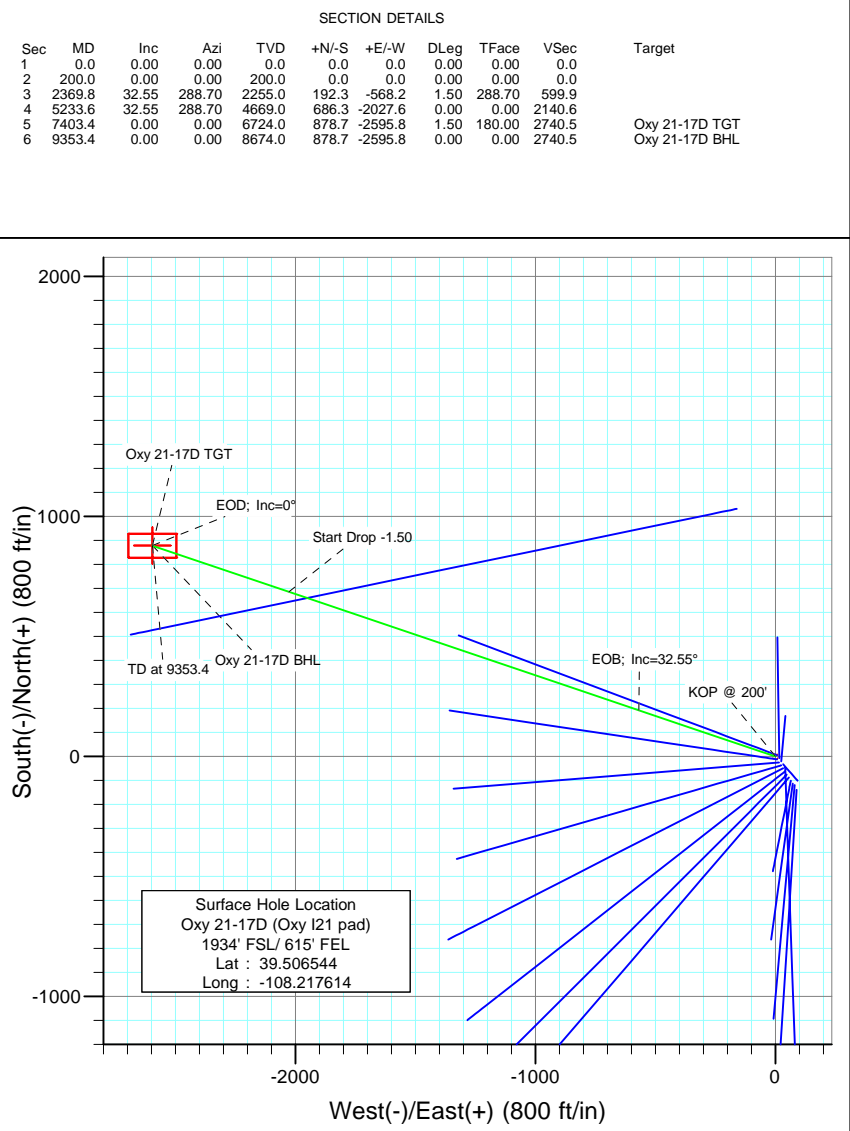
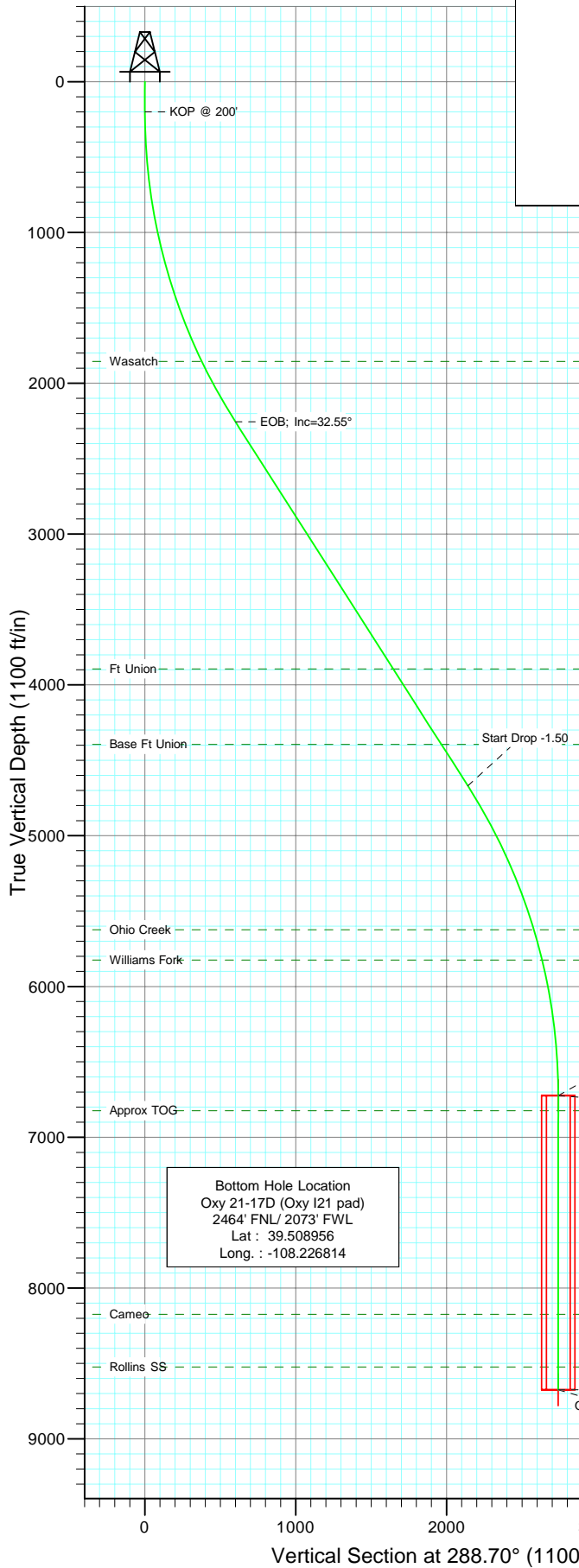


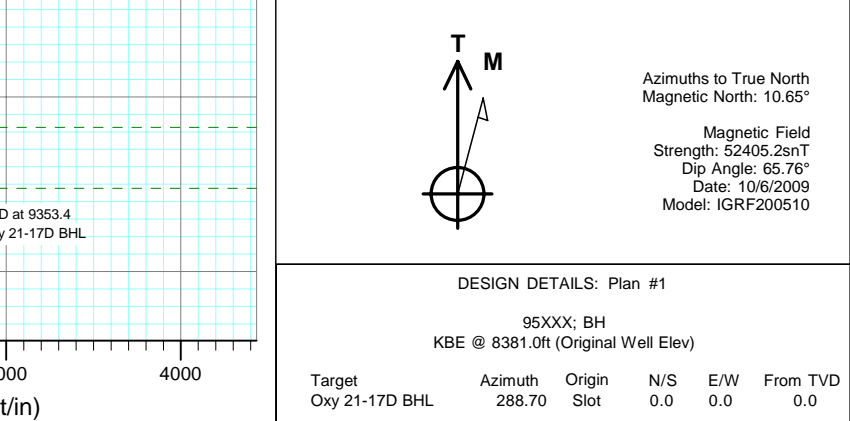


Berry Petroleum Company

Project: Garfield County  
Site: NESE S21-T6S-R97W (Oxy I21 pad)  
Well: Oxy 21-17D (Oxy I21 pad)  
Wellbore: DD  
Design: Plan #1



FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
1854.0	1910.6	Wasatch	
3894.0	4314.2	Ft Union	
4394.0	4907.3	Base Ft Union	
5624.0	6287.6	Ohio Creek	
5824.0	6494.9	Williams Fork	
6824.0	7503.4	Approx TOG	
8174.0	8853.4	Cameo	
8524.0	9203.4	Rollins SS	



# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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 21-17D (Oxy I21 pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,620,858.91 ft	Latitude:	39.506544
	+E/-W	0.0 ft	Easting:	2,233,321.76 ft	Longitude:	-108.217614
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	288.70

<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	
2,369.8	32.55	288.70	2,255.0	192.3	-568.2	1.50	1.50	0.00	288.70	
5,233.6	32.55	288.70	4,669.0	686.3	-2,027.6	0.00	0.00	0.00	0.00	
7,403.4	0.00	0.00	6,724.0	878.7	-2,595.8	1.50	-1.50	0.00	180.00	Oxy 21-17D TGT
9,353.4	0.00	0.00	8,674.0	878.7	-2,595.8	0.00	0.00	0.00	0.00	Oxy 21-17D BHL

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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	288.70	210.0	0.0	0.0	0.0	1.50	1.50	
240.0	0.60	288.70	240.0	0.1	-0.2	0.2	1.50	1.50	
270.0	1.05	288.70	270.0	0.2	-0.6	0.6	1.50	1.50	
300.0	1.50	288.70	300.0	0.4	-1.2	1.3	1.50	1.50	
330.0	1.95	288.70	330.0	0.7	-2.1	2.2	1.50	1.50	
360.0	2.40	288.70	360.0	1.1	-3.2	3.4	1.50	1.50	
390.0	2.85	288.70	389.9	1.5	-4.5	4.7	1.50	1.50	
420.0	3.30	288.70	419.9	2.0	-6.0	6.3	1.50	1.50	
450.0	3.75	288.70	449.8	2.6	-7.7	8.2	1.50	1.50	
480.0	4.20	288.70	479.7	3.3	-9.7	10.3	1.50	1.50	
510.0	4.65	288.70	509.7	4.0	-11.9	12.6	1.50	1.50	
540.0	5.10	288.70	539.6	4.8	-14.3	15.1	1.50	1.50	
570.0	5.55	288.70	569.4	5.7	-17.0	17.9	1.50	1.50	
600.0	6.00	288.70	599.3	6.7	-19.8	20.9	1.50	1.50	
630.0	6.45	288.70	629.1	7.8	-22.9	24.2	1.50	1.50	
660.0	6.90	288.70	658.9	8.9	-26.2	27.7	1.50	1.50	
690.0	7.35	288.70	688.7	10.1	-29.7	31.4	1.50	1.50	
720.0	7.80	288.70	718.4	11.3	-33.5	35.3	1.50	1.50	
750.0	8.25	288.70	748.1	12.7	-37.4	39.5	1.50	1.50	
780.0	8.70	288.70	777.8	14.1	-41.6	44.0	1.50	1.50	
810.0	9.15	288.70	807.4	15.6	-46.0	48.6	1.50	1.50	
840.0	9.60	288.70	837.0	17.2	-50.7	53.5	1.50	1.50	
870.0	10.05	288.70	866.6	18.8	-55.5	58.6	1.50	1.50	
900.0	10.50	288.70	896.1	20.5	-60.6	64.0	1.50	1.50	
930.0	10.95	288.70	925.6	22.3	-65.9	69.5	1.50	1.50	
960.0	11.40	288.70	955.0	24.2	-71.4	75.4	1.50	1.50	
990.0	11.85	288.70	984.4	26.1	-77.1	81.4	1.50	1.50	
1,020.0	12.30	288.70	1,013.7	28.1	-83.1	87.7	1.50	1.50	
1,050.0	12.75	288.70	1,043.0	30.2	-89.2	94.2	1.50	1.50	
1,080.0	13.20	288.70	1,072.2	32.4	-95.6	100.9	1.50	1.50	
1,110.0	13.65	288.70	1,101.4	34.6	-102.2	107.9	1.50	1.50	
1,140.0	14.10	288.70	1,130.5	36.9	-109.0	115.1	1.50	1.50	
1,170.0	14.55	288.70	1,159.6	39.3	-116.0	122.5	1.50	1.50	
1,200.0	15.00	288.70	1,188.6	41.7	-123.3	130.2	1.50	1.50	
1,230.0	15.45	288.70	1,217.6	44.3	-130.7	138.0	1.50	1.50	
1,260.0	15.90	288.70	1,246.4	46.9	-138.4	146.1	1.50	1.50	
1,290.0	16.35	288.70	1,275.3	49.5	-146.3	154.5	1.50	1.50	
1,320.0	16.80	288.70	1,304.0	52.3	-154.4	163.0	1.50	1.50	
1,350.0	17.25	288.70	1,332.7	55.1	-162.7	171.8	1.50	1.50	
1,380.0	17.70	288.70	1,361.3	58.0	-171.3	180.8	1.50	1.50	
1,410.0	18.15	288.70	1,389.9	60.9	-180.0	190.1	1.50	1.50	
1,440.0	18.60	288.70	1,418.3	64.0	-189.0	199.5	1.50	1.50	
1,470.0	19.05	288.70	1,446.7	67.1	-198.1	209.2	1.50	1.50	
1,500.0	19.50	288.70	1,475.0	70.2	-207.5	219.1	1.50	1.50	

