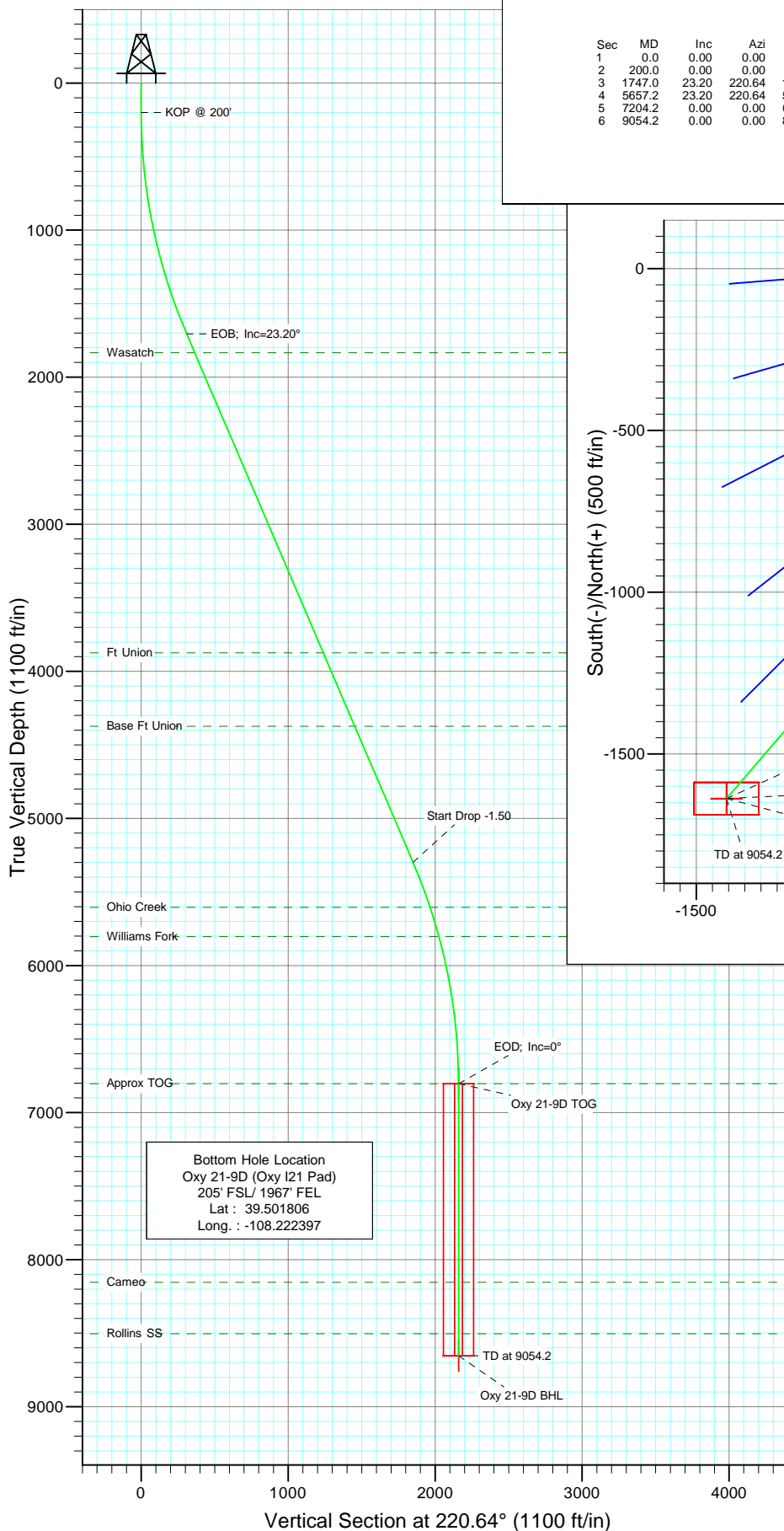




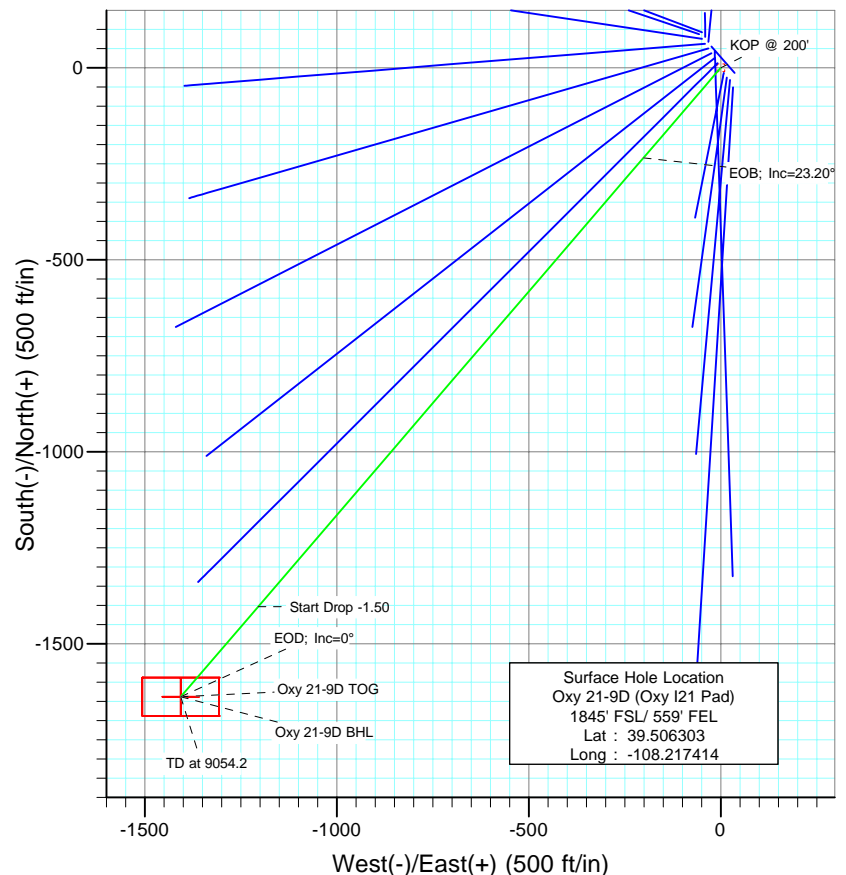
Berry Petroleum Company

Project: Garfield County  
Site: NESE S21-T6S-R97W (Oxy I21 pad)  
Well: Oxy 21-9D (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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1747.0	23.20	220.64	1705.0	-234.5	-201.3	1.50	220.64	309.0	
4	5657.2	23.20	220.64	5299.0	-1403.5	-1204.8	0.00	0.00	1849.7	
5	7204.2	0.00	0.00	6804.0	-1637.9	-1406.1	1.50	180.00	2158.7	Oxy 21-9D TOG
6	9054.2	0.00	0.00	8654.0	-1637.9	-1406.1	0.00	0.00	2158.7	Oxy 21-9D BHL



#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1834.0	1887.3	Wasatch
3874.0	4106.8	Ft Union
4374.0	4650.9	Base Ft Union
5604.0	5983.5	Ohio Creek
5804.0	6192.4	Williams Fork
6804.0	7204.2	Approx TOG
8154.0	8554.2	Cameo
8504.0	8904.2	Rollins SS



Azimuths to True North  
Magnetic North: 10.65°

Magnetic Field  
Strength: 52405.1snT  
Dip Angle: 65.76°  
Date: 10/6/2009  
Model: IGRF200510

#### DESIGN DETAILS: Plan #1

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

Target	Azimuth	Origin	N/S	E/W	From TVD
Oxy 21-9D BHL	220.64	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 21-9D (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 21-9D (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 21-9D (Oxy I21 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,620,769.48 ft	Latitude:	39.506303
	+E/-W	0.0 ft	Easting:	2,233,375.54 ft	Longitude:	-108.217414
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	10/6/2009	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	220.64

<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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,747.0	23.20	220.64	1,705.0	-234.5	-201.3	1.50	1.50	0.00	220.64	
5,657.2	23.20	220.64	5,299.0	-1,403.5	-1,204.8	0.00	0.00	0.00	0.00	
7,204.2	0.00	0.00	6,804.0	-1,637.9	-1,406.1	1.50	-1.50	0.00	180.00	Oxy 21-9D TOG
9,054.2	0.00	0.00	8,654.0	-1,637.9	-1,406.1	0.00	0.00	0.00	0.00	Oxy 21-9D BHL

# Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP @ 200'
210.0	0.15	220.64	210.0	0.0	0.0	0.0	1.50	1.50	
240.0	0.60	220.64	240.0	-0.2	-0.1	0.2	1.50	1.50	
270.0	1.05	220.64	270.0	-0.5	-0.4	0.6	1.50	1.50	
300.0	1.50	220.64	300.0	-1.0	-0.9	1.3	1.50	1.50	
330.0	1.95	220.64	330.0	-1.7	-1.4	2.2	1.50	1.50	
360.0	2.40	220.64	360.0	-2.5	-2.2	3.4	1.50	1.50	
390.0	2.85	220.64	389.9	-3.6	-3.1	4.7	1.50	1.50	
420.0	3.30	220.64	419.9	-4.8	-4.1	6.3	1.50	1.50	
450.0	3.75	220.64	449.8	-6.2	-5.3	8.2	1.50	1.50	
480.0	4.20	220.64	479.7	-7.8	-6.7	10.3	1.50	1.50	
510.0	4.65	220.64	509.7	-9.5	-8.2	12.6	1.50	1.50	
540.0	5.10	220.64	539.6	-11.5	-9.8	15.1	1.50	1.50	
570.0	5.55	220.64	569.4	-13.6	-11.7	17.9	1.50	1.50	
600.0	6.00	220.64	599.3	-15.9	-13.6	20.9	1.50	1.50	
630.0	6.45	220.64	629.1	-18.3	-15.7	24.2	1.50	1.50	
660.0	6.90	220.64	658.9	-21.0	-18.0	27.7	1.50	1.50	
690.0	7.35	220.64	688.7	-23.8	-20.4	31.4	1.50	1.50	
720.0	7.80	220.64	718.4	-26.8	-23.0	35.3	1.50	1.50	
750.0	8.25	220.64	748.1	-30.0	-25.7	39.5	1.50	1.50	
780.0	8.70	220.64	777.8	-33.3	-28.6	44.0	1.50	1.50	
810.0	9.15	220.64	807.4	-36.9	-31.7	48.6	1.50	1.50	
840.0	9.60	220.64	837.0	-40.6	-34.8	53.5	1.50	1.50	
870.0	10.05	220.64	866.6	-44.5	-38.2	58.6	1.50	1.50	
900.0	10.50	220.64	896.1	-48.5	-41.7	64.0	1.50	1.50	
930.0	10.95	220.64	925.6	-52.8	-45.3	69.5	1.50	1.50	
960.0	11.40	220.64	955.0	-57.2	-49.1	75.4	1.50	1.50	
990.0	11.85	220.64	984.4	-61.8	-53.0	81.4	1.50	1.50	
1,020.0	12.30	220.64	1,013.7	-66.5	-57.1	87.7	1.50	1.50	
1,050.0	12.75	220.64	1,043.0	-71.5	-61.3	94.2	1.50	1.50	
1,080.0	13.20	220.64	1,072.2	-76.6	-65.7	100.9	1.50	1.50	
1,110.0	13.65	220.64	1,101.4	-81.9	-70.3	107.9	1.50	1.50	
1,140.0	14.10	220.64	1,130.5	-87.3	-75.0	115.1	1.50	1.50	
1,170.0	14.55	220.64	1,159.6	-93.0	-79.8	122.5	1.50	1.50	
1,200.0	15.00	220.64	1,188.6	-98.8	-84.8	130.2	1.50	1.50	
1,230.0	15.45	220.64	1,217.6	-104.7	-89.9	138.0	1.50	1.50	
1,260.0	15.90	220.64	1,246.4	-110.9	-95.2	146.1	1.50	1.50	
1,290.0	16.35	220.64	1,275.3	-117.2	-100.6	154.5	1.50	1.50	
1,320.0	16.80	220.64	1,304.0	-123.7	-106.2	163.0	1.50	1.50	
1,350.0	17.25	220.64	1,332.7	-130.4	-111.9	171.8	1.50	1.50	
1,380.0	17.70	220.64	1,361.3	-137.2	-117.8	180.8	1.50	1.50	
1,410.0	18.15	220.64	1,389.9	-144.2	-123.8	190.1	1.50	1.50	
1,440.0	18.60	220.64	1,418.3	-151.4	-130.0	199.5	1.50	1.50	
1,470.0	19.05	220.64	1,446.7	-158.7	-136.3	209.2	1.50	1.50	
1,500.0	19.50	220.64	1,475.0	-166.2	-142.7	219.1	1.50	1.50	

# Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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
1,530.0	19.95	220.64	1,503.3	-173.9	-149.3	229.2	1.50	1.50	
1,560.0	20.40	220.64	1,531.4	-181.8	-156.0	239.6	1.50	1.50	
1,590.0	20.85	220.64	1,559.5	-189.8	-162.9	250.1	1.50	1.50	
1,620.0	21.30	220.64	1,587.5	-198.0	-170.0	260.9	1.50	1.50	
1,650.0	21.75	220.64	1,615.4	-206.3	-177.1	271.9	1.50	1.50	
1,680.0	22.20	220.64	1,643.2	-214.8	-184.4	283.2	1.50	1.50	
1,710.0	22.65	220.64	1,671.0	-223.5	-191.9	294.6	1.50	1.50	
1,740.0	23.10	220.64	1,698.6	-232.4	-199.5	306.3	1.50	1.50	
1,747.0	23.20	220.64	1,705.0	-234.5	-201.3	309.0	1.50	1.50	EOB; Inc=23.20°
1,770.0	23.20	220.64	1,726.2	-241.3	-207.2	318.1	0.00	0.00	
1,800.0	23.20	220.64	1,753.8	-250.3	-214.9	329.9	0.00	0.00	
1,830.0	23.20	220.64	1,781.3	-259.3	-222.6	341.7	0.00	0.00	
1,860.0	23.20	220.64	1,808.9	-268.3	-230.3	353.5	0.00	0.00	
1,887.3	23.20	220.64	1,834.0	-276.4	-237.3	364.3	0.00	0.00	Wasatch
1,890.0	23.20	220.64	1,836.5	-277.2	-238.0	365.4	0.00	0.00	
1,920.0	23.20	220.64	1,864.1	-286.2	-245.7	377.2	0.00	0.00	
1,950.0	23.20	220.64	1,891.6	-295.2	-253.4	389.0	0.00	0.00	
1,980.0	23.20	220.64	1,919.2	-304.1	-261.1	400.8	0.00	0.00	
2,010.0	23.20	220.64	1,946.8	-313.1	-268.8	412.6	0.00	0.00	
2,040.0	23.20	220.64	1,974.4	-322.1	-276.5	424.5	0.00	0.00	
2,070.0	23.20	220.64	2,001.9	-331.0	-284.2	436.3	0.00	0.00	
2,100.0	23.20	220.64	2,029.5	-340.0	-291.9	448.1	0.00	0.00	
2,130.0	23.20	220.64	2,057.1	-349.0	-299.6	459.9	0.00	0.00	
2,160.0	23.20	220.64	2,084.6	-357.9	-307.3	471.7	0.00	0.00	
2,190.0	23.20	220.64	2,112.2	-366.9	-315.0	483.6	0.00	0.00	
2,220.0	23.20	220.64	2,139.8	-375.9	-322.7	495.4	0.00	0.00	
2,250.0	23.20	220.64	2,167.4	-384.8	-330.4	507.2	0.00	0.00	
2,280.0	23.20	220.64	2,194.9	-393.8	-338.1	519.0	0.00	0.00	
2,310.0	23.20	220.64	2,222.5	-402.8	-345.8	530.8	0.00	0.00	
2,340.0	23.20	220.64	2,250.1	-411.8	-353.5	542.7	0.00	0.00	
2,370.0	23.20	220.64	2,277.7	-420.7	-361.2	554.5	0.00	0.00	
2,400.0	23.20	220.64	2,305.2	-429.7	-368.9	566.3	0.00	0.00	
2,430.0	23.20	220.64	2,332.8	-438.7	-376.6	578.1	0.00	0.00	
2,460.0	23.20	220.64	2,360.4	-447.6	-384.3	589.9	0.00	0.00	
2,490.0	23.20	220.64	2,387.9	-456.6	-392.0	601.8	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 21-9D BHL	0.00	0.00	8,654.0	-1,637.9	-1,406.1	1,619,174.32	2,231,921.09	39.501806	-108.222397
- plan misses target center by 6456.6ft at 2490.0ft MD (2387.9 TVD, -456.6 N, -392.0 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									
Oxy 21-9D TOG	0.00	0.00	6,804.0	-1,637.9	-1,406.1	1,619,174.32	2,231,921.09	39.501806	-108.222397
- plan misses target center by 4682.5ft at 2490.0ft MD (2387.9 TVD, -456.6 N, -392.0 E)									
- Point									

# Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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	23.20	220.64	2,397.1	-459.6	-394.5	605.7	0.00	0.00	
2,600.0	23.20	220.64	2,489.1	-489.5	-420.2	645.1	0.00	0.00	
2,700.0	23.20	220.64	2,581.0	-519.4	-445.9	684.5	0.00	0.00	
2,800.0	23.20	220.64	2,672.9	-549.3	-471.5	723.9	0.00	0.00	
2,900.0	23.20	220.64	2,764.8	-579.2	-497.2	763.3	0.00	0.00	
3,000.0	23.20	220.64	2,856.7	-609.1	-522.9	802.7	0.00	0.00	
3,100.0	23.20	220.64	2,948.6	-639.0	-548.5	842.1	0.00	0.00	
3,200.0	23.20	220.64	3,040.5	-668.9	-574.2	881.5	0.00	0.00	
3,300.0	23.20	220.64	3,132.4	-698.8	-599.8	920.9	0.00	0.00	
3,400.0	23.20	220.64	3,224.3	-728.7	-625.5	960.3	0.00	0.00	
3,500.0	23.20	220.64	3,316.2	-758.6	-651.2	999.7	0.00	0.00	
3,600.0	23.20	220.64	3,408.2	-788.4	-676.8	1,039.1	0.00	0.00	
3,700.0	23.20	220.64	3,500.1	-818.3	-702.5	1,078.5	0.00	0.00	
3,800.0	23.20	220.64	3,592.0	-848.2	-728.2	1,117.9	0.00	0.00	
3,900.0	23.20	220.64	3,683.9	-878.1	-753.8	1,157.3	0.00	0.00	
4,000.0	23.20	220.64	3,775.8	-908.0	-779.5	1,196.7	0.00	0.00	
4,100.0	23.20	220.64	3,867.7	-937.9	-805.2	1,236.1	0.00	0.00	
4,106.8	23.20	220.64	3,874.0	-940.0	-806.9	1,238.8	0.00	0.00	Ft Union
4,200.0	23.20	220.64	3,959.6	-967.8	-830.8	1,275.5	0.00	0.00	
4,300.0	23.20	220.64	4,051.5	-997.7	-856.5	1,314.9	0.00	0.00	
4,400.0	23.20	220.64	4,143.4	-1,027.6	-882.2	1,354.3	0.00	0.00	
4,500.0	23.20	220.64	4,235.3	-1,057.5	-907.8	1,393.7	0.00	0.00	
4,600.0	23.20	220.64	4,327.3	-1,087.4	-933.5	1,433.1	0.00	0.00	
4,650.9	23.20	220.64	4,374.0	-1,102.6	-946.5	1,453.2	0.00	0.00	Base Ft Union
4,700.0	23.20	220.64	4,419.2	-1,117.3	-959.2	1,472.5	0.00	0.00	
4,800.0	23.20	220.64	4,511.1	-1,147.2	-984.8	1,511.9	0.00	0.00	
4,900.0	23.20	220.64	4,603.0	-1,177.1	-1,010.5	1,551.3	0.00	0.00	
5,000.0	23.20	220.64	4,694.9	-1,207.0	-1,036.1	1,590.7	0.00	0.00	
5,100.0	23.20	220.64	4,786.8	-1,236.9	-1,061.8	1,630.1	0.00	0.00	
5,200.0	23.20	220.64	4,878.7	-1,266.8	-1,087.5	1,669.5	0.00	0.00	
5,300.0	23.20	220.64	4,970.6	-1,296.7	-1,113.1	1,708.9	0.00	0.00	
5,400.0	23.20	220.64	5,062.5	-1,326.6	-1,138.8	1,748.3	0.00	0.00	
5,500.0	23.20	220.64	5,154.5	-1,356.5	-1,164.5	1,787.7	0.00	0.00	
5,600.0	23.20	220.64	5,246.4	-1,386.4	-1,190.1	1,827.1	0.00	0.00	
5,657.2	23.20	220.64	5,299.0	-1,403.5	-1,204.8	1,849.7	0.00	0.00	Start Drop -1.50
5,700.0	22.56	220.64	5,338.4	-1,416.1	-1,215.7	1,866.3	1.50	-1.50	
5,800.0	21.06	220.64	5,431.2	-1,444.3	-1,239.9	1,903.5	1.50	-1.50	
5,900.0	19.56	220.64	5,525.0	-1,470.6	-1,262.5	1,938.2	1.50	-1.50	
5,983.5	18.31	220.64	5,604.0	-1,491.2	-1,280.1	1,965.3	1.50	-1.50	Ohio Creek
6,000.0	18.06	220.64	5,619.6	-1,495.1	-1,283.5	1,970.4	1.50	-1.50	
6,100.0	16.56	220.64	5,715.1	-1,517.7	-1,302.9	2,000.2	1.50	-1.50	
6,192.4	15.18	220.64	5,804.0	-1,536.9	-1,319.3	2,025.5	1.50	-1.50	Williams Fork
6,200.0	15.06	220.64	5,811.3	-1,538.4	-1,320.6	2,027.4	1.50	-1.50	
6,300.0	13.56	220.64	5,908.2	-1,557.1	-1,336.7	2,052.2	1.50	-1.50	
6,400.0	12.06	220.64	6,005.7	-1,573.9	-1,351.2	2,074.3	1.50	-1.50	
6,500.0	10.56	220.64	6,103.8	-1,588.8	-1,363.9	2,094.0	1.50	-1.50	
6,600.0	9.06	220.64	6,202.3	-1,601.8	-1,375.0	2,111.0	1.50	-1.50	
6,700.0	7.56	220.64	6,301.3	-1,612.7	-1,384.4	2,125.5	1.50	-1.50	
6,800.0	6.06	220.64	6,400.5	-1,621.7	-1,392.2	2,137.3	1.50	-1.50	
6,900.0	4.56	220.64	6,500.1	-1,628.8	-1,398.2	2,146.6	1.50	-1.50	
7,000.0	3.06	220.64	6,599.9	-1,633.8	-1,402.5	2,153.2	1.50	-1.50	
7,100.0	1.56	220.64	6,699.8	-1,636.9	-1,405.2	2,157.3	1.50	-1.50	

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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
7,200.0	0.06	220.64	6,799.8	-1,637.9	-1,406.1	2,158.7	1.50	-1.50	
7,204.2	0.00	0.00	6,804.0	-1,637.9	-1,406.1	2,158.7	1.50	-1.50	EOD; Inc=0° - Approx TOG - Oxy 21-9D TOG
7,300.0	0.00	0.00	6,899.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
7,400.0	0.00	0.00	6,999.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
7,500.0	0.00	0.00	7,099.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
7,600.0	0.00	0.00	7,199.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
7,700.0	0.00	0.00	7,299.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
7,800.0	0.00	0.00	7,399.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
7,900.0	0.00	0.00	7,499.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,000.0	0.00	0.00	7,599.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,100.0	0.00	0.00	7,699.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,200.0	0.00	0.00	7,799.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,300.0	0.00	0.00	7,899.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,400.0	0.00	0.00	7,999.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,500.0	0.00	0.00	8,099.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,554.2	0.00	0.00	8,154.0	-1,637.9	-1,406.1	2,158.7	0.00	0.00	Cameo
8,600.0	0.00	0.00	8,199.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,700.0	0.00	0.00	8,299.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,800.0	0.00	0.00	8,399.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,900.0	0.00	0.00	8,499.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
8,904.2	0.00	0.00	8,504.0	-1,637.9	-1,406.1	2,158.7	0.00	0.00	Rollins SS
9,000.0	0.00	0.00	8,599.8	-1,637.9	-1,406.1	2,158.7	0.00	0.00	
9,054.2	0.00	0.00	8,654.0	-1,637.9	-1,406.1	2,158.7	0.00	0.00	TD at 9054.2 - Oxy 21-9D BHL

Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
Oxy 21-9D BHL	0.00	0.00	8,654.0	-1,637.9	-1,406.1	1,619,174.32	2,231,921.09	39.501806	-108.222397
- plan hits target center									
- Rectangle (sides W100.0 H200.0 D0.0)									
Oxy 21-9D TOG	0.00	0.00	6,804.0	-1,637.9	-1,406.1	1,619,174.32	2,231,921.09	39.501806	-108.222397
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,887.3	1,834.0	Wasatch		0.00		
4,106.8	3,874.0	Ft Union		0.00		
4,650.9	4,374.0	Base Ft Union		0.00		
5,983.5	5,604.0	Ohio Creek		0.00		
6,192.4	5,804.0	Williams Fork		0.00		
7,204.2	6,804.0	Approx TOG		0.00		
8,554.2	8,154.0	Cameo		0.00		
8,904.2	8,504.0	Rollins SS		0.00		

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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)	
200.0	200.0	0.0	0.0	KOP @ 200'
1,747.0	1,705.0	-234.5	-201.3	EOB; Inc=23.20°
5,657.2	5,299.0	-1,403.5	-1,204.8	Start Drop -1.50
7,204.2	6,804.0	-1,637.9	-1,406.1	EOD; Inc=0°
9,054.2	8,654.0	-1,637.9	-1,406.1	TD at 9054.2

## Directional Plus

### Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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	9,054.2	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 21-9D (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 21-9D (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 Offset Well - Wellbore - Design	Reference Measured Depth	Offset Measured Depth	Distance		Separation Factor	Warning
	(ft)	(ft)	Between Centres (ft)	Between Ellipses (ft)		
NESE S21-T6S-R97W (Oxy I21 pad)						
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	14.7	14.1	22.766	CC
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	400.0	400.1	15.1	13.7	11.012	ES
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	1,700.0	1,700.5	37.1	24.9	3.043	SF
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	30.0	29.3	46.442	CC, ES
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	1,600.0	1,603.7	87.0	77.5	9.180	SF
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	45.3	44.6	70.139	CC, ES
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	1,600.0	1,597.1	142.7	132.9	14.543	SF
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	60.0	59.3	92.886	CC, ES
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	1,600.0	1,587.7	196.8	187.2	20.581	SF
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	74.7	74.0	115.631	CC, ES
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	1,600.0	1,575.9	249.4	240.1	26.716	SF
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	90.0	89.3	139.327	CC, ES
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	1,700.0	1,654.2	336.5	326.6	33.920	SF
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	104.8	104.2	162.281	CC, ES
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	1,700.0	1,635.2	395.2	385.7	41.720	SF
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	200.0	200.0	104.4	103.7	161.599	CC, ES
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	2,200.0	2,021.5	633.9	618.2	40.345	SF
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	347.7	347.1	59.4	58.3	50.918	CC, ES
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	1,700.0	1,672.7	217.5	206.6	19.893	SF
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	750.4	755.1	34.4	31.8	13.039	CC, ES
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	900.0	904.7	38.8	35.4	11.505	SF
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	446.7	446.5	38.8	37.3	25.311	CC
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	500.0	499.7	39.0	37.3	22.476	ES
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	800.0	797.7	54.3	51.3	18.238	SF
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	463.1	462.8	28.6	27.0	17.923	CC
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	500.0	499.7	28.7	27.0	16.554	ES
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	600.0	599.3	31.0	28.8	14.578	SF
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	391.5	391.4	14.5	13.2	10.955	CC
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	400.0	399.9	14.5	13.2	10.712	ES
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	500.0	499.7	16.1	14.4	9.333	SF
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	526.8	830.1	56.4	54.5	30.643	CC, ES
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	700.0	1,002.0	62.6	60.1	25.029	SF
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	75.0	74.4	116.136	CC, ES
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	700.0	693.8	98.1	95.6	39.598	SF
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	90.2	89.6	139.746	CC, ES
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	800.0	788.2	128.1	125.3	44.575	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 21-9D (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 21-9D (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: 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	-35.15	12.0	-8.5	14.7					
100.0	100.0	100.0	100.0	0.1	0.1	-35.15	12.0	-8.5	14.7	14.4	0.30	49.549		
200.0	200.0	200.0	200.0	0.3	0.3	-35.15	12.0	-8.5	14.7	14.1	0.65	22.766 CC		
300.0	300.0	300.1	300.1	0.5	0.5	104.12	11.1	-9.4	14.8	13.8	1.00	14.815		
400.0	399.9	400.1	400.0	0.7	0.7	103.87	8.3	-12.2	15.1	13.7	1.37	11.012 ES		
500.0	499.7	500.2	499.9	0.9	0.9	103.47	3.7	-16.8	15.6	13.8	1.78	8.772		
600.0	599.3	600.3	599.5	1.1	1.1	102.96	-2.8	-23.3	16.3	14.0	2.23	7.293		
700.0	698.6	700.3	698.9	1.4	1.4	102.36	-11.1	-31.6	17.2	14.4	2.75	6.247		
800.0	797.5	800.4	797.9	1.7	1.7	101.70	-21.3	-41.8	18.2	14.9	3.33	5.475		
900.0	896.1	900.4	896.5	2.0	2.0	101.02	-33.2	-53.8	19.5	15.5	3.99	4.888		
1,000.0	994.2	1,000.5	994.6	2.4	2.4	100.34	-47.0	-67.6	21.0	16.3	4.74	4.431		
1,100.0	1,091.7	1,100.5	1,092.2	2.8	2.8	99.67	-62.6	-83.2	22.7	17.1	5.57	4.071		
1,200.0	1,188.6	1,200.5	1,189.1	3.3	3.3	99.04	-80.1	-100.7	24.5	18.0	6.49	3.783		
1,300.0	1,284.9	1,300.6	1,285.4	3.8	3.8	98.44	-99.3	-119.9	26.6	19.1	7.49	3.550		
1,400.0	1,380.4	1,400.6	1,380.9	4.3	4.3	97.87	-120.2	-140.9	28.9	20.3	8.59	3.359		
1,500.0	1,475.0	1,500.6	1,475.6	4.9	4.9	97.35	-143.0	-163.6	31.3	21.5	9.78	3.201		
1,600.0	1,568.9	1,600.6	1,569.7	5.5	5.5	98.03	-167.0	-187.7	34.0	23.0	11.02	3.085		
1,700.0	1,661.7	1,700.5	1,663.6	6.2	6.1	102.43	-191.0	-211.8	37.1	24.9	12.20	3.043 SF		
1,800.0	1,753.8	1,800.3	1,757.4	6.9	6.8	109.14	-215.1	-235.8	41.2	28.0	13.21	3.117		
1,900.0	1,845.7	1,900.1	1,851.2	7.6	7.4	114.95	-239.1	-259.9	45.8	31.7	14.06	3.255		
2,000.0	1,937.6	1,999.9	1,945.1	8.4	8.0	119.65	-263.1	-284.0	50.8	35.9	14.84	3.422		
2,100.0	2,029.5	2,099.7	2,038.9	9.1	8.6	123.50	-287.2	-308.0	56.0	40.5	15.55	3.602		
2,200.0	2,121.4	2,199.5	2,132.7	9.8	9.3	126.67	-311.2	-332.1	61.5	45.3	16.24	3.787		
2,300.0	2,213.3	2,299.3	2,226.5	10.5	9.9	129.32	-335.2	-356.1	67.2	50.2	16.91	3.971		
2,400.0	2,305.2	2,399.1	2,320.4	11.2	10.5	131.55	-359.3	-380.2	72.9	55.3	17.57	4.150		
2,500.0	2,397.1	2,498.9	2,414.2	12.0	11.2	133.46	-383.3	-404.3	78.8	60.5	18.22	4.322		
2,600.0	2,489.1	2,598.7	2,508.0	12.7	11.8	135.10	-407.3	-428.3	84.7	65.8	18.87	4.488		
2,700.0	2,581.0	2,698.5	2,601.8	13.4	12.4	136.52	-431.4	-452.4	90.7	71.2	19.52	4.645		
2,800.0	2,672.9	2,798.3	2,695.7	14.1	13.0	137.77	-455.4	-476.5	96.7	76.5	20.17	4.795		
2,900.0	2,764.8	2,898.1	2,789.5	14.9	13.7	138.87	-479.5	-500.5	102.8	82.0	20.82	4.938		
3,000.0	2,856.7	2,997.9	2,883.3	15.6	14.3	139.85	-503.5	-524.6	108.9	87.4	21.47	5.073		
3,100.0	2,948.6	3,097.7	2,977.1	16.3	14.9	140.72	-527.5	-548.7	115.0	92.9	22.12	5.201		
3,200.0	3,040.5	3,197.5	3,070.9	17.1	15.6	141.51	-551.6	-572.7	121.2	98.4	22.77	5.323		
3,300.0	3,132.4	3,297.3	3,164.8	17.8	16.2	142.21	-575.6	-596.8	127.4	104.0	23.42	5.438		
3,400.0	3,224.3	3,397.1	3,258.6	18.5	16.8	142.86	-599.6	-620.8	133.6	109.5	24.08	5.548		
3,500.0	3,316.2	3,496.9	3,352.4	19.2	17.5	143.44	-623.7	-644.9	139.8	115.1	24.73	5.652		
3,600.0	3,408.2	3,596.7	3,446.2	20.0	18.1	143.98	-647.7	-669.0	146.0	120.6	25.39	5.751		
3,700.0	3,500.1	3,696.5	3,540.1	20.7	18.7	144.47	-671.7	-693.0	152.3	126.2	26.05	5.845		
3,800.0	3,592.0	3,796.3	3,633.9	21.4	19.4	144.92	-695.8	-717.1	158.5	131.8	26.71	5.935		
3,900.0	3,683.9	3,896.1	3,727.7	22.2	20.0	145.34	-719.8	-741.2	164.8	137.4	27.37	6.020		
4,000.0	3,775.8	3,995.8	3,821.5	22.9	20.6	145.73	-743.8	-765.2	171.0	143.0	28.03	6.101		
4,100.0	3,867.7	4,095.6	3,915.3	23.6	21.3	146.09	-767.9	-789.3	177.3	148.6	28.70	6.179		
4,200.0	3,959.6	4,195.4	4,009.2	24.3	21.9	146.43	-791.9	-813.4	183.6	154.2	29.36	6.254		
4,300.0	4,051.5	4,295.2	4,103.0	25.1	22.5	146.74	-815.9	-837.4	189.9	159.9	30.02	6.325		
4,400.0	4,143.4	4,395.0	4,196.8	25.8	23.2	147.04	-840.0	-861.5	196.2	165.5	30.69	6.393		
4,500.0	4,235.3	4,494.8	4,290.6	26.5	23.8	147.31	-864.0	-885.5	202.5	171.1	31.35	6.458		
4,600.0	4,327.3	4,594.6	4,384.5	27.3	24.4	147.57	-888.0	-909.6	208.8	176.8	32.02	6.520		
4,700.0	4,419.2	4,694.4	4,478.3	28.0	25.1	147.81	-912.1	-933.7	215.1	182.4	32.69	6.580		
4,800.0	4,511.1	4,794.2	4,572.1	28.7	25.7	148.04	-936.1	-957.7	221.4	188.0	33.36	6.638		
4,900.0	4,603.0	4,894.0	4,665.9	29.5	26.3	148.26	-960.1	-981.8	227.7	193.7	34.02	6.693		
5,000.0	4,694.9	4,993.8	4,759.7	30.2	27.0	148.47	-984.2	-1,005.9	234.0	199.3	34.69	6.746		
5,100.0	4,786.8	5,093.6	4,853.6	30.9	27.6	148.66	-1,008.2	-1,029.9	240.3	205.0	35.36	6.797		

