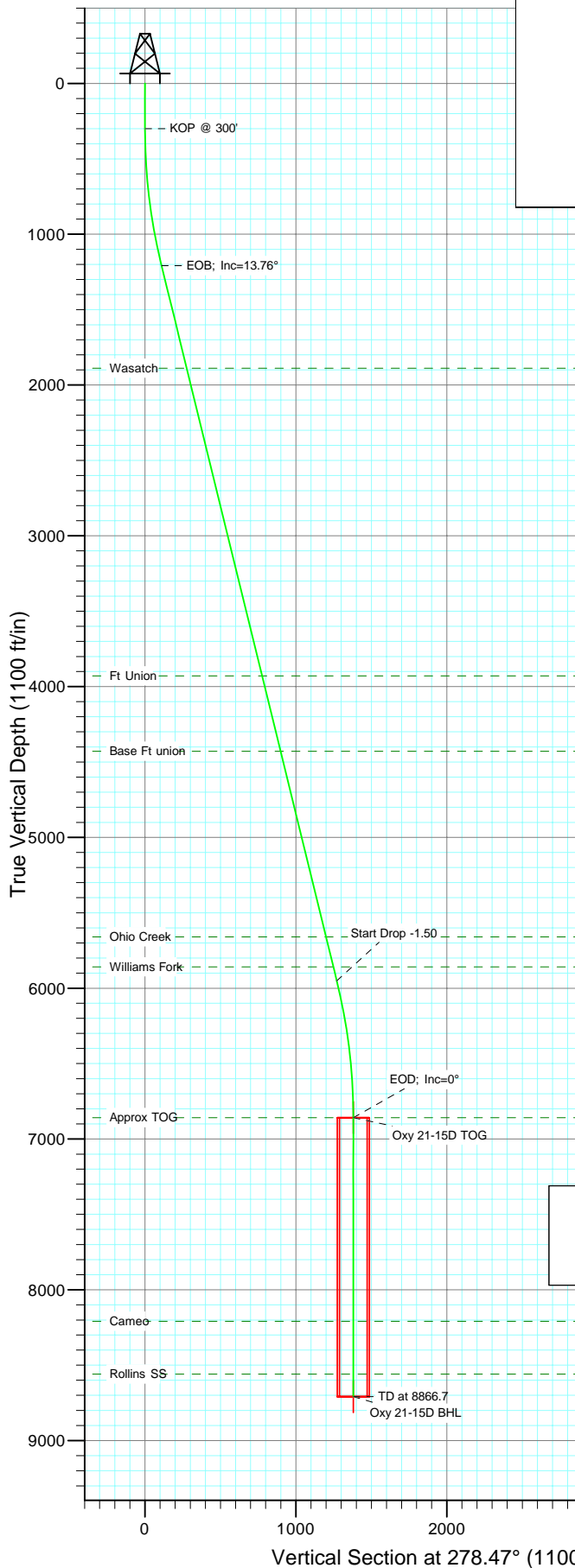


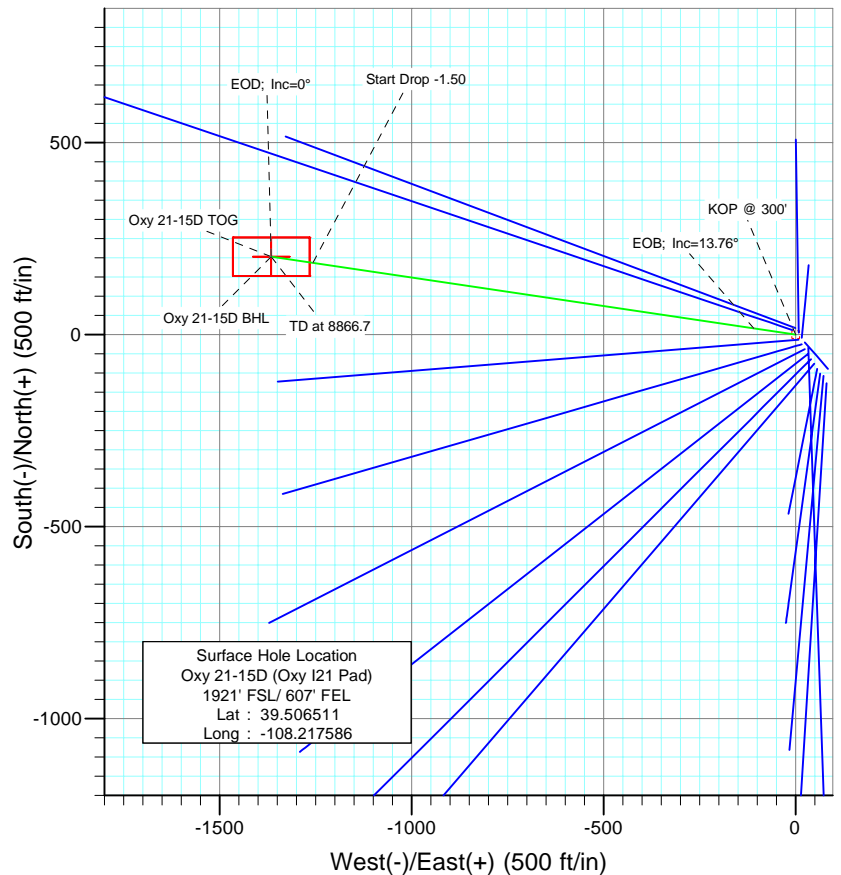


Berry Petroleum Company

Project: Garfield County  
Site: NESE S21-T6S-R97W (Oxy I21 pad)  
Well: Oxy 21-15D (Oxy I21 Pad)  
Wellbore: DD  
Design: Plan #1