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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	288.70	1,503.3	73.5	-217.1	229.2	1.50	1.50	
1,560.0	20.40	288.70	1,531.4	76.8	-226.9	239.6	1.50	1.50	
1,590.0	20.85	288.70	1,559.5	80.2	-236.9	250.1	1.50	1.50	
1,620.0	21.30	288.70	1,587.5	83.7	-247.1	260.9	1.50	1.50	
1,650.0	21.75	288.70	1,615.4	87.2	-257.6	271.9	1.50	1.50	
1,680.0	22.20	288.70	1,643.2	90.8	-268.2	283.2	1.50	1.50	
1,710.0	22.65	288.70	1,671.0	94.5	-279.0	294.6	1.50	1.50	
1,740.0	23.10	288.70	1,698.6	98.2	-290.1	306.3	1.50	1.50	
1,770.0	23.55	288.70	1,726.2	102.0	-301.3	318.1	1.50	1.50	
1,800.0	24.00	288.70	1,753.6	105.9	-312.8	330.2	1.50	1.50	
1,830.0	24.45	288.70	1,781.0	109.8	-324.5	342.5	1.50	1.50	
1,860.0	24.90	288.70	1,808.2	113.8	-336.3	355.1	1.50	1.50	
1,890.0	25.35	288.70	1,835.4	117.9	-348.4	367.8	1.50	1.50	
1,910.6	25.66	288.70	1,854.0	120.8	-356.8	376.7	1.50	1.50	Wasatch
1,920.0	25.80	288.70	1,862.5	122.1	-360.7	380.8	1.50	1.50	
1,950.0	26.25	288.70	1,889.4	126.3	-373.1	393.9	1.50	1.50	
1,980.0	26.70	288.70	1,916.3	130.6	-385.8	407.3	1.50	1.50	
2,010.0	27.15	288.70	1,943.0	134.9	-398.7	420.9	1.50	1.50	
2,040.0	27.60	288.70	1,969.7	139.4	-411.7	434.7	1.50	1.50	
2,070.0	28.05	288.70	1,996.2	143.9	-425.0	448.7	1.50	1.50	
2,100.0	28.50	288.70	2,022.6	148.4	-438.4	462.9	1.50	1.50	
2,130.0	28.95	288.70	2,048.9	153.0	-452.1	477.3	1.50	1.50	
2,160.0	29.40	288.70	2,075.1	157.7	-466.0	491.9	1.50	1.50	
2,190.0	29.85	288.70	2,101.2	162.5	-480.0	506.8	1.50	1.50	
2,220.0	30.30	288.70	2,127.2	167.3	-494.2	521.8	1.50	1.50	
2,250.0	30.75	288.70	2,153.0	172.2	-508.7	537.0	1.50	1.50	
2,280.0	31.20	288.70	2,178.7	177.1	-523.3	552.5	1.50	1.50	
2,310.0	31.65	288.70	2,204.3	182.2	-538.1	568.1	1.50	1.50	
2,340.0	32.10	288.70	2,229.8	187.2	-553.1	584.0	1.50	1.50	
2,369.8	32.55	288.70	2,255.0	192.3	-568.2	599.9	1.50	1.50	EOB; Inc=32.55°
2,370.0	32.55	288.70	2,255.1	192.4	-568.3	600.0	0.00	0.00	
2,400.0	32.55	288.70	2,280.4	197.6	-583.6	616.1	0.00	0.00	
2,430.0	32.55	288.70	2,305.7	202.7	-598.9	632.3	0.00	0.00	
2,460.0	32.55	288.70	2,331.0	207.9	-614.2	648.4	0.00	0.00	
2,490.0	32.55	288.70	2,356.3	213.1	-629.5	664.6	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 21-17D TGT	0.00	0.00	6,724.0	878.7	-2,595.8	1,621,814.85	2,230,753.43	39.508956	-108.226814
- plan misses target center by 4835.9ft at 2490.0ft MD (2356.3 TVD, 213.1 N, -629.5 E)									
- Point									
Oxy 21-17D BHL	0.00	0.00	8,674.0	878.7	-2,595.8	1,621,814.85	2,230,753.43	39.508956	-108.226814
- plan misses target center by 6650.0ft at 2490.0ft MD (2356.3 TVD, 213.1 N, -629.5 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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	32.55	288.70	2,364.7	214.8	-634.6	669.9	0.00	0.00	
2,600.0	32.55	288.70	2,449.0	232.1	-685.5	723.7	0.00	0.00	
2,700.0	32.55	288.70	2,533.3	249.3	-736.5	777.5	0.00	0.00	
2,800.0	32.55	288.70	2,617.6	266.6	-787.4	831.3	0.00	0.00	
2,900.0	32.55	288.70	2,701.9	283.8	-838.4	885.1	0.00	0.00	
3,000.0	32.55	288.70	2,786.2	301.1	-889.4	938.9	0.00	0.00	
3,100.0	32.55	288.70	2,870.5	318.3	-940.3	992.7	0.00	0.00	
3,200.0	32.55	288.70	2,954.8	335.6	-991.3	1,046.5	0.00	0.00	
3,300.0	32.55	288.70	3,039.1	352.8	-1,042.2	1,100.3	0.00	0.00	
3,400.0	32.55	288.70	3,123.4	370.1	-1,093.2	1,154.1	0.00	0.00	
3,500.0	32.55	288.70	3,207.7	387.3	-1,144.1	1,207.9	0.00	0.00	
3,600.0	32.55	288.70	3,292.0	404.6	-1,195.1	1,261.7	0.00	0.00	
3,700.0	32.55	288.70	3,376.3	421.8	-1,246.1	1,315.5	0.00	0.00	
3,800.0	32.55	288.70	3,460.6	439.1	-1,297.0	1,369.3	0.00	0.00	
3,900.0	32.55	288.70	3,544.9	456.3	-1,348.0	1,423.1	0.00	0.00	
4,000.0	32.55	288.70	3,629.2	473.6	-1,398.9	1,476.9	0.00	0.00	
4,100.0	32.55	288.70	3,713.5	490.8	-1,449.9	1,530.7	0.00	0.00	
4,200.0	32.55	288.70	3,797.7	508.1	-1,500.9	1,584.5	0.00	0.00	
4,300.0	32.55	288.70	3,882.0	525.3	-1,551.8	1,638.3	0.00	0.00	
4,314.2	32.55	288.70	3,894.0	527.7	-1,559.0	1,645.9	0.00	0.00	Ft Union
4,400.0	32.55	288.70	3,966.3	542.6	-1,602.8	1,692.1	0.00	0.00	
4,500.0	32.55	288.70	4,050.6	559.8	-1,653.7	1,745.9	0.00	0.00	
4,600.0	32.55	288.70	4,134.9	577.1	-1,704.7	1,799.7	0.00	0.00	
4,700.0	32.55	288.70	4,219.2	594.3	-1,755.6	1,853.5	0.00	0.00	
4,800.0	32.55	288.70	4,303.5	611.6	-1,806.6	1,907.3	0.00	0.00	
4,900.0	32.55	288.70	4,387.8	628.8	-1,857.6	1,961.1	0.00	0.00	
4,907.3	32.55	288.70	4,394.0	630.1	-1,861.3	1,965.1	0.00	0.00	Base Ft Union
5,000.0	32.55	288.70	4,472.1	646.1	-1,908.5	2,014.9	0.00	0.00	
5,100.0	32.55	288.70	4,556.4	663.3	-1,959.5	2,068.7	0.00	0.00	
5,200.0	32.55	288.70	4,640.7	680.5	-2,010.4	2,122.5	0.00	0.00	
5,233.6	32.55	288.70	4,669.0	686.3	-2,027.6	2,140.6	0.00	0.00	Start Drop -1.50
5,300.0	31.55	288.70	4,725.3	697.6	-2,060.9	2,175.8	1.50	-1.50	
5,400.0	30.05	288.70	4,811.2	714.1	-2,109.4	2,227.0	1.50	-1.50	
5,500.0	28.55	288.70	4,898.4	729.8	-2,155.8	2,276.0	1.50	-1.50	
5,600.0	27.05	288.70	4,986.9	744.7	-2,200.0	2,322.6	1.50	-1.50	
5,700.0	25.55	288.70	5,076.5	758.9	-2,241.9	2,366.9	1.50	-1.50	
5,800.0	24.05	288.70	5,167.3	772.4	-2,281.7	2,408.8	1.50	-1.50	
5,900.0	22.55	288.70	5,259.1	785.0	-2,319.1	2,448.4	1.50	-1.50	
6,000.0	21.05	288.70	5,352.0	797.0	-2,354.3	2,485.5	1.50	-1.50	
6,100.0	19.55	288.70	5,445.7	808.1	-2,387.2	2,520.2	1.50	-1.50	
6,200.0	18.05	288.70	5,540.4	818.4	-2,417.7	2,552.5	1.50	-1.50	
6,287.6	16.74	288.70	5,624.0	826.8	-2,442.5	2,578.6	1.50	-1.50	Ohio Creek
6,300.0	16.55	288.70	5,635.9	827.9	-2,445.9	2,582.2	1.50	-1.50	
6,400.0	15.05	288.70	5,732.1	836.7	-2,471.7	2,609.4	1.50	-1.50	
6,494.9	13.63	288.70	5,824.0	844.2	-2,493.9	2,632.9	1.50	-1.50	Williams Fork
6,500.0	13.55	288.70	5,829.0	844.6	-2,495.1	2,634.1	1.50	-1.50	
6,600.0	12.05	288.70	5,926.5	851.7	-2,516.0	2,656.3	1.50	-1.50	
6,700.0	10.55	288.70	6,024.6	858.0	-2,534.6	2,675.9	1.50	-1.50	
6,800.0	9.05	288.70	6,123.1	863.4	-2,550.7	2,692.9	1.50	-1.50	
6,900.0	7.55	288.70	6,222.1	868.1	-2,564.4	2,707.3	1.50	-1.50	
7,000.0	6.05	288.70	6,321.3	871.9	-2,575.6	2,719.2	1.50	-1.50	
7,100.0	4.55	288.70	6,420.9	874.8	-2,584.4	2,728.4	1.50	-1.50	

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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	3.05	288.70	6,520.7	877.0	-2,590.6	2,735.0	1.50	-1.50	
7,300.0	1.55	288.70	6,620.6	878.2	-2,594.4	2,739.1	1.50	-1.50	
7,400.0	0.05	288.70	6,720.6	878.7	-2,595.8	2,740.5	1.50	-1.50	
7,403.4	0.00	0.00	6,724.0	878.7	-2,595.8	2,740.5	1.50	-1.50	EOD; Inc=0° - Oxy 21-17D TGT
7,500.0	0.00	0.00	6,820.6	878.7	-2,595.8	2,740.5	0.00	0.00	
7,503.4	0.00	0.00	6,824.0	878.7	-2,595.8	2,740.5	0.00	0.00	Approx TOG
7,600.0	0.00	0.00	6,920.6	878.7	-2,595.8	2,740.5	0.00	0.00	
7,700.0	0.00	0.00	7,020.6	878.7	-2,595.8	2,740.5	0.00	0.00	
7,800.0	0.00	0.00	7,120.6	878.7	-2,595.8	2,740.5	0.00	0.00	
7,900.0	0.00	0.00	7,220.6	878.7	-2,595.8	2,740.5	0.00	0.00	
8,000.0	0.00	0.00	7,320.6	878.7	-2,595.8	2,740.5	0.00	0.00	
8,100.0	0.00	0.00	7,420.6	878.7	-2,595.8	2,740.5	0.00	0.00	
8,200.0	0.00	0.00	7,520.6	878.7	-2,595.8	2,740.5	0.00	0.00	
8,300.0	0.00	0.00	7,620.6	878.7	-2,595.8	2,740.5	0.00	0.00	
8,400.0	0.00	0.00	7,720.6	878.7	-2,595.8	2,740.5	0.00	0.00	
8,500.0	0.00	0.00	7,820.6	878.7	-2,595.8	2,740.5	0.00	0.00	
8,600.0	0.00	0.00	7,920.6	878.7	-2,595.8	2,740.5	0.00	0.00	
8,700.0	0.00	0.00	8,020.6	878.7	-2,595.8	2,740.5	0.00	0.00	
8,800.0	0.00	0.00	8,120.6	878.7	-2,595.8	2,740.5	0.00	0.00	
8,853.4	0.00	0.00	8,174.0	878.7	-2,595.8	2,740.5	0.00	0.00	Cameo
8,900.0	0.00	0.00	8,220.6	878.7	-2,595.8	2,740.5	0.00	0.00	
9,000.0	0.00	0.00	8,320.6	878.7	-2,595.8	2,740.5	0.00	0.00	
9,100.0	0.00	0.00	8,420.6	878.7	-2,595.8	2,740.5	0.00	0.00	
9,200.0	0.00	0.00	8,520.6	878.7	-2,595.8	2,740.5	0.00	0.00	
9,203.4	0.00	0.00	8,524.0	878.7	-2,595.8	2,740.5	0.00	0.00	Rollins SS
9,300.0	0.00	0.00	8,620.6	878.7	-2,595.8	2,740.5	0.00	0.00	
9,353.4	0.00	0.00	8,674.0	878.7	-2,595.8	2,740.5	0.00	0.00	TD at 9353.4 - Oxy 21-17D BHL

### 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 21-17D TGT	0.00	0.00	6,724.0	878.7	-2,595.8	1,621,814.85	2,230,753.43	39.508956	-108.226814
- plan hits target center									
- Point									
Oxy 21-17D BHL	0.00	0.00	8,674.0	878.7	-2,595.8	1,621,814.85	2,230,753.43	39.508956	-108.226814
- plan hits target center									
- Rectangle (sides W100.0 H200.0 D0.0)									

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (Oxy I21 pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,910.6	1,854.0	Wasatch		0.00		
4,314.2	3,894.0	Ft Union		0.00		
4,907.3	4,394.0	Base Ft Union		0.00		
6,287.6	5,624.0	Ohio Creek		0.00		
6,494.9	5,824.0	Williams Fork		0.00		
7,503.4	6,824.0	Approx TOG		0.00		
8,853.4	8,174.0	Cameo		0.00		
9,203.4	8,524.0	Rollins SS		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP @ 200'	
2,369.8	2,255.0	192.3	-568.2	EOB; Inc=32.55°	
5,233.6	4,669.0	686.3	-2,027.6	Start Drop -1.50	
7,403.4	6,724.0	878.7	-2,595.8	EOD; Inc=0°	
9,353.4	8,674.0	878.7	-2,595.8	TD at 9353.4	

## Directional Plus

### Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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		

<b>Survey Tool Program</b>		<b>Date</b>	10/7/2009		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.0	9,353.4	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 21-17D (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 21-17D (Oxy I21 pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

### Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NESE S21-T6S-R97W (Oxy I21 pad)						
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	89.7	89.0	138.857	CC, ES
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	2,000.0	1,913.2	505.1	491.3	36.674	SF
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	74.4	73.7	115.158	CC, ES
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	1,700.0	1,662.7	329.0	318.8	32.344	SF
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	59.1	58.4	91.463	CC, ES
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	1,600.0	1,584.0	241.9	232.6	25.782	SF
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	44.4	43.7	68.716	CC, ES
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	1,400.0	1,397.8	149.7	142.2	20.118	SF
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	29.7	29.0	45.971	CC, ES
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	1,300.0	1,302.9	93.3	86.8	14.451	SF
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	14.4	13.7	22.274	CC, ES
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	1,300.0	1,304.5	52.2	46.4	8.965	SF
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	9.4	8.8	14.561	CC, ES
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	1,300.0	1,304.4	35.4	30.5	7.284	SF
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	164.3	163.7	254.479	CC, ES
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	1,300.0	1,223.6	384.7	379.4	72.780	SF
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	61.2	60.6	94.788	CC, ES
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	600.0	592.3	95.2	93.1	45.634	SF
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	143.9	143.2	222.788	CC, ES
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	1,100.0	1,067.2	264.5	260.4	65.098	SF
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	134.3	133.7	208.044	CC, ES
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	1,000.0	981.1	218.0	214.4	60.771	SF
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	119.7	119.0	185.297	CC, ES
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	1,000.0	986.0	202.0	198.4	56.374	SF
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	200.0	500.0	45.4	44.8	70.319	CC, ES
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	500.0	795.2	67.6	65.9	40.033	SF
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	31.5	30.8	48.727	CC, ES
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	600.0	599.8	51.0	49.0	24.988	SF
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	17.8	17.1	27.515	CC, ES
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	400.0	399.9	23.0	21.6	17.122	SF
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	104.4	103.7	161.599	CC, ES
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	3,100.0	2,830.8	1,107.6	1,080.0	40.227	SF
S21-T6S-R97W (Marathon plan)						
697-21C-21 - DD - Plan #1	6,894.9	6,916.7	380.2	281.6	3.855	CC
697-21C-21 - DD - Plan #1	9,239.8	9,260.1	381.7	278.7	3.705	ES, SF