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 21-9D (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 21-9D (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 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	4,878.7	5,193.4	4,947.4	31.6	28.2	148.84	-1,032.3	-1,054.0	246.7	210.6	36.03	6.846		
5,300.0	4,970.6	5,293.2	5,041.2	32.4	28.9	149.02	-1,056.3	-1,078.1	253.0	216.3	36.70	6.894		
5,400.0	5,062.5	5,393.0	5,135.0	33.1	29.5	149.19	-1,080.3	-1,102.1	259.3	221.9	37.37	6.939		
5,500.0	5,154.5	5,492.8	5,228.9	33.8	30.1	149.35	-1,104.4	-1,126.2	265.6	227.6	38.04	6.983		
5,600.0	5,246.4	5,592.6	5,322.7	34.6	30.8	149.50	-1,128.4	-1,150.2	272.0	233.3	38.71	7.026		
5,700.0	5,338.4	5,692.4	5,416.5	35.3	31.4	149.64	-1,152.4	-1,174.3	278.1	238.7	39.40	7.059		
5,800.0	5,431.2	5,792.3	5,510.4	36.0	32.1	149.56	-1,176.5	-1,198.4	282.3	242.1	40.24	7.016		
5,900.0	5,525.0	5,886.6	5,599.5	36.6	32.6	149.36	-1,198.5	-1,220.4	285.3	244.2	41.13	6.937		
6,000.0	5,619.6	5,980.8	5,689.1	37.2	33.1	149.17	-1,218.8	-1,240.8	288.1	246.1	41.96	6.865		
6,100.0	5,715.1	6,074.9	5,779.4	37.7	33.6	149.00	-1,237.6	-1,259.6	290.6	247.8	42.74	6.798		
6,200.0	5,811.3	6,169.0	5,870.3	38.2	34.0	148.85	-1,254.9	-1,276.9	292.9	249.4	43.46	6.738		
6,300.0	5,908.2	6,263.1	5,961.7	38.6	34.4	148.70	-1,270.5	-1,292.5	294.9	250.8	44.13	6.683		
6,400.0	6,005.7	6,357.2	6,053.7	39.0	34.8	148.58	-1,284.5	-1,306.6	296.7	252.0	44.74	6.632		
6,500.0	6,103.8	6,451.2	6,146.1	39.4	35.1	148.46	-1,297.0	-1,319.0	298.3	253.0	45.30	6.586		
6,600.0	6,202.3	6,545.2	6,238.8	39.7	35.4	148.36	-1,307.8	-1,329.8	299.7	253.9	45.80	6.544		
6,700.0	6,301.3	6,639.2	6,331.9	40.0	35.7	148.27	-1,317.0	-1,339.0	300.8	254.6	46.24	6.505		
6,800.0	6,400.5	6,733.3	6,425.3	40.2	35.9	148.19	-1,324.5	-1,346.6	301.7	255.1	46.63	6.470		
6,900.0	6,500.1	6,827.3	6,518.9	40.4	36.0	148.12	-1,330.5	-1,352.6	302.3	255.4	46.96	6.438		
7,000.0	6,599.9	6,921.2	6,612.7	40.5	36.2	148.07	-1,334.8	-1,356.9	302.7	255.5	47.24	6.409		
7,100.0	6,699.8	7,015.2	6,706.7	40.6	36.3	148.02	-1,337.5	-1,359.6	302.9	255.5	47.46	6.382		
7,200.0	6,799.8	7,109.2	6,800.6	40.7	36.3	147.99	-1,338.5	-1,360.6	302.9	255.2	47.63	6.358		
7,241.2	6,841.0	7,149.6	6,841.0	40.7	36.4	147.99	-1,338.5	-1,360.6	302.9	255.2	47.70	6.349		
7,300.0	6,899.8	7,208.4	6,899.8	40.7	36.4	8.63	-1,338.5	-1,360.6	302.8	255.0	47.81	6.334		
7,400.0	6,999.8	7,308.4	6,999.8	40.8	36.5	8.63	-1,338.5	-1,360.6	302.8	254.8	48.00	6.309		
7,500.0	7,099.8	7,408.4	7,099.8	40.8	36.5	8.63	-1,338.5	-1,360.6	302.8	254.6	48.19	6.285		
7,600.0	7,199.8	7,508.4	7,199.8	40.9	36.6	8.63	-1,338.5	-1,360.6	302.8	254.5	48.38	6.260		
7,700.0	7,299.8	7,608.4	7,299.8	40.9	36.6	8.63	-1,338.5	-1,360.6	302.8	254.3	48.57	6.236		
7,800.0	7,399.8	7,708.4	7,399.8	41.0	36.7	8.63	-1,338.5	-1,360.6	302.8	254.1	48.76	6.211		
7,900.0	7,499.8	7,808.4	7,499.8	41.1	36.8	8.63	-1,338.5	-1,360.6	302.8	253.9	48.95	6.186		
8,000.0	7,599.8	7,908.4	7,599.8	41.1	36.8	8.63	-1,338.5	-1,360.6	302.8	253.7	49.15	6.162		
8,100.0	7,699.8	8,008.4	7,699.8	41.2	36.9	8.63	-1,338.5	-1,360.6	302.8	253.5	49.35	6.137		
8,200.0	7,799.8	8,108.4	7,799.8	41.2	37.0	8.63	-1,338.5	-1,360.6	302.8	253.3	49.55	6.112		
8,300.0	7,899.8	8,208.4	7,899.8	41.3	37.0	8.63	-1,338.5	-1,360.6	302.8	253.1	49.75	6.088		
8,400.0	7,999.8	8,308.4	7,999.8	41.4	37.1	8.63	-1,338.5	-1,360.6	302.8	252.9	49.95	6.063		
8,500.0	8,099.8	8,408.4	8,099.8	41.4	37.2	8.63	-1,338.5	-1,360.6	302.8	252.7	50.15	6.038		
8,600.0	8,199.8	8,508.4	8,199.8	41.5	37.2	8.63	-1,338.5	-1,360.6	302.8	252.5	50.36	6.013		
8,700.0	8,299.8	8,608.4	8,299.8	41.5	37.3	8.63	-1,338.5	-1,360.6	302.8	252.3	50.57	5.989		
8,800.0	8,399.8	8,708.4	8,399.8	41.6	37.4	8.63	-1,338.5	-1,360.6	302.8	252.1	50.78	5.964		
8,900.0	8,499.8	8,808.4	8,499.8	41.7	37.5	8.63	-1,338.5	-1,360.6	302.8	251.8	50.99	5.940		
9,000.0	8,599.8	8,908.4	8,599.8	41.7	37.5	8.63	-1,338.5	-1,360.6	302.8	251.6	51.20	5.915		
9,054.2	8,654.0	8,962.6	8,654.0	41.8	37.6	8.63	-1,338.5	-1,360.6	302.8	251.5	51.31	5.902		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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 +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	-33.07	25.1	-16.4	30.0							
100.0	100.0	100.0	100.0	0.1	0.1	-33.07	25.1	-16.4	30.0	29.7	0.30	101.080	CC, ES			
200.0	200.0	200.0	200.0	0.3	0.3	-33.07	25.1	-16.4	30.0	29.3	0.65	46.442				
300.0	300.0	300.0	300.0	0.5	0.5	108.65	25.1	-16.4	30.4	29.4	1.00	30.486				
400.0	399.9	400.1	400.1	0.7	0.7	113.04	24.3	-17.4	31.6	30.2	1.36	23.259				
500.0	499.7	500.3	500.2	0.9	0.9	116.75	21.9	-20.5	33.4	31.7	1.74	19.217				
600.0	599.3	600.5	600.2	1.1	1.1	119.71	17.9	-25.7	35.8	33.7	2.15	16.669				
700.0	698.6	700.7	700.0	1.4	1.3	121.93	12.2	-32.9	38.8	36.2	2.60	14.924				
800.0	797.5	801.1	799.6	1.7	1.5	123.49	4.9	-42.2	42.3	39.2	3.10	13.646				
900.0	896.1	901.4	899.0	2.0	1.8	124.47	-4.0	-53.6	46.2	42.5	3.65	12.658				
1,000.0	994.2	1,001.9	997.9	2.4	2.2	125.00	-14.5	-67.0	50.6	46.3	4.26	11.859				
1,100.0	1,091.7	1,102.3	1,096.4	2.8	2.5	125.15	-26.6	-82.5	55.4	50.4	4.95	11.188				
1,200.0	1,188.6	1,202.8	1,194.4	3.3	2.9	125.02	-40.3	-100.0	60.6	54.9	5.72	10.611				
1,300.0	1,284.9	1,303.3	1,291.8	3.8	3.4	124.68	-55.6	-119.5	66.3	59.8	6.56	10.105				
1,400.0	1,380.4	1,403.8	1,388.5	4.3	3.9	124.17	-72.5	-141.1	72.4	64.9	7.50	9.659				
1,500.0	1,475.0	1,504.1	1,484.3	4.9	4.4	123.72	-90.7	-164.4	79.1	70.6	8.50	9.299				
1,600.0	1,568.9	1,603.7	1,579.4	5.5	5.0	124.49	-109.1	-187.9	87.0	77.5	9.48	9.180	SF			
1,700.0	1,661.7	1,703.2	1,674.3	6.2	5.5	126.38	-127.5	-211.3	96.5	86.1	10.39	9.285				
1,800.0	1,753.8	1,802.5	1,769.1	6.9	6.1	128.91	-145.8	-234.7	107.5	96.3	11.23	9.574				
1,900.0	1,845.7	1,901.8	1,863.8	7.6	6.6	131.12	-164.1	-258.1	118.8	106.8	12.03	9.875				
2,000.0	1,937.6	2,001.0	1,958.5	8.4	7.1	132.95	-182.4	-281.4	130.3	117.5	12.83	10.157				
2,100.0	2,029.5	2,100.3	2,053.2	9.1	7.7	134.48	-200.7	-304.8	141.9	128.3	13.62	10.420				
2,200.0	2,121.4	2,199.6	2,147.9	9.8	8.2	135.77	-219.0	-328.2	153.6	139.2	14.40	10.663				
2,300.0	2,213.3	2,298.8	2,242.7	10.5	8.8	136.89	-237.3	-351.6	165.3	150.1	15.18	10.889				
2,400.0	2,305.2	2,398.1	2,337.4	11.2	9.4	137.86	-255.6	-375.0	177.1	161.2	15.96	11.098				
2,500.0	2,397.1	2,497.3	2,432.1	12.0	9.9	138.70	-273.9	-398.4	189.0	172.2	16.73	11.292				
2,600.0	2,489.1	2,596.6	2,526.8	12.7	10.5	139.45	-292.2	-421.7	200.8	183.3	17.51	11.472				
2,700.0	2,581.0	2,695.9	2,621.5	13.4	11.0	140.11	-310.5	-445.1	212.7	194.5	18.28	11.639				
2,800.0	2,672.9	2,795.1	2,716.2	14.1	11.6	140.70	-328.8	-468.5	224.7	205.6	19.05	11.795				
2,900.0	2,764.8	2,894.4	2,810.9	14.9	12.1	141.23	-347.2	-491.9	236.6	216.8	19.82	11.940				
3,000.0	2,856.7	2,993.6	2,905.7	15.6	12.7	141.71	-365.5	-515.3	248.6	228.0	20.59	12.076				
3,100.0	2,948.6	3,092.9	3,000.4	16.3	13.2	142.15	-383.8	-538.6	260.6	239.2	21.36	12.203				
3,200.0	3,040.5	3,192.2	3,095.1	17.1	13.8	142.55	-402.1	-562.0	272.6	250.5	22.12	12.322				
3,300.0	3,132.4	3,291.4	3,189.8	17.8	14.4	142.91	-420.4	-585.4	284.6	261.7	22.89	12.433				
3,400.0	3,224.3	3,390.7	3,284.5	18.5	14.9	143.25	-438.7	-608.8	296.6	273.0	23.66	12.539				
3,500.0	3,316.2	3,489.9	3,379.2	19.2	15.5	143.56	-457.0	-632.2	308.7	284.2	24.42	12.638				
3,600.0	3,408.2	3,589.2	3,473.9	20.0	16.0	143.84	-475.3	-655.6	320.7	295.5	25.19	12.731				
3,700.0	3,500.1	3,688.5	3,568.6	20.7	16.6	144.11	-493.6	-678.9	332.7	306.8	25.96	12.820				
3,800.0	3,592.0	3,787.7	3,663.4	21.4	17.1	144.36	-511.9	-702.3	344.8	318.1	26.72	12.904				
3,900.0	3,683.9	3,887.0	3,758.1	22.2	17.7	144.59	-530.2	-725.7	356.9	329.4	27.49	12.983				
4,000.0	3,775.8	3,986.2	3,852.8	22.9	18.3	144.80	-548.5	-749.1	368.9	340.7	28.25	13.058				
4,100.0	3,867.7	4,085.5	3,947.5	23.6	18.8	145.00	-566.8	-772.5	381.0	352.0	29.02	13.130				
4,200.0	3,959.6	4,184.8	4,042.2	24.3	19.4	145.19	-585.1	-795.9	393.1	363.3	29.78	13.198				
4,300.0	4,051.5	4,284.0	4,136.9	25.1	19.9	145.37	-603.4	-819.2	405.1	374.6	30.55	13.263				
4,400.0	4,143.4	4,383.3	4,231.6	25.8	20.5	145.54	-621.7	-842.6	417.2	385.9	31.31	13.325				
4,500.0	4,235.3	4,482.5	4,326.4	26.5	21.1	145.70	-640.0	-866.0	429.3	397.2	32.08	13.384				
4,600.0	4,327.3	4,581.8	4,421.1	27.3	21.6	145.84	-658.4	-889.4	441.4	408.6	32.84	13.440				
4,700.0	4,419.2	4,681.1	4,515.8	28.0	22.2	145.99	-676.7	-912.8	453.5	419.9	33.61	13.494				
4,800.0	4,511.1	4,780.3	4,610.5	28.7	22.7	146.12	-695.0	-936.1	465.6	431.2	34.37	13.546				
4,900.0	4,603.0	4,879.6	4,705.2	29.5	23.3	146.25	-713.3	-959.5	477.7	442.5	35.14	13.595				
5,000.0	4,694.9	4,978.8	4,799.9	30.2	23.8	146.37	-731.6	-982.9	489.8	453.9	35.90	13.643				
5,100.0	4,786.8	5,078.1	4,894.6	30.9	24.4	146.48	-749.9	-1,006.3	501.9	465.2	36.67	13.688				

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 21-9D (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 21-9D (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				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	4,878.7	5,177.4	4,989.4	31.6	25.0	146.59	-768.2	-1,029.7	514.0	476.6	37.43	13.732		
5,300.0	4,970.6	5,276.6	5,084.1	32.4	25.5	146.70	-786.5	-1,053.1	526.1	487.9	38.19	13.774		
5,400.0	5,062.5	5,375.9	5,178.8	33.1	26.1	146.80	-804.8	-1,076.4	538.2	499.2	38.96	13.814		
5,500.0	5,154.5	5,475.1	5,273.5	33.8	26.6	146.89	-823.1	-1,099.8	550.3	510.6	39.72	13.853		
5,600.0	5,246.4	5,574.4	5,368.2	34.6	27.2	146.98	-841.4	-1,123.2	562.4	521.9	40.49	13.891		
5,700.0	5,338.4	5,673.7	5,463.0	35.3	27.8	147.10	-859.7	-1,146.6	574.3	533.1	41.25	13.923		
5,800.0	5,431.2	5,773.2	5,557.9	36.0	28.3	147.14	-878.1	-1,170.0	584.4	542.3	42.07	13.892		
5,900.0	5,525.0	5,872.8	5,653.0	36.6	28.9	147.02	-896.5	-1,193.5	592.3	549.3	42.98	13.782		
6,000.0	5,619.6	5,966.1	5,742.1	37.2	29.4	146.81	-913.4	-1,215.1	598.4	554.5	43.89	13.634		
6,100.0	5,715.1	6,055.7	5,828.3	37.7	29.8	146.61	-928.5	-1,234.4	603.9	559.1	44.73	13.501		
6,200.0	5,811.3	6,145.4	5,915.1	38.2	30.2	146.43	-942.3	-1,252.1	608.9	563.3	45.51	13.379		
6,300.0	5,908.2	6,235.1	6,002.4	38.6	30.6	146.27	-954.9	-1,268.2	613.3	567.1	46.23	13.268		
6,400.0	6,005.7	6,324.7	6,090.2	39.0	31.0	146.12	-966.3	-1,282.7	617.3	570.5	46.89	13.167		
6,500.0	6,103.8	6,414.4	6,178.4	39.4	31.3	145.99	-976.3	-1,295.5	620.8	573.3	47.48	13.075		
6,600.0	6,202.3	6,500.0	6,262.9	39.7	31.5	145.88	-984.7	-1,306.2	623.8	575.8	48.01	12.994		
6,700.0	6,301.3	6,593.7	6,355.7	40.0	31.8	145.77	-992.6	-1,316.3	626.3	577.8	48.49	12.914		
6,800.0	6,400.5	6,683.4	6,444.8	40.2	32.0	145.67	-998.8	-1,324.2	628.2	579.3	48.91	12.845		
6,900.0	6,500.1	6,773.0	6,534.1	40.4	32.1	145.59	-1,003.7	-1,330.5	629.6	580.4	49.26	12.783		
7,000.0	6,599.9	6,862.7	6,623.6	40.5	32.3	145.53	-1,007.3	-1,335.1	630.5	581.0	49.55	12.726		
7,100.0	6,699.8	6,952.3	6,713.1	40.6	32.4	145.47	-1,009.6	-1,338.1	630.9	581.2	49.78	12.674		
7,200.0	6,799.8	7,042.0	6,802.8	40.7	32.4	145.43	-1,010.7	-1,339.4	630.8	580.9	49.96	12.627		
7,251.3	6,851.1	7,090.4	6,851.1	40.7	32.5	145.42	-1,010.7	-1,339.5	630.8	580.7	50.04	12.604		
7,300.0	6,899.8	7,139.0	6,899.8	40.7	32.5	6.06	-1,010.7	-1,339.5	630.7	580.6	50.13	12.582		
7,400.0	6,999.8	7,239.0	6,999.8	40.8	32.6	6.06	-1,010.7	-1,339.5	630.7	580.4	50.31	12.538		
7,500.0	7,099.8	7,339.0	7,099.8	40.8	32.6	6.06	-1,010.7	-1,339.5	630.7	580.3	50.48	12.494		
7,600.0	7,199.8	7,439.0	7,199.8	40.9	32.7	6.06	-1,010.7	-1,339.5	630.7	580.1	50.66	12.450		
7,700.0	7,299.8	7,539.0	7,299.8	40.9	32.8	6.06	-1,010.7	-1,339.5	630.7	579.9	50.85	12.405		
7,800.0	7,399.8	7,639.0	7,399.8	41.0	32.8	6.06	-1,010.7	-1,339.5	630.7	579.7	51.03	12.361		
7,900.0	7,499.8	7,739.0	7,499.8	41.1	32.9	6.06	-1,010.7	-1,339.5	630.7	579.5	51.21	12.316		
8,000.0	7,599.8	7,839.0	7,599.8	41.1	33.0	6.06	-1,010.7	-1,339.5	630.7	579.3	51.40	12.271		
8,100.0	7,699.8	7,939.0	7,699.8	41.2	33.1	6.06	-1,010.7	-1,339.5	630.7	579.2	51.59	12.227		
8,200.0	7,799.8	8,039.0	7,799.8	41.2	33.1	6.06	-1,010.7	-1,339.5	630.7	579.0	51.78	12.182		
8,300.0	7,899.8	8,139.0	7,899.8	41.3	33.2	6.06	-1,010.7	-1,339.5	630.7	578.8	51.97	12.137		
8,400.0	7,999.8	8,239.0	7,999.8	41.4	33.3	6.06	-1,010.7	-1,339.5	630.7	578.6	52.16	12.092		
8,500.0	8,099.8	8,339.0	8,099.8	41.4	33.4	6.06	-1,010.7	-1,339.5	630.7	578.4	52.36	12.047		
8,600.0	8,199.8	8,439.0	8,199.8	41.5	33.4	6.06	-1,010.7	-1,339.5	630.7	578.2	52.55	12.002		
8,700.0	8,299.8	8,539.0	8,299.8	41.5	33.5	6.06	-1,010.7	-1,339.5	630.7	578.0	52.75	11.957		
8,800.0	8,399.8	8,639.0	8,399.8	41.6	33.6	6.06	-1,010.7	-1,339.5	630.7	577.8	52.95	11.912		
8,900.0	8,499.8	8,739.0	8,499.8	41.7	33.7	6.06	-1,010.7	-1,339.5	630.7	577.6	53.15	11.867		
9,000.0	8,599.8	8,839.0	8,599.8	41.7	33.7	6.06	-1,010.7	-1,339.5	630.7	577.4	53.36	11.822		
9,054.2	8,654.0	8,893.2	8,654.0	41.8	33.8	6.06	-1,010.7	-1,339.5	630.7	577.3	53.47	11.797		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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: 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	-32.39	38.2	-24.3	45.3					
100.0	100.0	100.0	100.0	0.1	0.1	-32.39	38.2	-24.3	45.3	45.0	0.30	152.655		
200.0	200.0	200.0	200.0	0.3	0.3	-32.39	38.2	-24.3	45.3	44.6	0.65	70.139 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	108.53	38.2	-24.3	45.7	44.7	1.00	45.845		
400.0	399.9	399.9	399.9	0.7	0.7	111.45	37.7	-25.4	47.1	45.7	1.36	34.696		
500.0	499.7	499.9	499.8	0.9	0.9	113.92	35.9	-28.9	49.6	47.8	1.74	28.503		
600.0	599.3	599.8	599.5	1.1	1.1	115.85	32.9	-34.7	53.1	51.0	2.16	24.642		
700.0	698.6	699.8	699.1	1.4	1.3	117.24	28.7	-42.9	57.7	55.1	2.62	22.038		
800.0	797.5	799.8	798.4	1.7	1.5	118.14	23.4	-53.3	63.3	60.1	3.14	20.170		
900.0	896.1	899.8	897.4	2.0	1.8	118.61	16.9	-66.1	69.8	66.1	3.72	18.765		
1,000.0	994.2	999.8	995.9	2.4	2.1	118.75	9.2	-81.2	77.3	72.9	4.38	17.666		
1,100.0	1,091.7	1,099.7	1,093.8	2.8	2.5	118.64	0.3	-98.5	85.7	80.6	5.11	16.779		
1,200.0	1,188.6	1,199.5	1,191.2	3.3	2.9	118.34	-9.7	-118.1	95.1	89.2	5.93	16.047		
1,300.0	1,284.9	1,299.3	1,287.9	3.8	3.4	117.91	-20.9	-140.0	105.4	98.6	6.83	15.433		
1,400.0	1,380.4	1,398.8	1,383.8	4.3	3.9	117.45	-33.1	-163.9	116.6	108.8	7.81	14.940		
1,500.0	1,475.0	1,498.1	1,479.2	4.9	4.4	117.80	-45.6	-188.3	129.0	120.2	8.81	14.650		
1,600.0	1,568.9	1,597.1	1,574.3	5.5	4.9	118.98	-58.0	-212.6	142.7	132.9	9.81	14.543 SF		
1,700.0	1,661.7	1,695.8	1,669.2	6.2	5.4	120.73	-70.4	-236.9	157.7	146.9	10.80	14.596		
1,800.0	1,753.8	1,794.3	1,763.9	6.9	5.9	122.88	-82.8	-261.0	174.1	162.3	11.76	14.796		
1,900.0	1,845.7	1,892.7	1,858.4	7.6	6.4	124.80	-95.1	-285.2	190.8	178.1	12.71	15.016		
2,000.0	1,937.6	1,991.1	1,953.0	8.4	6.9	126.42	-107.5	-309.4	207.7	194.1	13.64	15.229		
2,100.0	2,029.5	2,089.5	2,047.6	9.1	7.4	127.79	-119.9	-333.5	224.8	210.2	14.57	15.431		
2,200.0	2,121.4	2,187.9	2,142.2	9.8	7.9	128.97	-132.2	-357.7	242.0	226.5	15.49	15.622		
2,300.0	2,213.3	2,286.3	2,236.8	10.5	8.4	129.99	-144.6	-381.9	259.2	242.8	16.40	15.801		
2,400.0	2,305.2	2,384.7	2,331.4	11.2	8.9	130.89	-156.9	-406.0	276.5	259.2	17.32	15.969		
2,500.0	2,397.1	2,483.1	2,425.9	12.0	9.4	131.68	-169.3	-430.2	293.9	275.7	18.23	16.125		
2,600.0	2,489.1	2,581.5	2,520.5	12.7	9.9	132.38	-181.6	-454.4	311.3	292.2	19.13	16.272		
2,700.0	2,581.0	2,679.9	2,615.1	13.4	10.5	133.00	-194.0	-478.6	328.8	308.8	20.04	16.408		
2,800.0	2,672.9	2,778.3	2,709.7	14.1	11.0	133.57	-206.3	-502.7	346.3	325.4	20.94	16.536		
2,900.0	2,764.8	2,876.7	2,804.3	14.9	11.5	134.08	-218.7	-526.9	363.8	342.0	21.84	16.656		
3,000.0	2,856.7	2,975.1	2,898.9	15.6	12.0	134.54	-231.0	-551.1	381.4	358.7	22.75	16.768		
3,100.0	2,948.6	3,073.5	2,993.4	16.3	12.5	134.96	-243.4	-575.2	399.0	375.3	23.65	16.874		
3,200.0	3,040.5	3,171.9	3,088.0	17.1	13.0	135.35	-255.8	-599.4	416.6	392.0	24.54	16.973		
3,300.0	3,132.4	3,270.3	3,182.6	17.8	13.5	135.70	-268.1	-623.6	434.2	408.8	25.44	17.066		
3,400.0	3,224.3	3,368.7	3,277.2	18.5	14.1	136.03	-280.5	-647.7	451.8	425.5	26.34	17.154		
3,500.0	3,316.2	3,467.1	3,371.8	19.2	14.6	136.33	-292.8	-671.9	469.5	442.2	27.24	17.237		
3,600.0	3,408.2	3,565.5	3,466.4	20.0	15.1	136.61	-305.2	-696.1	487.1	459.0	28.13	17.316		
3,700.0	3,500.1	3,663.9	3,561.0	20.7	15.6	136.87	-317.5	-720.2	504.8	475.8	29.03	17.390		
3,800.0	3,592.0	3,762.3	3,655.5	21.4	16.1	137.12	-329.9	-744.4	522.5	492.6	29.92	17.460		
3,900.0	3,683.9	3,860.7	3,750.1	22.2	16.6	137.34	-342.2	-768.6	540.2	509.4	30.82	17.527		
4,000.0	3,775.8	3,959.1	3,844.7	22.9	17.1	137.56	-354.6	-792.7	557.9	526.2	31.71	17.591		
4,100.0	3,867.7	4,057.5	3,939.3	23.6	17.7	137.76	-367.0	-816.9	575.6	543.0	32.61	17.651		
4,200.0	3,959.6	4,155.9	4,033.9	24.3	18.2	137.95	-379.3	-841.1	593.3	559.8	33.50	17.708		
4,300.0	4,051.5	4,254.3	4,128.5	25.1	18.7	138.12	-391.7	-865.2	611.0	576.6	34.40	17.763		
4,400.0	4,143.4	4,352.7	4,223.0	25.8	19.2	138.29	-404.0	-889.4	628.7	593.4	35.29	17.816		
4,500.0	4,235.3	4,451.1	4,317.6	26.5	19.7	138.45	-416.4	-913.6	646.4	610.2	36.18	17.865		
4,600.0	4,327.3	4,549.5	4,412.2	27.3	20.2	138.60	-428.7	-937.8	664.2	627.1	37.08	17.913		
4,700.0	4,419.2	4,647.9	4,506.8	28.0	20.8	138.74	-441.1	-961.9	681.9	643.9	37.97	17.959		
4,800.0	4,511.1	4,746.3	4,601.4	28.7	21.3	138.87	-453.4	-986.1	699.6	660.8	38.86	18.003		
4,900.0	4,603.0	4,844.7	4,696.0	29.5	21.8	139.00	-465.8	-1,010.3	717.4	677.6	39.75	18.045		
5,000.0	4,694.9	4,943.1	4,790.5	30.2	22.3	139.12	-478.1	-1,034.4	735.1	694.5	40.65	18.085		
5,100.0	4,786.8	5,041.5	4,885.1	30.9	22.8	139.24	-490.5	-1,058.6	752.8	711.3	41.54	18.124		

