57.949		
2,200.0	2,181.7	2,154.0	2,150.2	5.7	4.2	171.33	208.0	-46.0	441.8	434.2	7.55	58.476		
2,300.0	2,280.3	2,251.1	2,247.0	6.0	4.4	171.78	215.0	-45.4	465.5	457.6	7.89	58.962		
2,400.0	2,378.8	2,348.2	2,343.8	6.4	4.6	172.19	222.0	-44.7	489.3	481.0	8.24	59.412		
2,500.0	2,477.4	2,445.3	2,440.7	6.7	4.8	172.55	229.0	-44.0	513.1	504.5	8.58	59.828		
2,600.0	2,576.0	2,542.3	2,537.5	7.0	5.0	172.89	235.9	-43.4	536.9	528.0	8.92	60.215		
2,700.0	2,674.5	2,639.4	2,634.3	7.4	5.3	173.20	242.9	-42.7	560.7	551.4	9.26	60.575		
2,800.0	2,773.1	2,736.5	2,731.2	7.7	5.5	173.48	249.9	-42.0	584.5	574.9	9.60	60.911		
2,900.0	2,871.6	2,833.6	2,828.0	8.0	5.7	173.74	256.9	-41.4	608.4	598.4	9.94	61.225		
3,000.0	2,970.2	2,930.7	2,924.8	8.4	5.9	173.98	263.8	-40.7	632.2	622.0	10.28	61.520		
3,100.0	3,068.7	3,027.7	3,021.6	8.7	6.1	174.20	270.8	-40.0	656.1	645.5	10.62	61.796		
3,200.0	3,167.3	3,124.8	3,118.5	9.1	6.3	174.41	277.8	-39.4	680.0	669.0	10.96	62.056		
3,300.0	3,265.9	3,242.4	3,235.8	9.4	6.5	174.63	284.6	-38.7	702.5	691.2	11.33	61.993		
3,400.0	3,364.4	3,362.8	3,356.2	9.7	6.7	174.81	287.9	-38.4	722.1	710.4	11.71	61.644		
3,500.0	3,463.0	3,469.6	3,463.0	10.1	6.9	174.94	288.1	-38.4	739.1	727.1	12.07	61.225		
3,600.0	3,561.5	3,568.2	3,561.5	10.4	7.0	175.05	288.1	-38.4	756.0	743.6	12.42	60.881		
3,700.0	3,660.1	3,666.7	3,660.1	10.8	7.2	175.16	288.1	-38.4	772.8	760.1	12.76	60.557		
3,800.0	3,758.6	3,765.3	3,758.6	11.1	7.3	175.26	288.1	-38.4	789.7	776.6	13.11	60.249		
3,900.0	3,857.2	3,863.8	3,857.2	11.5	7.5	175.36	288.1	-38.4	806.6	793.1	13.45	59.957		
4,000.0	3,955.8	3,962.4	3,955.8	11.8	7.6	175.46	288.1	-38.4	823.5	809.7	13.80	59.680		
4,100.0	4,054.3	4,060.9	4,054.3	12.1	7.8	175.55	288.1	-38.4	840.3	826.2	14.14	59.417		
4,200.0	4,152.9	4,159.5	4,152.9	12.5	8.0	175.63	288.1	-38.4	857.2	842.7	14.49	59.166		
4,300.0	4,251.4	4,258.1	4,251.4	12.8	8.1	175.72	288.1	-38.4	874.1	859.2	14.83	58.927		
4,400.0	4,350.0	4,356.6	4,350.0	13.2	8.3	175.80	288.1	-38.4	891.0	875.8	15.18	58.700		
4,500.0	4,448.5	4,455.2	4,448.5	13.5	8.4	175.88	288.1	-38.4	907.8	892.3	15.52	58.482		
4,600.0	4,547.1	4,553.7	4,547.1	13.8	8.6	175.95	288.1	-38.4	924.7	908.8	15.87	58.274		
4,700.0	4,645.7	4,652.3	4,645.7	14.2	8.7	176.03	288.1	-38.4	941.6	925.4	16.21	58.074		