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1217.3	13.76	278.47	1208.5	16.1	-108.4	1.50	278.47	109.6	
4	6099.4	13.76	278.47	5950.5	187.1	-1256.9	0.00	0.00	1270.8	
5	7016.7	0.00	0.00	6859.0	203.3	-1365.4	1.50	180.00	1380.4	Oxy 21-15D TOG
6	8866.7	0.00	0.00	8709.0	203.3	-1365.4	0.00	0.00	1380.4	Oxy 21-15D BHL



#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1889.0	1917.9	Wasatch
3929.0	4018.2	Ft Union
4429.0	4532.9	Base Ft Union
5659.0	5799.3	Ohio Creek
5859.0	6005.2	Williams Fork
6859.0	7016.7	Approx TOG
8209.0	8366.7	Cameo
8559.0	8716.7	Rollins SS



Azimuths to True North  
Magnetic North: 10.65°

Magnetic Field  
Strength: 52405.2snT  
Dip Angle: 65.76°  
Date: 10/6/2009  
Model: IGRF200510

#### DESIGN DETAILS: Plan #1

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

Target	Azimuth	Origin	N/S	E/W	From TVD
Oxy 21-15D BHL	278.47	Slot	0.0	0.0	0.0

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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 21-15D (Oxy I21 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,620,846.66 ft	Latitude:	39.506511
	+E/-W	0.0 ft	Easting:	2,233,329.30 ft	Longitude:	-108.217586
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	278.47

<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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,217.3	13.76	278.47	1,208.5	16.1	-108.4	1.50	1.50	0.00	278.47	
6,099.4	13.76	278.47	5,950.5	187.1	-1,256.9	0.00	0.00	0.00	0.00	
7,016.7	0.00	0.00	6,859.0	203.3	-1,365.4	1.50	-1.50	0.00	180.00	Oxy 21-15D TOG
8,866.7	0.00	0.00	8,709.0	203.3	-1,365.4	0.00	0.00	0.00	0.00	Oxy 21-15D BHL

# Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	0.0	0.0	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	0.0	0.0	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	
210.0	0.00	0.00	210.0	0.0	0.0	0.0	0.00	0.00	
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	
270.0	0.00	0.00	270.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300'
330.0	0.45	278.47	330.0	0.0	-0.1	0.1	1.50	1.50	
360.0	0.90	278.47	360.0	0.1	-0.5	0.5	1.50	1.50	
390.0	1.35	278.47	390.0	0.2	-1.0	1.1	1.50	1.50	
420.0	1.80	278.47	420.0	0.3	-1.9	1.9	1.50	1.50	
450.0	2.25	278.47	450.0	0.4	-2.9	2.9	1.50	1.50	
480.0	2.70	278.47	479.9	0.6	-4.2	4.2	1.50	1.50	
510.0	3.15	278.47	509.9	0.8	-5.7	5.8	1.50	1.50	
540.0	3.60	278.47	539.8	1.1	-7.5	7.5	1.50	1.50	
570.0	4.05	278.47	569.8	1.4	-9.4	9.5	1.50	1.50	
600.0	4.50	278.47	599.7	1.7	-11.6	11.8	1.50	1.50	
630.0	4.95	278.47	629.6	2.1	-14.1	14.2	1.50	1.50	
660.0	5.40	278.47	659.5	2.5	-16.8	17.0	1.50	1.50	
690.0	5.85	278.47	689.3	2.9	-19.7	19.9	1.50	1.50	
720.0	6.30	278.47	719.2	3.4	-22.8	23.1	1.50	1.50	
750.0	6.75	278.47	749.0	3.9	-26.2	26.5	1.50	1.50	
780.0	7.20	278.47	778.7	4.4	-29.8	30.1	1.50	1.50	
810.0	7.65	278.47	808.5	5.0	-33.6	34.0	1.50	1.50	
840.0	8.10	278.47	838.2	5.6	-37.7	38.1	1.50	1.50	
870.0	8.55	278.47	867.9	6.3	-42.0	42.5	1.50	1.50	
900.0	9.00	278.47	897.5	6.9	-46.5	47.0	1.50	1.50	
930.0	9.45	278.47	927.1	7.6	-51.3	51.8	1.50	1.50	
960.0	9.90	278.47	956.7	8.4	-56.3	56.9	1.50	1.50	
990.0	10.35	278.47	986.3	9.2	-61.5	62.2	1.50	1.50	
1,020.0	10.80	278.47	1,015.7	10.0	-66.9	67.7	1.50	1.50	
1,050.0	11.25	278.47	1,045.2	10.8	-72.6	73.4	1.50	1.50	
1,080.0	11.70	278.47	1,074.6	11.7	-78.5	79.4	1.50	1.50	
1,110.0	12.15	278.47	1,103.9	12.6	-84.6	85.6	1.50	1.50	
1,140.0	12.60	278.47	1,133.2	13.5	-91.0	92.0	1.50	1.50	
1,170.0	13.05	278.47	1,162.5	14.5	-97.6	98.7	1.50	1.50	
1,200.0	13.50	278.47	1,191.7	15.5	-104.4	105.5	1.50	1.50	
1,217.3	13.76	278.47	1,208.5	16.1	-108.4	109.6	1.50	1.50	EOB; Inc=13.76°
1,230.0	13.76	278.47	1,220.8	16.6	-111.4	112.6	0.00	0.00	
1,260.0	13.76	278.47	1,250.0	17.6	-118.5	119.8	0.00	0.00	
1,290.0	13.76	278.47	1,279.1	18.7	-125.5	126.9	0.00	0.00	
1,320.0	13.76	278.47	1,308.3	19.7	-132.6	134.0	0.00	0.00	
1,350.0	13.76	278.47	1,337.4	20.8	-139.6	141.2	0.00	0.00	
1,380.0	13.76	278.47	1,366.5	21.8	-146.7	148.3	0.00	0.00	
1,410.0	13.76	278.47	1,395.7	22.9	-153.8	155.4	0.00	0.00	
1,440.0	13.76	278.47	1,424.8	23.9	-160.8	162.6	0.00	0.00	
1,470.0	13.76	278.47	1,454.0	25.0	-167.9	169.7	0.00	0.00	
1,500.0	13.76	278.47	1,483.1	26.0	-174.9	176.9	0.00	0.00	