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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		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	147.66	-75.8	48.0	89.7					
100.0	100.0	100.0	100.0	0.1	0.1	147.66	-75.8	48.0	89.7	89.4	0.30	302.219		
200.0	200.0	200.0	200.0	0.3	0.3	147.66	-75.8	48.0	89.7	89.0	0.65	138.857 CC, ES		
300.0	300.0	299.5	299.5	0.5	0.5	-140.75	-76.7	47.1	91.0	90.0	1.00	91.284		
400.0	399.9	398.8	398.7	0.7	0.7	-139.92	-79.4	44.3	94.9	93.5	1.36	69.779		
500.0	499.7	498.0	497.7	0.9	0.9	-138.67	-84.0	39.7	101.5	99.7	1.75	58.087		
600.0	599.3	596.8	596.0	1.1	1.1	-137.17	-90.3	33.4	110.7	108.5	2.17	51.077		
700.0	698.6	695.1	693.7	1.4	1.4	-135.57	-98.4	25.3	122.7	120.0	2.63	46.616		
800.0	797.5	792.9	790.5	1.7	1.7	-133.97	-108.2	15.5	137.3	134.2	3.14	43.659		
900.0	896.1	890.1	886.3	2.0	2.0	-132.46	-119.7	4.0	154.7	150.9	3.71	41.636		
1,000.0	994.2	986.5	981.0	2.4	2.3	-131.06	-132.8	-9.1	174.7	170.4	4.34	40.220		
1,100.0	1,091.7	1,082.1	1,074.3	2.8	2.7	-129.78	-147.4	-23.8	197.4	192.4	5.03	39.209		
1,200.0	1,188.6	1,176.7	1,166.1	3.3	3.2	-128.63	-163.5	-39.9	222.7	216.9	5.79	38.477		
1,300.0	1,284.9	1,270.4	1,256.4	3.8	3.6	-127.60	-181.1	-57.4	250.6	243.9	6.60	37.941		
1,400.0	1,380.4	1,362.9	1,345.1	4.3	4.1	-126.65	-199.9	-76.3	280.9	273.4	7.48	37.547		
1,500.0	1,475.0	1,454.4	1,431.9	4.9	4.6	-125.79	-220.0	-96.5	313.8	305.3	8.42	37.257		
1,600.0	1,568.9	1,545.2	1,517.6	5.6	5.2	-124.99	-241.4	-117.9	349.0	339.6	9.41	37.070		
1,700.0	1,661.7	1,638.1	1,604.9	6.3	5.8	-124.45	-263.8	-140.3	385.9	375.5	10.46	36.899		
1,800.0	1,753.6	1,730.5	1,691.8	7.1	6.3	-124.21	-286.0	-162.6	424.3	412.7	11.54	36.780		
1,900.0	1,844.4	1,822.2	1,778.0	7.9	6.9	-124.20	-308.1	-184.7	464.0	451.3	12.64	36.706		
2,000.0	1,934.1	1,913.2	1,863.5	8.7	7.5	-124.34	-330.0	-206.6	505.1	491.3	13.77	36.674 SF		
2,100.0	2,022.6	2,003.4	1,948.4	9.6	8.0	-124.60	-351.8	-228.4	547.6	532.6	14.93	36.683		
2,200.0	2,109.9	2,092.8	2,032.4	10.6	8.6	-124.95	-373.3	-249.9	591.5	575.4	16.10	36.730		
2,300.0	2,195.8	2,181.3	2,115.6	11.6	9.2	-125.35	-394.6	-271.3	637.0	619.7	17.30	36.816		
2,400.0	2,280.4	2,269.0	2,198.0	12.6	9.7	-125.98	-415.7	-292.4	683.9	665.4	18.51	36.940		
2,500.0	2,364.7	2,356.3	2,280.2	13.7	10.3	-126.96	-436.8	-313.5	731.3	711.6	19.73	37.060		
2,600.0	2,449.0	2,443.7	2,362.3	14.7	10.8	-127.83	-457.8	-334.5	778.9	757.9	20.95	37.182		
2,700.0	2,533.3	2,531.1	2,444.5	15.8	11.4	-128.60	-478.9	-355.6	826.5	804.4	22.16	37.305		
2,800.0	2,617.6	2,618.5	2,526.6	16.8	11.9	-129.29	-499.9	-376.7	874.3	851.0	23.36	37.425		
2,900.0	2,701.9	2,705.9	2,608.8	17.9	12.5	-129.90	-520.9	-397.7	922.2	897.6	24.56	37.543		
3,000.0	2,786.2	2,793.3	2,690.9	18.9	13.0	-130.46	-542.0	-418.8	970.2	944.4	25.76	37.657		
3,100.0	2,870.5	2,880.6	2,773.1	20.0	13.6	-130.96	-563.0	-439.9	1,018.2	991.2	26.96	37.767		
3,200.0	2,954.8	2,968.0	2,855.2	21.0	14.1	-131.42	-584.1	-461.0	1,066.2	1,038.1	28.15	37.872		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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	147.40	-62.6	40.1	74.4					
100.0	100.0	100.0	100.0	0.1	0.1	147.40	-62.6	40.1	74.4	74.1	0.30	250.638		
200.0	200.0	200.0	200.0	0.3	0.3	147.40	-62.6	40.1	74.4	73.7	0.65	115.158	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.5	-141.91	-62.6	40.1	75.4	74.4	1.00	75.733		
400.0	399.9	399.8	399.8	0.7	0.7	-142.70	-63.5	39.0	78.6	77.3	1.35	58.242		
500.0	499.7	499.5	499.4	0.9	0.9	-142.69	-65.9	36.0	84.1	82.4	1.72	48.955		
600.0	599.3	599.0	598.7	1.1	1.1	-142.02	-69.9	30.9	91.8	89.7	2.11	43.505		
700.0	698.6	698.3	697.5	1.4	1.3	-140.89	-75.4	23.7	101.8	99.3	2.54	40.089		
800.0	797.5	797.2	795.8	1.7	1.5	-139.48	-82.6	14.6	114.2	111.2	3.02	37.835		
900.0	896.1	895.6	893.2	2.0	1.8	-137.93	-91.2	3.6	128.9	125.3	3.55	36.279		
1,000.0	994.2	993.5	989.7	2.4	2.1	-136.36	-101.4	-9.4	145.9	141.8	4.15	35.164		
1,100.0	1,091.7	1,090.9	1,085.2	2.8	2.5	-134.83	-112.9	-24.2	165.3	160.5	4.81	34.338		
1,200.0	1,188.6	1,187.5	1,179.5	3.3	2.9	-133.39	-125.9	-40.8	187.1	181.5	5.55	33.710		
1,300.0	1,284.9	1,283.4	1,272.6	3.8	3.3	-132.03	-140.3	-59.1	211.2	204.8	6.36	33.225		
1,400.0	1,380.4	1,378.4	1,364.2	4.3	3.8	-130.77	-155.9	-79.0	237.6	230.4	7.23	32.844		
1,500.0	1,475.0	1,472.8	1,454.5	4.9	4.3	-129.60	-172.8	-100.6	266.3	258.1	8.17	32.579		
1,600.0	1,568.9	1,568.0	1,545.3	5.6	4.8	-128.79	-190.3	-123.0	296.8	287.7	9.16	32.409		
1,700.0	1,661.7	1,662.7	1,635.7	6.3	5.3	-128.42	-207.8	-145.3	329.0	318.8	10.17	32.344	SF	
1,800.0	1,753.6	1,756.9	1,725.5	7.1	5.8	-128.36	-225.1	-167.5	362.6	351.4	11.21	32.361		
1,900.0	1,844.4	1,850.4	1,814.7	7.9	6.3	-128.53	-242.4	-189.5	397.8	385.6	12.26	32.446		
2,000.0	1,934.1	1,943.2	1,903.3	8.7	6.8	-128.86	-259.5	-211.4	434.6	421.3	13.33	32.594		
2,100.0	2,022.6	2,035.3	1,991.2	9.6	7.3	-129.32	-276.5	-233.1	473.0	458.6	14.42	32.797		
2,200.0	2,109.9	2,126.5	2,078.3	10.6	7.8	-129.85	-293.3	-254.6	513.0	497.5	15.52	33.052		
2,300.0	2,195.8	2,216.9	2,164.5	11.6	8.3	-130.43	-310.0	-275.9	554.7	538.1	16.63	33.355		
2,400.0	2,280.4	2,306.4	2,249.9	12.6	8.8	-131.20	-326.5	-296.9	598.1	580.4	17.74	33.711		
2,500.0	2,364.7	2,395.7	2,335.1	13.7	9.3	-132.24	-343.0	-318.0	642.0	623.2	18.85	34.066		
2,600.0	2,449.0	2,484.9	2,420.2	14.7	9.8	-133.15	-359.4	-339.0	686.1	666.2	19.95	34.398		
2,700.0	2,533.3	2,574.2	2,505.4	15.8	10.3	-133.95	-375.9	-360.0	730.3	709.3	21.04	34.708		
2,800.0	2,617.6	2,663.5	2,590.6	16.8	10.8	-134.66	-392.3	-381.1	774.6	752.5	22.13	34.999		
2,900.0	2,701.9	2,752.7	2,675.8	17.9	11.3	-135.30	-408.8	-402.1	819.0	795.8	23.22	35.271		
3,000.0	2,786.2	2,842.0	2,760.9	18.9	11.8	-135.87	-425.3	-423.1	863.5	839.2	24.31	35.525		
3,100.0	2,870.5	2,931.2	2,846.1	20.0	12.3	-136.38	-441.7	-444.1	908.0	882.6	25.39	35.763		
3,200.0	2,954.8	3,020.5	2,931.3	21.0	12.8	-136.84	-458.2	-465.2	952.6	926.1	26.47	35.987		
3,300.0	3,039.1	3,109.7	3,016.4	22.1	13.3	-137.27	-474.7	-486.2	997.2	969.6	27.55	36.197		
3,400.0	3,123.4	3,199.0	3,101.6	23.2	13.8	-137.66	-491.1	-507.2	1,041.8	1,013.2	28.63	36.395		
3,500.0	3,207.7	3,288.3	3,186.8	24.2	14.3	-138.01	-507.6	-528.2	1,086.5	1,056.8	29.70	36.581		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	147.00	-49.5	32.2	59.1						
100.0	100.0	100.0	100.0	0.1	0.1	147.00	-49.5	32.2	59.1	58.8	0.30	199.066			
200.0	200.0	200.0	200.0	0.3	0.3	147.00	-49.5	32.2	59.1	58.4	0.65	91.463	CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-142.46	-49.5	32.2	60.1	59.1	1.00	60.370			
400.0	399.9	400.1	400.1	0.7	0.7	-143.43	-50.1	31.0	63.1	61.7	1.35	46.716			
500.0	499.7	500.3	500.2	0.9	0.9	-143.39	-51.9	27.5	67.8	66.1	1.72	39.454			
600.0	599.3	600.3	600.0	1.1	1.1	-142.53	-54.9	21.7	74.3	72.2	2.11	35.166			
700.0	698.6	700.1	699.4	1.4	1.3	-141.11	-59.1	13.5	82.6	80.0	2.54	32.441			
800.0	797.5	799.8	798.4	1.7	1.5	-139.34	-64.4	3.1	92.7	89.6	3.03	30.597			
900.0	896.1	899.1	896.7	2.0	1.8	-137.42	-70.9	-9.6	104.7	101.1	3.57	29.278			
1,000.0	994.2	998.2	994.3	2.4	2.1	-135.48	-78.5	-24.5	118.6	114.4	4.19	28.289			
1,100.0	1,091.7	1,096.8	1,091.0	2.8	2.5	-133.60	-87.2	-41.6	134.4	129.5	4.88	27.520			
1,200.0	1,188.6	1,195.0	1,186.8	3.3	2.9	-131.83	-97.0	-60.8	152.2	146.6	5.66	26.906			
1,300.0	1,284.9	1,292.7	1,281.5	3.8	3.3	-130.18	-107.9	-82.0	172.0	165.4	6.51	26.409			
1,400.0	1,380.4	1,389.9	1,375.2	4.3	3.8	-128.68	-119.8	-105.3	193.6	186.2	7.44	26.037			
1,500.0	1,475.0	1,487.1	1,468.6	4.9	4.3	-127.76	-132.0	-129.2	217.0	208.6	8.40	25.837			
1,600.0	1,568.9	1,584.0	1,561.7	5.6	4.8	-127.46	-144.2	-153.0	241.9	232.6	9.38	25.782	SF		
1,700.0	1,661.7	1,680.4	1,654.4	6.3	5.3	-127.59	-156.3	-176.6	268.4	258.1	10.39	25.838			
1,800.0	1,753.6	1,776.3	1,746.6	7.1	5.8	-128.03	-168.3	-200.2	296.5	285.1	11.41	25.987			
1,900.0	1,844.4	1,871.6	1,838.2	7.9	6.3	-128.69	-180.3	-223.6	326.2	313.7	12.44	26.219			
2,000.0	1,934.1	1,966.3	1,929.3	8.7	6.8	-129.50	-192.2	-246.9	357.5	344.1	13.48	26.526			
2,100.0	2,022.6	2,060.4	2,019.6	9.6	7.2	-130.40	-204.0	-270.0	390.6	376.1	14.52	26.902			
2,200.0	2,109.9	2,153.6	2,109.3	10.6	7.7	-131.36	-215.7	-292.9	425.5	409.9	15.56	27.343			
2,300.0	2,195.8	2,246.1	2,198.1	11.6	8.2	-132.34	-227.3	-315.6	462.2	445.6	16.60	27.843			
2,400.0	2,280.4	2,337.7	2,286.2	12.6	8.7	-133.46	-238.8	-338.1	500.7	483.1	17.63	28.409			
2,500.0	2,364.7	2,429.0	2,374.0	13.7	9.1	-134.74	-250.3	-360.5	539.9	521.3	18.63	28.974			
2,600.0	2,449.0	2,520.4	2,461.8	14.7	9.6	-135.85	-261.7	-383.0	579.3	559.6	19.63	29.502			
2,700.0	2,533.3	2,611.8	2,549.7	15.8	10.1	-136.83	-273.2	-405.4	618.8	598.2	20.63	29.995			
2,800.0	2,617.6	2,703.2	2,637.5	16.8	10.6	-137.68	-284.7	-427.8	658.5	636.8	21.62	30.455			
2,900.0	2,701.9	2,794.5	2,725.3	17.9	11.1	-138.44	-296.2	-450.3	698.2	675.6	22.61	30.884			
3,000.0	2,786.2	2,885.9	2,813.2	18.9	11.5	-139.12	-307.6	-472.7	738.1	714.5	23.59	31.286			
3,100.0	2,870.5	2,977.3	2,901.0	20.0	12.0	-139.72	-319.1	-495.2	778.1	753.5	24.57	31.661			
3,200.0	2,954.8	3,068.7	2,988.8	21.0	12.5	-140.27	-330.6	-517.6	818.1	792.5	25.55	32.013			
3,300.0	3,039.1	3,160.0	3,076.6	22.1	13.0	-140.77	-342.1	-540.1	858.1	831.6	26.53	32.343			
3,400.0	3,123.4	3,251.4	3,164.5	23.2	13.4	-141.23	-353.5	-562.5	898.3	870.8	27.51	32.654			
3,500.0	3,207.7	3,342.8	3,252.3	24.2	13.9	-141.64	-365.0	-584.9	938.4	910.0	28.48	32.946			
3,600.0	3,292.0	3,434.2	3,340.1	25.3	14.4	-142.02	-376.5	-607.4	978.6	949.2	29.46	33.221			
3,700.0	3,376.3	3,525.5	3,428.0	26.4	14.9	-142.37	-387.9	-629.8	1,018.9	988.4	30.43	33.481			
3,800.0	3,460.6	3,616.9	3,515.8	27.4	15.4	-142.70	-399.4	-652.3	1,059.1	1,027.7	31.40	33.726			
3,900.0	3,544.9	3,708.3	3,603.6	28.5	15.8	-143.00	-410.9	-674.7	1,099.4	1,067.1	32.38	33.959			