4,800.0	4,744.2	4,750.8	4,744.2	14.5	8.9	176.10	288.1	-38.4	958.5	941.9	16.56	57.884		
4,900.0	4,842.8	4,849.4	4,842.8	14.9	9.1	176.16	288.1	-38.4	975.4	958.5	16.90	57.701		
5,000.0	4,941.3	4,948.0	4,941.3	15.2	9.2	176.23	288.1	-38.4	992.3	975.0	17.25	57.525		
5,100.0	5,039.9	5,046.5	5,039.9	15.6	9.4	176.29	288.1	-38.4	1,009.1	991.5	17.59	57.356		

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1													<b>Offset Site Error:</b> 0.0 ft
Survey Program: 0-MWD													<b>Offset Well Error:</b> 0.0 ft
Reference		Offset		Semi Major Axis			Distance						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	
5,200.0	5,138.5	5,145.1	5,138.5	15.9	9.5	176.35	288.1	-38.4	1,026.0	1,008.1	17.94	57.194	
5,300.0	5,237.0	5,243.6	5,237.0	16.2	9.7	176.41	288.1	-38.4	1,042.9	1,024.6	18.28	57.038	
5,400.0	5,335.6	5,342.2	5,335.6	16.6	9.9	176.47	288.1	-38.4	1,059.8	1,041.2	18.63	56.888	
5,500.0	5,434.1	5,440.8	5,434.1	16.9	10.0	176.53	288.1	-38.4	1,076.7	1,057.7	18.97	56.743	
5,600.0	5,532.7	5,539.3	5,532.7	17.3	10.2	176.58	288.1	-38.4	1,093.6	1,074.3	19.32	56.604	
5,700.0	5,631.2	5,637.9	5,631.2	17.6	10.4	176.63	288.1	-38.4	1,110.5	1,090.8	19.67	56.469	



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-8D (Oxy I21 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		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-29.83	112.2	-64.3	129.3					
100.0	100.0	100.0	100.0	0.1	0.1	-29.83	112.2	-64.3	129.3	129.0	0.30	435.862		
200.0	200.0	200.0	200.0	0.3	0.3	-29.83	112.2	-64.3	129.3	128.7	0.65	200.261		
300.0	300.0	300.0	300.0	0.5	0.5	-29.83	112.2	-64.3	129.3	128.3	0.99	129.994		
400.0	400.0	400.0	400.0	0.7	0.7	-29.83	112.2	-64.3	129.3	128.0	1.34	96.229		
500.0	500.0	500.0	500.0	0.8	0.8	-29.83	112.2	-64.3	129.3	127.6	1.69	76.388 CC, ES		
600.0	600.0	597.1	597.0	1.0	1.0	145.53	113.4	-64.4	131.5	129.5	2.04	64.558		
700.0	699.9	693.7	693.7	1.2	1.2	147.10	117.1	-64.4	138.2	135.8	2.38	57.988		
800.0	799.7	789.6	789.4	1.4	1.4	149.38	123.2	-64.5	149.4	146.7	2.73	54.742		
900.0	899.3	887.0	886.4	1.6	1.6	152.04	131.2	-64.6	165.0	161.9	3.08	53.568		
1,000.0	998.6	984.9	984.0	1.9	1.8	154.60	139.4	-64.7	183.3	179.9	3.43	53.436 SF		