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 21-9D (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 21-9D (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		
5,200.0	4,878.7	5,139.9	4,979.7	31.6	23.3	139.35	-502.9	-1,082.8	770.6	728.2	42.43	18.161		
5,300.0	4,970.6	5,238.3	5,074.3	32.4	23.9	139.46	-515.2	-1,106.9	788.3	745.0	43.32	18.196		
5,400.0	5,062.5	5,336.7	5,168.9	33.1	24.4	139.56	-527.6	-1,131.1	806.1	761.9	44.22	18.231		
5,500.0	5,154.5	5,435.1	5,263.5	33.8	24.9	139.65	-539.9	-1,155.3	823.9	778.7	45.11	18.264		
5,600.0	5,246.4	5,533.5	5,358.1	34.6	25.4	139.75	-552.3	-1,179.4	841.6	795.6	46.00	18.296		
5,700.0	5,338.4	5,632.0	5,452.7	35.3	25.9	139.90	-564.6	-1,203.6	859.2	812.3	46.88	18.326		
5,800.0	5,431.2	5,730.7	5,547.6	36.0	26.4	140.03	-577.0	-1,227.9	875.1	827.3	47.78	18.315		
5,900.0	5,525.0	5,829.7	5,642.7	36.6	27.0	140.04	-589.5	-1,252.2	889.1	840.3	48.73	18.246		
6,000.0	5,619.6	5,928.9	5,738.1	37.2	27.5	139.93	-601.9	-1,276.5	901.0	851.3	49.72	18.123		
6,100.0	5,715.1	6,022.6	5,828.3	37.7	28.0	139.73	-613.5	-1,299.3	911.2	860.5	50.69	17.976		
6,200.0	5,811.3	6,112.0	5,914.8	38.2	28.4	139.56	-623.8	-1,319.4	920.4	868.8	51.57	17.849		
6,300.0	5,908.2	6,200.0	6,000.4	38.6	28.7	139.40	-633.0	-1,337.3	928.7	876.4	52.37	17.735		
6,400.0	6,005.7	6,291.1	6,089.5	39.0	29.1	139.25	-641.6	-1,354.1	936.2	883.1	53.10	17.629		
6,500.0	6,103.8	6,380.7	6,177.6	39.4	29.4	139.12	-649.0	-1,368.7	942.7	888.9	53.76	17.534		
6,600.0	6,202.3	6,470.4	6,266.2	39.7	29.7	139.01	-655.6	-1,381.5	948.4	894.0	54.35	17.449		
6,700.0	6,301.3	6,560.2	6,355.1	40.0	29.9	138.91	-661.2	-1,392.5	953.1	898.2	54.87	17.371		
6,800.0	6,400.5	6,650.0	6,444.3	40.2	30.1	138.82	-665.8	-1,401.6	957.0	901.6	55.31	17.301		
6,900.0	6,500.1	6,739.8	6,533.8	40.4	30.3	138.74	-669.5	-1,408.8	959.9	904.2	55.69	17.237		
7,000.0	6,599.9	6,829.7	6,623.5	40.5	30.4	138.67	-672.2	-1,414.1	961.9	905.9	55.99	17.180		
7,100.0	6,699.8	6,919.6	6,713.3	40.6	30.5	138.62	-674.0	-1,417.6	963.0	906.8	56.23	17.128		
7,200.0	6,799.8	7,009.6	6,803.2	40.7	30.6	138.58	-674.8	-1,419.2	963.2	906.8	56.39	17.081		
7,258.7	6,858.5	7,064.9	6,858.5	40.7	30.6	138.57	-674.9	-1,419.3	963.2	906.7	56.48	17.053		
7,300.0	6,899.8	7,106.1	6,899.8	40.7	30.7	-0.79	-674.9	-1,419.3	963.1	906.6	56.55	17.033		
7,400.0	6,999.8	7,206.1	6,999.8	40.8	30.7	-0.79	-674.9	-1,419.3	963.1	906.4	56.70	16.986		
7,500.0	7,099.8	7,306.1	7,099.8	40.8	30.8	-0.79	-674.9	-1,419.3	963.1	906.3	56.86	16.939		
7,600.0	7,199.8	7,406.1	7,199.8	40.9	30.9	-0.79	-674.9	-1,419.3	963.1	906.1	57.02	16.892		
7,700.0	7,299.8	7,506.1	7,299.8	40.9	31.0	-0.79	-674.9	-1,419.3	963.1	906.0	57.18	16.844		
7,800.0	7,399.8	7,606.1	7,399.8	41.0	31.0	-0.79	-674.9	-1,419.3	963.1	905.8	57.34	16.797		
7,900.0	7,499.8	7,706.1	7,499.8	41.1	31.1	-0.79	-674.9	-1,419.3	963.1	905.6	57.51	16.749		
8,000.0	7,599.8	7,806.1	7,599.8	41.1	31.2	-0.79	-674.9	-1,419.3	963.1	905.5	57.67	16.700		
8,100.0	7,699.8	7,906.1	7,699.8	41.2	31.3	-0.79	-674.9	-1,419.3	963.1	905.3	57.84	16.652		
8,200.0	7,799.8	8,006.1	7,799.8	41.2	31.3	-0.79	-674.9	-1,419.3	963.1	905.1	58.01	16.604		
8,300.0	7,899.8	8,106.1	7,899.8	41.3	31.4	-0.79	-674.9	-1,419.3	963.1	905.0	58.18	16.555		
8,400.0	7,999.8	8,206.1	7,999.8	41.4	31.5	-0.79	-674.9	-1,419.3	963.1	904.8	58.35	16.506		
8,500.0	8,099.8	8,306.1	8,099.8	41.4	31.6	-0.79	-674.9	-1,419.3	963.1	904.6	58.53	16.457		
8,600.0	8,199.8	8,406.1	8,199.8	41.5	31.7	-0.79	-674.9	-1,419.3	963.1	904.4	58.70	16.408		
8,700.0	8,299.8	8,506.1	8,299.8	41.5	31.7	-0.79	-674.9	-1,419.3	963.1	904.3	58.88	16.358		
8,800.0	8,399.8	8,606.1	8,399.8	41.6	31.8	-0.79	-674.9	-1,419.3	963.1	904.1	59.06	16.309		
8,900.0	8,499.8	8,706.1	8,499.8	41.7	31.9	-0.79	-674.9	-1,419.3	963.1	903.9	59.24	16.259		
9,000.0	8,599.8	8,806.1	8,599.8	41.7	32.0	-0.79	-674.9	-1,419.3	963.1	903.7	59.42	16.210		
9,054.2	8,654.0	8,860.4	8,654.0	41.8	32.0	-0.79	-674.9	-1,419.3	963.1	903.6	59.52	16.183		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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		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	-32.43	50.6	-32.2	60.0					
100.0	100.0	100.0	100.0	0.1	0.1	-32.43	50.6	-32.2	60.0	59.7	0.30	202.164		
200.0	200.0	200.0	200.0	0.3	0.3	-32.43	50.6	-32.2	60.0	59.3	0.65	92.886 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	108.11	50.6	-32.2	60.4	59.4	1.00	60.578		
400.0	399.9	399.6	399.5	0.7	0.7	110.37	50.3	-33.4	62.0	60.6	1.36	45.692		
500.0	499.7	499.1	499.1	0.9	0.9	112.36	49.2	-37.2	65.2	63.4	1.74	37.485		
600.0	599.3	598.7	598.4	1.1	1.1	113.99	47.4	-43.4	69.9	67.8	2.16	32.435		
700.0	698.6	698.2	697.5	1.4	1.3	115.22	44.9	-52.1	76.2	73.6	2.62	29.089		
800.0	797.5	797.6	796.2	1.7	1.5	116.07	41.7	-63.3	84.0	80.8	3.14	26.744		
900.0	896.1	896.9	894.5	2.0	1.8	116.59	37.7	-76.9	93.2	89.5	3.72	25.026		
1,000.0	994.2	996.1	992.3	2.4	2.1	116.84	33.1	-92.9	103.9	99.5	4.38	23.720		
1,100.0	1,091.7	1,095.1	1,089.4	2.8	2.5	116.89	27.8	-111.4	116.0	110.9	5.11	22.697		
1,200.0	1,188.6	1,193.8	1,185.7	3.3	2.9	116.77	21.8	-132.2	129.6	123.7	5.92	21.876		
1,300.0	1,284.9	1,292.6	1,281.5	3.8	3.3	116.69	15.2	-155.0	144.5	137.7	6.80	21.265		
1,400.0	1,380.4	1,391.2	1,377.2	4.3	3.8	117.31	8.6	-178.1	160.6	152.9	7.70	20.862		
1,500.0	1,475.0	1,489.6	1,472.6	4.9	4.2	118.52	1.9	-201.1	178.0	169.4	8.63	20.640		
1,600.0	1,568.9	1,587.7	1,567.7	5.5	4.7	120.12	-4.7	-224.1	196.8	187.2	9.56	20.581 SF		
1,700.0	1,661.7	1,685.3	1,662.4	6.2	5.1	121.98	-11.3	-246.9	217.1	206.6	10.50	20.674		
1,800.0	1,753.8	1,782.5	1,756.7	6.9	5.5	124.07	-17.8	-269.7	238.9	227.4	11.42	20.913		
1,900.0	1,845.7	1,879.7	1,851.0	7.6	6.0	125.97	-24.4	-292.4	261.1	248.8	12.33	21.177		
2,000.0	1,937.6	1,976.8	1,945.2	8.4	6.4	127.57	-30.9	-315.1	283.5	270.3	13.23	21.437		
2,100.0	2,029.5	2,074.0	2,039.4	9.1	6.9	128.93	-37.5	-337.8	306.1	292.0	14.12	21.688		
2,200.0	2,121.4	2,171.2	2,133.7	9.8	7.3	130.11	-44.0	-360.6	328.9	313.9	15.00	21.928		
2,300.0	2,213.3	2,268.3	2,227.9	10.5	7.8	131.14	-50.6	-383.3	351.8	335.9	15.88	22.155		
2,400.0	2,305.2	2,365.5	2,322.2	11.2	8.2	132.04	-57.1	-406.0	374.8	358.0	16.75	22.368		
2,500.0	2,397.1	2,462.7	2,416.4	12.0	8.7	132.84	-63.7	-428.8	397.8	380.2	17.63	22.569		
2,600.0	2,489.1	2,559.8	2,510.6	12.7	9.2	133.55	-70.2	-451.5	421.0	402.5	18.50	22.758		
2,700.0	2,581.0	2,657.0	2,604.9	13.4	9.6	134.18	-76.8	-474.2	444.1	424.8	19.36	22.935		
2,800.0	2,672.9	2,754.2	2,699.1	14.1	10.1	134.76	-83.4	-497.0	467.4	447.1	20.23	23.102		
2,900.0	2,764.8	2,851.3	2,793.4	14.9	10.5	135.28	-89.9	-519.7	490.6	469.5	21.09	23.258		
3,000.0	2,856.7	2,948.5	2,887.6	15.6	11.0	135.75	-96.5	-542.4	513.9	492.0	21.96	23.405		
3,100.0	2,948.6	3,045.6	2,981.9	16.3	11.4	136.18	-103.0	-565.1	537.2	514.4	22.82	23.544		
3,200.0	3,040.5	3,142.8	3,076.1	17.1	11.9	136.57	-109.6	-587.9	560.6	536.9	23.68	23.675		
3,300.0	3,132.4	3,240.0	3,170.3	17.8	12.3	136.94	-116.1	-610.6	584.0	559.4	24.54	23.798		
3,400.0	3,224.3	3,337.1	3,264.6	18.5	12.8	137.27	-122.7	-633.3	607.4	582.0	25.40	23.914		
3,500.0	3,316.2	3,434.3	3,358.8	19.2	13.2	137.58	-129.2	-656.1	630.8	604.5	26.26	24.025		
3,600.0	3,408.2	3,531.5	3,453.1	20.0	13.7	137.87	-135.8	-678.8	654.2	627.1	27.11	24.129		
3,700.0	3,500.1	3,628.6	3,547.3	20.7	14.1	138.14	-142.3	-701.5	677.7	649.7	27.97	24.228		
3,800.0	3,592.0	3,725.8	3,641.5	21.4	14.6	138.39	-148.9	-724.3	701.1	672.3	28.83	24.322		
3,900.0	3,683.9	3,823.0	3,735.8	22.2	15.1	138.63	-155.4	-747.0	724.6	694.9	29.68	24.411		
4,000.0	3,775.8	3,920.1	3,830.0	22.9	15.5	138.85	-162.0	-769.7	748.1	717.5	30.54	24.496		
4,100.0	3,867.7	4,017.3	3,924.3	23.6	16.0	139.05	-168.5	-792.5	771.6	740.2	31.39	24.577		
4,200.0	3,959.6	4,114.5	4,018.5	24.3	16.4	139.25	-175.1	-815.2	795.1	762.8	32.25	24.654		
4,300.0	4,051.5	4,211.6	4,112.8	25.1	16.9	139.43	-181.6	-837.9	818.6	785.5	33.10	24.728		
4,400.0	4,143.4	4,308.8	4,207.0	25.8	17.3	139.60	-188.2	-860.6	842.1	808.1	33.96	24.798		
4,500.0	4,235.3	4,406.0	4,301.2	26.5	17.8	139.77	-194.7	-883.4	865.6	830.8	34.81	24.865		
4,600.0	4,327.3	4,503.1	4,395.5	27.3	18.2	139.92	-201.3	-906.1	889.2	853.5	35.67	24.930		
4,700.0	4,419.2	4,600.3	4,489.7	28.0	18.7	140.07	-207.9	-928.8	912.7	876.2	36.52	24.991		
4,800.0	4,511.1	4,697.4	4,584.0	28.7	19.2	140.21	-214.4	-951.6	936.2	898.9	37.37	25.050		
4,900.0	4,603.0	4,794.6	4,678.2	29.5	19.6	140.34	-221.0	-974.3	959.8	921.6	38.23	25.107		
5,000.0	4,694.9	4,891.8	4,772.4	30.2	20.1	140.47	-227.5	-997.0	983.3	944.3	39.08	25.162		
5,100.0	4,786.8	4,988.9	4,866.7	30.9	20.5	140.59	-234.1	-1,019.8	1,006.9	967.0	39.93	25.214		