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	146.85	-37.2	24.3	44.4						
100.0	100.0	100.0	100.0	0.1	0.1	146.85	-37.2	24.3	44.4	44.1	0.30	149.559			
200.0	200.0	200.0	200.0	0.3	0.3	146.85	-37.2	24.3	44.4	43.7	0.65	68.716	CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-142.86	-37.2	24.3	45.4	44.4	1.00	45.619			
400.0	399.9	400.3	400.3	0.7	0.7	-144.18	-37.5	23.0	48.1	46.8	1.35	35.663			
500.0	499.7	500.7	500.6	0.9	0.9	-144.27	-38.6	19.2	52.1	50.4	1.72	30.359			
600.0	599.3	601.0	600.7	1.1	1.1	-143.38	-40.4	12.9	57.4	55.3	2.11	27.205			
700.0	698.6	701.3	700.6	1.4	1.3	-141.80	-43.0	4.0	63.9	61.4	2.54	25.170			
800.0	797.5	801.5	800.0	1.7	1.5	-139.81	-46.3	-7.3	71.8	68.8	3.02	23.756			
900.0	896.1	901.5	899.0	2.0	1.8	-137.61	-50.2	-21.1	81.1	77.5	3.57	22.703			
1,000.0	994.2	1,001.3	997.4	2.4	2.2	-135.37	-54.9	-37.4	91.8	87.6	4.19	21.875			
1,100.0	1,091.7	1,101.0	1,095.1	2.8	2.5	-133.19	-60.3	-56.1	103.9	99.0	4.90	21.199			
1,200.0	1,188.6	1,200.4	1,192.1	3.3	2.9	-131.12	-66.4	-77.2	117.6	111.9	5.70	20.635			
1,300.0	1,284.9	1,299.3	1,288.0	3.8	3.4	-129.40	-73.0	-100.2	132.8	126.2	6.56	20.251			
1,400.0	1,380.4	1,397.8	1,383.6	4.3	3.8	-128.69	-79.7	-123.2	149.7	142.2	7.44	20.118	SF		
1,500.0	1,475.0	1,496.1	1,478.9	4.9	4.2	-128.78	-86.3	-146.2	168.2	159.8	8.34	20.175			
1,600.0	1,568.9	1,594.0	1,573.9	5.6	4.7	-129.42	-92.9	-169.1	188.3	179.1	9.24	20.384			
1,700.0	1,661.7	1,691.5	1,668.5	6.3	5.1	-130.43	-99.5	-191.9	210.1	200.0	10.14	20.723			
1,800.0	1,753.6	1,788.5	1,762.6	7.1	5.6	-131.67	-106.0	-214.6	233.7	222.7	11.04	21.177			
1,900.0	1,844.4	1,885.0	1,856.1	7.9	6.0	-133.06	-112.5	-237.2	259.2	247.2	11.92	21.738			
2,000.0	1,934.1	1,980.8	1,949.1	8.7	6.5	-134.51	-119.0	-259.6	286.6	273.8	12.79	22.397			
2,100.0	2,022.6	2,076.0	2,041.3	9.6	6.9	-135.98	-125.4	-281.9	316.0	302.3	13.65	23.147			
2,200.0	2,109.9	2,170.3	2,132.9	10.6	7.3	-137.43	-131.8	-304.0	347.5	333.0	14.49	23.979			
2,300.0	2,195.8	2,263.9	2,223.7	11.6	7.8	-138.84	-138.1	-325.8	381.1	365.8	15.31	24.888			
2,400.0	2,280.4	2,356.7	2,313.6	12.6	8.2	-140.29	-144.3	-347.5	416.8	400.7	16.11	25.876			
2,500.0	2,364.7	2,449.2	2,403.3	13.7	8.6	-141.78	-150.6	-369.2	453.2	436.3	16.88	26.853			
2,600.0	2,449.0	2,541.7	2,493.1	14.7	9.1	-143.05	-156.8	-390.8	489.9	472.3	17.65	27.762			
2,700.0	2,533.3	2,634.2	2,582.8	15.8	9.5	-144.15	-163.0	-412.5	526.8	508.3	18.41	28.610			
2,800.0	2,617.6	2,726.7	2,672.5	16.8	9.9	-145.10	-169.3	-434.1	563.7	544.6	19.18	29.399			
2,900.0	2,701.9	2,819.2	2,762.3	17.9	10.4	-145.94	-175.5	-455.8	600.9	580.9	19.94	30.136			
3,000.0	2,786.2	2,911.8	2,852.0	18.9	10.8	-146.68	-181.8	-477.4	638.1	617.4	20.70	30.824			
3,100.0	2,870.5	3,004.3	2,941.7	20.0	11.2	-147.34	-188.0	-499.0	675.4	653.9	21.46	31.468			
3,200.0	2,954.8	3,096.8	3,031.5	21.0	11.7	-147.93	-194.2	-520.7	712.8	690.5	22.22	32.071			
3,300.0	3,039.1	3,189.3	3,121.2	22.1	12.1	-148.47	-200.5	-542.3	750.2	727.2	22.99	32.637			
3,400.0	3,123.4	3,281.8	3,210.9	23.2	12.5	-148.95	-206.7	-564.0	787.7	763.9	23.75	33.169			
3,500.0	3,207.7	3,374.3	3,300.7	24.2	13.0	-149.39	-213.0	-585.6	825.2	800.7	24.51	33.670			
3,600.0	3,292.0	3,466.9	3,390.4	25.3	13.4	-149.79	-219.2	-607.3	862.7	837.5	25.27	34.142			
3,700.0	3,376.3	3,559.4	3,480.1	26.4	13.8	-150.15	-225.4	-628.9	900.3	874.3	26.03	34.587			
3,800.0	3,460.6	3,651.9	3,569.9	27.4	14.3	-150.49	-231.7	-650.5	938.0	911.2	26.79	35.008			
3,900.0	3,544.9	3,744.4	3,659.6	28.5	14.7	-150.80	-237.9	-672.2	975.6	948.1	27.55	35.407			
4,000.0	3,629.2	3,836.9	3,749.3	29.5	15.1	-151.09	-244.2	-693.8	1,013.3	985.0	28.32	35.785			
4,100.0	3,713.5	3,929.4	3,839.1	30.6	15.6	-151.36	-250.4	-715.5	1,051.0	1,021.9	29.08	36.144			
4,200.0	3,797.7	4,022.0	3,928.8	31.7	16.0	-151.61	-256.6	-737.1	1,088.7	1,058.8	29.84	36.485			

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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)						
0.0	0.0	0.0	0.0	0.0	0.0	147.84	-25.1	15.8	29.7					
100.0	100.0	100.0	100.0	0.1	0.1	147.84	-25.1	15.8	29.7	29.4	0.30	100.055		
200.0	200.0	200.0	200.0	0.3	0.3	147.84	-25.1	15.8	29.7	29.0	0.65	45.971 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-142.39	-25.1	15.8	30.7	29.7	1.00	30.853		
400.0	399.9	400.4	400.4	0.7	0.7	-144.53	-25.2	14.5	33.2	31.9	1.35	24.603		
500.0	499.7	500.8	500.7	0.9	0.9	-145.18	-25.6	10.5	36.5	34.8	1.72	21.278		
600.0	599.3	601.2	600.9	1.1	1.1	-144.65	-26.1	4.0	40.5	38.4	2.10	19.290		
700.0	698.6	701.7	701.0	1.4	1.3	-143.29	-26.8	-5.2	45.4	42.9	2.52	17.987		
800.0	797.5	802.1	800.7	1.7	1.5	-141.38	-27.8	-17.1	51.0	48.0	2.99	17.049		
900.0	896.1	902.6	900.1	2.0	1.8	-139.18	-28.9	-31.5	57.5	54.0	3.53	16.314		
1,000.0	994.2	1,002.9	999.0	2.4	2.2	-136.86	-30.3	-48.5	64.9	60.8	4.14	15.695		
1,100.0	1,091.7	1,103.3	1,097.4	2.8	2.5	-134.53	-31.9	-68.1	73.3	68.4	4.84	15.154		
1,200.0	1,188.6	1,203.5	1,195.1	3.3	2.9	-132.27	-33.7	-90.2	82.6	77.0	5.63	14.675		
1,300.0	1,284.9	1,302.9	1,291.7	3.8	3.4	-130.91	-35.5	-113.4	93.3	86.8	6.46	14.451 SF		
1,400.0	1,380.4	1,402.1	1,388.2	4.3	3.8	-130.88	-37.4	-136.6	105.7	98.4	7.28	14.514		
1,500.0	1,475.0	1,501.1	1,484.4	4.9	4.2	-131.76	-39.3	-159.7	119.9	111.8	8.10	14.798		
1,600.0	1,568.9	1,599.7	1,580.3	5.6	4.7	-133.23	-41.1	-182.7	135.8	126.9	8.90	15.269		
1,700.0	1,661.7	1,698.0	1,675.9	6.3	5.1	-135.03	-43.0	-205.7	153.7	144.0	9.66	15.904		
1,800.0	1,753.6	1,795.8	1,770.9	7.1	5.5	-137.01	-44.8	-228.5	173.5	163.1	10.40	16.691		
1,900.0	1,844.4	1,893.1	1,865.5	7.9	6.0	-139.03	-46.6	-251.2	195.5	184.4	11.10	17.618		
2,000.0	1,934.1	1,989.8	1,959.5	8.7	6.4	-141.03	-48.5	-273.8	219.7	208.0	11.77	18.674		
2,100.0	2,022.6	2,085.9	2,052.9	9.6	6.8	-142.94	-50.3	-296.2	246.2	233.8	12.40	19.849		
2,200.0	2,109.9	2,181.2	2,145.6	10.6	7.3	-144.75	-52.1	-318.5	275.0	262.0	13.01	21.131		
2,300.0	2,195.8	2,275.7	2,237.5	11.6	7.7	-146.43	-53.8	-340.6	306.2	292.6	13.60	22.512		
2,400.0	2,280.4	2,369.5	2,328.6	12.6	8.1	-148.07	-55.6	-362.4	339.6	325.4	14.16	23.989		
2,500.0	2,364.7	2,463.0	2,419.6	13.7	8.5	-149.62	-57.4	-384.3	373.8	359.1	14.70	25.428		
2,600.0	2,449.0	2,556.5	2,510.5	14.7	8.9	-150.92	-59.1	-406.1	408.2	393.0	15.25	26.767		
2,700.0	2,533.3	2,650.1	2,601.4	15.8	9.4	-152.02	-60.9	-427.9	442.8	427.0	15.81	28.011		
2,800.0	2,617.6	2,743.6	2,692.3	16.8	9.8	-152.96	-62.6	-449.8	477.5	461.1	16.37	29.169		
2,900.0	2,701.9	2,837.1	2,783.3	17.9	10.2	-153.77	-64.4	-471.6	512.2	495.3	16.93	30.249		
3,000.0	2,786.2	2,930.6	2,874.2	18.9	10.6	-154.48	-66.2	-493.4	547.1	529.6	17.50	31.256		
3,100.0	2,870.5	3,024.1	2,965.1	20.0	11.1	-155.11	-67.9	-515.3	582.0	564.0	18.08	32.199		
3,200.0	2,954.8	3,117.7	3,056.0	21.0	11.5	-155.66	-69.7	-537.1	617.0	598.4	18.65	33.081		
3,300.0	3,039.1	3,211.2	3,146.9	22.1	11.9	-156.15	-71.4	-559.0	652.0	632.8	19.23	33.908		
3,400.0	3,123.4	3,304.7	3,237.9	23.2	12.3	-156.60	-73.2	-580.8	687.1	667.3	19.81	34.686		
3,500.0	3,207.7	3,398.2	3,328.8	24.2	12.7	-157.00	-74.9	-602.6	722.2	701.8	20.39	35.418		
3,600.0	3,292.0	3,491.8	3,419.7	25.3	13.2	-157.37	-76.7	-624.5	757.3	736.4	20.97	36.108		
3,700.0	3,376.3	3,585.3	3,510.6	26.4	13.6	-157.70	-78.5	-646.3	792.5	770.9	21.56	36.760		
3,800.0	3,460.6	3,678.8	3,601.6	27.4	14.0	-158.00	-80.2	-668.1	827.7	805.5	22.14	37.376		
3,900.0	3,544.9	3,772.3	3,692.5	28.5	14.4	-158.28	-82.0	-690.0	862.9	840.1	22.73	37.959		
4,000.0	3,629.2	3,865.9	3,783.4	29.5	14.9	-158.54	-83.7	-711.8	898.1	874.7	23.32	38.512		
4,100.0	3,713.5	3,959.4	3,874.3	30.6	15.3	-158.78	-85.5	-733.6	933.3	909.4	23.91	39.037		
4,200.0	3,797.7	4,052.9	3,965.2	31.7	15.7	-159.00	-87.3	-755.5	968.5	944.0	24.50	39.536		
4,300.0	3,882.0	4,146.4	4,056.2	32.7	16.1	-159.20	-89.0	-777.3	1,003.8	978.7	25.09	40.011		
4,400.0	3,966.3	4,239.9	4,147.1	33.8	16.6	-159.39	-90.8	-799.1	1,039.0	1,013.4	25.68	40.463		
4,500.0	4,050.6	4,333.5	4,238.0	34.9	17.0	-159.57	-92.5	-821.0	1,074.3	1,048.0	26.27	40.895		
4,600.0	4,134.9	4,427.0	4,328.9	35.9	17.4	-159.74	-94.3	-842.8	1,109.6	1,082.7	26.86	41.307		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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: O-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	146.68	-12.0	7.9	14.4					
100.0	100.0	100.0	100.0	0.1	0.1	146.68	-12.0	7.9	14.4	14.1	0.30	48.479		
200.0	200.0	200.0	200.0	0.3	0.3	146.68	-12.0	7.9	14.4	13.7	0.65	22.274 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-145.00	-12.0	7.9	15.4	14.4	1.00	15.508		
400.0	399.9	400.3	400.3	0.7	0.7	-149.25	-11.8	6.6	17.8	16.4	1.35	13.188		
500.0	499.7	500.6	500.5	0.9	0.9	-151.38	-11.2	2.7	20.4	18.7	1.71	11.977		
600.0	599.3	601.0	600.7	1.1	1.1	-152.03	-10.3	-3.8	23.4	21.3	2.08	11.253		
700.0	698.6	701.5	700.8	1.4	1.3	-151.66	-8.9	-13.0	26.6	24.1	2.47	10.766		
800.0	797.5	802.0	800.6	1.7	1.5	-150.61	-7.2	-24.7	30.0	27.1	2.88	10.393		
900.0	896.1	902.6	900.1	2.0	1.8	-149.10	-5.0	-39.0	33.7	30.3	3.34	10.068		
1,000.0	994.2	1,003.2	999.2	2.4	2.2	-147.31	-2.5	-55.9	37.6	33.8	3.86	9.752		
1,100.0	1,091.7	1,103.8	1,097.9	2.8	2.5	-145.34	0.4	-75.5	41.9	37.5	4.45	9.429		
1,200.0	1,188.6	1,204.5	1,196.1	3.3	2.9	-143.30	3.7	-97.5	46.5	41.4	5.12	9.097		
1,300.0	1,284.9	1,304.5	1,293.2	3.8	3.4	-142.06	7.2	-121.0	52.2	46.4	5.82	8.965 SF		
1,400.0	1,380.4	1,404.2	1,390.0	4.3	3.8	-142.60	10.7	-144.5	59.9	53.4	6.48	9.242		
1,500.0	1,475.0	1,503.7	1,486.7	4.9	4.3	-144.28	14.2	-167.9	69.7	62.6	7.07	9.853		
1,600.0	1,568.9	1,602.9	1,583.0	5.6	4.7	-146.56	17.6	-191.2	81.7	74.1	7.60	10.750		
1,700.0	1,661.7	1,701.8	1,679.1	6.3	5.1	-149.03	21.1	-214.5	96.0	87.9	8.06	11.904		
1,800.0	1,753.6	1,800.3	1,774.7	7.1	5.6	-151.48	24.5	-237.7	112.7	104.2	8.48	13.287		
1,900.0	1,844.4	1,898.3	1,869.9	7.9	6.0	-153.76	28.0	-260.7	131.9	123.1	8.87	14.878		
2,000.0	1,934.1	1,995.7	1,964.6	8.7	6.5	-155.84	31.4	-283.6	153.6	144.4	9.23	16.653		
2,100.0	2,022.6	2,092.6	2,058.7	9.6	6.9	-157.69	34.8	-306.4	177.9	168.3	9.57	18.594		
2,200.0	2,109.9	2,188.8	2,152.1	10.6	7.3	-159.32	38.2	-329.1	204.6	194.7	9.89	20.683		
2,300.0	2,195.8	2,284.2	2,244.8	11.6	7.8	-160.76	41.5	-351.5	233.9	223.7	10.21	22.903		
2,400.0	2,280.4	2,378.9	2,336.8	12.6	8.2	-162.06	44.8	-373.8	265.6	255.0	10.53	25.224		
2,500.0	2,364.7	2,473.4	2,428.5	13.7	8.6	-163.21	48.1	-396.0	297.9	287.1	10.87	27.420		
2,600.0	2,449.0	2,567.8	2,520.3	14.7	9.1	-164.14	51.4	-418.2	330.4	319.2	11.22	29.447		
2,700.0	2,533.3	2,662.3	2,612.0	15.8	9.5	-164.90	54.7	-440.5	362.9	351.3	11.59	31.322		
2,800.0	2,617.6	2,756.8	2,703.8	16.8	9.9	-165.54	58.0	-462.7	395.4	383.5	11.96	33.060		
2,900.0	2,701.9	2,851.2	2,795.5	17.9	10.4	-166.08	61.4	-484.9	428.0	415.7	12.34	34.675		
3,000.0	2,786.2	2,945.7	2,887.3	18.9	10.8	-166.54	64.7	-507.1	460.6	447.9	12.73	36.179		
3,100.0	2,870.5	3,040.2	2,979.1	20.0	11.2	-166.94	68.0	-529.4	493.3	480.2	13.13	37.583		
3,200.0	2,954.8	3,134.6	3,070.8	21.0	11.7	-167.29	71.3	-551.6	526.0	512.4	13.52	38.897		
3,300.0	3,039.1	3,229.1	3,162.6	22.1	12.1	-167.60	74.6	-573.8	558.6	544.7	13.92	40.128		
3,400.0	3,123.4	3,323.6	3,254.3	23.2	12.5	-167.88	77.9	-596.0	591.3	577.0	14.32	41.284		
3,500.0	3,207.7	3,418.0	3,346.1	24.2	13.0	-168.13	81.2	-618.2	624.0	609.3	14.73	42.373		
3,600.0	3,292.0	3,512.5	3,437.8	25.3	13.4	-168.35	84.5	-640.5	656.7	641.6	15.13	43.398		
3,700.0	3,376.3	3,607.0	3,529.6	26.4	13.8	-168.55	87.8	-662.7	689.5	673.9	15.54	44.367		
3,800.0	3,460.6	3,701.4	3,621.4	27.4	14.3	-168.74	91.1	-684.9	722.2	706.2	15.95	45.283		
3,900.0	3,544.9	3,795.9	3,713.1	28.5	14.7	-168.90	94.4	-707.1	754.9	738.6	16.36	46.150		
4,000.0	3,629.2	3,890.4	3,804.9	29.5	15.1	-169.06	97.8	-729.4	787.7	770.9	16.77	46.973		
4,100.0	3,713.5	3,984.8	3,896.6	30.6	15.6	-169.20	101.1	-751.6	820.4	803.2	17.18	47.754		
4,200.0	3,797.7	4,079.3	3,988.4	31.7	16.0	-169.33	104.4	-773.8	853.2	835.6	17.59	48.497		
4,300.0	3,882.0	4,173.8	4,080.2	32.7	16.4	-169.45	107.7	-796.0	885.9	867.9	18.00	49.204		
4,400.0	3,966.3	4,268.3	4,171.9	33.8	16.9	-169.56	111.0	-818.3	918.7	900.3	18.42	49.878		
4,500.0	4,050.6	4,362.7	4,263.7	34.9	17.3	-169.67	114.3	-840.5	951.4	932.6	18.83	50.522		
4,600.0	4,134.9	4,457.2	4,355.4	35.9	17.7	-169.77	117.6	-862.7	984.2	964.9	19.25	51.136		
4,700.0	4,219.2	4,551.7	4,447.2	37.0	18.2	-169.86	120.9	-884.9	1,017.0	997.3	19.66	51.724		
4,800.0	4,303.5	4,646.1	4,538.9	38.1	18.6	-169.94	124.2	-907.2	1,049.7	1,029.6	20.08	52.287		
4,900.0	4,387.8	4,740.6	4,630.7	39.1	19.0	-170.02	127.5	-929.4	1,082.5	1,062.0	20.49	52.826		