1,100.0	1,097.5	1,082.4	1,081.1	2.1	2.0	156.95	147.6	-64.9	204.4	200.6	3.78	54.079		
1,200.0	1,196.1	1,179.2	1,177.6	2.4	2.2	159.12	155.8	-65.0	227.8	223.6	4.13	55.196		
1,300.0	1,294.7	1,276.0	1,274.0	2.7	2.4	160.96	163.9	-65.1	251.7	247.3	4.48	56.250		
1,400.0	1,393.3	1,372.8	1,370.5	3.0	2.6	162.49	172.1	-65.2	275.9	271.1	4.82	57.217		
1,500.0	1,491.8	1,469.6	1,466.9	3.4	2.8	163.76	180.2	-65.4	300.3	295.1	5.17	58.102		
1,600.0	1,590.4	1,566.4	1,563.4	3.7	3.0	164.85	188.3	-65.5	324.7	319.2	5.51	58.910		
1,700.0	1,688.9	1,663.2	1,659.8	4.0	3.3	165.78	196.5	-65.6	349.3	343.4	5.86	59.650		
1,800.0	1,787.5	1,760.0	1,756.3	4.3	3.5	166.60	204.6	-65.7	373.9	367.7	6.20	60.326		
1,900.0	1,886.1	1,856.8	1,852.7	4.7	3.7	167.31	212.7	-65.9	398.6	392.0	6.54	60.946		
2,000.0	1,984.6	1,953.6	1,949.2	5.0	3.9	167.94	220.9	-66.0	423.3	416.4	6.88	61.515		
2,100.0	2,083.2	2,050.4	2,045.6	5.3	4.1	168.50	229.0	-66.1	448.1	440.9	7.22	62.039		
2,200.0	2,181.7	2,147.2	2,142.1	5.7	4.3	169.00	237.2	-66.2	472.9	465.3	7.56	62.523		
2,300.0	2,280.3	2,244.0	2,238.5	6.0	4.6	169.45	245.3	-66.3	497.7	489.8	7.90	62.970		
2,400.0	2,378.8	2,340.8	2,335.0	6.4	4.8	169.86	253.4	-66.5	522.6	514.4	8.25	63.384		
2,500.0	2,477.4	2,437.5	2,431.4	6.7	5.0	170.23	261.6	-66.6	547.5	538.9	8.59	63.769		
2,600.0	2,576.0	2,534.3	2,527.9	7.0	5.2	170.57	269.7	-66.7	572.4	563.5	8.93	64.127		
2,700.0	2,674.5	2,631.1	2,624.3	7.4	5.4	170.88	277.8	-66.8	597.3	588.1	9.27	64.461		
2,800.0	2,773.1	2,727.9	2,720.8	7.7	5.7	171.16	286.0	-67.0	622.3	612.7	9.61	64.773		
2,900.0	2,871.6	2,824.7	2,817.2	8.0	5.9	171.43	294.1	-67.1	647.2	637.3	9.95	65.065		
3,000.0	2,970.2	2,921.5	2,913.7	8.4	6.1	171.67	302.3	-67.2	672.2	661.9	10.29	65.339		
3,100.0	3,068.7	3,018.3	3,010.2	8.7	6.3	171.90	310.4	-67.3	697.2	686.6	10.63	65.597		
3,200.0	3,167.3	3,115.1	3,106.6	9.1	6.5	172.11	318.5	-67.5	722.2	711.2	10.97	65.839		
3,300.0	3,265.9	3,211.9	3,203.1	9.4	6.8	172.30	326.7	-67.6	747.2	735.9	11.31	66.068		
3,400.0	3,364.4	3,308.7	3,299.5	9.7	7.0	172.49	334.8	-67.7	772.2	760.5	11.65	66.284		
3,500.0	3,463.0	3,405.5	3,396.0	10.1	7.2	172.66	342.9	-67.8	797.2	785.2	11.99	66.488		
3,600.0	3,561.5	3,502.3	3,492.4	10.4	7.4	172.82	351.1	-68.0	822.2	809.9	12.33	66.681		