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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	13.76	278.47	1,512.2	27.1	-182.0	184.0	0.00	0.00	
1,560.0	13.76	278.47	1,541.4	28.1	-189.0	191.1	0.00	0.00	
1,590.0	13.76	278.47	1,570.5	29.2	-196.1	198.3	0.00	0.00	
1,620.0	13.76	278.47	1,599.7	30.2	-203.2	205.4	0.00	0.00	
1,650.0	13.76	278.47	1,628.8	31.3	-210.2	212.5	0.00	0.00	
1,680.0	13.76	278.47	1,657.9	32.4	-217.3	219.7	0.00	0.00	
1,710.0	13.76	278.47	1,687.1	33.4	-224.3	226.8	0.00	0.00	
1,740.0	13.76	278.47	1,716.2	34.5	-231.4	233.9	0.00	0.00	
1,770.0	13.76	278.47	1,745.3	35.5	-238.4	241.1	0.00	0.00	
1,800.0	13.76	278.47	1,774.5	36.6	-245.5	248.2	0.00	0.00	
1,830.0	13.76	278.47	1,803.6	37.6	-252.6	255.3	0.00	0.00	
1,860.0	13.76	278.47	1,832.8	38.7	-259.6	262.5	0.00	0.00	
1,890.0	13.76	278.47	1,861.9	39.7	-266.7	269.6	0.00	0.00	
1,917.9	13.76	278.47	1,889.0	40.7	-273.2	276.2	0.00	0.00	Wasatch
1,920.0	13.76	278.47	1,891.0	40.8	-273.7	276.7	0.00	0.00	
1,950.0	13.76	278.47	1,920.2	41.8	-280.8	283.9	0.00	0.00	
1,980.0	13.76	278.47	1,949.3	42.9	-287.8	291.0	0.00	0.00	
2,010.0	13.76	278.47	1,978.5	43.9	-294.9	298.2	0.00	0.00	
2,040.0	13.76	278.47	2,007.6	45.0	-302.0	305.3	0.00	0.00	
2,070.0	13.76	278.47	2,036.7	46.0	-309.0	312.4	0.00	0.00	
2,100.0	13.76	278.47	2,065.9	47.1	-316.1	319.6	0.00	0.00	
2,130.0	13.76	278.47	2,095.0	48.1	-323.1	326.7	0.00	0.00	
2,160.0	13.76	278.47	2,124.2	49.2	-330.2	333.8	0.00	0.00	
2,190.0	13.76	278.47	2,153.3	50.2	-337.2	341.0	0.00	0.00	
2,220.0	13.76	278.47	2,182.4	51.3	-344.3	348.1	0.00	0.00	
2,250.0	13.76	278.47	2,211.6	52.3	-351.4	355.2	0.00	0.00	
2,280.0	13.76	278.47	2,240.7	53.4	-358.4	362.4	0.00	0.00	
2,310.0	13.76	278.47	2,269.9	54.4	-365.5	369.5	0.00	0.00	
2,340.0	13.76	278.47	2,299.0	55.5	-372.5	376.6	0.00	0.00	
2,370.0	13.76	278.47	2,328.1	56.5	-379.6	383.8	0.00	0.00	
2,400.0	13.76	278.47	2,357.3	57.6	-386.7	390.9	0.00	0.00	
2,430.0	13.76	278.47	2,386.4	58.6	-393.7	398.0	0.00	0.00	
2,460.0	13.76	278.47	2,415.5	59.7	-400.8	405.2	0.00	0.00	
2,490.0	13.76	278.47	2,444.7	60.7	-407.8	412.3	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 21-15D BHL	0.00	0.00	8,709.0	203.3	-1,365.4	1,621,090.70	2,231,970.64	39.507069	-108.222425
- plan misses target center by 6338.7ft at 2490.0ft MD (2444.7 TVD, 60.7 N, -407.8 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									
Oxy 21-15D TOG	0.00	0.00	6,859.0	203.3	-1,365.4	1,621,090.70	2,231,970.64	39.507069	-108.222425
- plan misses target center by 4519.2ft at 2490.0ft MD (2444.7 TVD, 60.7 N, -407.8 E)									
- Point									

# Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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	13.76	278.47	2,454.4	61.1	-410.2	414.7	0.00	0.00	
2,600.0	13.76	278.47	2,551.5	64.6	-433.7	438.5	0.00	0.00	
2,700.0	13.76	278.47	2,648.7	68.1	-457.2	462.3	0.00	0.00	
2,800.0	13.76	278.47	2,745.8	71.6	-480.8	486.1	0.00	0.00	
2,900.0	13.76	278.47	2,842.9	75.1	-504.3	509.8	0.00	0.00	
3,000.0	13.76	278.47	2,940.1	78.6	-527.8	533.6	0.00	0.00	
3,100.0	13.76	278.47	3,037.2	82.1	-551.3	557.4	0.00	0.00	
3,200.0	13.76	278.47	3,134.3	85.6	-574.9	581.2	0.00	0.00	
3,300.0	13.76	278.47	3,231.4	89.1	-598.4	605.0	0.00	0.00	
3,400.0	13.76	278.47	3,328.6	92.6	-621.9	628.8	0.00	0.00	
3,500.0	13.76	278.47	3,425.7	96.1	-645.4	652.5	0.00	0.00	
3,600.0	13.76	278.47	3,522.8	99.6	-669.0	676.3	0.00	0.00	
3,700.0	13.76	278.47	3,620.0	103.1	-692.5	700.1	0.00	0.00	
3,800.0	13.76	278.47	3,717.1	106.6	-716.0	723.9	0.00	0.00	
3,900.0	13.76	278.47	3,814.2	110.1	-739.5	747.7	0.00	0.00	
4,000.0	13.76	278.47	3,911.4	113.6	-763.1	771.5	0.00	0.00	
4,018.2	13.76	278.47	3,929.0	114.2	-767.3	775.8	0.00	0.00	Ft Union
4,100.0	13.76	278.47	4,008.5	117.1	-786.6	795.2	0.00	0.00	
4,200.0	13.76	278.47	4,105.6	120.6	-810.1	819.0	0.00	0.00	
4,300.0	13.76	278.47	4,202.7	124.1	-833.6	842.8	0.00	0.00	
4,400.0	13.76	278.47	4,299.9	127.6	-857.2	866.6	0.00	0.00	
4,500.0	13.76	278.47	4,397.0	131.1	-880.7	890.4	0.00	0.00	
4,532.9	13.76	278.47	4,429.0	132.3	-888.4	898.2	0.00	0.00	Base Ft union
4,600.0	13.76	278.47	4,494.1	134.6	-904.2	914.2	0.00	0.00	
4,700.0	13.76	278.47	4,591.3	138.1	-927.7	938.0	0.00	0.00	
4,800.0	13.76	278.47	4,688.4	141.6	-951.3	961.7	0.00	0.00	
4,900.0	13.76	278.47	4,785.5	145.1	-974.8	985.5	0.00	0.00	
5,000.0	13.76	278.47	4,882.7	148.6	-998.3	1,009.3	0.00	0.00	
5,100.0	13.76	278.47	4,979.8	152.1	-1,021.8	1,033.1	0.00	0.00	
5,200.0	13.76	278.47	5,076.9	155.6	-1,045.4	1,056.9	0.00	0.00	
5,300.0	13.76	278.47	5,174.0	159.1	-1,068.9	1,080.7	0.00	0.00	
5,400.0	13.76	278.47	5,271.2	162.7	-1,092.4	1,104.4	0.00	0.00	
5,500.0	13.76	278.47	5,368.3	166.2	-1,115.9	1,128.2	0.00	0.00	
5,600.0	13.76	278.47	5,465.4	169.7	-1,139.5	1,152.0	0.00	0.00	
5,700.0	13.76	278.47	5,562.6	173.2	-1,163.0	1,175.8	0.00	0.00	
5,799.3	13.76	278.47	5,659.0	176.6	-1,186.3	1,199.4	0.00	0.00	Ohio Creek
5,800.0	13.76	278.47	5,659.7	176.7	-1,186.5	1,199.6	0.00	0.00	
5,900.0	13.76	278.47	5,756.8	180.2	-1,210.0	1,223.4	0.00	0.00	
6,000.0	13.76	278.47	5,854.0	183.7	-1,233.6	1,247.2	0.00	0.00	
6,005.2	13.76	278.47	5,859.0	183.8	-1,234.8	1,248.4	0.00	0.00	Williams Fork
6,099.4	13.76	278.47	5,950.5	187.1	-1,256.9	1,270.8	0.00	0.00	Start Drop -1.50
6,100.0	13.75	278.47	5,951.1	187.2	-1,257.1	1,270.9	1.50	-1.50	
6,200.0	12.25	278.47	6,048.5	190.5	-1,279.3	1,293.4	1.50	-1.50	
6,300.0	10.75	278.47	6,146.5	193.4	-1,299.0	1,313.4	1.50	-1.50	
6,400.0	9.25	278.47	6,245.0	196.0	-1,316.2	1,330.7	1.50	-1.50	
6,500.0	7.75	278.47	6,343.9	198.2	-1,330.8	1,345.5	1.50	-1.50	
6,600.0	6.25	278.47	6,443.1	199.9	-1,342.9	1,357.7	1.50	-1.50	
6,700.0	4.75	278.47	6,542.7	201.4	-1,352.4	1,367.3	1.50	-1.50	
6,800.0	3.25	278.47	6,642.4	202.4	-1,359.3	1,374.3	1.50	-1.50	
6,900.0	1.75	278.47	6,742.3	203.0	-1,363.6	1,378.6	1.50	-1.50	
7,000.0	0.25	278.47	6,842.3	203.3	-1,365.3	1,380.4	1.50	-1.50	
7,016.7	0.00	0.00	6,859.0	203.3	-1,365.4	1,380.4	1.50	-1.50	EOD; Inc=0° - Approx TOG - Oxy 21-15D TOG

# Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
7,100.0	0.00	0.00	6,942.3	203.3	-1,365.4	1,380.4	0.00	0.00	
7,200.0	0.00	0.00	7,042.3	203.3	-1,365.4	1,380.4	0.00	0.00	
7,300.0	0.00	0.00	7,142.3	203.3	-1,365.4	1,380.4	0.00	0.00	
7,400.0	0.00	0.00	7,242.3	203.3	-1,365.4	1,380.4	0.00	0.00	
7,500.0	0.00	0.00	7,342.3	203.3	-1,365.4	1,380.4	0.00	0.00	
7,600.0	0.00	0.00	7,442.3	203.3	-1,365.4	1,380.4	0.00	0.00	
7,700.0	0.00	0.00	7,542.3	203.3	-1,365.4	1,380.4	0.00	0.00	
7,800.0	0.00	0.00	7,642.3	203.3	-1,365.4	1,380.4	0.00	0.00	
7,900.0	0.00	0.00	7,742.3	203.3	-1,365.4	1,380.4	0.00	0.00	
8,000.0	0.00	0.00	7,842.3	203.3	-1,365.4	1,380.4	0.00	0.00	
8,100.0	0.00	0.00	7,942.3	203.3	-1,365.4	1,380.4	0.00	0.00	
8,200.0	0.00	0.00	8,042.3	203.3	-1,365.4	1,380.4	0.00	0.00	
8,300.0	0.00	0.00	8,142.3	203.3	-1,365.4	1,380.4	0.00	0.00	
8,366.7	0.00	0.00	8,209.0	203.3	-1,365.4	1,380.4	0.00	0.00	Cameo
8,400.0	0.00	0.00	8,242.3	203.3	-1,365.4	1,380.4	0.00	0.00	
8,500.0	0.00	0.00	8,342.3	203.3	-1,365.4	1,380.4	0.00	0.00	
8,600.0	0.00	0.00	8,442.3	203.3	-1,365.4	1,380.4	0.00	0.00	
8,700.0	0.00	0.00	8,542.3	203.3	-1,365.4	1,380.4	0.00	0.00	
8,716.7	0.00	0.00	8,559.0	203.3	-1,365.4	1,380.4	0.00	0.00	Rollins SS
8,800.0	0.00	0.00	8,642.3	203.3	-1,365.4	1,380.4	0.00	0.00	
8,866.7	0.00	0.00	8,709.0	203.3	-1,365.4	1,380.4	0.00	0.00	TD at 8866.7 - Oxy 21-15D BHL

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Oxy 21-15D BHL - hit/miss target - Shape - plan hits target center - Rectangle (sides W100.0 H200.0 D0.0)	0.00	0.00	8,709.0	203.3	-1,365.4	1,621,090.70	2,231,970.64	39.507069	-108.222425
Oxy 21-15D TOG - plan hits target center - Point	0.00	0.00	6,859.0	203.3	-1,365.4	1,621,090.70	2,231,970.64	39.507069	-108.222425

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,917.9	1,889.0	Wasatch		0.00		
4,018.2	3,929.0	Ft Union		0.00		
4,532.9	4,429.0	Base Ft union		0.00		
5,799.3	5,659.0	Ohio Creek		0.00		
6,005.2	5,859.0	Williams Fork		0.00		
7,016.7	6,859.0	Approx TOG		0.00		
8,366.7	8,209.0	Cameo		0.00		
8,716.7	8,559.0	Rollins SS		0.00		

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User DB	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.0	300.0	0.0	0.0	KOP @ 300'
1,217.3	1,208.5	16.1	-108.4	EOB; Inc=13.76°
6,099.4	5,950.5	187.1	-1,256.9	Start Drop -1.50
7,016.7	6,859.0	203.3	-1,365.4	EOD; Inc=0°
8,866.7	8,709.0	203.3	-1,365.4	TD at 8866.7

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

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

Survey Tool Program		Date	10/7/2009		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	8,866.7	Plan #1 (DD)	MWD	Geolink MWD	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
NESE S21-T6S-R97W (Oxy I21 pad)						
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	75.3	74.6	116.587	CC
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	300.0	299.5	75.6	74.6	76.040	ES
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	1,900.0	1,847.7	356.3	344.5	30.239	SF
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	60.0	59.0	60.295	CC, ES
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	3,100.0	3,042.6	544.0	521.5	24.235	SF
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	44.7	43.7	44.912	CC, ES
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	8,866.7	8,890.4	954.3	896.1	16.387	SF
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	30.0	29.0	30.147	CC, ES
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	8,866.7	8,863.4	618.9	561.3	10.735	SF
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	15.3	14.3	15.388	CC
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	400.0	400.2	15.6	14.2	11.556	ES
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	8,866.7	8,857.1	326.1	268.6	5.672	SF
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	17.1	16.1	17.208	CC
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	400.0	399.8	17.4	16.0	12.912	ES
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	8,866.7	8,875.7	315.1	257.0	5.417	SF
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	200.0	200.0	14.4	13.7	22.274	CC, ES
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	1,300.0	1,292.1	51.8	46.0	8.933	SF
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	150.0	149.0	150.731	CC, ES
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	3,300.0	3,074.1	1,092.7	1,074.3	59.303	SF
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	47.0	46.4	72.843	CC, ES
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	600.0	594.5	72.0	69.9	34.587	SF
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	129.5	128.5	130.160	CC, ES
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	4,100.0	3,936.4	1,110.3	1,089.5	53.476	SF
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	120.0	119.0	120.589	CC, ES
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	1,000.0	985.4	180.6	177.0	50.103	SF
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	105.3	104.3	105.824	CC, ES
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	1,000.0	989.7	164.6	161.0	45.719	SF
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	200.0	500.0	31.5	30.8	48.727	CC, ES
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	500.0	796.9	47.4	45.7	28.040	SF
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	18.2	17.2	18.316	CC, ES
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	500.0	499.9	23.3	21.6	13.748	SF
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	9.9	8.9	9.933	CC, ES
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	400.0	400.0	10.9	9.6	8.126	SF
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	90.0	89.3	139.327	CC, ES
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	1,700.0	1,641.9	334.4	324.5	33.987	SF