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 21-17D (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 21-17D (Oxy I21 pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning			
0.0	0.0	0.0	0.0	0.0	0.0	57.16	5.1	7.9	9.4							
100.0	100.0	100.0	100.0	0.1	0.1	57.16	5.1	7.9	9.4	9.1	0.30	31.692				
200.0	200.0	200.0	200.0	0.3	0.3	57.16	5.1	7.9	9.4	8.8	0.65	14.561	CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	134.18	5.1	7.9	10.3	9.3	1.00	10.312				
400.0	399.9	400.2	400.2	0.7	0.7	142.83	5.6	6.7	12.3	10.9	1.35	9.088				
500.0	499.7	500.4	500.3	0.9	0.9	148.67	6.9	3.0	14.5	12.8	1.71	8.492				
600.0	599.3	600.7	600.4	1.1	1.1	152.64	9.3	-3.2	16.9	14.8	2.07	8.152				
700.0	698.6	701.1	700.4	1.4	1.3	155.37	12.5	-11.8	19.3	16.9	2.44	7.933				
800.0	797.5	801.6	800.1	1.7	1.5	157.26	16.7	-22.9	21.9	19.1	2.81	7.774				
900.0	896.1	902.1	899.6	2.0	1.8	158.56	21.8	-36.4	24.4	21.2	3.20	7.644				
1,000.0	994.2	1,002.7	998.7	2.4	2.2	159.43	27.8	-52.4	27.0	23.4	3.59	7.528				
1,100.0	1,091.7	1,103.4	1,097.4	2.8	2.5	159.98	34.7	-70.9	29.7	25.7	4.00	7.415				
1,200.0	1,188.6	1,204.1	1,195.7	3.3	2.9	160.28	42.6	-91.8	32.3	27.9	4.42	7.298				
1,300.0	1,284.9	1,304.4	1,292.9	3.8	3.4	160.67	51.1	-114.6	35.4	30.5	4.85	7.284	SF			
1,400.0	1,380.4	1,404.2	1,389.7	4.3	3.8	162.07	59.7	-137.5	40.7	35.5	5.24	7.766				
1,500.0	1,475.0	1,503.9	1,486.4	4.9	4.3	164.02	68.3	-160.3	48.6	43.0	5.58	8.698				
1,600.0	1,568.9	1,603.3	1,582.8	5.6	4.7	166.06	76.9	-183.1	59.0	53.1	5.90	10.006				
1,700.0	1,661.7	1,702.4	1,678.9	6.3	5.2	167.92	85.4	-205.9	72.0	65.8	6.20	11.627				
1,800.0	1,753.6	1,801.2	1,774.6	7.1	5.6	169.52	94.0	-228.5	87.7	81.2	6.49	13.511				
1,900.0	1,844.4	1,899.5	1,869.9	7.9	6.1	170.85	102.4	-251.0	105.9	99.1	6.78	15.619				
2,000.0	1,934.1	1,997.3	1,964.7	8.7	6.6	171.95	110.9	-273.5	126.7	119.7	7.07	17.918				
2,100.0	2,022.6	2,094.5	2,059.0	9.6	7.0	172.85	119.2	-295.8	150.1	142.7	7.36	20.386				
2,200.0	2,109.9	2,191.0	2,152.6	10.6	7.5	173.60	127.6	-317.9	176.0	168.4	7.65	23.001				
2,300.0	2,195.8	2,286.8	2,245.5	11.6	7.9	174.22	135.8	-339.9	204.5	196.6	7.94	25.749				
2,400.0	2,280.4	2,381.9	2,337.7	12.6	8.3	174.75	144.0	-361.7	235.4	227.1	8.24	28.559				
2,500.0	2,364.7	2,476.8	2,429.7	13.7	8.8	175.20	152.2	-383.5	266.8	258.3	8.57	31.122				
2,600.0	2,449.0	2,571.7	2,521.7	14.7	9.2	175.55	160.4	-405.2	298.3	289.4	8.91	33.481				
2,700.0	2,533.3	2,666.6	2,613.7	15.8	9.7	175.83	168.5	-427.0	329.8	320.6	9.25	35.659				
2,800.0	2,617.6	2,761.5	2,705.7	16.8	10.1	176.07	176.7	-448.7	361.3	351.7	9.59	37.678				
2,900.0	2,701.9	2,856.4	2,797.7	17.9	10.6	176.27	184.9	-470.5	392.8	382.9	9.93	39.553				
3,000.0	2,786.2	2,951.3	2,889.7	18.9	11.0	176.43	193.1	-492.3	424.3	414.1	10.27	41.301				
3,100.0	2,870.5	3,046.2	2,981.7	20.0	11.5	176.58	201.3	-514.0	455.8	445.2	10.62	42.933				
3,200.0	2,954.8	3,141.1	3,073.7	21.0	11.9	176.70	209.4	-535.8	487.4	476.4	10.96	44.462				
3,300.0	3,039.1	3,236.0	3,165.7	22.1	12.4	176.81	217.6	-557.6	518.9	507.6	11.31	45.896				
3,400.0	3,123.4	3,330.9	3,257.8	23.2	12.8	176.91	225.8	-579.3	550.4	538.7	11.65	47.244				
3,500.0	3,207.7	3,425.8	3,349.8	24.2	13.2	177.00	234.0	-601.1	581.9	569.9	11.99	48.514				
3,600.0	3,292.0	3,520.7	3,441.8	25.3	13.7	177.08	242.2	-622.8	613.4	601.1	12.34	49.712				
3,700.0	3,376.3	3,615.6	3,533.8	26.4	14.1	177.15	250.3	-644.6	645.0	632.3	12.68	50.845				
3,800.0	3,460.6	3,710.5	3,625.8	27.4	14.6	177.21	258.5	-666.4	676.5	663.4	13.03	51.917				
3,900.0	3,544.9	3,805.4	3,717.8	28.5	15.0	177.27	266.7	-688.1	708.0	694.6	13.38	52.934				
4,000.0	3,629.2	3,900.3	3,809.8	29.5	15.5	177.33	274.9	-709.9	739.5	725.8	13.72	53.899				
4,100.0	3,713.5	3,995.2	3,901.8	30.6	15.9	177.37	283.1	-731.6	771.0	757.0	14.07	54.817				
4,200.0	3,797.7	4,090.1	3,993.8	31.7	16.4	177.42	291.2	-753.4	802.6	788.2	14.41	55.690				
4,300.0	3,882.0	4,185.0	4,085.8	32.7	16.8	177.46	299.4	-775.2	834.1	819.3	14.76	56.522				
4,400.0	3,966.3	4,279.9	4,177.8	33.8	17.3	177.50	307.6	-796.9	865.6	850.5	15.10	57.316				
4,500.0	4,050.6	4,374.8	4,269.8	34.9	17.7	177.54	315.8	-818.7	897.1	881.7	15.45	58.075				
4,600.0	4,134.9	4,469.7	4,361.8	35.9	18.2	177.57	324.0	-840.5	928.7	912.9	15.79	58.800				
4,700.0	4,219.2	4,564.6	4,453.8	37.0	18.6	177.60	332.1	-862.2	960.2	944.1	16.14	59.495				
4,800.0	4,303.5	4,659.5	4,545.9	38.1	19.1	177.63	340.3	-884.0	991.7	975.2	16.48	60.160				
4,900.0	4,387.8	4,754.4	4,637.9	39.1	19.5	177.66	348.5	-905.7	1,023.3	1,006.4	16.83	60.797				
5,000.0	4,472.1	4,849.3	4,729.9	40.2	19.9	177.68	356.7	-927.5	1,054.8	1,037.6	17.18	61.409				
5,100.0	4,556.4	4,944.2	4,821.9	41.3	20.4	177.71	364.8	-949.3	1,086.3	1,068.8	17.52	61.997				

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 21-17D (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 21-17D (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 21-17D (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 21-17D (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						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	147.38	-138.4	88.6	164.3					
100.0	100.0	100.0	100.0	0.1	0.1	147.38	-138.4	88.6	164.3	164.0	0.30	553.867		
200.0	200.0	200.0	200.0	0.3	0.3	147.38	-138.4	88.6	164.3	163.7	0.65	254.479	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.5	-141.60	-138.4	88.6	165.4	164.4	1.00	166.106		
400.0	399.9	396.5	396.5	0.7	0.7	-142.11	-139.6	88.5	169.5	168.1	1.34	126.183		
500.0	499.7	492.7	492.6	0.9	0.8	-142.58	-143.3	88.3	177.6	176.0	1.70	104.595		
600.0	599.3	588.3	588.0	1.1	1.0	-142.97	-149.3	87.9	189.9	187.8	2.07	91.892		
700.0	698.6	683.1	682.4	1.4	1.2	-143.27	-157.6	87.4	206.2	203.7	2.45	84.095		
800.0	797.5	776.9	775.6	1.7	1.5	-143.48	-168.1	86.8	226.4	223.6	2.86	79.231		
900.0	896.1	869.4	867.3	2.0	1.7	-143.59	-180.7	86.0	250.6	247.3	3.29	76.214		
1,000.0	994.2	960.5	957.2	2.4	2.0	-143.62	-195.3	85.1	278.6	274.8	3.74	74.397		
1,100.0	1,091.7	1,050.0	1,045.2	2.8	2.3	-143.58	-211.7	84.1	310.3	306.1	4.23	73.378		
1,200.0	1,188.6	1,137.8	1,131.1	3.3	2.7	-143.47	-229.7	82.9	345.7	341.0	4.74	72.896		
1,300.0	1,284.9	1,223.6	1,214.6	3.8	3.0	-143.31	-249.3	81.7	384.7	379.4	5.29	72.780	SF	
1,400.0	1,380.4	1,307.3	1,295.7	4.3	3.4	-143.09	-270.2	80.4	427.2	421.3	5.86	72.910		
1,500.0	1,475.0	1,388.9	1,374.2	4.9	3.8	-142.84	-292.3	79.1	473.0	466.5	6.46	73.185		
1,600.0	1,568.9	1,474.0	1,455.8	5.6	4.2	-142.60	-316.6	77.5	521.7	514.6	7.10	73.436		
1,700.0	1,661.7	1,560.2	1,538.3	6.3	4.7	-142.46	-341.3	76.0	572.3	564.5	7.77	73.638		
1,800.0	1,753.6	1,645.3	1,619.8	7.1	5.1	-142.41	-365.6	74.5	624.7	616.2	8.46	73.862		
1,900.0	1,844.4	1,729.1	1,700.1	7.9	5.5	-142.40	-389.7	73.0	678.9	669.7	9.16	74.106		
2,000.0	1,934.1	1,811.7	1,779.2	8.7	5.9	-142.43	-413.3	71.5	734.9	725.0	9.88	74.369		
2,100.0	2,022.6	1,893.0	1,857.1	9.6	6.4	-142.47	-436.6	70.1	792.6	782.0	10.62	74.647		
2,200.0	2,109.9	1,972.9	1,933.7	10.6	6.8	-142.53	-459.5	68.7	852.1	840.8	11.37	74.935		
2,300.0	2,195.8	2,051.4	2,008.8	11.6	7.2	-142.57	-482.0	67.3	913.4	901.3	12.14	75.230		
2,400.0	2,280.4	2,128.5	2,082.7	12.6	7.6	-142.83	-504.1	65.9	976.3	963.4	12.92	75.550		
2,500.0	2,364.7	2,205.2	2,156.2	13.7	8.0	-143.54	-526.0	64.5	1,039.8	1,026.1	13.71	75.863		
2,600.0	2,449.0	2,281.9	2,229.6	14.7	8.4	-144.16	-548.0	63.2	1,103.3	1,088.8	14.49	76.161		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)					
0.0	0.0	0.0	0.0	0.0	0.0	138.06	-45.5	40.9	61.2						
100.0	100.0	100.0	100.0	0.1	0.1	138.06	-45.5	40.9	61.2	60.9	0.30	206.304			
200.0	200.0	200.0	200.0	0.3	0.3	138.06	-45.5	40.9	61.2	60.6	0.65	94.788	CC, ES		
300.0	300.0	298.7	298.7	0.5	0.5	-150.46	-46.8	41.0	63.3	62.3	0.99	63.736			
400.0	399.9	397.2	397.1	0.7	0.7	-149.97	-50.6	41.1	69.7	68.4	1.35	51.766			
500.0	499.7	495.1	494.9	0.9	0.9	-149.32	-56.9	41.3	80.4	78.7	1.71	46.999			
600.0	599.3	592.3	591.6	1.1	1.1	-148.64	-65.6	41.6	95.2	93.1	2.09	45.634	SF		
700.0	698.6	688.4	687.1	1.4	1.3	-148.00	-76.7	42.0	114.2	111.8	2.48	46.056			
800.0	797.5	783.2	780.9	1.7	1.6	-147.42	-89.9	42.4	137.4	134.5	2.89	47.458			
900.0	896.1	876.5	873.0	2.0	1.9	-146.92	-105.2	43.0	164.5	161.2	3.33	49.395			
1,000.0	994.2	968.1	962.9	2.4	2.3	-146.46	-122.4	43.6	195.6	191.8	3.79	51.604			
1,100.0	1,091.7	1,057.8	1,050.6	2.8	2.6	-146.04	-141.4	44.2	230.6	226.3	4.28	53.935			
1,200.0	1,188.6	1,148.4	1,138.8	3.3	3.0	-145.71	-162.2	44.9	269.0	264.2	4.79	56.199			
1,300.0	1,284.9	1,239.8	1,227.7	3.8	3.4	-145.62	-183.3	45.6	309.5	304.2	5.32	58.190			
1,400.0	1,380.4	1,330.3	1,315.8	4.3	3.8	-145.71	-204.2	46.4	352.0	346.1	5.87	59.995			
1,500.0	1,475.0	1,419.8	1,402.8	4.9	4.1	-145.90	-224.9	47.1	396.4	390.0	6.43	61.658			
1,600.0	1,568.9	1,508.3	1,488.9	5.6	4.5	-146.17	-245.4	47.8	442.9	435.9	7.01	63.215			
1,700.0	1,661.7	1,595.6	1,573.8	6.3	4.9	-146.46	-265.6	48.5	491.3	483.7	7.59	64.691			
1,800.0	1,753.6	1,681.8	1,657.7	7.1	5.3	-146.78	-285.5	49.1	541.6	533.4	8.19	66.105			
1,900.0	1,844.4	1,766.7	1,740.3	7.9	5.6	-147.09	-305.1	49.8	594.0	585.2	8.80	67.469			
2,000.0	1,934.1	1,850.3	1,821.7	8.7	6.0	-147.40	-324.5	50.5	648.2	638.8	9.42	68.792			
2,100.0	2,022.6	1,932.6	1,901.7	9.6	6.4	-147.69	-343.5	51.1	704.5	694.4	10.05	70.077			
2,200.0	2,109.9	2,013.5	1,980.4	10.6	6.7	-147.95	-362.2	51.8	762.6	751.9	10.69	71.328			
2,300.0	2,195.8	2,092.9	2,057.7	11.6	7.1	-148.19	-380.5	52.4	822.6	811.3	11.34	72.542			
2,400.0	2,280.4	2,170.9	2,133.6	12.6	7.4	-148.59	-398.6	53.0	884.4	872.4	12.00	73.716			
2,500.0	2,364.7	2,248.6	2,209.1	13.7	7.7	-149.34	-416.5	53.6	946.8	934.1	12.66	74.771			
2,600.0	2,449.0	2,326.2	2,284.6	14.7	8.1	-149.99	-434.5	54.3	1,009.2	995.9	13.32	75.748			
2,700.0	2,533.3	2,403.8	2,360.1	15.8	8.4	-150.57	-452.4	54.9	1,071.7	1,057.7	13.98	76.656			