3,700.0	3,660.1	3,599.1	3,588.9	10.8	7.6	172.97	359.2	-68.1	847.3	834.6	12.67	66.865		
3,800.0	3,758.6	3,695.9	3,685.3	11.1	7.9	173.12	367.4	-68.2	872.3	859.3	13.01	67.039		
3,900.0	3,857.2	3,792.7	3,781.8	11.5	8.1	173.25	375.5	-68.3	897.3	884.0	13.35	67.204		
4,000.0	3,955.8	3,889.5	3,878.2	11.8	8.3	173.38	383.6	-68.4	922.4	908.7	13.69	67.362		
4,100.0	4,054.3	3,986.2	3,974.7	12.1	8.5	173.50	391.8	-68.6	947.4	933.4	14.03	67.512		
4,200.0	4,152.9	4,083.0	4,071.1	12.5	8.7	173.62	399.9	-68.7	972.5	958.1	14.37	67.655		
4,300.0	4,251.4	4,179.8	4,167.6	12.8	9.0	173.73	408.0	-68.8	997.5	982.8	14.71	67.792		
4,400.0	4,350.0	4,276.6	4,264.0	13.2	9.2	173.83	416.2	-68.9	1,022.6	1,007.5	15.06	67.922		
4,500.0	4,448.5	4,373.4	4,360.5	13.5	9.4	173.93	424.3	-69.1	1,047.6	1,032.2	15.40	68.047		
4,600.0	4,547.1	4,470.2	4,456.9	13.8	9.6	174.03	432.5	-69.2	1,072.7	1,057.0	15.74	68.167		
4,700.0	4,645.7	4,567.0	4,553.4	14.2	9.8	174.12	440.6	-69.3	1,097.8	1,081.7	16.08	68.282		

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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-37.76	31.3	-24.3	39.6					
100.0	100.0	100.0	100.0	0.1	0.1	-37.76	31.3	-24.3	39.6	39.3	0.30	133.546		
200.0	200.0	200.0	200.0	0.3	0.3	-37.76	31.3	-24.3	39.6	39.0	0.65	61.359		
300.0	300.0	300.2	300.2	0.5	0.5	-39.64	30.3	-25.1	39.4	38.4	1.00	39.490		
400.0	400.0	400.2	400.1	0.7	0.7	-45.35	27.3	-27.7	38.9	37.6	1.36	28.649		
446.5	446.5	446.6	446.5	0.8	0.8	-49.35	25.3	-29.5	38.8	37.3	1.53	25.316 CC		
500.0	500.0	500.0	499.7	0.8	0.9	-54.97	22.4	-31.9	39.0	37.3	1.73	22.483 ES		
600.0	600.0	599.5	598.7	1.0	1.1	108.74	15.5	-37.9	41.3	39.2	2.13	19.389		
700.0	699.9	698.7	697.2	1.2	1.4	99.42	6.7	-45.4	46.6	44.0	2.54	18.306		
800.0	799.7	797.5	795.1	1.4	1.7	92.55	-4.1	-54.6	54.3	51.3	2.98	18.228 SF		
900.0	899.3	896.1	892.2	1.6	2.0	87.91	-16.7	-65.5	64.1	60.6	3.45	18.591		
1,000.0	998.6	994.2	988.5	1.9	2.4	84.94	-31.1	-77.9	75.6	71.6	3.96	19.093		
1,100.0	1,097.5	1,092.0	1,083.9	2.1	2.8	83.15	-47.3	-91.8	88.6	84.1	4.52	19.586		
1,200.0	1,196.1	1,189.3	1,178.2	2.4	3.2	82.09	-65.3	-107.2	103.1	97.9	5.14	20.064		
1,300.0	1,294.7	1,286.0	1,271.4	2.7	3.7	80.65	-85.0	-124.1	119.2	113.5	5.77	20.683		