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 21-9D (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 21-9D (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 21-13D (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	4,878.7	5,086.1	4,960.9	31.6	21.0	140.70	-240.6	-1,042.5	1,030.4	989.7	40.79	25.264		
5,300.0	4,970.6	5,183.3	5,055.2	32.4	21.4	140.81	-247.2	-1,065.2	1,054.0	1,012.4	41.64	25.313		
5,400.0	5,062.5	5,280.4	5,149.4	33.1	21.9	140.92	-253.7	-1,087.9	1,077.6	1,035.1	42.49	25.359		
5,500.0	5,154.5	5,377.6	5,243.6	33.8	22.4	141.02	-260.3	-1,110.7	1,101.1	1,057.8	43.34	25.404		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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		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)				Between Centres (ft)	Between Ellipses (ft)	
0.0	0.0	0.0	0.0	0.0	0.0	-32.97	62.6	-40.6	74.7					
100.0	100.0	100.0	100.0	0.1	0.1	-32.97	62.6	-40.6	74.7	74.4	0.30	251.668		
200.0	200.0	200.0	200.0	0.3	0.3	-32.97	62.6	-40.6	74.7	74.0	0.65	115.631 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	107.34	62.6	-40.6	75.1	74.1	1.00	75.299		
400.0	399.9	399.1	399.1	0.7	0.7	109.24	62.5	-41.9	76.9	75.5	1.36	56.693		
500.0	499.7	498.1	498.0	0.9	0.9	111.06	62.2	-45.8	80.7	79.0	1.74	46.501		
600.0	599.3	597.1	596.8	1.1	1.1	112.69	61.7	-52.1	86.7	84.5	2.15	40.308		
700.0	698.6	695.9	695.2	1.4	1.3	114.05	61.0	-61.1	94.6	92.0	2.61	36.281		
800.0	797.5	794.5	793.1	1.7	1.5	115.12	60.1	-72.5	104.6	101.5	3.12	33.527		
900.0	896.1	892.8	890.5	2.0	1.8	115.92	59.0	-86.4	116.6	112.9	3.69	31.565		
1,000.0	994.2	990.9	987.1	2.4	2.1	116.47	57.6	-102.7	130.5	126.2	4.33	30.119		
1,100.0	1,091.7	1,088.6	1,083.0	2.8	2.5	116.81	56.1	-121.5	146.3	141.3	5.04	29.020		
1,200.0	1,188.6	1,185.8	1,177.9	3.3	2.9	116.99	54.4	-142.6	164.1	158.3	5.83	28.160		
1,300.0	1,284.9	1,283.7	1,273.1	3.8	3.3	117.30	52.6	-165.4	183.5	176.8	6.66	27.547		
1,400.0	1,380.4	1,381.5	1,368.1	4.3	3.7	118.14	50.8	-188.2	204.1	196.6	7.53	27.111		
1,500.0	1,475.0	1,478.9	1,462.8	4.9	4.1	119.35	48.9	-210.9	226.1	217.6	8.42	26.838		
1,600.0	1,568.9	1,575.9	1,557.1	5.5	4.6	120.80	47.1	-233.6	249.4	240.1	9.34	26.716 SF		
1,700.0	1,661.7	1,672.3	1,650.9	6.2	5.0	122.41	45.3	-256.1	274.4	264.1	10.26	26.735		
1,800.0	1,753.8	1,768.3	1,744.2	6.9	5.4	124.23	43.5	-278.5	300.8	289.6	11.18	26.896		
1,900.0	1,845.7	1,864.2	1,837.4	7.6	5.8	125.93	41.7	-300.9	327.6	315.5	12.09	27.087		
2,000.0	1,937.6	1,960.1	1,930.6	8.4	6.3	127.37	39.9	-323.3	354.7	341.7	13.00	27.284		
2,100.0	2,029.5	2,056.0	2,023.9	9.1	6.7	128.61	38.1	-345.7	381.9	368.0	13.90	27.481		
2,200.0	2,121.4	2,151.9	2,117.1	9.8	7.1	129.68	36.3	-368.1	409.3	394.5	14.79	27.672		
2,300.0	2,213.3	2,247.8	2,210.4	10.5	7.6	130.62	34.5	-390.5	436.8	421.2	15.68	27.856		
2,400.0	2,305.2	2,343.7	2,303.6	11.2	8.0	131.45	32.7	-412.9	464.4	447.9	16.57	28.032		
2,500.0	2,397.1	2,439.6	2,396.8	12.0	8.4	132.19	30.9	-435.2	492.1	474.7	17.45	28.199		
2,600.0	2,489.1	2,535.5	2,490.1	12.7	8.8	132.85	29.1	-457.6	519.9	501.6	18.33	28.358		
2,700.0	2,581.0	2,631.5	2,583.3	13.4	9.3	133.44	27.3	-480.0	547.7	528.5	19.21	28.508		
2,800.0	2,672.9	2,727.4	2,676.6	14.1	9.7	133.97	25.5	-502.4	575.6	555.5	20.09	28.649		
2,900.0	2,764.8	2,823.3	2,769.8	14.9	10.1	134.46	23.6	-524.8	603.5	582.5	20.97	28.783		
3,000.0	2,856.7	2,919.2	2,863.0	15.6	10.6	134.90	21.8	-547.2	631.4	609.6	21.84	28.910		
3,100.0	2,948.6	3,015.1	2,956.3	16.3	11.0	135.30	20.0	-569.6	659.4	636.7	22.71	29.029		
3,200.0	3,040.5	3,111.0	3,049.5	17.1	11.4	135.68	18.2	-592.0	687.4	663.8	23.59	29.143		
3,300.0	3,132.4	3,206.9	3,142.8	17.8	11.9	136.02	16.4	-614.4	715.4	691.0	24.46	29.250		
3,400.0	3,224.3	3,302.8	3,236.0	18.5	12.3	136.34	14.6	-636.8	743.5	718.1	25.33	29.351		
3,500.0	3,316.2	3,398.7	3,329.2	19.2	12.8	136.63	12.8	-659.2	771.5	745.3	26.20	29.448		
3,600.0	3,408.2	3,494.6	3,422.5	20.0	13.2	136.90	11.0	-681.6	799.6	772.5	27.07	29.539		
3,700.0	3,500.1	3,590.5	3,515.7	20.7	13.6	137.16	9.2	-703.9	827.7	799.8	27.94	29.626		
3,800.0	3,592.0	3,686.4	3,609.0	21.4	14.1	137.40	7.4	-726.3	855.8	827.0	28.81	29.709		
3,900.0	3,683.9	3,782.3	3,702.2	22.2	14.5	137.62	5.6	-748.7	884.0	854.3	29.68	29.788		
4,000.0	3,775.8	3,878.3	3,795.4	22.9	14.9	137.83	3.8	-771.1	912.1	881.6	30.54	29.863		
4,100.0	3,867.7	3,974.2	3,888.7	23.6	15.4	138.03	2.0	-793.5	940.2	908.8	31.41	29.934		
4,200.0	3,959.6	4,070.1	3,981.9	24.3	15.8	138.21	0.2	-815.9	968.4	936.1	32.28	30.003		
4,300.0	4,051.5	4,166.0	4,075.2	25.1	16.2	138.39	-1.6	-838.3	996.6	963.4	33.14	30.068		
4,400.0	4,143.4	4,261.9	4,168.4	25.8	16.7	138.55	-3.4	-860.7	1,024.7	990.7	34.01	30.131		
4,500.0	4,235.3	4,357.8	4,261.6	26.5	17.1	138.71	-5.2	-883.1	1,052.9	1,018.0	34.88	30.191		
4,600.0	4,327.3	4,453.7	4,354.9	27.3	17.5	138.86	-7.0	-905.5	1,081.1	1,045.4	35.74	30.248		
4,700.0	4,419.2	4,549.6	4,448.1	28.0	18.0	139.00	-8.8	-927.9	1,109.3	1,072.7	36.61	30.303		

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 21-9D (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 21-9D (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		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	-32.64	75.8	-48.5	90.0					
100.0	100.0	100.0	100.0	0.1	0.1	-32.64	75.8	-48.5	90.0	89.7	0.30	303.241		
200.0	200.0	200.0	200.0	0.3	0.3	-32.64	75.8	-48.5	90.0	89.3	0.65	139.327 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	107.50	75.8	-48.5	90.4	89.4	1.00	90.657		
400.0	399.9	398.4	398.4	0.7	0.7	109.16	75.9	-49.8	92.4	91.1	1.35	68.234		
500.0	499.7	496.8	496.7	0.9	0.9	110.94	76.5	-53.5	97.0	95.3	1.73	56.028		
600.0	599.3	595.0	594.7	1.1	1.0	112.68	77.4	-59.8	104.2	102.1	2.14	48.712		
700.0	698.6	692.9	692.2	1.4	1.3	114.27	78.7	-68.5	114.0	111.4	2.59	44.059		
800.0	797.5	790.4	789.1	1.7	1.5	115.64	80.4	-79.6	126.3	123.2	3.08	40.974		
900.0	896.1	887.5	885.2	2.0	1.8	116.77	82.4	-93.1	141.1	137.5	3.63	38.857		
1,000.0	894.2	884.1	880.4	2.4	2.1	117.66	84.8	-109.0	158.4	154.2	4.24	37.362		
1,100.0	1,091.7	1,080.1	1,074.6	2.8	2.4	118.34	87.5	-127.0	178.2	173.3	4.91	36.279		
1,200.0	1,188.6	1,175.3	1,167.7	3.3	2.8	118.82	90.5	-147.3	200.4	194.7	5.65	35.477		
1,300.0	1,284.9	1,271.2	1,260.9	3.8	3.2	119.25	93.8	-169.6	224.8	218.3	6.44	34.912		
1,400.0	1,380.4	1,367.8	1,354.6	4.3	3.7	120.00	97.2	-192.3	250.6	243.3	7.27	34.468		
1,500.0	1,475.0	1,463.8	1,447.9	4.9	4.1	121.01	100.5	-214.9	277.7	269.6	8.13	34.159		
1,600.0	1,568.9	1,559.3	1,540.7	5.5	4.5	122.19	103.9	-237.4	306.3	297.3	9.02	33.978		
1,700.0	1,661.7	1,654.2	1,632.9	6.2	4.9	123.47	107.2	-259.7	336.5	326.6	9.92	33.920 SF		
1,800.0	1,753.8	1,748.6	1,724.5	6.9	5.3	124.97	110.5	-281.9	368.2	357.3	10.83	33.989		
1,900.0	1,845.7	1,842.8	1,816.1	7.6	5.8	126.44	113.8	-304.1	400.2	388.5	11.74	34.088		
2,000.0	1,937.6	1,937.1	1,907.6	8.4	6.2	127.69	117.1	-326.3	432.5	419.8	12.65	34.199		
2,100.0	2,029.5	2,031.3	1,999.2	9.1	6.6	128.76	120.4	-348.5	464.9	451.3	13.55	34.317		
2,200.0	2,121.4	2,125.6	2,090.7	9.8	7.1	129.70	123.7	-370.6	497.4	483.0	14.44	34.437		
2,300.0	2,213.3	2,219.9	2,182.3	10.5	7.5	130.52	127.0	-392.8	530.1	514.7	15.34	34.556		
2,400.0	2,305.2	2,314.1	2,273.9	11.2	7.9	131.25	130.3	-415.0	562.8	546.6	16.23	34.672		
2,500.0	2,397.1	2,408.4	2,365.4	12.0	8.3	131.90	133.6	-437.2	595.6	578.5	17.12	34.784		
2,600.0	2,489.1	2,502.7	2,457.0	12.7	8.8	132.48	136.9	-459.3	628.5	610.4	18.01	34.891		
2,700.0	2,581.0	2,596.9	2,548.5	13.4	9.2	133.00	140.2	-481.5	661.4	642.5	18.90	34.994		
2,800.0	2,672.9	2,691.2	2,640.1	14.1	9.6	133.47	143.5	-503.7	694.3	674.5	19.79	35.092		
2,900.0	2,764.8	2,785.4	2,731.7	14.9	10.1	133.90	146.8	-525.9	727.3	706.7	20.67	35.186		
3,000.0	2,856.7	2,879.7	2,823.2	15.6	10.5	134.30	150.1	-548.0	760.4	738.8	21.56	35.275		
3,100.0	2,948.6	2,974.0	2,914.8	16.3	10.9	134.66	153.4	-570.2	793.4	771.0	22.44	35.359		
3,200.0	3,040.5	3,068.2	3,006.3	17.1	11.4	134.99	156.7	-592.4	826.5	803.2	23.32	35.440		
3,300.0	3,132.4	3,162.5	3,097.9	17.8	11.8	135.30	160.0	-614.6	859.6	835.4	24.20	35.517		
3,400.0	3,224.3	3,256.8	3,189.4	18.5	12.2	135.58	163.3	-636.7	892.7	867.7	25.08	35.589		
3,500.0	3,316.2	3,351.0	3,281.0	19.2	12.7	135.84	166.6	-658.9	925.9	899.9	25.97	35.659		
3,600.0	3,408.2	3,445.3	3,372.6	20.0	13.1	136.09	169.9	-681.1	959.1	932.2	26.85	35.725		
3,700.0	3,500.1	3,539.6	3,464.1	20.7	13.5	136.32	173.2	-703.3	992.2	964.5	27.73	35.788		
3,800.0	3,592.0	3,633.8	3,555.7	21.4	14.0	136.53	176.5	-725.4	1,025.4	996.8	28.60	35.848		
3,900.0	3,683.9	3,728.1	3,647.2	22.2	14.4	136.73	179.9	-747.6	1,058.6	1,029.2	29.48	35.906		
4,000.0	3,775.8	3,822.3	3,738.8	22.9	14.8	136.92	183.2	-769.8	1,091.9	1,061.5	30.36	35.960		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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		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	-27.59	92.9	-48.5	104.8					
100.0	100.0	100.0	100.0	0.1	0.1	-27.59	92.9	-48.5	104.8	104.5	0.30	353.199		
200.0	200.0	200.0	200.0	0.3	0.3	-27.59	92.9	-48.5	104.8	104.2	0.65	162.281 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	112.42	92.9	-48.5	105.3	104.3	1.00	105.650		
400.0	399.9	397.9	397.9	0.7	0.7	113.83	93.3	-49.7	107.8	106.4	1.35	79.682		
500.0	499.7	495.7	495.6	0.9	0.8	115.40	94.6	-53.2	113.2	111.5	1.73	65.606		
600.0	599.3	593.2	592.9	1.1	1.0	117.00	96.8	-59.1	121.7	119.6	2.13	57.250		
700.0	698.6	690.3	689.7	1.4	1.3	118.50	99.9	-67.2	133.2	130.6	2.56	52.021		
800.0	797.5	786.9	785.6	1.7	1.5	119.82	103.8	-77.5	147.6	144.6	3.04	48.635		
900.0	896.1	882.9	880.6	2.0	1.8	120.94	108.5	-90.1	165.1	161.5	3.56	46.387		
1,000.0	994.2	978.1	974.5	2.4	2.1	121.84	114.0	-104.7	185.4	181.3	4.13	44.866		
1,100.0	1,091.7	1,072.4	1,067.1	2.8	2.4	122.54	120.3	-121.4	208.6	203.8	4.76	43.820		
1,200.0	1,188.6	1,165.8	1,158.4	3.3	2.8	123.06	127.3	-140.0	234.6	229.2	5.44	43.095		
1,300.0	1,284.9	1,258.5	1,248.5	3.8	3.2	123.43	135.0	-160.5	263.4	257.2	6.18	42.635		
1,400.0	1,380.4	1,353.6	1,340.7	4.3	3.6	123.95	143.2	-182.3	294.1	287.1	6.96	42.244		
1,500.0	1,475.0	1,448.1	1,432.3	4.9	4.0	124.67	151.3	-204.0	326.2	318.4	7.77	41.964		
1,600.0	1,568.9	1,542.0	1,523.3	5.5	4.5	125.53	159.4	-225.5	359.9	351.3	8.61	41.790		
1,700.0	1,661.7	1,635.2	1,613.7	6.2	4.9	126.47	167.4	-246.9	395.2	385.7	9.47	41.720 SF		
1,800.0	1,753.8	1,727.7	1,703.3	6.9	5.3	127.66	175.4	-268.1	432.0	421.6	10.34	41.757		
1,900.0	1,845.7	1,820.1	1,792.9	7.6	5.7	128.89	183.4	-289.3	469.1	457.9	11.22	41.808		
2,000.0	1,937.6	1,912.5	1,882.5	8.4	6.2	129.93	191.3	-310.5	506.4	494.3	12.09	41.870		
2,100.0	2,029.5	2,004.9	1,972.1	9.1	6.6	130.84	199.3	-331.7	543.8	530.8	12.97	41.939		
2,200.0	2,121.4	2,097.3	2,061.7	9.8	7.0	131.62	207.3	-352.9	581.3	567.5	13.84	42.011		
2,300.0	2,213.3	2,189.7	2,151.3	10.5	7.4	132.32	215.2	-374.0	618.9	604.2	14.71	42.083		
2,400.0	2,305.2	2,282.2	2,241.0	11.2	7.9	132.93	223.2	-395.2	656.6	641.0	15.57	42.155		
2,500.0	2,397.1	2,374.6	2,330.6	12.0	8.3	133.48	231.2	-416.4	694.3	677.8	16.44	42.226		
2,600.0	2,489.1	2,467.0	2,420.2	12.7	8.7	133.97	239.1	-437.6	732.1	714.8	17.31	42.295		
2,700.0	2,581.0	2,559.4	2,509.8	13.4	9.2	134.41	247.1	-458.8	769.9	751.7	18.17	42.361		
2,800.0	2,672.9	2,651.8	2,599.4	14.1	9.6	134.81	255.1	-480.0	807.7	788.7	19.04	42.424		
2,900.0	2,764.8	2,744.3	2,689.0	14.9	10.0	135.18	263.0	-501.2	845.6	825.7	19.90	42.485		
3,000.0	2,856.7	2,836.7	2,778.6	15.6	10.5	135.51	271.0	-522.4	883.5	862.7	20.77	42.544		
3,100.0	2,948.6	2,929.1	2,868.2	16.3	10.9	135.82	279.0	-543.6	921.4	899.8	21.63	42.599		
3,200.0	3,040.5	3,021.5	2,957.8	17.1	11.3	136.10	286.9	-564.8	959.4	936.9	22.49	42.653		
3,300.0	3,132.4	3,113.9	3,047.4	17.8	11.8	136.36	294.9	-586.0	997.4	974.0	23.36	42.704		
3,400.0	3,224.3	3,206.4	3,137.0	18.5	12.2	136.61	302.8	-607.2	1,035.4	1,011.1	24.22	42.752		
3,500.0	3,316.2	3,298.8	3,226.6	19.2	12.6	136.83	310.8	-628.4	1,073.4	1,048.3	25.08	42.799		
3,600.0	3,408.2	3,391.2	3,316.2	20.0	13.1	137.04	318.8	-649.6	1,111.4	1,085.4	25.94	42.843		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
							+N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-32.74	87.8	-56.4	104.4					
100.0	100.0	100.0	100.0	0.1	0.1	-32.74	87.8	-56.4	104.4	104.1	0.30	351.716		
200.0	200.0	200.0	200.0	0.3	0.3	-32.74	87.8	-56.4	104.4	103.7	0.65	161.599	CC, ES	
300.0	300.0	297.9	297.9	0.5	0.5	106.84	88.2	-57.6	105.7	104.7	0.99	106.386		
400.0	399.9	395.7	395.6	0.7	0.7	107.47	89.4	-61.2	109.9	108.5	1.35	81.133		
500.0	499.7	493.2	492.9	0.9	0.9	108.42	91.4	-67.1	116.8	115.1	1.74	67.227		
600.0	599.3	590.3	589.7	1.1	1.1	109.56	94.2	-75.3	126.5	124.4	2.15	58.771		
700.0	698.6	687.0	685.7	1.4	1.3	110.77	97.7	-85.8	139.1	136.5	2.61	53.303		
800.0	797.5	783.1	780.9	1.7	1.6	111.96	102.0	-98.5	154.4	151.3	3.11	49.617		
900.0	896.1	878.5	874.9	2.0	1.9	113.06	107.1	-113.4	172.6	168.9	3.67	47.054		
1,000.0	994.2	973.1	967.8	2.4	2.3	114.04	112.8	-130.3	193.6	189.3	4.28	45.232		
1,100.0	1,091.7	1,066.8	1,059.4	2.8	2.7	114.88	119.2	-149.2	217.3	212.4	4.95	43.912		
1,200.0	1,188.6	1,159.5	1,149.4	3.3	3.1	115.59	126.2	-170.0	243.7	238.1	5.68	42.944		
1,300.0	1,284.9	1,251.1	1,237.8	3.8	3.5	116.16	133.9	-192.5	272.8	266.4	6.46	42.229		
1,400.0	1,380.4	1,341.5	1,324.6	4.3	4.0	116.61	142.1	-216.8	304.5	297.2	7.30	41.699		
1,500.0	1,475.0	1,430.7	1,409.5	4.9	4.5	116.95	150.8	-242.6	338.8	330.6	8.20	41.306		
1,600.0	1,568.9	1,518.6	1,492.6	5.5	5.1	117.19	160.0	-269.9	375.6	366.4	9.16	41.019		
1,700.0	1,661.7	1,605.2	1,573.7	6.2	5.6	117.34	169.7	-298.5	414.8	404.6	10.16	40.813		
1,800.0	1,753.8	1,690.4	1,652.8	6.9	6.2	117.70	179.8	-328.4	456.2	444.9	11.22	40.661		
1,900.0	1,845.7	1,774.6	1,730.4	7.6	6.9	118.06	190.4	-359.5	498.9	486.6	12.31	40.525		
2,000.0	1,937.6	1,857.9	1,806.4	8.4	7.5	118.19	201.4	-391.9	542.8	529.4	13.43	40.430		
2,100.0	2,029.5	1,940.2	1,880.7	9.1	8.2	118.15	212.7	-425.5	587.8	573.2	14.56	40.371		
2,200.0	2,121.4	2,021.5	1,953.2	9.8	8.9	117.96	224.4	-460.1	633.9	618.2	15.71	40.345	SF	
2,300.0	2,213.3	2,100.0	2,022.6	10.5	9.6	117.67	236.2	-494.9	681.1	664.2	16.87	40.377		
2,400.0	2,305.2	2,180.5	2,093.0	11.2	10.4	117.29	248.8	-532.0	729.4	711.3	18.07	40.373		
2,500.0	2,397.1	2,258.2	2,160.1	12.0	11.2	116.86	261.3	-569.1	778.7	759.4	19.26	40.426		
2,600.0	2,489.1	2,334.7	2,225.3	12.7	11.9	116.37	274.1	-606.9	829.2	808.7	20.46	40.517		
2,700.0	2,581.0	2,415.6	2,293.6	13.4	12.8	115.83	288.0	-648.0	880.5	858.8	21.71	40.568		
2,800.0	2,672.9	2,501.0	2,365.5	14.1	13.7	115.31	302.8	-691.5	932.1	909.1	22.98	40.564		
2,900.0	2,764.8	2,586.4	2,437.5	14.9	14.6	114.85	317.5	-735.0	983.7	959.4	24.25	40.564		
3,000.0	2,856.7	2,671.8	2,509.5	15.6	15.5	114.43	332.2	-778.5	1,035.3	1,009.8	25.52	40.567		
3,100.0	2,948.6	2,757.2	2,581.5	16.3	16.4	114.05	346.9	-822.0	1,087.0	1,060.2	26.79	40.573		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	147.57	-50.6	32.2	60.0					
100.0	100.0	100.0	100.0	0.1	0.1	147.57	-50.6	32.2	60.0	59.7	0.30	202.152		
200.0	200.0	200.0	200.0	0.3	0.3	147.57	-50.6	32.2	60.0	59.3	0.65	92.881		
300.0	300.0	300.0	300.0	0.5	0.5	-74.28	-50.6	32.2	59.6	58.6	1.00	59.807		
347.7	347.7	347.1	347.1	0.6	0.6	-75.54	-50.9	32.1	59.4	58.3	1.17	50.918 CC, ES		
400.0	399.9	398.7	398.7	0.7	0.7	-77.13	-51.9	32.1	59.7	58.3	1.36	44.009		
500.0	499.7	497.5	497.4	0.9	0.9	-80.69	-55.7	31.9	61.3	59.5	1.74	35.305		
600.0	599.3	596.2	595.9	1.1	1.0	-84.66	-62.1	31.5	64.6	62.5	2.15	30.046		
700.0	698.6	694.8	694.1	1.4	1.3	-88.67	-71.0	30.9	69.8	67.2	2.62	26.699		
800.0	797.5	793.3	792.0	1.7	1.5	-92.44	-82.4	30.2	76.9	73.7	3.14	24.501		
900.0	896.1	891.7	889.3	2.0	1.8	-95.79	-96.3	29.3	85.8	82.1	3.73	23.027		
1,000.0	994.2	989.9	986.1	2.4	2.1	-98.64	-112.6	28.3	96.6	92.2	4.39	22.022		
1,100.0	1,091.7	1,087.8	1,082.2	2.8	2.5	-101.00	-131.4	27.2	109.2	104.1	5.12	21.326		
1,200.0	1,188.6	1,185.5	1,177.5	3.3	2.9	-102.91	-152.6	25.8	123.5	117.6	5.93	20.837		
1,300.0	1,284.9	1,282.8	1,272.0	3.8	3.3	-104.42	-176.1	24.4	139.6	132.7	6.81	20.489		
1,400.0	1,380.4	1,379.9	1,365.5	4.3	3.7	-105.61	-202.0	22.8	157.2	149.5	7.77	20.237		
1,500.0	1,475.0	1,477.5	1,459.1	4.9	4.2	-106.72	-229.8	21.0	176.4	167.6	8.79	20.072		
1,600.0	1,568.9	1,575.3	1,552.8	5.5	4.7	-108.25	-257.8	19.3	196.4	186.6	9.85	19.950		
1,700.0	1,661.7	1,672.7	1,646.1	6.2	5.2	-110.08	-285.7	17.6	217.5	206.6	10.93	19.893 SF		
1,800.0	1,753.8	1,769.8	1,739.1	6.9	5.7	-112.20	-313.5	15.9	239.7	227.7	12.03	19.928		
1,900.0	1,845.7	1,866.9	1,832.1	7.6	6.2	-114.15	-341.3	14.1	262.3	249.1	13.11	19.999		
2,000.0	1,937.6	1,964.0	1,925.1	8.4	6.7	-115.78	-369.2	12.4	285.1	270.9	14.19	20.087		
2,100.0	2,029.5	2,061.0	2,018.1	9.1	7.2	-117.18	-397.0	10.7	308.1	292.8	15.26	20.183		
2,200.0	2,121.4	2,158.1	2,111.1	9.8	7.8	-118.38	-424.8	9.0	331.2	314.9	16.33	20.282		
2,300.0	2,213.3	2,255.2	2,204.0	10.5	8.3	-119.42	-452.6	7.2	354.5	337.1	17.39	20.380		
2,400.0	2,305.2	2,352.2	2,297.0	11.2	8.8	-120.34	-480.4	5.5	377.9	359.4	18.45	20.476		
2,500.0	2,397.1	2,449.3	2,390.0	12.0	9.3	-121.14	-508.2	3.8	401.3	381.8	19.51	20.568		
2,600.0	2,489.1	2,546.3	2,483.0	12.7	9.8	-121.86	-536.0	2.1	424.8	404.3	20.57	20.657		
2,700.0	2,581.0	2,643.4	2,576.0	13.4	10.3	-122.51	-563.8	0.3	448.4	426.8	21.62	20.742		
2,800.0	2,672.9	2,740.5	2,668.9	14.1	10.8	-123.09	-591.6	-1.4	472.0	449.4	22.67	20.822		
2,900.0	2,764.8	2,837.5	2,761.9	14.9	11.3	-123.61	-619.4	-3.1	495.7	472.0	23.72	20.899		
3,000.0	2,856.7	2,934.6	2,854.9	15.6	11.8	-124.09	-647.2	-4.8	519.4	494.6	24.77	20.971		
3,100.0	2,948.6	3,031.7	2,947.9	16.3	12.3	-124.52	-675.0	-6.6	543.1	517.3	25.81	21.040		
3,200.0	3,040.5	3,128.7	3,040.9	17.1	12.9	-124.92	-702.8	-8.3	566.9	540.0	26.86	21.105		
3,300.0	3,132.4	3,225.8	3,133.8	17.8	13.4	-125.29	-730.6	-10.0	590.7	562.8	27.91	21.167		
3,400.0	3,224.3	3,322.9	3,226.8	18.5	13.9	-125.63	-758.4	-11.7	614.5	585.5	28.95	21.226		
3,500.0	3,316.2	3,419.9	3,319.8	19.2	14.4	-125.94	-786.2	-13.5	638.3	608.3	29.99	21.282		
3,600.0	3,408.2	3,517.0	3,412.8	20.0	14.9	-126.23	-814.0	-15.2	662.2	631.1	31.04	21.335		
3,700.0	3,500.1	3,614.0	3,505.8	20.7	15.4	-126.50	-841.8	-16.9	686.0	653.9	32.08	21.385		
3,800.0	3,592.0	3,711.1	3,598.7	21.4	15.9	-126.76	-869.6	-18.7	709.9	676.8	33.12	21.433		
3,900.0	3,683.9	3,808.2	3,691.7	22.2	16.4	-126.99	-897.4	-20.4	733.8	699.6	34.16	21.478		
4,000.0	3,775.8	3,905.2	3,784.7	22.9	17.0	-127.21	-925.3	-22.1	757.6	722.4	35.20	21.522		
4,100.0	3,867.7	4,002.3	3,877.7	23.6	17.5	-127.42	-953.1	-23.8	781.5	745.3	36.24	21.563		
4,200.0	3,959.6	4,099.4	3,970.7	24.3	18.0	-127.62	-980.9	-25.6	805.5	768.2	37.29	21.603		
4,300.0	4,051.5	4,196.4	4,063.6	25.1	18.5	-127.80	-1,008.7	-27.3	829.4	791.1	38.33	21.640		
4,400.0	4,143.4	4,293.5	4,156.6	25.8	19.0	-127.97	-1,036.5	-29.0	853.3	813.9	39.37	21.677		
4,500.0	4,235.3	4,390.6	4,249.6	26.5	19.5	-128.14	-1,064.3	-30.7	877.2	836.8	40.40	21.711		
4,600.0	4,327.3	4,487.6	4,342.6	27.3	20.0	-128.29	-1,092.1	-32.5	901.2	859.7	41.44	21.744		
4,700.0	4,419.2	4,584.7	4,435.6	28.0	20.6	-128.44	-1,119.9	-34.2	925.1	882.6	42.48	21.776		
4,800.0	4,511.1	4,681.7	4,528.5	28.7	21.1	-128.58	-1,147.7	-35.9	949.1	905.6	43.52	21.806		
4,900.0	4,603.0	4,778.8	4,621.5	29.5	21.6	-128.71	-1,175.5	-37.6	973.0	928.5	44.56	21.836		
5,000.0	4,694.9	4,875.9	4,714.5	30.2	22.1	-128.84	-1,203.3	-39.4	997.0	951.4	45.60	21.864		