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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 (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	145.88	-119.1	80.7	143.9					
100.0	100.0	100.0	100.0	0.1	0.1	145.88	-119.1	80.7	143.9	143.6	0.30	484.890		
200.0	200.0	200.0	200.0	0.3	0.3	145.88	-119.1	80.7	143.9	143.2	0.65	222.788	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.5	-143.12	-119.1	80.7	144.9	143.9	1.00	145.578		
400.0	399.9	399.9	399.9	0.7	0.7	-144.01	-119.1	80.7	148.1	146.7	1.35	109.854		
500.0	499.7	499.7	499.7	0.9	0.8	-145.40	-119.1	80.7	153.4	151.7	1.70	89.985		
600.0	599.3	596.3	596.3	1.1	1.0	-146.82	-120.3	80.6	161.9	159.9	2.06	78.514		
700.0	698.6	692.4	692.3	1.4	1.2	-147.94	-123.9	80.3	174.6	172.1	2.43	71.874		
800.0	797.5	787.8	787.5	1.7	1.4	-148.74	-129.9	79.7	191.2	188.4	2.81	68.106		
900.0	896.1	882.1	881.5	2.0	1.6	-149.25	-138.1	79.0	211.8	208.6	3.20	66.118		
1,000.0	994.2	975.3	974.1	2.4	1.8	-149.50	-148.5	78.0	236.2	232.6	3.62	65.252		
1,100.0	1,091.7	1,067.2	1,065.1	2.8	2.0	-149.55	-161.0	76.9	264.5	260.4	4.06	65.098	SF	
1,200.0	1,188.6	1,157.8	1,154.6	3.3	2.3	-149.45	-175.4	75.6	296.4	291.8	4.53	65.436		
1,300.0	1,284.9	1,251.6	1,247.0	3.8	2.6	-149.42	-191.2	74.1	331.1	326.0	5.03	65.865		
1,400.0	1,380.4	1,344.6	1,338.6	4.3	2.9	-149.54	-206.8	72.7	367.9	362.3	5.54	66.432		
1,500.0	1,475.0	1,436.6	1,429.3	4.9	3.2	-149.77	-222.4	71.3	406.8	400.7	6.06	67.113		
1,600.0	1,568.9	1,527.7	1,519.1	5.6	3.5	-150.06	-237.7	69.9	447.8	441.2	6.60	67.893		
1,700.0	1,661.7	1,617.8	1,607.9	6.3	3.7	-150.40	-252.9	68.5	490.9	483.8	7.14	68.761		
1,800.0	1,753.6	1,706.8	1,695.6	7.1	4.0	-150.75	-267.9	67.2	536.1	528.4	7.69	69.704		
1,900.0	1,844.4	1,794.6	1,782.2	7.9	4.3	-151.12	-282.7	65.8	583.5	575.2	8.25	70.712		
2,000.0	1,934.1	1,881.3	1,867.6	8.7	4.6	-151.48	-297.3	64.5	632.9	624.1	8.82	71.773		
2,100.0	2,022.6	1,966.6	1,951.7	9.6	4.9	-151.83	-311.7	63.2	684.4	675.0	9.39	72.879		
2,200.0	2,109.9	2,050.7	2,034.6	10.6	5.2	-152.16	-325.9	61.9	737.9	727.9	9.97	74.020		
2,300.0	2,195.8	2,133.4	2,116.1	11.6	5.5	-152.47	-339.8	60.6	793.5	782.9	10.55	75.184		
2,400.0	2,280.4	2,214.7	2,196.2	12.6	5.7	-152.90	-353.5	59.4	851.0	839.8	11.14	76.381		
2,500.0	2,364.7	2,295.6	2,276.0	13.7	6.0	-153.59	-367.1	58.1	909.0	897.3	11.73	77.519		
2,600.0	2,449.0	2,376.6	2,355.8	14.7	6.3	-154.20	-380.8	56.9	967.2	954.9	12.31	78.574		
2,700.0	2,533.3	2,457.6	2,435.6	15.8	6.5	-154.74	-394.4	55.7	1,025.4	1,012.5	12.89	79.553		
2,800.0	2,617.6	2,538.5	2,515.3	16.8	6.8	-155.22	-408.1	54.4	1,083.6	1,070.2	13.47	80.465		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (Oxy I21 pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1											Offset Site Error:		0.0 ft
Survey Program:		0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)					
0.0	0.0	0.0	0.0	0.0	0.0	147.48	-113.3	72.2	134.3						
100.0	100.0	100.0	100.0	0.1	0.1	147.48	-113.3	72.2	134.3	134.1	0.30	452.802			
200.0	200.0	200.0	200.0	0.3	0.3	147.48	-113.3	72.2	134.3	133.7	0.65	208.044	CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-141.56	-113.3	72.2	135.4	134.4	1.00	135.983			
400.0	399.9	399.9	399.9	0.7	0.7	-142.54	-113.3	72.2	138.5	137.1	1.35	102.700			
500.0	499.7	499.7	499.7	0.9	0.8	-144.08	-113.3	72.2	143.7	142.0	1.71	84.247			
600.0	599.3	599.3	599.3	1.1	1.0	-146.05	-113.3	72.2	151.2	149.2	2.07	73.107			
700.0	698.6	695.8	695.8	1.4	1.2	-147.92	-114.5	72.1	162.0	159.5	2.43	66.598			
800.0	797.5	791.8	791.7	1.7	1.4	-149.34	-118.0	71.6	176.7	173.9	2.80	63.052			
900.0	896.1	886.9	886.7	2.0	1.5	-150.31	-124.0	70.8	195.5	192.3	3.19	61.338			
1,000.0	994.2	981.1	980.4	2.4	1.7	-150.91	-132.1	69.6	218.0	214.4	3.59	60.771	SF		
1,100.0	1,091.7	1,075.8	1,074.6	2.8	1.9	-151.25	-142.3	68.2	244.2	240.1	4.01	60.900			
1,200.0	1,188.6	1,171.6	1,169.8	3.3	2.2	-151.71	-152.9	66.8	272.7	268.2	4.45	61.331			
1,300.0	1,284.9	1,266.7	1,264.3	3.8	2.4	-152.26	-163.5	65.3	303.5	298.6	4.89	62.029			
1,400.0	1,380.4	1,361.0	1,358.0	4.3	2.6	-152.87	-173.9	63.9	336.5	331.2	5.35	62.947			
1,500.0	1,475.0	1,454.4	1,450.8	4.9	2.8	-153.50	-184.2	62.5	371.8	366.0	5.81	64.051			
1,600.0	1,568.9	1,546.9	1,542.7	5.6	3.1	-154.14	-194.5	61.0	409.4	403.1	6.27	65.310			
1,700.0	1,661.7	1,638.4	1,633.7	6.3	3.3	-154.77	-204.6	59.7	449.2	442.5	6.73	66.701			
1,800.0	1,753.6	1,728.9	1,723.6	7.1	3.5	-155.37	-214.7	58.3	491.3	484.1	7.20	68.205			
1,900.0	1,844.4	1,818.2	1,812.4	7.9	3.8	-155.95	-224.6	56.9	535.6	527.9	7.67	69.804			
2,000.0	1,934.1	1,906.4	1,900.0	8.7	4.0	-156.49	-234.3	55.6	582.1	574.0	8.14	71.482			
2,100.0	2,022.6	1,993.4	1,986.4	9.6	4.2	-157.00	-244.0	54.2	630.9	622.3	8.62	73.226			
2,200.0	2,109.9	2,079.1	2,071.6	10.6	4.4	-157.47	-253.4	52.9	681.8	672.7	9.09	75.023			
2,300.0	2,195.8	2,163.4	2,155.4	11.6	4.6	-157.90	-262.8	51.6	734.9	725.4	9.56	76.860			
2,400.0	2,280.4	2,246.4	2,237.8	12.6	4.8	-158.41	-272.0	50.4	790.1	780.0	10.04	78.724			
2,500.0	2,364.7	2,329.0	2,319.9	13.7	5.1	-159.09	-281.1	49.1	845.8	835.3	10.51	80.466			
2,600.0	2,449.0	2,411.6	2,402.1	14.7	5.3	-159.69	-290.3	47.9	901.6	890.6	10.98	82.083			
2,700.0	2,533.3	2,494.3	2,484.2	15.8	5.5	-160.22	-299.4	46.6	957.5	946.0	11.45	83.588			
2,800.0	2,617.6	2,576.9	2,566.3	16.8	5.7	-160.69	-308.6	45.3	1,013.4	1,001.5	11.92	84.992			
2,900.0	2,701.9	2,659.5	2,648.4	17.9	5.9	-161.11	-317.8	44.1	1,069.3	1,056.9	12.39	86.305			