1,400.0	1,393.3	1,382.0	1,363.2	3.0	4.2	78.84	-106.3	-142.4	137.3	130.9	6.40	21.464		
1,500.0	1,491.8	1,477.1	1,453.5	3.4	4.8	76.84	-129.2	-162.0	157.2	150.2	7.02	22.397		
1,600.0	1,590.4	1,571.4	1,542.1	3.7	5.4	74.80	-153.5	-182.9	179.1	171.5	7.63	23.471		
1,700.0	1,688.9	1,664.6	1,629.0	4.0	6.0	72.80	-179.1	-204.9	203.1	194.9	8.23	24.673		
1,800.0	1,787.5	1,757.2	1,714.4	4.3	6.6	70.87	-206.2	-228.2	229.2	220.4	8.81	26.005		
1,900.0	1,886.1	1,853.2	1,802.6	4.7	7.3	69.16	-234.9	-252.8	256.2	246.9	9.40	27.272		
2,000.0	1,984.6	1,949.2	1,890.9	5.0	8.0	67.76	-263.6	-277.4	283.5	273.5	9.98	28.414		
2,100.0	2,083.2	2,045.2	1,979.1	5.3	8.7	66.62	-292.3	-302.1	310.8	300.3	10.56	29.445		
2,200.0	2,181.7	2,141.2	2,067.4	5.7	9.4	65.65	-321.0	-326.7	338.3	327.1	11.14	30.378		
2,300.0	2,280.3	2,237.3	2,155.6	6.0	10.1	64.83	-349.7	-351.4	365.8	354.1	11.71	31.226		
2,400.0	2,378.8	2,333.3	2,243.9	6.4	10.8	64.13	-378.4	-376.0	393.4	381.1	12.29	31.999		
2,500.0	2,477.4	2,429.3	2,332.1	6.7	11.5	63.52	-407.1	-400.6	421.0	408.1	12.87	32.706		
2,600.0	2,576.0	2,525.3	2,420.4	7.0	12.2	62.98	-435.8	-425.3	448.7	435.2	13.45	33.355		
2,700.0	2,674.5	2,621.3	2,508.6	7.4	12.9	62.51	-464.5	-449.9	476.4	462.3	14.03	33.952		
2,800.0	2,773.1	2,717.3	2,596.9	7.7	13.5	62.09	-493.2	-474.6	504.1	489.5	14.61	34.504		
2,900.0	2,871.6	2,813.4	2,685.1	8.0	14.2	61.71	-521.9	-499.2	531.8	516.6	15.19	35.015		
3,000.0	2,970.2	2,909.4	2,773.4	8.4	14.9	61.37	-550.6	-523.9	559.6	543.8	15.77	35.489		
3,100.0	3,068.7	3,005.4	2,861.6	8.7	15.6	61.06	-579.4	-548.5	587.4	571.0	16.35	35.930		
3,200.0	3,167.3	3,101.4	2,949.9	9.1	16.3	60.78	-608.1	-573.1	615.2	598.3	16.93	36.342		
3,300.0	3,265.9	3,197.4	3,038.1	9.4	17.0	60.52	-636.8	-597.8	643.0	625.5	17.51	36.727		
3,400.0	3,364.4	3,293.4	3,126.4	9.7	17.7	60.29	-665.5	-622.4	670.8	652.7	18.09	37.088		
3,500.0	3,463.0	3,389.5	3,214.6	10.1	18.4	60.07	-694.2	-647.1	698.7	680.0	18.67	37.427		
3,600.0	3,561.5	3,485.5	3,302.9	10.4	19.1	59.87	-722.9	-671.7	726.5	707.2	19.25	37.745		
3,700.0	3,660.1	3,581.5	3,391.1	10.8	19.8	59.69	-751.6	-696.4	754.3	734.5	19.83	38.045		
3,800.0	3,758.6	3,677.5	3,479.4	11.1	20.5	59.51	-780.3	-721.0	782.2	761.8	20.41	38.328		
3,900.0	3,857.2	3,773.5	3,567.6	11.5	21.2	59.35	-809.0	-745.6	810.1	789.1	20.99	38.596		