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 21-9D (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 21-9D (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 21-1D (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						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	4,786.8	4,972.9	4,807.5	30.9	22.6	-128.96	-1,231.1	-41.1	1,021.0	974.3	46.64	21.891	
5,200.0	4,878.7	5,070.0	4,900.5	31.6	23.1	-129.08	-1,258.9	-42.8	1,044.9	997.2	47.68	21.917	
5,300.0	4,970.6	5,167.1	4,993.4	32.4	23.6	-129.19	-1,286.7	-44.5	1,068.9	1,020.2	48.72	21.942	
5,400.0	5,062.5	5,264.1	5,086.4	33.1	24.2	-129.29	-1,314.5	-46.3	1,092.9	1,043.1	49.75	21.966	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
							+N/-S (ft)	+E/-W (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	-20.17	42.3	-15.5	45.0				
100.0	100.0	100.0	100.0	0.1	0.1	-20.17	42.3	-15.5	45.0	44.7	0.30	151.705	
200.0	200.0	200.0	200.0	0.3	0.3	-20.17	42.3	-15.5	45.0	44.4	0.65	69.702	
300.0	300.0	301.1	301.1	0.5	0.5	120.15	40.9	-15.5	44.4	43.4	1.00	44.464	
400.0	399.9	402.2	402.1	0.7	0.7	123.18	36.9	-15.3	42.6	41.3	1.36	31.393	
500.0	499.7	503.1	502.8	0.9	0.9	128.79	30.2	-15.1	40.0	38.3	1.73	23.176	
600.0	599.3	603.9	603.2	1.1	1.1	137.83	20.9	-14.8	37.0	34.9	2.09	17.694	
700.0	698.6	704.5	703.0	1.4	1.4	151.16	9.0	-14.4	34.8	32.3	2.45	14.190	
750.4	748.5	755.1	753.1	1.5	1.5	159.52	2.0	-14.1	34.4	31.8	2.64	13.039 CC, ES	
800.0	797.5	804.8	802.3	1.7	1.7	168.49	-5.5	-13.9	34.8	32.0	2.84	12.269	
900.0	896.1	904.7	900.8	2.0	2.0	-173.18	-22.5	-13.3	38.8	35.4	3.37	11.505 SF	
1,000.0	994.2	1,004.3	998.4	2.4	2.4	-157.61	-42.1	-12.6	47.0	43.0	4.09	11.512	
1,100.0	1,091.7	1,103.4	1,095.0	2.8	2.8	-146.11	-64.0	-11.9	59.2	54.3	4.93	12.007	
1,200.0	1,188.6	1,201.9	1,190.9	3.3	3.2	-139.19	-86.8	-11.1	74.7	68.9	5.79	12.906	
1,300.0	1,284.9	1,300.2	1,286.5	3.8	3.6	-135.75	-109.5	-10.3	92.7	86.1	6.63	13.977	
1,400.0	1,380.4	1,398.1	1,381.8	4.3	4.0	-134.31	-132.1	-9.5	112.7	105.2	7.47	15.082	
1,500.0	1,475.0	1,495.7	1,476.7	4.9	4.5	-134.05	-154.7	-8.8	134.5	126.1	8.31	16.187	
1,600.0	1,568.9	1,592.9	1,571.2	5.5	4.9	-134.47	-177.2	-8.0	158.0	148.9	9.14	17.292	
1,700.0	1,661.7	1,689.6	1,665.3	6.2	5.3	-135.30	-199.5	-7.2	183.4	173.4	9.96	18.406	
1,800.0	1,753.8	1,785.8	1,758.9	6.9	5.7	-136.44	-221.7	-6.5	210.4	199.6	10.78	19.521	
1,900.0	1,845.7	1,881.9	1,852.4	7.6	6.1	-137.47	-244.0	-5.7	237.7	226.1	11.60	20.498	
2,000.0	1,937.6	1,978.0	1,945.9	8.4	6.6	-138.29	-266.2	-4.9	265.1	252.6	12.42	21.347	
2,100.0	2,029.5	2,074.1	2,039.4	9.1	7.0	-138.95	-288.4	-4.2	292.5	279.2	13.24	22.090	
2,200.0	2,121.4	2,170.3	2,132.9	9.8	7.4	-139.51	-310.6	-3.4	319.9	305.8	14.06	22.746	
2,300.0	2,213.3	2,266.4	2,226.5	10.5	7.8	-139.97	-332.9	-2.7	347.3	332.4	14.89	23.328	
2,400.0	2,305.2	2,362.5	2,320.0	11.2	8.2	-140.37	-355.1	-1.9	374.8	359.1	15.71	23.849	
2,500.0	2,397.1	2,458.6	2,413.5	12.0	8.7	-140.71	-377.3	-1.1	402.2	385.7	16.54	24.317	
2,600.0	2,489.1	2,554.8	2,507.0	12.7	9.1	-141.01	-399.5	-0.4	429.7	412.4	17.37	24.739	
2,700.0	2,581.0	2,650.9	2,600.5	13.4	9.5	-141.28	-421.7	0.4	457.2	439.0	18.20	25.123	
2,800.0	2,672.9	2,747.0	2,694.0	14.1	9.9	-141.51	-444.0	1.2	484.7	465.7	19.03	25.473	
2,900.0	2,764.8	2,843.1	2,787.6	14.9	10.3	-141.72	-466.2	1.9	512.2	492.4	19.86	25.793	
3,000.0	2,856.7	2,939.3	2,881.1	15.6	10.8	-141.90	-488.4	2.7	539.8	519.1	20.69	26.087	
3,100.0	2,948.6	3,035.4	2,974.6	16.3	11.2	-142.07	-510.6	3.4	567.3	545.8	21.52	26.358	
3,200.0	3,040.5	3,131.5	3,068.1	17.1	11.6	-142.23	-532.8	4.2	594.8	572.5	22.35	26.608	
3,300.0	3,132.4	3,227.6	3,161.6	17.8	12.0	-142.37	-555.1	5.0	622.3	599.1	23.19	26.841	
3,400.0	3,224.3	3,323.8	3,255.2	18.5	12.4	-142.49	-577.3	5.7	649.9	625.8	24.02	27.057	
3,500.0	3,316.2	3,419.9	3,348.7	19.2	12.9	-142.61	-599.5	6.5	677.4	652.5	24.85	27.258	
3,600.0	3,408.2	3,516.0	3,442.2	20.0	13.3	-142.72	-621.7	7.3	704.9	679.3	25.68	27.446	
3,700.0	3,500.1	3,612.1	3,535.7	20.7	13.7	-142.82	-644.0	8.0	732.5	706.0	26.52	27.622	
3,800.0	3,592.0	3,708.3	3,629.2	21.4	14.1	-142.91	-666.2	8.8	760.0	732.7	27.35	27.787	
3,900.0	3,683.9	3,804.4	3,722.8	22.2	14.6	-143.00	-688.4	9.5	787.6	759.4	28.19	27.942	
4,000.0	3,775.8	3,900.5	3,816.3	22.9	15.0	-143.08	-710.6	10.3	815.1	786.1	29.02	28.089	
4,100.0	3,867.7	3,996.6	3,909.8	23.6	15.4	-143.16	-732.8	11.1	842.6	812.8	29.85	28.227	
4,200.0	3,959.6	4,092.8	4,003.3	24.3	15.8	-143.23	-755.1	11.8	870.2	839.5	30.69	28.357	
4,300.0	4,051.5	4,188.9	4,096.8	25.1	16.2	-143.29	-777.3	12.6	897.7	866.2	31.52	28.480	
4,400.0	4,143.4	4,285.0	4,190.3	25.8	16.7	-143.35	-799.5	13.3	925.3	892.9	32.36	28.597	
4,500.0	4,235.3	4,381.1	4,283.9	26.5	17.1	-143.41	-821.7	14.1	952.8	919.7	33.19	28.708	
4,600.0	4,327.3	4,477.3	4,377.4	27.3	17.5	-143.47	-843.9	14.9	980.4	946.4	34.02	28.814	
4,700.0	4,419.2	4,573.4	4,470.9	28.0	17.9	-143.52	-866.2	15.6	1,007.9	973.1	34.86	28.914	
4,800.0	4,511.1	4,669.5	4,564.4	28.7	18.3	-143.57	-888.4	16.4	1,035.5	999.8	35.69	29.010	
4,900.0	4,603.0	4,765.7	4,657.9	29.5	18.8	-143.62	-910.6	17.2	1,063.0	1,026.5	36.53	29.101	
5,000.0	4,694.9	4,861.8	4,751.5	30.2	19.2	-143.66	-932.8	17.9	1,090.6	1,053.2	37.36	29.188	

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 21-9D (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 21-9D (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