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



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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)		Between Centres (ft)	Between Ellipses (ft)				Measured Depth (ft)	Vertical Depth (ft)	Offset (ft)
0.0	0.0	0.0	0.0	0.0	0.0	147.85	-63.7	40.1	75.3					
100.0	100.0	100.0	100.0	0.1	0.1	147.85	-63.7	40.1	75.3					
200.0	200.0	200.0	200.0	0.3	0.3	147.85	-63.7	40.1	75.3	74.6	0.65	116.587	CC	
300.0	300.0	299.5	299.5	0.5	0.5	148.81	-64.7	39.1	75.6	74.6	0.99	76.040	ES	
400.0	400.0	399.0	398.9	0.7	0.7	-127.59	-67.4	36.4	77.4	76.0	1.36	57.097		
500.0	499.9	498.2	497.9	0.9	0.9	-125.34	-72.0	31.8	81.6	79.9	1.74	47.041		
600.0	599.7	597.2	596.5	1.1	1.1	-123.12	-78.3	25.5	88.3	86.2	2.15	41.141		
700.0	699.3	695.9	694.5	1.3	1.4	-121.08	-86.5	17.3	97.4	94.8	2.60	37.482		
800.0	798.6	794.2	791.8	1.5	1.7	-119.31	-96.3	7.4	108.9	105.8	3.10	35.122		
900.0	897.5	891.9	888.2	1.8	2.0	-117.81	-107.9	-4.2	122.8	119.1	3.66	33.549		
1,000.0	996.1	989.2	983.6	2.1	2.3	-116.57	-121.1	-17.4	139.0	134.7	4.28	32.468		
1,100.0	1,094.2	1,085.7	1,077.8	2.5	2.7	-115.57	-136.0	-32.3	157.4	152.5	4.97	31.703		
1,200.0	1,191.7	1,181.6	1,170.9	2.9	3.2	-114.74	-152.4	-48.7	178.2	172.4	5.72	31.148		
1,300.0	1,288.8	1,276.8	1,262.6	3.4	3.6	-114.09	-170.3	-66.6	200.7	194.2	6.52	30.772		
1,400.0	1,386.0	1,371.4	1,353.1	3.8	4.2	-113.08	-189.7	-86.0	224.5	217.1	7.36	30.496		
1,500.0	1,483.1	1,465.2	1,442.2	4.2	4.7	-111.79	-210.5	-106.8	249.5	241.3	8.23	30.327		
1,600.0	1,580.2	1,559.3	1,530.8	4.7	5.3	-110.33	-232.8	-129.2	275.8	266.7	9.11	30.284		
1,700.0	1,677.4	1,655.4	1,621.2	5.1	5.9	-109.00	-255.9	-152.4	302.5	292.5	10.00	30.253		
1,800.0	1,774.5	1,751.5	1,711.6	5.6	6.5	-107.88	-279.1	-175.5	329.4	318.5	10.89	30.240		
1,900.0	1,871.6	1,847.7	1,802.0	6.0	7.1	-106.94	-302.2	-198.7	356.3	344.5	11.78	30.239	SF	
2,000.0	1,968.7	1,943.8	1,892.4	6.5	7.7	-106.12	-325.4	-221.9	383.3	370.7	12.68	30.244		
2,100.0	2,065.9	2,040.0	1,982.7	6.9	8.3	-105.42	-348.5	-245.1	410.4	396.9	13.57	30.255		
2,200.0	2,163.0	2,136.1	2,073.1	7.4	8.9	-104.80	-371.7	-268.3	437.6	423.1	14.46	30.269		
2,300.0	2,260.1	2,232.3	2,163.5	7.8	9.5	-104.25	-394.9	-291.4	464.8	449.4	15.35	30.284		
2,400.0	2,357.3	2,328.4	2,253.9	8.3	10.1	-103.76	-418.0	-314.6	492.0	475.8	16.24	30.301		
2,500.0	2,454.4	2,424.6	2,344.3	8.8	10.7	-103.33	-441.2	-337.8	519.2	502.1	17.13	30.319		
2,600.0	2,551.5	2,520.7	2,434.7	9.2	11.3	-102.94	-464.3	-361.0	546.5	528.5	18.01	30.337		
2,700.0	2,648.7	2,616.9	2,525.1	9.7	11.9	-102.58	-487.5	-384.2	573.8	554.9	18.90	30.354		
2,800.0	2,745.8	2,713.0	2,615.5	10.1	12.5	-102.26	-510.6	-407.4	601.1	581.3	19.79	30.372		
2,900.0	2,842.9	2,809.1	2,705.9	10.6	13.1	-101.97	-533.8	-430.5	628.5	607.8	20.68	30.389		
3,000.0	2,940.1	2,905.3	2,796.2	11.0	13.7	-101.70	-556.9	-453.7	655.8	634.2	21.57	30.406		
3,100.0	3,037.2	3,001.4	2,886.6	11.5	14.3	-101.45	-580.1	-476.9	683.2	660.7	22.46	30.422		
3,200.0	3,134.3	3,097.6	2,977.0	12.0	14.9	-101.22	-603.3	-500.1	710.5	687.2	23.34	30.437		