4,000.0	3,955.8	3,869.5	3,655.9	11.8	21.9	59.20	-837.7	-770.3	837.9	816.4	21.57	38.850		
4,100.0	4,054.3	3,965.6	3,744.1	12.1	22.6	59.06	-866.4	-794.9	865.8	843.6	22.15	39.090		
4,200.0	4,152.9	4,061.6	3,832.4	12.5	23.3	58.93	-895.1	-819.6	893.7	870.9	22.73	39.318		
4,300.0	4,251.4	4,157.6	3,920.6	12.8	24.0	58.81	-923.8	-844.2	921.5	898.2	23.31	39.535		
4,400.0	4,350.0	4,253.6	4,008.9	13.2	24.7	58.69	-952.5	-868.9	949.4	925.5	23.89	39.742		
4,500.0	4,448.5	4,349.6	4,097.1	13.5	25.4	58.58	-981.2	-893.5	977.3	952.8	24.47	39.938		
4,600.0	4,547.1	4,445.6	4,185.4	13.8	26.1	58.48	-1,009.9	-918.1	1,005.2	980.2	25.05	40.126		
4,700.0	4,645.7	4,541.7	4,273.6	14.2	26.8	58.38	-1,038.6	-942.8	1,033.1	1,007.5	25.63	40.305		
4,800.0	4,744.2	4,637.7	4,361.9	14.5	27.5	58.29	-1,067.3	-967.4	1,061.0	1,034.8	26.21	40.476		
4,900.0	4,842.8	4,733.7	4,450.1	14.9	28.2	58.20	-1,096.1	-992.1	1,088.9	1,062.1	26.79	40.640		

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

# Directional Plus

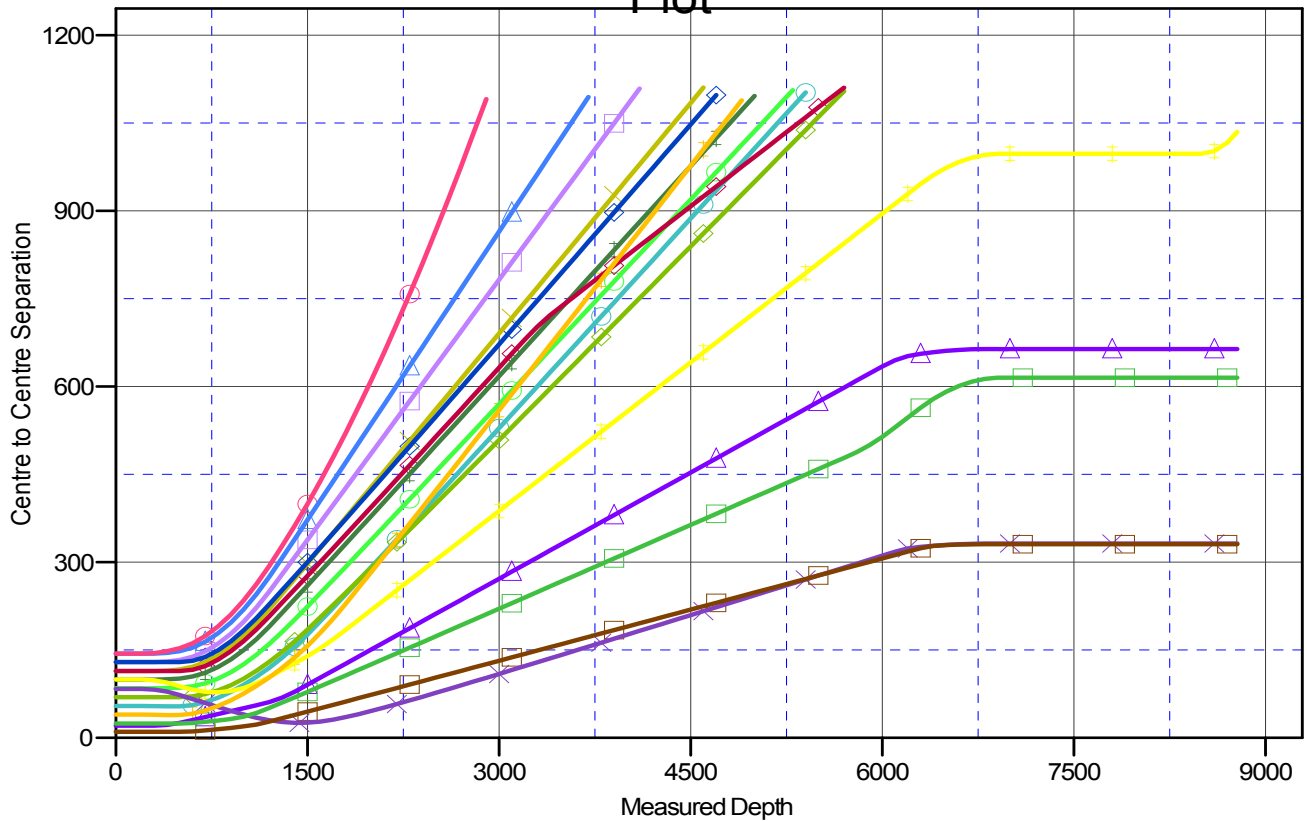
## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-3D (Oxy I21 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Reference Site:</b>	NESE S21-T6S-R97W (Oxy I21 pad)	<b>MD Reference:</b>	KBE @ 8381.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 21-3D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KBE @ 8381.0ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Oxy 21-3D (Oxy I21 Pad)  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.71°

### Ladder Plot



### LEGEND

Oxy 21-10D (Oxy I21 Pad), DD, Plan #1 V0	Oxy 21-16D (Oxy I21 Pad), DD, Plan #1 V0	Oxy 21-6D (Oxy I21 Pad), DD, Plan #1 V0
Oxy 21-11D (Oxy I21 Pad), DD, Plan #1 V0	Oxy 21-17D (Oxy I21 pad), DD, Plan #1 V0	Oxy 21-7D (Oxy I21 Pad), DD, Plan #1 V0
Oxy 21-12D (Oxy I21 Pad), DD, Plan #1 V0	Oxy 21-1D (Oxy I21 Pad), DD, Plan #1 V0	Oxy 21-8D (Oxy I21 Pad), DD, Plan #1 V0
Oxy 21-13D (Oxy I21 Pad), DD, Plan #1 V0	Oxy 21-2D (Oxy I21 Pad), DD, Plan #1 V0	Oxy 21-9D (Oxy I21 Pad), DD, Plan #1 V0
Oxy 21-14D (Oxy I21 Pad), DD, Plan #1 V0	Oxy 21-4D (Oxy I21 Pad), DD, Plan #1 V0	
Oxy 21-15D (Oxy I21 Pad), DD, Plan #1 V0	Oxy 21-5D (Oxy I21 Pad), DD, Plan #1 V0	