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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 21-3D (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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty	Separation				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor				
0.0	0.0	0.0	0.0	0.0	0.0	142.24	-31.3	24.3	39.6							
100.0	100.0	100.0	100.0	0.1	0.1	142.24	-31.3	24.3	39.6	39.3	0.30	133.546				
200.0	200.0	200.0	200.0	0.3	0.3	142.24	-31.3	24.3	39.6	39.0	0.65	61.359				
300.0	300.0	300.0	300.0	0.5	0.5	-80.28	-31.3	24.3	39.4	38.4	1.00	39.506				
400.0	399.9	399.9	399.9	0.7	0.7	-85.99	-31.3	24.3	38.9	37.6	1.36	28.664				
446.7	446.5	446.5	446.5	0.8	0.8	-90.00	-31.3	24.3	38.8	37.3	1.53	25.311 CC				
500.0	499.7	499.7	499.7	0.9	0.8	-95.59	-31.3	24.3	39.0	37.3	1.74	22.476 ES				
600.0	599.3	598.9	598.9	1.1	1.0	-106.63	-32.6	24.1	41.3	39.2	2.13	19.392				
700.0	698.6	698.3	698.2	1.4	1.2	-115.90	-36.4	23.8	46.6	44.0	2.54	18.309				
800.0	797.5	797.7	797.4	1.7	1.4	-122.69	-42.9	23.2	54.3	51.3	2.98	18.238 SF				
900.0	896.1	897.1	896.3	2.0	1.6	-127.24	-51.9	22.4	64.1	60.7	3.45	18.613				
1,000.0	994.2	996.4	995.1	2.4	1.8	-130.07	-63.4	21.3	75.7	71.8	3.96	19.131				
1,100.0	1,091.7	1,095.8	1,093.4	2.8	2.1	-131.70	-77.5	20.1	88.9	84.3	4.53	19.637				
1,200.0	1,188.6	1,194.8	1,191.1	3.3	2.4	-132.65	-93.8	18.6	103.5	98.4	5.14	20.129				
1,300.0	1,284.9	1,293.4	1,288.2	3.8	2.7	-134.04	-110.4	17.1	119.9	114.1	5.77	20.769				
1,400.0	1,380.4	1,391.7	1,385.0	4.3	3.0	-135.81	-127.0	15.6	138.2	131.8	6.41	21.579				
1,500.0	1,475.0	1,489.4	1,481.4	4.9	3.3	-137.76	-143.5	14.1	158.5	151.5	7.03	22.549				
1,600.0	1,568.9	1,586.6	1,577.2	5.5	3.6	-139.75	-159.9	12.6	181.0	173.3	7.65	23.669				
1,700.0	1,661.7	1,683.3	1,672.5	6.2	4.0	-141.70	-176.1	11.1	205.6	197.4	8.25	24.927				
1,800.0	1,753.8	1,779.4	1,767.2	6.9	4.3	-143.64	-192.3	9.6	232.3	223.4	8.83	26.293				
1,900.0	1,845.7	1,875.4	1,861.8	7.6	4.6	-145.32	-208.5	8.2	259.3	249.9	9.41	27.548				
2,000.0	1,937.6	1,971.4	1,956.4	8.4	4.9	-146.68	-224.7	6.7	286.6	276.6	9.99	28.676				
2,100.0	2,029.5	2,067.4	2,051.1	9.1	5.2	-147.80	-240.9	5.2	313.9	303.4	10.57	29.693				
2,200.0	2,121.4	2,163.4	2,145.7	9.8	5.6	-148.75	-257.1	3.7	341.4	330.2	11.15	30.614				
2,300.0	2,213.3	2,259.5	2,240.3	10.5	5.9	-149.55	-273.3	2.3	368.9	357.2	11.73	31.450				
2,400.0	2,305.2	2,355.5	2,335.0	11.2	6.2	-150.24	-289.4	0.8	396.5	384.2	12.31	32.212				
2,500.0	2,397.1	2,451.5	2,429.6	12.0	6.5	-150.85	-305.6	-0.7	424.1	411.2	12.89	32.908				
2,600.0	2,489.1	2,547.5	2,524.2	12.7	6.9	-151.38	-321.8	-2.1	451.8	438.3	13.47	33.547				
2,700.0	2,581.0	2,643.5	2,618.9	13.4	7.2	-151.84	-338.0	-3.6	479.5	465.5	14.05	34.135				
2,800.0	2,672.9	2,739.5	2,713.5	14.1	7.5	-152.26	-354.2	-5.1	507.2	492.6	14.63	34.678				
2,900.0	2,764.8	2,835.6	2,808.1	14.9	7.8	-152.63	-370.3	-6.6	535.0	519.8	15.21	35.181				
3,000.0	2,856.7	2,931.6	2,902.8	15.6	8.2	-152.97	-386.5	-8.0	562.7	547.0	15.79	35.648				
3,100.0	2,948.6	3,027.6	2,997.4	16.3	8.5	-153.28	-402.7	-9.5	590.5	574.2	16.37	36.082				
3,200.0	3,040.5	3,123.6	3,092.0	17.1	8.8	-153.55	-418.9	-11.0	618.3	601.4	16.95	36.487				
3,300.0	3,132.4	3,219.6	3,186.6	17.8	9.1	-153.81	-435.1	-12.4	646.1	628.6	17.53	36.866				
3,400.0	3,224.3	3,315.6	3,281.3	18.5	9.5	-154.04	-451.3	-13.9	674.0	655.9	18.11	37.221				
3,500.0	3,316.2	3,411.7	3,375.9	19.2	9.8	-154.26	-467.4	-15.4	701.8	683.1	18.69	37.554				
3,600.0	3,408.2	3,507.7	3,470.5	20.0	10.1	-154.45	-483.6	-16.9	729.6	710.4	19.27	37.867				
3,700.0	3,500.1	3,603.7	3,565.2	20.7	10.4	-154.64	-499.8	-18.3	757.5	737.6	19.85	38.162				
3,800.0	3,592.0	3,699.7	3,659.8	21.4	10.8	-154.81	-516.0	-19.8	785.4	764.9	20.43	38.441				
3,900.0	3,683.9	3,795.7	3,754.4	22.2	11.1	-154.97	-532.2	-21.3	813.2	792.2	21.01	38.704				
4,000.0	3,775.8	3,891.7	3,849.1	22.9	11.4	-155.11	-548.3	-22.7	841.1	819.5	21.59	38.954				
4,100.0	3,867.7	3,987.8	3,943.7	23.6	11.8	-155.25	-564.5	-24.2	869.0	846.8	22.17	39.190				
4,200.0	3,959.6	4,083.8	4,038.3	24.3	12.1	-155.38	-580.7	-25.7	896.8	874.1	22.75	39.414				
4,300.0	4,051.5	4,179.8	4,133.0	25.1	12.4	-155.51	-596.9	-27.2	924.7	901.4	23.34	39.627				
4,400.0	4,143.4	4,275.8	4,227.6	25.8	12.7	-155.62	-613.1	-28.6	952.6	928.7	23.92	39.830				
4,500.0	4,235.3	4,371.8	4,322.2	26.5	13.1	-155.73	-629.3	-30.1	980.5	956.0	24.50	40.024				
4,600.0	4,327.3	4,467.8	4,416.9	27.3	13.4	-155.83	-645.4	-31.6	1,008.4	983.3	25.08	40.208				
4,700.0	4,419.2	4,563.9	4,511.5	28.0	13.7	-155.93	-661.6	-33.1	1,036.3	1,010.6	25.66	40.384				
4,800.0	4,511.1	4,659.9	4,606.1	28.7	14.0	-156.02	-677.8	-34.5	1,064.2	1,037.9	26.24	40.553				
4,900.0	4,603.0	4,755.9	4,700.8	29.5	14.4	-156.11	-694.0	-36.0	1,092.1	1,065.2	26.82	40.714				

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 21-9D (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 21-9D (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		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)				Between Centres (ft)	Between Ellipses (ft)	
0.0	0.0	0.0	0.0	0.0	0.0	148.21	-25.5	15.8	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	148.21	-25.5	15.8	30.0	29.7	101.097			
200.0	200.0	200.0	200.0	0.3	0.3	148.21	-25.5	15.8	30.0	29.4	0.65	46.450		
300.0	300.0	300.0	300.0	0.5	0.5	-74.85	-25.5	15.8	29.6	28.6	1.00	29.724		
400.0	399.9	399.9	399.9	0.7	0.7	-82.40	-25.5	15.8	28.9	27.5	1.36	21.256		
463.1	462.8	462.8	462.8	0.8	0.8	-90.00	-25.5	15.8	28.6	27.0	1.60	17.923 CC		
500.0	499.7	499.7	499.7	0.9	0.8	-95.42	-25.5	15.8	28.7	27.0	1.74	16.554 ES		
600.0	599.3	599.3	599.3	1.1	1.0	-112.43	-25.5	15.8	31.0	28.8	2.12	14.578 SF		
700.0	698.6	698.7	698.7	1.4	1.2	-127.37	-26.8	15.6	37.0	34.5	2.50	14.759		
800.0	797.5	798.2	798.1	1.7	1.4	-136.72	-30.6	15.1	46.0	43.1	2.89	15.948		
900.0	896.1	897.9	897.6	2.0	1.6	-142.01	-37.0	14.2	57.1	53.8	3.28	17.388		
1,000.0	994.2	997.6	996.9	2.4	1.8	-144.77	-46.0	13.0	69.6	65.9	3.71	18.766		
1,100.0	1,091.7	1,096.8	1,095.5	2.8	2.0	-146.40	-56.9	11.5	83.6	79.4	4.16	20.101		
1,200.0	1,188.6	1,195.5	1,193.5	3.3	2.2	-148.25	-67.8	10.0	99.8	95.2	4.61	21.651		
1,300.0	1,284.9	1,293.7	1,291.1	3.8	2.5	-150.19	-78.7	8.5	118.3	113.3	5.06	23.405		
1,400.0	1,380.4	1,391.3	1,388.2	4.3	2.7	-152.08	-89.5	7.0	139.2	133.7	5.49	25.341		
1,500.0	1,475.0	1,488.5	1,484.7	4.9	2.9	-153.84	-100.2	5.5	162.5	156.6	5.92	27.437		
1,600.0	1,568.9	1,584.9	1,580.6	5.5	3.2	-155.46	-110.9	4.0	188.3	181.9	6.35	29.672		
1,700.0	1,661.7	1,680.7	1,675.7	6.2	3.4	-156.92	-121.5	2.6	216.5	209.7	6.76	32.030		
1,800.0	1,753.8	1,775.8	1,770.3	6.9	3.7	-158.30	-132.1	1.1	246.8	239.6	7.17	34.427		
1,900.0	1,845.7	1,870.9	1,864.7	7.6	3.9	-159.46	-142.6	-0.3	277.5	269.9	7.59	36.581		
2,000.0	1,937.6	1,965.9	1,959.1	8.4	4.1	-160.40	-153.1	-1.8	308.3	300.3	8.00	38.515		
2,100.0	2,029.5	2,061.0	2,053.6	9.1	4.4	-161.16	-163.7	-3.2	339.1	330.7	8.42	40.258		
2,200.0	2,121.4	2,156.0	2,148.0	9.8	4.6	-161.80	-174.2	-4.7	370.0	361.1	8.84	41.836		
2,300.0	2,213.3	2,251.0	2,242.5	10.5	4.9	-162.34	-184.7	-6.1	400.9	391.6	9.26	43.272		
2,400.0	2,305.2	2,346.1	2,336.9	11.2	5.1	-162.80	-195.2	-7.6	431.9	422.2	9.69	44.582		
2,500.0	2,397.1	2,441.1	2,431.4	12.0	5.3	-163.20	-205.8	-9.0	462.8	452.7	10.11	45.784		
2,600.0	2,489.1	2,536.2	2,525.8	12.7	5.6	-163.55	-216.3	-10.5	493.8	483.3	10.53	46.888		
2,700.0	2,581.0	2,631.2	2,620.2	13.4	5.8	-163.86	-226.8	-11.9	524.8	513.9	10.95	47.907		
2,800.0	2,672.9	2,726.2	2,714.7	14.1	6.1	-164.13	-237.4	-13.4	555.8	544.4	11.38	48.851		
2,900.0	2,764.8	2,821.3	2,809.1	14.9	6.3	-164.38	-247.9	-14.8	586.8	575.0	11.80	49.726		
3,000.0	2,856.7	2,916.3	2,903.6	15.6	6.6	-164.60	-258.4	-16.3	617.9	605.7	12.23	50.540		
3,100.0	2,948.6	3,011.3	2,998.0	16.3	6.8	-164.80	-268.9	-17.7	648.9	636.3	12.65	51.300		
3,200.0	3,040.5	3,106.4	3,092.4	17.1	7.1	-164.98	-279.5	-19.2	680.0	666.9	13.07	52.010		
3,300.0	3,132.4	3,201.4	3,186.9	17.8	7.3	-165.15	-290.0	-20.6	711.0	697.5	13.50	52.675		
3,400.0	3,224.3	3,296.5	3,281.3	18.5	7.6	-165.30	-300.5	-22.1	742.1	728.1	13.92	53.300		
3,500.0	3,316.2	3,391.5	3,375.8	19.2	7.8	-165.44	-311.1	-23.5	773.1	758.8	14.35	53.887		
3,600.0	3,408.2	3,486.5	3,470.2	20.0	8.1	-165.57	-321.6	-25.0	804.2	789.4	14.77	54.441		
3,700.0	3,500.1	3,581.6	3,564.7	20.7	8.3	-165.69	-332.1	-26.4	835.3	820.1	15.20	54.963		
3,800.0	3,592.0	3,676.6	3,659.1	21.4	8.6	-165.80	-342.6	-27.9	866.3	850.7	15.62	55.457		
3,900.0	3,683.9	3,771.6	3,753.5	22.2	8.8	-165.90	-353.2	-29.3	897.4	881.4	16.05	55.925		
4,000.0	3,775.8	3,866.7	3,848.0	22.9	9.0	-166.00	-363.7	-30.8	928.5	912.0	16.47	56.368		
4,100.0	3,867.7	3,961.7	3,942.4	23.6	9.3	-166.09	-374.2	-32.2	959.6	942.7	16.90	56.789		
4,200.0	3,959.6	4,056.8	4,036.9	24.3	9.5	-166.17	-384.8	-33.7	990.6	973.3	17.32	57.190		
4,300.0	4,051.5	4,151.8	4,131.3	25.1	9.8	-166.25	-395.3	-35.1	1,021.7	1,004.0	17.75	57.571		
4,400.0	4,143.4	4,246.8	4,225.7	25.8	10.0	-166.32	-405.8	-36.6	1,052.8	1,034.6	18.17	57.934		
4,500.0	4,235.3	4,341.9	4,320.2	26.5	10.3	-166.39	-416.3	-38.0	1,083.9	1,065.3	18.60	58.280		

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 21-9D (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 21-9D (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		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	148.93	-13.1	7.9	15.3					
100.0	100.0	100.0	100.0	0.1	0.1	148.93	-13.1	7.9	15.3	0.30	51.596			
200.0	200.0	200.0	200.0	0.3	0.3	148.93	-13.1	7.9	15.3	0.65	23.706			
300.0	300.0	300.0	300.0	0.5	0.5	-76.49	-13.1	7.9	14.9	1.00	14.998			
391.5	391.4	391.4	391.4	0.7	0.7	-89.99	-13.1	7.9	14.5	1.33	10.955 CC			
400.0	399.9	399.9	399.9	0.7	0.7	-91.70	-13.1	7.9	14.5	1.36	10.712 ES			
500.0	499.7	499.7	499.7	0.9	0.8	-115.55	-13.1	7.9	16.1	1.73	9.333 SF			
600.0	599.3	599.3	599.3	1.1	1.0	-137.80	-13.1	7.9	21.7	2.08	10.421			
700.0	698.6	699.0	699.0	1.4	1.2	-150.29	-14.4	7.7	30.8	2.43	12.657			
800.0	797.5	798.9	798.8	1.7	1.4	-155.48	-18.2	6.9	41.4	2.79	14.862			
900.0	896.1	898.9	898.5	2.0	1.6	-157.37	-24.6	5.6	53.1	3.16	16.801			
1,000.0	994.2	997.9	997.3	2.4	1.8	-158.69	-31.8	4.2	66.6	3.54	18.821			
1,100.0	1,091.7	1,096.6	1,095.8	2.8	2.0	-160.17	-39.1	2.8	82.5	3.91	21.095			
1,200.0	1,188.6	1,194.9	1,193.7	3.3	2.2	-161.62	-46.3	1.3	100.9	4.28	23.573			
1,300.0	1,284.9	1,292.6	1,291.2	3.8	2.4	-162.97	-53.5	-0.1	121.9	4.65	26.222			
1,400.0	1,380.4	1,389.8	1,388.1	4.3	2.6	-164.18	-60.7	-1.5	145.3	5.01	29.013			
1,500.0	1,475.0	1,486.3	1,484.4	4.9	2.8	-165.25	-67.8	-2.9	171.3	5.36	31.927			
1,600.0	1,568.9	1,582.1	1,579.9	5.5	3.0	-166.20	-74.8	-4.3	199.7	5.71	34.948			
1,700.0	1,661.7	1,677.2	1,674.7	6.2	3.2	-167.03	-81.8	-5.7	230.6	6.06	38.063			
1,800.0	1,753.8	1,771.5	1,768.7	6.9	3.4	-167.81	-88.8	-7.0	263.7	6.41	41.131			
1,900.0	1,845.7	1,865.7	1,862.7	7.6	3.6	-168.47	-95.7	-8.4	297.0	6.77	43.852			
2,000.0	1,937.6	1,959.9	1,956.6	8.4	3.8	-169.00	-102.6	-9.8	330.4	7.14	46.296			
2,100.0	2,029.5	2,054.2	2,050.6	9.1	4.0	-169.43	-109.6	-11.1	363.8	7.50	48.503			
2,200.0	2,121.4	2,148.4	2,144.6	9.8	4.2	-169.78	-116.5	-12.5	397.2	7.87	50.504			
2,300.0	2,213.3	2,242.6	2,238.5	10.5	4.4	-170.09	-123.4	-13.9	430.6	8.23	52.328			
2,400.0	2,305.2	2,336.8	2,332.5	11.2	4.6	-170.34	-130.4	-15.2	464.1	8.59	53.996			
2,500.0	2,397.1	2,431.0	2,426.4	12.0	4.8	-170.57	-137.3	-16.6	497.5	8.96	55.529			
2,600.0	2,489.1	2,525.3	2,520.4	12.7	5.0	-170.76	-144.2	-18.0	531.0	9.33	56.941			
2,700.0	2,581.0	2,619.5	2,614.3	13.4	5.2	-170.94	-151.2	-19.4	564.4	9.69	58.246			
2,800.0	2,672.9	2,713.7	2,708.3	14.1	5.4	-171.09	-158.1	-20.7	597.9	10.06	59.456			
2,900.0	2,764.8	2,807.9	2,802.3	14.9	5.6	-171.23	-165.1	-22.1	631.4	10.42	60.582			
3,000.0	2,856.7	2,902.2	2,896.2	15.6	5.8	-171.35	-172.0	-23.5	664.8	10.79	61.631			
3,100.0	2,948.6	2,996.4	2,990.2	16.3	6.0	-171.46	-178.9	-24.8	698.3	11.15	62.610			
3,200.0	3,040.5	3,090.6	3,084.1	17.1	6.2	-171.56	-185.9	-26.2	731.8	11.52	63.528			
3,300.0	3,132.4	3,184.8	3,178.1	17.8	6.4	-171.65	-192.8	-27.6	765.2	11.88	64.389			
3,400.0	3,224.3	3,279.1	3,272.1	18.5	6.6	-171.74	-199.7	-28.9	798.7	12.25	65.199			
3,500.0	3,316.2	3,373.3	3,366.0	19.2	6.8	-171.82	-206.7	-30.3	832.2	12.62	65.961			
3,600.0	3,408.2	3,467.5	3,460.0	20.0	7.0	-171.89	-213.6	-31.7	865.7	12.98	66.681			
3,700.0	3,500.1	3,561.7	3,553.9	20.7	7.2	-171.96	-220.5	-33.0	899.1	13.35	67.361			
3,800.0	3,592.0	3,656.0	3,647.9	21.4	7.4	-172.02	-227.5	-34.4	932.6	13.71	68.005			
3,900.0	3,683.9	3,750.2	3,741.9	22.2	7.6	-172.07	-234.4	-35.8	966.1	14.08	68.615			
4,000.0	3,775.8	3,844.4	3,835.8	22.9	7.9	-172.13	-241.3	-37.2	999.6	14.45	69.194			
4,100.0	3,867.7	3,938.6	3,929.8	23.6	8.1	-172.18	-248.3	-38.5	1,033.1	14.81	69.745			
4,200.0	3,959.6	4,032.9	4,023.7	24.3	8.3	-172.22	-255.2	-39.9	1,066.6	15.18	70.269			
4,300.0	4,051.5	4,127.1	4,117.7	25.1	8.5	-172.27	-262.1	-41.3	1,100.0	15.54	70.769			