3,300.0	3,231.4	3,193.7	3,067.4	12.4	15.5	-101.01	-626.4	-523.3	737.9	713.7	24.23	30.453		
3,400.0	3,328.6	3,289.9	3,157.8	12.9	16.2	-100.81	-649.6	-546.5	765.3	740.2	25.12	30.467		
3,500.0	3,425.7	3,386.0	3,248.2	13.3	16.8	-100.62	-672.7	-569.6	792.7	766.7	26.01	30.481		
3,600.0	3,522.8	3,482.2	3,338.6	13.8	17.4	-100.45	-695.9	-592.8	820.1	793.2	26.89	30.495		
3,700.0	3,620.0	3,578.3	3,429.0	14.3	18.0	-100.29	-719.0	-616.0	847.5	819.7	27.78	30.508		
3,800.0	3,717.1	3,674.4	3,519.4	14.7	18.6	-100.14	-742.2	-639.2	874.9	846.2	28.67	30.520		
3,900.0	3,814.2	3,770.6	3,609.7	15.2	19.2	-100.00	-765.3	-662.4	902.3	872.8	29.55	30.532		
4,000.0	3,911.4	3,866.7	3,700.1	15.6	19.8	-99.87	-788.5	-685.6	929.7	899.3	30.44	30.544		
4,100.0	4,008.5	3,962.9	3,790.5	16.1	20.4	-99.74	-811.7	-708.7	957.2	925.8	31.33	30.555		
4,200.0	4,105.6	4,059.0	3,880.9	16.6	21.0	-99.63	-834.8	-731.9	984.6	952.4	32.21	30.566		
4,300.0	4,202.7	4,155.2	3,971.3	17.0	21.6	-99.51	-858.0	-755.1	1,012.0	978.9	33.10	30.576		
4,400.0	4,299.9	4,251.3	4,061.7	17.5	22.3	-99.41	-881.1	-778.3	1,039.5	1,005.5	33.99	30.586		
4,500.0	4,397.0	4,347.5	4,152.1	17.9	22.9	-99.31	-904.3	-801.5	1,066.9	1,032.0	34.87	30.596		
4,600.0	4,494.1	4,443.6	4,242.5	18.4	23.5	-99.21	-927.4	-824.7	1,094.4	1,058.6	35.76	30.605		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor	
0.0	0.0	0.0	0.0	0.0	0.0	147.57	-50.6	32.2	60.0				
100.0	100.0	100.0	100.0	0.1	0.1	147.57	-50.6	32.2	60.0	59.7	0.30	202.164	
200.0	200.0	200.0	200.0	0.3	0.3	147.57	-50.6	32.2	60.0	59.3	0.65	92.886	
300.0	300.0	300.0	300.0	0.5	0.5	147.57	-50.6	32.2	60.0	59.0	0.99	60.295 CC, ES	
400.0	400.0	399.8	399.8	0.7	0.7	-130.59	-51.4	31.1	61.0	59.6	1.35	45.299	
500.0	499.9	499.6	499.5	0.9	0.9	-129.74	-53.8	28.1	63.9	62.2	1.71	37.408	
600.0	599.7	599.3	598.9	1.1	1.1	-128.48	-57.9	22.9	68.9	66.8	2.10	32.857	
700.0	699.3	698.7	698.0	1.3	1.3	-126.98	-63.4	15.8	75.9	73.4	2.52	30.088	
800.0	798.6	797.9	796.5	1.5	1.5	-125.41	-70.6	6.6	84.9	81.9	3.00	28.339	
900.0	897.5	896.8	894.4	1.8	1.8	-123.88	-79.3	-4.5	96.0	92.5	3.53	27.200	
1,000.0	996.1	995.3	991.5	2.1	2.1	-122.46	-89.5	-17.5	109.1	105.0	4.13	26.437	
1,100.0	1,094.2	1,093.4	1,087.7	2.5	2.5	-121.17	-101.2	-32.5	124.3	119.5	4.80	25.909	
1,200.0	1,191.7	1,191.0	1,183.0	2.9	2.9	-120.01	-114.4	-49.3	141.4	135.9	5.54	25.534	
1,300.0	1,288.8	1,288.2	1,277.2	3.4	3.3	-118.92	-129.0	-67.9	160.1	153.8	6.34	25.264	
1,400.0	1,386.0	1,384.8	1,370.3	3.8	3.8	-117.34	-145.0	-88.3	179.7	172.5	7.19	24.994	
1,500.0	1,483.1	1,481.3	1,462.6	4.2	4.3	-115.41	-162.3	-110.5	200.1	192.1	8.07	24.796	
1,600.0	1,580.2	1,578.9	1,555.7	4.7	4.8	-113.63	-180.3	-133.5	221.0	212.1	8.97	24.650	
1,700.0	1,677.4	1,676.5	1,648.8	5.1	5.4	-112.16	-198.3	-156.5	242.1	232.3	9.87	24.543	
1,800.0	1,774.5	1,774.1	1,741.9	5.6	5.9	-110.92	-216.3	-179.4	263.4	252.6	10.77	24.464	
1,900.0	1,871.6	1,871.6	1,835.0	6.0	6.4	-109.87	-234.3	-202.4	284.7	273.0	11.66	24.405	
2,000.0	1,968.7	1,969.2	1,928.1	6.5	7.0	-108.97	-252.3	-225.4	306.1	293.5	12.56	24.360	