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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	147.48	-100.9	64.3	119.7					
100.0	100.0	100.0	100.0	0.1	0.1	147.48	-100.9	64.3	119.7	119.4	0.30	403.293		
200.0	200.0	200.0	200.0	0.3	0.3	147.48	-100.9	64.3	119.7	119.0	0.65	185.297 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-141.60	-100.9	64.3	120.7	119.7	1.00	121.228		
400.0	399.9	399.9	399.9	0.7	0.7	-142.70	-100.9	64.3	123.8	122.4	1.35	91.811		
500.0	499.7	499.7	499.7	0.9	0.8	-144.42	-100.9	64.3	129.1	127.3	1.71	75.660		
600.0	599.3	599.3	599.3	1.1	1.0	-146.58	-100.9	64.3	136.6	134.5	2.07	66.064		
700.0	698.6	696.3	696.3	1.4	1.2	-148.60	-102.1	64.1	147.3	144.9	2.43	60.618		
800.0	797.5	792.7	792.6	1.7	1.4	-150.05	-105.7	63.4	162.0	159.2	2.80	57.832		
900.0	896.1	888.4	888.1	2.0	1.5	-150.99	-111.6	62.2	180.5	177.3	3.19	56.679		
1,000.0	994.2	986.0	985.5	2.4	1.7	-151.80	-118.8	60.8	202.0	198.4	3.58	56.374 SF		
1,100.0	1,091.7	1,083.1	1,082.2	2.8	1.9	-152.73	-125.9	59.4	225.8	221.8	3.99	56.619		
1,200.0	1,188.6	1,179.5	1,178.4	3.3	2.1	-153.71	-133.0	58.0	252.0	247.6	4.40	57.291		
1,300.0	1,284.9	1,275.2	1,273.8	3.8	2.3	-154.69	-140.0	56.6	280.5	275.7	4.81	58.306		
1,400.0	1,380.4	1,370.1	1,368.5	4.3	2.5	-155.66	-147.0	55.2	311.4	306.1	5.22	59.600		
1,500.0	1,475.0	1,464.2	1,462.3	4.9	2.7	-156.59	-153.9	53.9	344.6	339.0	5.64	61.124		
1,600.0	1,568.9	1,557.4	1,555.3	5.6	2.9	-157.47	-160.8	52.5	380.2	374.2	6.05	62.840		
1,700.0	1,661.7	1,649.7	1,647.3	6.3	3.1	-158.29	-167.6	51.2	418.2	411.7	6.46	64.719		
1,800.0	1,753.6	1,740.9	1,738.2	7.1	3.3	-159.06	-174.3	49.8	458.5	451.7	6.87	66.735		
1,900.0	1,844.4	1,831.0	1,828.1	7.9	3.5	-159.76	-180.9	48.5	501.2	493.9	7.28	68.867		
2,000.0	1,934.1	1,920.0	1,916.9	8.7	3.7	-160.41	-187.5	47.2	546.2	538.5	7.68	71.099		
2,100.0	2,022.6	2,007.8	2,004.4	9.6	3.9	-161.01	-194.0	46.0	593.5	585.4	8.08	73.414		
2,200.0	2,109.9	2,094.4	2,090.7	10.6	4.1	-161.55	-200.3	44.7	643.0	634.5	8.48	75.799		
2,300.0	2,195.8	2,179.5	2,175.6	11.6	4.2	-162.05	-206.6	43.5	694.8	685.9	8.88	78.242		
2,400.0	2,280.4	2,263.4	2,259.3	12.6	4.4	-162.58	-212.8	42.2	748.7	739.4	9.28	80.695		
2,500.0	2,364.7	2,346.9	2,342.6	13.7	4.6	-163.24	-218.9	41.0	803.1	793.5	9.68	82.940		
2,600.0	2,449.0	2,430.5	2,425.9	14.7	4.8	-163.81	-225.1	39.8	857.7	847.6	10.09	85.029		
2,700.0	2,533.3	2,514.0	2,509.1	15.8	5.0	-164.31	-231.2	38.6	912.3	901.8	10.49	86.978		
2,800.0	2,617.6	2,597.5	2,592.4	16.8	5.1	-164.76	-237.3	37.4	966.9	956.0	10.89	88.800		
2,900.0	2,701.9	2,681.1	2,675.7	17.9	5.3	-165.16	-243.5	36.2	1,021.6	1,010.3	11.29	90.506		
3,000.0	2,786.2	2,764.6	2,759.0	18.9	5.5	-165.52	-249.6	35.0	1,076.3	1,064.6	11.68	92.108		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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		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	300.0	300.0	0.0	0.0	134.90	-32.1	32.2	45.4					
100.0	100.0	400.0	400.0	0.1	0.1	134.90	-32.1	32.2	45.4					
200.0	200.0	500.0	500.0	0.3	0.3	134.90	-32.1	32.2	45.4					
300.0	300.0	598.8	598.8	0.5	0.5	-154.37	-33.0	33.0	47.9			0.65	70.319 CC, ES	
400.0	399.9	697.2	697.1	0.7	0.7	-155.75	-35.9	35.5	55.3			0.99	48.218	
500.0	499.7	795.2	794.9	0.9	0.9	-157.39	-40.6	39.6	67.6			1.34	41.247	
												1.69	40.033 SF	
600.0	599.3	893.9	893.4	1.1	1.1	-159.08	-45.9	44.3	83.1			2.04	40.764	
700.0	698.6	992.3	991.5	1.4	1.3	-160.72	-51.2	48.9	101.2			2.39	42.318	
800.0	797.5	1,090.1	1,089.0	1.7	1.5	-162.21	-56.4	53.6	121.7			2.74	44.398	
900.0	896.1	1,187.3	1,186.0	2.0	1.7	-163.55	-61.7	58.1	144.7			3.09	46.838	
1,000.0	994.2	1,283.9	1,282.4	2.4	1.9	-164.72	-66.9	62.7	170.3			3.44	49.542	
1,100.0	1,091.7	1,379.9	1,378.1	2.8	2.1	-165.76	-72.0	67.2	198.4			3.78	52.446	
1,200.0	1,188.6	1,475.0	1,473.0	3.3	2.3	-166.66	-77.1	71.7	228.9			4.12	55.509	
1,300.0	1,284.9	1,569.3	1,567.1	3.8	2.5	-167.45	-82.2	76.2	261.9			4.46	58.704	
1,400.0	1,380.4	1,662.7	1,660.2	4.3	2.7	-168.15	-87.2	80.6	297.4			4.80	62.011	
1,500.0	1,475.0	1,755.2	1,752.4	4.9	2.9	-168.77	-92.2	84.9	335.3			5.13	65.415	
1,600.0	1,568.9	1,853.4	1,850.5	5.6	3.1	-169.40	-97.0	89.1	375.0			5.46	68.692	
1,700.0	1,661.7	1,954.8	1,951.8	6.3	3.3	-170.12	-99.9	91.7	415.0			5.79	71.687	
1,800.0	1,753.6	2,056.7	2,053.6	7.1	3.4	-170.90	-100.9	92.5	455.0			6.11	74.497	
1,900.0	1,844.4	2,147.5	2,144.4	7.9	3.6	-171.56	-100.9	92.5	496.5			6.41	77.504	
2,000.0	1,934.1	2,237.2	2,234.1	8.7	3.7	-172.15	-100.9	92.5	540.4			6.70	80.683	
2,100.0	2,022.6	2,325.7	2,322.6	9.6	3.9	-172.67	-100.9	92.5	586.6			6.98	84.017	
2,200.0	2,109.9	2,412.9	2,409.9	10.6	4.0	-173.13	-100.9	92.5	635.2			7.26	87.491	
2,300.0	2,195.8	2,498.8	2,495.8	11.6	4.1	-173.54	-100.9	92.5	686.1			7.53	91.094	
2,400.0	2,280.4	2,583.5	2,580.4	12.6	4.3	-173.94	-100.9	92.5	739.1			7.81	94.614	
2,500.0	2,364.7	2,667.8	2,664.7	13.7	4.4	-174.35	-100.9	92.5	792.7			8.13	97.561	
2,600.0	2,449.0	2,752.1	2,749.0	14.7	4.5	-174.71	-100.9	92.5	846.3			8.44	100.299	
2,700.0	2,533.3	2,836.4	2,833.3	15.8	4.7	-175.02	-100.9	92.5	900.0			8.75	102.851	
2,800.0	2,617.6	2,920.7	2,917.6	16.8	4.8	-175.30	-100.9	92.5	953.6			9.06	105.234	
2,900.0	2,701.9	3,005.0	3,001.9	17.9	5.0	-175.55	-100.9	92.5	1,007.3			9.37	107.463	
3,000.0	2,786.2	3,089.3	3,086.2	18.9	5.1	-175.78	-100.9	92.5	1,061.0			9.68	109.553	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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		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	129.54	-20.0	24.3	31.5					
100.0	100.0	100.0	100.0	0.1	0.1	129.54	-20.0	24.3	31.5	0.30	106.053			
200.0	200.0	200.0	200.0	0.3	0.3	129.54	-20.0	24.3	31.5	0.65	48.727 CC, ES			
300.0	300.0	300.0	300.0	0.5	0.5	-159.97	-20.0	24.3	32.7	0.99	32.861			
400.0	399.9	399.9	399.9	0.7	0.7	-162.07	-20.0	24.3	36.4	1.34	27.085			
500.0	499.7	499.7	499.7	0.9	0.8	-164.75	-20.0	24.3	42.7	1.69	25.207			
600.0	599.3	599.8	599.8	1.1	1.0	-168.73	-18.7	24.4	51.0	2.04	24.988 SF			
700.0	698.6	699.7	699.6	1.4	1.2	-174.23	-14.8	24.8	61.2	2.39	25.605			
800.0	797.5	799.1	798.8	1.7	1.4	179.90	-8.5	25.4	73.8	2.75	26.859			
900.0	896.1	897.6	897.1	2.0	1.6	175.41	-1.4	26.0	89.4	3.11	28.714			
1,000.0	994.2	995.8	995.0	2.4	1.8	172.42	5.7	26.7	107.9	3.48	30.954			
1,100.0	1,091.7	1,093.4	1,092.3	2.8	2.0	170.48	12.7	27.4	129.1	3.86	33.419			
1,200.0	1,188.6	1,190.5	1,189.2	3.3	2.2	169.24	19.7	28.1	152.9	4.24	36.028			
1,300.0	1,284.9	1,286.9	1,285.4	3.8	2.4	168.48	26.6	28.7	179.3	4.63	38.740			
1,400.0	1,380.4	1,382.7	1,380.8	4.3	2.6	168.04	33.5	29.4	208.1	5.01	41.529			
1,500.0	1,475.0	1,477.6	1,475.6	4.9	2.8	167.81	40.3	30.0	239.4	5.39	44.382			
1,600.0	1,568.9	1,571.8	1,569.5	5.6	3.0	167.72	47.1	30.7	273.1	5.78	47.291			
1,700.0	1,661.7	1,665.0	1,662.5	6.3	3.2	167.73	53.8	31.3	309.3	6.15	50.250			
1,800.0	1,753.6	1,757.3	1,754.5	7.1	3.4	167.80	60.4	31.9	347.7	6.53	53.256			
1,900.0	1,844.4	1,848.6	1,845.6	7.9	3.6	167.91	67.0	32.6	388.6	6.90	56.304			
2,000.0	1,934.1	1,938.8	1,935.5	8.7	3.8	168.04	73.4	33.2	431.7	7.27	59.392			
2,100.0	2,022.6	2,027.8	2,024.3	9.6	4.0	168.18	79.8	33.8	477.2	7.63	62.517			
2,200.0	2,109.9	2,115.6	2,111.9	10.6	4.1	168.33	86.2	34.4	525.0	7.99	65.676			
2,300.0	2,195.8	2,202.2	2,198.2	11.6	4.3	168.48	92.4	35.0	575.0	8.35	68.866			
2,400.0	2,280.4	2,287.5	2,283.3	12.6	4.5	168.67	98.5	35.6	627.1	8.71	71.976			
2,500.0	2,364.7	2,372.5	2,368.1	13.7	4.7	168.96	104.6	36.2	679.7	9.10	74.675			
2,600.0	2,449.0	2,457.4	2,452.8	14.7	4.9	169.20	110.7	36.8	732.4	9.49	77.154			
2,700.0	2,533.3	2,542.4	2,537.5	15.8	5.0	169.41	116.8	37.3	785.1	9.88	79.437			
2,800.0	2,617.6	2,627.4	2,622.3	16.8	5.2	169.60	122.9	37.9	837.8	10.27	81.547			
2,900.0	2,701.9	2,712.3	2,707.0	17.9	5.4	169.76	129.0	38.5	890.5	10.66	83.504			
3,000.0	2,786.2	2,797.3	2,791.8	18.9	5.6	169.90	135.1	39.1	943.2	11.05	85.322			
3,100.0	2,870.5	2,882.2	2,876.5	20.0	5.8	170.03	141.2	39.7	995.9	11.44	87.018			
3,200.0	2,954.8	2,967.2	2,961.3	21.0	6.0	170.15	147.4	40.3	1,048.6	11.83	88.601			
3,300.0	3,039.1	3,052.2	3,046.0	22.1	6.1	170.25	153.5	40.8	1,101.3	12.23	90.084			

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (Oxy I21 pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	112.92	-6.9	16.4	17.8					
100.0	100.0	100.0	100.0	0.1	0.1	112.92	-6.9	16.4	17.8	17.5	0.30	59.885		
200.0	200.0	200.0	200.0	0.3	0.3	112.92	-6.9	16.4	17.8	17.1	0.65	27.515 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.5	-176.07	-6.9	16.4	19.1	18.1	0.99	19.177		
400.0	399.9	399.9	399.9	0.7	0.7	-176.73	-6.9	16.4	23.0	21.6	1.34	17.122 SF		
500.0	499.7	499.7	499.7	0.9	0.8	-177.45	-6.9	16.4	29.5	27.8	1.69	17.471		
600.0	599.3	599.6	599.6	1.1	1.0	-179.87	-5.6	16.3	38.2	36.2	2.04	18.759		
700.0	698.6	699.3	699.2	1.4	1.2	175.75	-1.7	16.3	48.8	46.4	2.39	20.424		
800.0	797.5	798.7	798.4	1.7	1.4	170.86	4.8	16.2	61.6	58.9	2.76	22.342		
900.0	896.1	897.5	896.8	2.0	1.6	166.71	13.0	16.1	77.0	73.9	3.15	24.486		
1,000.0	994.2	995.7	994.8	2.4	1.8	164.31	21.2	15.9	95.2	91.6	3.55	26.841		
1,100.0	1,091.7	1,093.6	1,092.2	2.8	2.0	163.03	29.5	15.8	115.9	111.9	3.95	29.309		
1,200.0	1,188.6	1,190.8	1,189.1	3.3	2.2	162.43	37.6	15.7	139.0	134.7	4.37	31.848		
1,300.0	1,284.9	1,287.5	1,285.5	3.8	2.4	162.25	45.8	15.6	164.6	159.8	4.78	34.442		
1,400.0	1,380.4	1,383.5	1,381.1	4.3	2.6	162.32	53.8	15.4	192.6	187.4	5.19	37.082		
1,500.0	1,475.0	1,478.7	1,476.0	4.9	2.9	162.54	61.9	15.3	223.0	217.4	5.61	39.763		
1,600.0	1,568.9	1,573.2	1,570.2	5.6	3.1	162.84	69.8	15.2	255.8	249.8	6.02	42.484		
1,700.0	1,661.7	1,666.8	1,663.4	6.3	3.3	163.19	77.7	15.1	290.9	284.5	6.43	45.243		
1,800.0	1,753.6	1,759.5	1,755.8	7.1	3.5	163.55	85.5	15.0	328.4	321.6	6.84	48.038		
1,900.0	1,844.4	1,851.1	1,847.1	7.9	3.7	163.92	93.2	14.8	368.2	361.0	7.24	50.866		
2,000.0	1,934.1	1,941.7	1,937.4	8.7	3.9	164.29	100.8	14.7	410.4	402.8	7.64	53.726		
2,100.0	2,022.6	2,031.2	2,026.6	9.6	4.1	164.63	108.3	14.6	454.9	446.8	8.03	56.615		
2,200.0	2,109.9	2,119.6	2,114.6	10.6	4.3	164.96	115.7	14.5	501.6	493.2	8.43	59.530		
2,300.0	2,195.8	2,206.6	2,201.3	11.6	4.5	165.27	123.0	14.4	550.6	541.8	8.81	62.469		
2,400.0	2,280.4	2,292.5	2,286.9	12.6	4.7	165.62	130.3	14.3	601.7	592.5	9.21	65.357		
2,500.0	2,364.7	2,378.0	2,372.1	13.7	4.9	166.06	137.5	14.2	653.4	643.8	9.62	67.924		
2,600.0	2,449.0	2,463.5	2,457.3	14.7	5.1	166.44	144.6	14.1	705.1	695.0	10.03	70.281		
2,700.0	2,533.3	2,549.0	2,542.5	15.8	5.3	166.76	151.8	14.0	756.8	746.4	10.45	72.453		
2,800.0	2,617.6	2,634.5	2,627.7	16.8	5.4	167.05	159.0	13.9	808.5	797.7	10.86	74.461		
2,900.0	2,701.9	2,720.0	2,712.9	17.9	5.6	167.30	166.2	13.7	860.3	849.0	11.27	76.323		
3,000.0	2,786.2	2,805.5	2,798.1	18.9	5.8	167.52	173.4	13.6	912.0	900.4	11.68	78.055		
3,100.0	2,870.5	2,891.0	2,883.3	20.0	6.0	167.72	180.6	13.5	963.8	951.7	12.10	79.668		
3,200.0	2,954.8	2,976.6	2,968.5	21.0	6.2	167.90	187.8	13.4	1,015.6	1,003.1	12.51	81.176		
3,300.0	3,039.1	3,062.1	3,053.8	22.1	6.4	168.06	195.0	13.3	1,067.4	1,054.4	12.92	82.588		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (Oxy I21 pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 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	147.26	-87.8	56.4	104.4					
100.0	100.0	100.0	100.0	0.1	0.1	147.26	-87.8	56.4	104.4	104.1	0.30	351.716		
200.0	200.0	200.0	200.0	0.3	0.3	147.26	-87.8	56.4	104.4	103.7	0.65	161.599	CC, ES	
300.0	300.0	299.2	299.2	0.5	0.5	-141.19	-88.8	55.6	105.8	104.8	1.00	106.172		
400.0	399.9	398.3	398.2	0.7	0.7	-140.50	-91.7	53.1	109.9	108.6	1.36	80.946		
500.0	499.7	497.1	496.8	0.9	0.9	-139.45	-96.5	48.9	117.0	115.2	1.74	67.109		
600.0	599.3	595.6	594.9	1.1	1.1	-138.17	-103.3	43.1	126.8	124.7	2.16	58.725		
700.0	698.6	693.5	692.1	1.4	1.4	-136.78	-111.9	35.7	139.5	136.9	2.62	53.324		
800.0	797.5	790.9	788.5	1.7	1.6	-135.38	-122.4	26.7	155.1	152.0	3.12	49.695		
900.0	896.1	887.5	883.8	2.0	2.0	-134.03	-134.6	16.2	173.5	169.9	3.68	47.179		
1,000.0	994.2	983.3	977.8	2.4	2.3	-132.76	-148.5	4.3	194.8	190.5	4.29	45.393		
1,100.0	1,091.7	1,078.1	1,070.4	2.8	2.7	-131.59	-164.0	-9.0	218.8	213.8	4.96	44.100		
1,200.0	1,188.6	1,172.0	1,161.5	3.3	3.1	-130.52	-181.1	-23.7	245.6	239.9	5.69	43.151		
1,300.0	1,284.9	1,264.7	1,250.9	3.8	3.6	-129.54	-199.6	-39.6	275.1	268.6	6.48	42.447		
1,400.0	1,380.4	1,356.2	1,338.6	4.3	4.1	-128.64	-219.5	-56.7	307.2	299.8	7.33	41.922		
1,500.0	1,475.0	1,446.4	1,424.4	4.9	4.6	-127.81	-240.7	-74.9	341.9	333.6	8.23	41.528		
1,600.0	1,568.9	1,535.3	1,508.3	5.6	5.1	-127.03	-263.1	-94.1	379.1	369.9	9.19	41.235		
1,700.0	1,661.7	1,622.9	1,590.2	6.3	5.7	-126.29	-286.5	-114.2	418.7	408.5	10.21	41.018		
1,800.0	1,753.6	1,708.9	1,670.0	7.1	6.3	-125.58	-311.0	-135.2	460.8	449.5	11.28	40.865		
1,900.0	1,844.4	1,796.4	1,750.4	7.9	6.9	-124.93	-337.0	-157.5	505.0	492.6	12.40	40.725		
2,000.0	1,934.1	1,885.3	1,832.2	8.7	7.5	-124.49	-363.6	-180.3	550.7	537.1	13.57	40.587		
2,100.0	2,022.6	1,973.5	1,913.2	9.6	8.2	-124.22	-390.0	-203.0	597.7	583.0	14.76	40.483		
2,200.0	2,109.9	2,060.9	1,993.6	10.6	8.8	-124.09	-416.1	-225.4	646.0	630.1	15.99	40.408		
2,300.0	2,195.8	2,147.4	2,073.1	11.6	9.4	-124.06	-442.0	-247.6	695.7	678.5	17.24	40.362		
2,400.0	2,280.4	2,233.0	2,151.8	12.6	10.0	-124.32	-467.6	-269.6	746.7	728.2	18.51	40.340		
2,500.0	2,364.7	2,318.4	2,230.3	13.7	10.7	-125.03	-493.1	-291.5	798.0	778.2	19.80	40.302		
2,600.0	2,449.0	2,403.8	2,308.7	14.7	11.3	-125.66	-518.6	-313.4	849.5	828.4	21.09	40.274		
2,700.0	2,533.3	2,489.2	2,387.2	15.8	11.9	-126.21	-544.1	-335.3	901.0	878.6	22.38	40.255		
2,800.0	2,617.6	2,574.6	2,465.7	16.8	12.5	-126.71	-569.7	-357.3	952.6	928.9	23.67	40.242		
2,900.0	2,701.9	2,660.0	2,544.2	17.9	13.1	-127.16	-595.2	-379.2	1,004.2	979.2	24.96	40.234		
3,000.0	2,786.2	2,745.4	2,622.7	18.9	13.8	-127.56	-620.7	-401.1	1,055.9	1,029.6	26.25	40.229		
3,100.0	2,870.5	2,830.8	2,701.2	20.0	14.4	-127.93	-646.3	-423.0	1,107.6	1,080.0	27.53	40.227	SF	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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 S21-T6S-R97W (Marathon plan) - 697-21C-21 - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-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	10.0	10.0	0.0	0.0	-8.85	1,032.0	-160.6	1,044.4					
100.0	100.0	110.0	110.0	0.1	0.2	-8.85	1,032.0	-160.6	1,044.4	1,044.1	0.31	3,324.456		
200.0	200.0	210.2	210.2	0.3	0.3	-8.85	1,032.0	-160.7	1,044.4	1,043.7	0.66	1,573.777		
300.0	300.0	312.0	312.0	0.5	0.5	62.41	1,031.5	-162.8	1,043.7	1,042.7	1.02	1,019.622		
400.0	399.9	413.8	413.6	0.7	0.7	62.31	1,030.4	-168.4	1,041.6	1,040.2	1.41	738.682		
500.0	499.7	515.3	514.7	0.9	1.0	62.16	1,028.5	-177.6	1,038.1	1,036.3	1.84	563.213		
600.0	599.3	616.6	615.2	1.1	1.2	61.97	1,025.8	-190.2	1,033.3	1,031.0	2.34	441.718		
700.0	698.6	717.6	714.8	1.4	1.6	61.72	1,022.5	-206.3	1,027.1	1,024.2	2.91	352.963		
800.0	797.5	818.2	813.4	1.7	2.0	61.41	1,018.5	-225.7	1,019.6	1,016.1	3.56	286.154		
900.0	896.1	918.2	910.7	2.0	2.4	61.05	1,013.8	-248.3	1,010.9	1,006.6	4.30	234.888		
1,000.0	994.2	1,017.7	1,006.7	2.4	2.9	60.63	1,008.4	-274.1	1,000.9	995.7	5.13	194.970		
1,100.0	1,091.7	1,116.6	1,101.1	2.8	3.5	60.15	1,002.4	-303.0	989.6	983.6	6.05	163.499		
1,200.0	1,188.6	1,214.8	1,193.8	3.3	4.1	59.61	995.8	-334.8	977.3	970.2	7.06	138.403		
1,300.0	1,284.9	1,312.3	1,284.6	3.8	4.8	59.00	988.6	-369.4	963.8	955.6	8.16	118.177		
1,400.0	1,380.4	1,409.0	1,373.5	4.3	5.5	58.32	980.9	-406.7	949.3	940.0	9.33	101.714		
1,500.0	1,475.0	1,504.9	1,460.2	4.9	6.3	57.56	972.6	-446.6	933.8	923.2	10.59	88.190		
1,600.0	1,568.9	1,600.0	1,544.9	5.6	7.1	56.73	963.8	-489.0	917.5	905.5	11.92	76.981		
1,700.0	1,661.7	1,694.0	1,627.2	6.3	8.0	55.81	954.6	-533.5	900.3	887.0	13.31	67.617		
1,800.0	1,753.6	1,787.1	1,707.2	7.1	9.0	54.80	944.9	-580.2	882.4	867.6	14.77	59.745		
1,900.0	1,844.4	1,879.3	1,784.8	7.9	10.0	53.70	934.8	-628.9	863.8	847.6	16.27	53.093		
2,000.0	1,934.1	1,973.3	1,862.5	8.7	11.0	52.48	924.0	-680.6	844.7	826.9	17.80	47.459		
2,100.0	2,022.6	2,069.0	1,941.6	9.6	12.1	51.30	913.1	-733.4	824.6	805.3	19.35	42.621		
2,200.0	2,109.9	2,164.8	2,020.8	10.6	13.2	50.20	902.1	-786.3	803.4	782.5	20.90	38.442		
2,300.0	2,195.8	2,260.7	2,099.9	11.6	14.3	49.17	891.1	-839.2	780.9	758.5	22.45	34.785		
2,400.0	2,280.4	2,356.5	2,179.0	12.6	15.3	48.14	880.1	-892.1	757.3	733.3	24.00	31.555		
2,500.0	2,364.7	2,452.2	2,258.2	13.7	16.4	46.87	869.1	-944.9	733.5	708.0	25.50	28.763		
2,600.0	2,449.0	2,548.0	2,337.3	14.7	17.5	45.52	858.2	-997.8	710.2	683.2	26.94	26.365		
2,700.0	2,533.3	2,643.8	2,416.4	15.8	18.6	44.09	847.2	-1,050.6	687.2	658.9	28.29	24.295		
2,800.0	2,617.6	2,739.6	2,495.5	16.8	19.7	42.55	836.2	-1,103.5	664.7	635.2	29.54	22.503		
2,900.0	2,701.9	2,835.3	2,574.6	17.9	20.7	40.92	825.2	-1,156.3	642.7	612.0	30.68	20.948		
3,000.0	2,786.2	2,931.1	2,653.7	18.9	21.8	39.17	814.3	-1,209.2	621.3	589.6	31.70	19.600		
3,100.0	2,870.5	3,026.9	2,732.8	20.0	22.9	37.31	803.3	-1,262.0	600.4	567.9	32.57	18.437		
3,200.0	2,954.8	3,122.7	2,811.9	21.0	24.0	35.32	792.3	-1,314.9	580.3	547.0	33.27	17.441		
3,300.0	3,039.1	3,218.4	2,891.1	22.1	25.1	33.20	781.3	-1,367.7	560.9	527.1	33.79	16.600		
3,400.0	3,123.4	3,314.2	2,970.2	23.2	26.2	30.94	770.4	-1,420.6	542.3	508.2	34.10	15.905		
3,500.0	3,207.7	3,410.0	3,049.3	24.2	27.3	28.53	759.4	-1,473.5	524.6	490.5	34.17	15.353		
3,600.0	3,292.0	3,505.8	3,128.4	25.3	28.3	25.97	748.4	-1,526.3	508.0	474.0	33.99	14.945		
3,700.0	3,376.3	3,601.5	3,207.5	26.4	29.4	23.24	737.5	-1,579.2	492.5	459.0	33.54	14.685		
3,800.0	3,460.6	3,697.3	3,286.6	27.4	30.5	20.36	726.5	-1,632.0	478.2	445.4	32.80	14.581		
3,900.0	3,544.9	3,793.1	3,365.7	28.5	31.6	17.32	715.5	-1,684.9	465.2	433.5	31.76	14.647		
4,000.0	3,629.2	3,888.9	3,444.9	29.5	32.7	14.13	704.5	-1,737.7	453.7	423.3	30.46	14.897		
4,100.0	3,713.5	3,984.6	3,524.0	30.6	33.8	10.80	693.6	-1,790.6	443.8	414.9	28.93	15.339		
4,200.0	3,797.7	4,080.4	3,603.1	31.7	34.9	7.34	682.6	-1,843.4	435.6	408.3	27.28	15.965		
4,300.0	3,882.0	4,176.2	3,682.2	32.7	36.0	3.76	671.6	-1,896.3	429.1	403.4	25.66	16.719		
4,400.0	3,966.3	4,272.0	3,761.3	33.8	37.0	0.11	660.6	-1,949.1	424.5	400.2	24.29	17.474		
4,500.0	4,050.6	4,367.7	3,840.4	34.9	38.1	-3.61	649.7	-2,002.0	421.7	398.4	23.34	18.068		
4,588.8	4,125.5	4,452.8	3,910.7	35.8	39.1	-6.94	639.9	-2,048.9	421.0	398.0	22.92	18.367		
4,600.0	4,134.9	4,463.5	3,919.5	35.9	39.2	-7.36	638.7	-2,054.9	421.0	398.1	22.89	18.388		
4,700.0	4,219.2	4,559.3	3,998.6	37.0	40.3	-11.10	627.7	-2,107.7	422.2	399.3	22.92	18.416		
4,800.0	4,303.5	4,655.1	4,077.8	38.1	41.4	-14.80	616.7	-2,160.6	425.3	401.9	23.41	18.167		
4,900.0	4,387.8	4,755.9	4,161.1	39.1	42.5	-18.63	605.2	-2,216.0	430.2	405.8	24.44	17.600		
5,000.0	4,472.1	4,868.9	4,256.4	40.2	43.7	-22.78	592.9	-2,275.5	434.1	407.7	26.36	16.470		