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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							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	300.0	300.0	0.0	0.0	-23.53	55.7	-24.3	60.8						
100.0	100.0	400.0	400.0	0.1	0.1	-23.53	55.7	-24.3	60.8	60.5	0.30	204.858			
200.0	200.0	500.0	500.0	0.3	0.3	-23.53	55.7	-24.3	60.8	60.1	0.65	94.124			
300.0	300.0	601.5	601.5	0.5	0.5	117.37	54.7	-23.4	60.1	59.1	1.00	60.146			
400.0	399.9	702.8	702.7	0.7	0.7	122.17	51.7	-20.7	58.4	57.0	1.36	42.870			
500.0	499.7	803.4	803.1	0.9	0.9	130.57	46.8	-16.4	56.5	54.7	1.74	32.544			
526.8	526.4	830.1	829.7	1.0	0.9	133.30	45.3	-15.1	56.4	54.5	1.84	30.643	CC, ES		
600.0	599.3	902.8	902.3	1.1	1.1	141.32	41.4	-11.7	57.4	55.3	2.12	27.101			
700.0	698.6	1,002.0	1,001.2	1.4	1.3	152.48	36.1	-7.0	62.6	60.1	2.50	25.029	SF		
800.0	797.5	1,100.9	1,099.8	1.7	1.5	162.28	30.8	-2.4	72.2	69.4	2.87	25.134			
900.0	896.1	1,199.3	1,198.0	2.0	1.7	169.94	25.5	2.3	86.1	82.8	3.24	26.554			
1,000.0	994.2	1,297.3	1,295.8	2.4	1.9	175.54	20.2	6.9	103.6	100.0	3.61	28.723			
1,100.0	1,091.7	1,394.9	1,393.0	2.8	2.1	179.53	14.9	11.5	124.4	120.4	3.97	31.308			
1,200.0	1,188.6	1,491.8	1,489.7	3.3	2.3	-177.66	9.7	16.1	148.1	143.8	4.34	34.130			
1,300.0	1,284.9	1,588.0	1,585.7	3.8	2.5	-175.66	4.6	20.6	174.7	169.9	4.71	37.093			
1,400.0	1,380.4	1,683.6	1,681.0	4.3	2.8	-174.25	-0.6	25.1	203.8	198.7	5.08	40.147			
1,500.0	1,475.0	1,778.4	1,775.6	4.9	3.0	-173.24	-5.7	29.6	235.5	230.1	5.44	43.267			
1,600.0	1,568.9	1,872.1	1,869.2	5.5	3.1	-172.78	-9.9	33.3	269.8	264.0	5.78	46.637			
1,700.0	1,661.7	1,965.0	1,961.9	6.2	3.3	-172.92	-12.3	35.4	306.5	300.4	6.09	50.295			
1,800.0	1,753.8	2,056.8	2,053.8	6.9	3.4	-173.51	-13.1	36.1	345.4	339.0	6.40	53.998			
1,900.0	1,845.7	2,148.7	2,145.7	7.6	3.6	-174.17	-13.1	36.1	384.6	377.9	6.71	57.338			
2,000.0	1,937.6	2,240.6	2,237.6	8.4	3.7	-174.71	-13.1	36.1	423.8	416.8	7.02	60.374			
2,100.0	2,029.5	2,332.5	2,329.5	9.1	3.9	-175.16	-13.1	36.1	463.1	455.7	7.33	63.142			
2,200.0	2,121.4	2,424.5	2,421.4	9.8	4.0	-175.54	-13.1	36.1	502.4	494.7	7.65	65.676			
2,300.0	2,213.3	2,516.4	2,513.3	10.5	4.2	-175.86	-13.1	36.1	541.7	533.7	7.97	68.001			
2,400.0	2,305.2	2,608.3	2,605.2	11.2	4.3	-176.14	-13.1	36.1	581.0	572.7	8.28	70.142			
2,500.0	2,397.1	2,700.2	2,697.1	12.0	4.5	-176.39	-13.1	36.1	620.3	611.7	8.60	72.119			
2,600.0	2,489.1	2,792.1	2,789.1	12.7	4.6	-176.60	-13.1	36.1	659.7	650.7	8.92	73.948			
2,700.0	2,581.0	2,884.0	2,881.0	13.4	4.8	-176.79	-13.1	36.1	699.0	689.8	9.24	75.646			
2,800.0	2,672.9	2,975.9	2,972.9	14.1	4.9	-176.96	-13.1	36.1	738.4	728.8	9.56	77.226			
2,900.0	2,764.8	3,067.8	3,064.8	14.9	5.1	-177.12	-13.1	36.1	777.7	767.8	9.88	78.700			
3,000.0	2,856.7	3,159.7	3,156.7	15.6	5.2	-177.26	-13.1	36.1	817.1	806.9	10.20	80.077			
3,100.0	2,948.6	3,251.6	3,248.6	16.3	5.4	-177.38	-13.1	36.1	856.4	845.9	10.53	81.366			
3,200.0	3,040.5	3,343.6	3,340.5	17.1	5.5	-177.50	-13.1	36.1	895.8	885.0	10.85	82.576			
3,300.0	3,132.4	3,435.5	3,432.4	17.8	5.7	-177.60	-13.1	36.1	935.2	924.0	11.17	83.713			
3,400.0	3,224.3	3,527.4	3,524.3	18.5	5.8	-177.70	-13.1	36.1	974.6	963.1	11.49	84.784			
3,500.0	3,316.2	3,619.3	3,616.2	19.2	6.0	-177.79	-13.1	36.1	1,013.9	1,002.1	11.82	85.793			
3,600.0	3,408.2	3,711.2	3,708.2	20.0	6.1	-177.87	-13.1	36.1	1,053.3	1,041.2	12.14	86.747			
3,700.0	3,500.1	3,803.1	3,800.1	20.7	6.3	-177.95	-13.1	36.1	1,092.7	1,080.2	12.47	87.649			

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
							+N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-25.40	67.7	-32.2	75.0					
100.0	100.0	100.0	100.0	0.1	0.1	-25.40	67.7	-32.2	75.0	74.7	0.30	252.766		
200.0	200.0	200.0	200.0	0.3	0.3	-25.40	67.7	-32.2	75.0	74.4	0.65	116.136	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.5	114.86	67.7	-32.2	75.5	74.5	1.00	75.803		
400.0	399.9	399.9	399.9	0.7	0.7	117.48	67.7	-32.2	77.3	75.9	1.35	57.050		
500.0	499.7	499.7	499.7	0.9	0.8	121.56	67.7	-32.2	80.5	78.8	1.72	46.711		
600.0	599.3	597.2	597.2	1.1	1.0	126.84	69.0	-32.0	86.9	84.8	2.10	41.384		
700.0	698.6	693.8	693.7	1.4	1.2	132.74	72.6	-31.7	98.1	95.6	2.48	39.598	SF	
800.0	797.5	789.6	789.3	1.7	1.4	138.32	78.6	-31.1	114.6	111.8	2.85	40.160		
900.0	896.1	886.9	886.3	2.0	1.6	143.21	85.6	-30.5	135.0	131.8	3.23	41.803		
1,000.0	994.2	983.5	982.8	2.4	1.8	147.27	92.6	-29.8	158.3	154.7	3.60	43.970		
1,100.0	1,091.7	1,079.5	1,078.5	2.8	2.0	150.64	99.5	-29.1	184.4	180.4	3.96	46.504		
1,200.0	1,188.6	1,174.7	1,173.5	3.3	2.2	153.44	106.3	-28.5	213.2	208.9	4.32	49.303		
1,300.0	1,284.9	1,269.1	1,267.6	3.8	2.3	155.79	113.1	-27.8	244.8	240.1	4.68	52.297		
1,400.0	1,380.4	1,362.6	1,360.9	4.3	2.5	157.77	119.8	-27.2	278.9	273.9	5.03	55.441		
1,500.0	1,475.0	1,455.2	1,453.2	4.9	2.7	159.44	126.5	-26.6	315.7	310.3	5.38	58.703		
1,600.0	1,568.9	1,546.7	1,544.4	5.5	2.9	160.87	133.1	-25.9	355.0	349.2	5.72	62.061		
1,700.0	1,661.7	1,637.2	1,634.7	6.2	3.1	162.10	139.6	-25.3	396.7	390.7	6.06	65.499		
1,800.0	1,753.8	1,726.6	1,723.9	6.9	3.3	163.26	146.0	-24.7	440.6	434.2	6.40	68.871		
1,900.0	1,845.7	1,816.0	1,813.0	7.6	3.5	164.31	152.4	-24.1	484.8	478.1	6.74	71.890		
2,000.0	1,937.6	1,905.3	1,902.1	8.4	3.7	165.18	158.8	-23.5	529.2	522.1	7.09	74.640		
2,100.0	2,029.5	1,994.7	1,991.2	9.1	3.9	165.92	165.2	-22.9	573.7	566.2	7.44	77.152		
2,200.0	2,121.4	2,084.0	2,080.4	9.8	4.1	166.55	171.7	-22.2	618.2	610.4	7.78	79.455		
2,300.0	2,213.3	2,173.4	2,169.5	10.5	4.3	167.10	178.1	-21.6	662.8	654.7	8.12	81.574		
2,400.0	2,305.2	2,262.7	2,258.6	11.2	4.5	167.58	184.5	-21.0	707.4	698.9	8.47	83.528		
2,500.0	2,397.1	2,352.0	2,347.7	12.0	4.6	168.00	190.9	-20.4	752.1	743.2	8.81	85.335		
2,600.0	2,489.1	2,441.4	2,436.8	12.7	4.8	168.38	197.3	-19.8	796.7	787.6	9.16	87.012		
2,700.0	2,581.0	2,530.7	2,525.9	13.4	5.0	168.72	203.8	-19.2	841.4	831.9	9.50	88.571		
2,800.0	2,672.9	2,620.1	2,615.0	14.1	5.2	169.02	210.2	-18.6	886.2	876.3	9.84	90.025		
2,900.0	2,764.8	2,709.4	2,704.1	14.9	5.4	169.29	216.6	-17.9	930.9	920.7	10.19	91.383		
3,000.0	2,856.7	2,798.8	2,793.3	15.6	5.6	169.54	223.0	-17.3	975.7	965.2	10.53	92.655		
3,100.0	2,948.6	2,888.1	2,882.4	16.3	5.8	169.76	229.5	-16.7	1,020.5	1,009.6	10.87	93.848		
3,200.0	3,040.5	2,977.5	2,971.5	17.1	6.0	169.97	235.9	-16.1	1,065.2	1,054.0	11.22	94.969		
3,300.0	3,132.4	3,066.8	3,060.6	17.8	6.2	170.16	242.3	-15.5	1,110.0	1,098.5	11.56	96.025		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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		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	-26.36	80.9	-40.1	90.2					
100.0	100.0	100.0	100.0	0.1	0.1	-26.36	80.9	-40.1	90.2	89.9	0.30	304.152		
200.0	200.0	200.0	200.0	0.3	0.3	-26.36	80.9	-40.1	90.2	89.6	0.65	139.746 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	113.75	80.9	-40.1	90.8	89.8	1.00	91.078		
400.0	399.9	399.9	399.9	0.7	0.7	115.96	80.9	-40.1	92.4	91.1	1.35	68.214		
500.0	499.7	499.7	499.7	0.9	0.8	119.44	80.9	-40.1	95.5	93.7	1.72	55.345		
600.0	599.3	596.8	596.8	1.1	1.0	123.97	82.1	-40.1	101.5	99.4	2.10	48.269		
700.0	698.6	693.1	693.0	1.4	1.2	129.14	85.7	-40.1	112.3	109.8	2.49	45.123		
800.0	797.5	788.2	787.9	1.7	1.4	134.20	91.7	-40.2	128.1	125.3	2.87	44.575 SF		
900.0	896.1	884.2	883.6	2.0	1.6	138.80	99.7	-40.4	148.7	145.5	3.26	45.596		
1,000.0	994.2	980.7	979.7	2.4	1.8	142.78	107.8	-40.5	172.3	168.6	3.65	47.227		
1,100.0	1,091.7	1,076.5	1,075.2	2.8	2.0	146.17	115.8	-40.6	198.6	194.6	4.03	49.274		
1,200.0	1,188.6	1,171.5	1,169.9	3.3	2.2	149.05	123.8	-40.7	227.7	223.2	4.41	51.625		
1,300.0	1,284.9	1,265.7	1,263.8	3.8	2.4	151.51	131.7	-40.8	259.4	254.6	4.79	54.202		
1,400.0	1,380.4	1,359.0	1,356.7	4.3	2.6	153.61	139.6	-41.0	293.7	288.6	5.16	56.954		
1,500.0	1,475.0	1,451.3	1,448.7	4.9	2.8	155.42	147.3	-41.1	330.7	325.2	5.53	59.841		
1,600.0	1,568.9	1,542.6	1,539.7	5.5	3.0	156.98	155.0	-41.2	370.1	364.3	5.89	62.837		
1,700.0	1,661.7	1,632.9	1,629.6	6.2	3.2	158.33	162.6	-41.3	412.1	405.8	6.25	65.921		
1,800.0	1,753.8	1,722.1	1,718.5	6.9	3.4	159.64	170.1	-41.4	456.2	449.5	6.61	68.986		
1,900.0	1,845.7	1,811.2	1,807.3	7.6	3.6	160.83	177.6	-41.5	500.7	493.7	6.98	71.761		
2,000.0	1,937.6	1,900.3	1,896.1	8.4	3.8	161.82	185.1	-41.6	545.3	538.0	7.34	74.297		
2,100.0	2,029.5	1,989.4	1,984.9	9.1	4.0	162.67	192.6	-41.8	590.1	582.4	7.70	76.620		
2,200.0	2,121.4	2,078.5	2,073.7	9.8	4.2	163.40	200.1	-41.9	634.9	626.9	8.06	78.756		
2,300.0	2,213.3	2,167.6	2,162.5	10.5	4.4	164.03	207.5	-42.0	679.8	671.4	8.42	80.724		
2,400.0	2,305.2	2,256.7	2,251.3	11.2	4.6	164.59	215.0	-42.1	724.8	716.0	8.78	82.543		
2,500.0	2,397.1	2,345.8	2,340.0	12.0	4.8	165.08	222.5	-42.2	769.9	760.7	9.14	84.227		
2,600.0	2,489.1	2,434.9	2,428.8	12.7	5.0	165.51	230.0	-42.3	814.9	805.4	9.50	85.792		
2,700.0	2,581.0	2,524.0	2,517.6	13.4	5.2	165.91	237.5	-42.4	860.0	850.2	9.86	87.249		
2,800.0	2,672.9	2,613.1	2,606.4	14.1	5.4	166.26	245.0	-42.6	905.2	894.9	10.22	88.608		
2,900.0	2,764.8	2,702.2	2,695.2	14.9	5.6	166.58	252.5	-42.7	950.3	939.7	10.57	89.880		
3,000.0	2,856.7	2,791.3	2,784.0	15.6	5.8	166.87	260.0	-42.8	995.5	984.6	10.93	91.071		
3,100.0	2,948.6	2,880.4	2,872.8	16.3	6.0	167.13	267.5	-42.9	1,040.7	1,029.4	11.29	92.189		
3,200.0	3,040.5	2,969.5	2,961.6	17.1	6.2	167.37	275.0	-43.0	1,085.9	1,074.3	11.65	93.240		

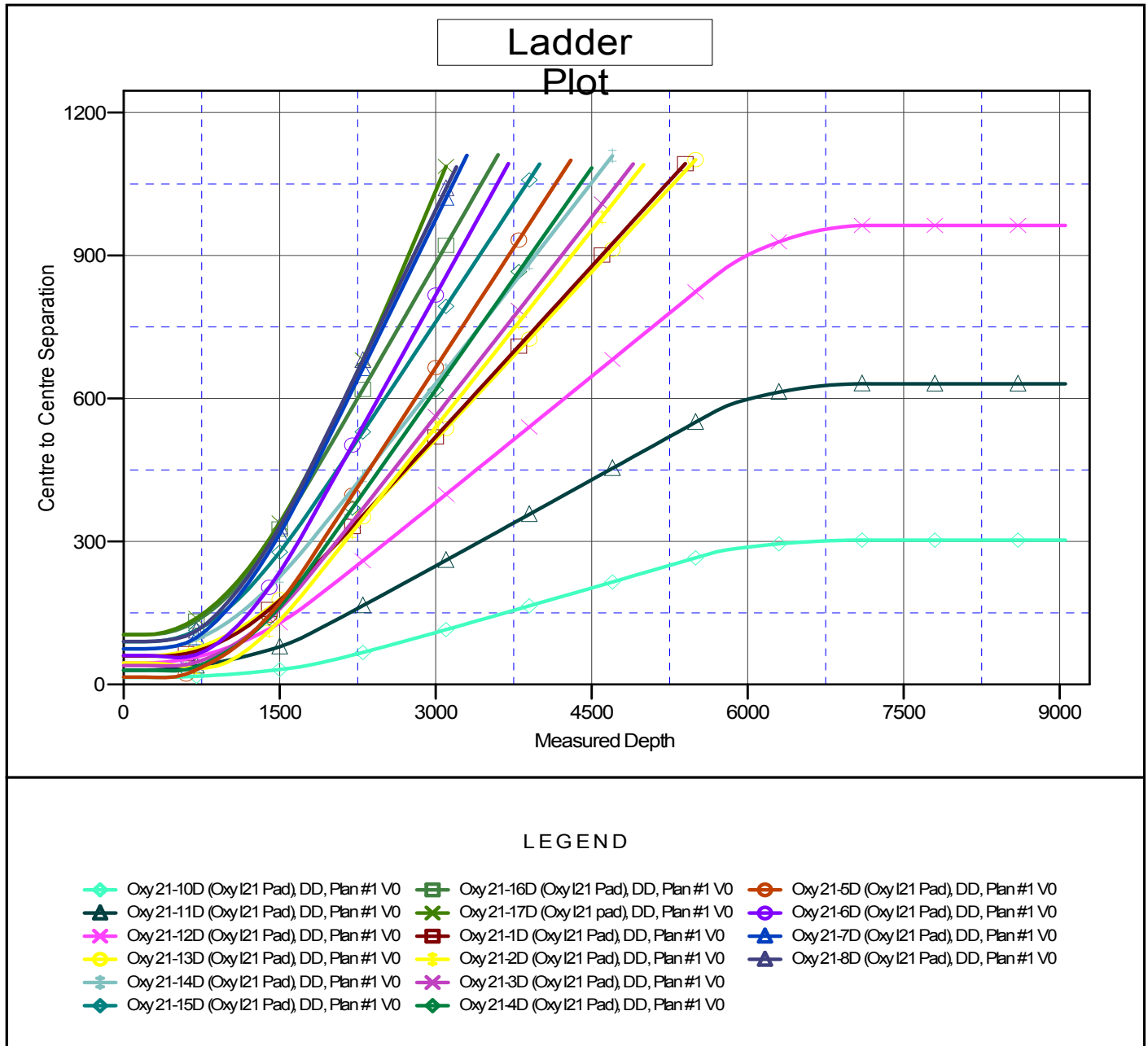
# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-9D (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 21-9D (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 21-9D (Oxy I21 Pad)  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.71°



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