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 21-17D (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 21-17D (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 S21-T6S-R97W (Marathon plan) - 697-21C-21 - 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)				
5,100.0	4,556.4	4,982.3	4,354.4	41.3	44.8	-26.86	581.3	-2,331.4	435.9	406.6	29.31	14.871		
5,200.0	4,640.7	5,095.7	4,454.5	42.3	45.8	-30.93	570.4	-2,383.5	435.6	402.3	33.34	13.065		
5,300.0	4,725.3	5,209.0	4,556.6	43.4	46.7	-35.01	560.5	-2,431.6	433.8	395.7	38.09	11.388		
5,400.0	4,811.2	5,322.2	4,660.5	44.4	47.5	-38.98	551.3	-2,475.7	431.8	388.7	43.13	10.013		
5,500.0	4,898.4	5,435.3	4,765.9	45.3	48.3	-42.86	543.0	-2,515.7	429.8	381.5	48.30	8.899		
5,600.0	4,986.9	5,548.2	4,872.8	46.2	48.9	-46.66	535.6	-2,551.6	427.5	374.0	53.47	7.995		
5,700.0	5,076.5	5,660.8	4,980.6	47.0	49.5	-50.39	529.0	-2,583.2	424.9	366.3	58.56	7.255		
5,800.0	5,167.3	5,773.0	5,089.2	47.8	50.0	-54.07	523.3	-2,610.5	421.8	358.3	63.52	6.640		
5,900.0	5,259.1	5,884.6	5,198.3	48.5	50.4	-57.71	518.5	-2,633.6	418.2	349.9	68.30	6.123		
6,000.0	5,352.0	5,995.6	5,307.6	49.2	50.7	-61.33	514.6	-2,652.3	414.1	341.2	72.88	5.682		
6,100.0	5,445.7	6,105.8	5,416.9	49.8	51.0	-64.96	511.6	-2,666.9	409.4	332.2	77.23	5.301		
6,200.0	5,540.4	6,215.2	5,525.7	50.4	51.1	-68.62	509.5	-2,677.2	404.2	322.9	81.33	4.971		
6,300.0	5,635.9	6,323.7	5,634.0	50.9	51.2	-72.32	508.2	-2,683.5	398.6	313.4	85.14	4.681		
6,400.0	5,732.1	6,431.2	5,741.5	51.4	51.3	-76.11	507.7	-2,685.7	392.5	303.8	88.66	4.427		
6,500.0	5,829.0	6,528.7	5,839.0	51.9	51.3	-79.49	507.7	-2,685.7	387.1	295.5	91.53	4.229		
6,600.0	5,926.5	6,626.2	5,936.5	52.3	51.4	-82.62	507.7	-2,685.7	383.5	289.6	93.94	4.083		
6,700.0	6,024.6	6,724.3	6,034.6	52.6	51.4	-85.45	507.7	-2,685.7	381.5	285.6	95.90	3.978		
6,800.0	6,123.1	6,822.8	6,133.1	52.9	51.4	-87.95	507.7	-2,685.7	380.5	283.0	97.47	3.903		
6,894.9	6,217.0	6,916.7	6,227.0	53.1	51.5	-90.00	507.7	-2,685.7	380.2	281.6	98.64	3.855 CC		
6,900.0	6,222.1	6,921.8	6,232.1	53.2	51.5	-90.10	507.7	-2,685.7	380.2	281.5	98.69	3.853		
7,000.0	6,321.3	7,021.0	6,331.3	53.4	51.5	-91.87	507.7	-2,685.7	380.4	280.8	99.62	3.819		
7,100.0	6,420.9	7,120.6	6,430.9	53.5	51.6	-93.26	507.7	-2,685.7	380.8	280.6	100.29	3.797		
7,200.0	6,520.7	7,220.4	6,530.7	53.7	51.6	-94.26	507.7	-2,685.7	381.3	280.5	100.76	3.784		
7,300.0	6,620.6	7,320.3	6,630.6	53.7	51.7	-94.87	507.7	-2,685.7	381.6	280.5	101.06	3.776		
7,400.0	6,720.6	7,420.3	6,730.6	53.8	51.7	-95.08	507.7	-2,685.7	381.7	280.5	101.21	3.772		
7,500.0	6,820.6	7,520.3	6,830.6	53.8	51.7	-166.38	507.7	-2,685.7	381.7	280.4	101.30	3.768		
7,600.0	6,920.6	7,620.3	6,930.6	53.9	51.8	-166.38	507.7	-2,685.7	381.7	280.3	101.39	3.765		
7,700.0	7,020.6	7,720.3	7,030.6	53.9	51.8	-166.38	507.7	-2,685.7	381.7	280.2	101.48	3.761		
7,800.0	7,120.6	7,820.3	7,130.6	54.0	51.9	-166.38	507.7	-2,685.7	381.7	280.1	101.58	3.758		
7,900.0	7,220.6	7,920.3	7,230.6	54.0	51.9	-166.38	507.7	-2,685.7	381.7	280.1	101.67	3.755		
8,000.0	7,320.6	8,020.3	7,330.6	54.0	52.0	-166.38	507.7	-2,685.7	381.7	280.0	101.77	3.751		
8,100.0	7,420.6	8,120.3	7,430.6	54.1	52.0	-166.38	507.7	-2,685.7	381.7	279.9	101.86	3.747		
8,200.0	7,520.6	8,220.3	7,530.6	54.1	52.1	-166.38	507.7	-2,685.7	381.7	279.8	101.96	3.744		
8,300.0	7,620.6	8,320.3	7,630.6	54.2	52.1	-166.38	507.7	-2,685.7	381.7	279.7	102.06	3.740		
8,400.0	7,720.6	8,420.3	7,730.6	54.2	52.2	-166.38	507.7	-2,685.7	381.7	279.6	102.16	3.737		
8,500.0	7,820.6	8,520.3	7,830.6	54.3	52.2	-166.38	507.7	-2,685.7	381.7	279.5	102.26	3.733		
8,600.0	7,920.6	8,620.3	7,930.6	54.3	52.3	-166.38	507.7	-2,685.7	381.7	279.4	102.36	3.729		
8,700.0	8,020.6	8,720.3	8,030.6	54.4	52.3	-166.38	507.7	-2,685.7	381.7	279.3	102.46	3.725		
8,800.0	8,120.6	8,820.3	8,130.6	54.4	52.4	-166.38	507.7	-2,685.7	381.7	279.2	102.57	3.722		
8,900.0	8,220.6	8,920.3	8,230.6	54.5	52.4	-166.38	507.7	-2,685.7	381.7	279.0	102.67	3.718		
9,000.0	8,320.6	9,020.3	8,330.6	54.5	52.5	-166.38	507.7	-2,685.7	381.7	278.9	102.78	3.714		
9,100.0	8,420.6	9,120.3	8,430.6	54.6	52.5	-166.38	507.7	-2,685.7	381.7	278.8	102.89	3.710		
9,200.0	8,520.6	9,220.3	8,530.6	54.6	52.6	-166.38	507.7	-2,685.7	381.7	278.7	103.00	3.706		
9,239.8	8,560.4	9,260.1	8,570.4	54.6	52.6	-166.38	507.7	-2,685.7	381.7	278.7	103.04	3.705 ES, SF		
9,300.0	8,620.6	9,275.7	8,586.0	54.7	52.6	-166.38	507.7	-2,685.7	384.3	281.2	103.08	3.728		
9,353.4	8,674.0	9,275.7	8,586.0	54.7	52.6	-166.38	507.7	-2,685.7	394.1	291.0	103.11	3.822		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-17D (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 21-17D (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 21-17D (Oxy I21 pad)  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.71°