2,100.0	2,065.9	2,066.8	2,021.2	6.9	7.5	-108.18	-270.3	-248.4	327.5	314.1	13.46	24.327	
2,200.0	2,163.0	2,164.4	2,114.4	7.4	8.1	-107.49	-288.3	-271.4	349.1	334.7	14.36	24.301	
2,300.0	2,260.1	2,261.9	2,207.5	7.8	8.6	-106.88	-306.3	-294.4	370.6	355.3	15.26	24.282	
2,400.0	2,357.3	2,359.5	2,300.6	8.3	9.1	-106.34	-324.3	-317.4	392.2	376.0	16.16	24.268	
2,500.0	2,454.4	2,457.1	2,393.7	8.8	9.7	-105.85	-342.3	-340.3	413.8	396.8	17.06	24.257	
2,600.0	2,551.5	2,554.7	2,486.8	9.2	10.2	-105.41	-360.3	-363.3	435.5	417.5	17.96	24.249	
2,700.0	2,648.7	2,652.3	2,579.9	9.7	10.8	-105.02	-378.3	-386.3	457.1	438.3	18.86	24.244	
2,800.0	2,745.8	2,749.8	2,673.0	10.1	11.3	-104.65	-396.3	-409.3	478.8	459.1	19.75	24.240	
2,900.0	2,842.9	2,847.4	2,766.1	10.6	11.9	-104.33	-414.3	-432.3	500.5	479.9	20.65	24.237	
3,000.0	2,940.1	2,945.0	2,859.2	11.0	12.4	-104.02	-432.2	-455.3	522.2	500.7	21.55	24.236	
3,100.0	3,037.2	3,042.6	2,952.3	11.5	13.0	-103.75	-450.2	-478.3	544.0	521.5	22.45	24.235 SF	
3,200.0	3,134.3	3,140.1	3,045.4	12.0	13.5	-103.49	-468.2	-501.2	565.7	542.4	23.34	24.235	
3,300.0	3,231.4	3,237.7	3,138.5	12.4	14.1	-103.25	-486.2	-524.2	587.5	563.2	24.24	24.236	
3,400.0	3,328.6	3,335.3	3,231.7	12.9	14.6	-103.03	-504.2	-547.2	609.2	584.1	25.14	24.237	
3,500.0	3,425.7	3,432.9	3,324.8	13.3	15.2	-102.83	-522.2	-570.2	631.0	605.0	26.03	24.239	
3,600.0	3,522.8	3,530.5	3,417.9	13.8	15.7	-102.63	-540.2	-593.2	652.8	625.9	26.93	24.241	
3,700.0	3,620.0	3,628.0	3,511.0	14.3	16.2	-102.45	-558.2	-616.2	674.6	646.7	27.83	24.243	
3,800.0	3,717.1	3,725.6	3,604.1	14.7	16.8	-102.29	-576.2	-639.2	696.4	667.6	28.72	24.245	
3,900.0	3,814.2	3,823.2	3,697.2	15.2	17.3	-102.13	-594.2	-662.1	718.2	688.5	29.62	24.247	
4,000.0	3,911.4	3,920.8	3,790.3	15.6	17.9	-101.98	-612.2	-685.1	740.0	709.4	30.51	24.249	
4,100.0	4,008.5	4,018.3	3,883.4	16.1	18.4	-101.84	-630.2	-708.1	761.8	730.3	31.41	24.252	
4,200.0	4,105.6	4,115.9	3,976.5	16.6	19.0	-101.71	-648.2	-731.1	783.6	751.3	32.31	24.254	
4,300.0	4,202.7	4,213.5	4,069.6	17.0	19.5	-101.58	-666.2	-754.1	805.4	772.2	33.20	24.257	
4,400.0	4,299.9	4,311.1	4,162.7	17.5	20.1	-101.46	-684.2	-777.1	827.2	793.1	34.10	24.259	
4,500.0	4,397.0	4,408.6	4,255.8	17.9	20.6	-101.35	-702.2	-800.1	849.0	814.0	34.99	24.262	
4,600.0	4,494.1	4,506.2	4,349.0	18.4	21.2	-101.24	-720.2	-823.0	870.8	834.9	35.89	24.265	
4,700.0	4,591.3	4,603.8	4,442.1	18.9	21.7	-101.14	-738.2	-846.0	892.7	855.9	36.78	24.267	
4,800.0	4,688.4	4,701.4	4,535.2	19.3	22.3	-101.05	-756.2	-869.0	914.5	876.8	37.68	24.270	
4,900.0	4,785.5	4,799.0	4,628.3	19.8	22.8	-100.95	-774.2	-892.0	936.3	897.7	38.58	24.272	
5,000.0	4,882.7	4,896.5	4,721.4	20.2	23.4	-100.87	-792.2	-915.0	958.2	918.7	39.47	24.275	
5,100.0	4,979.8	4,994.1	4,814.5	20.7	23.9	-100.78	-810.2	-938.0	980.0	939.6	40.37	24.277	

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 21-15D (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 21-15D (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													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)					
5,200.0	5,076.9	5,091.7	4,907.6	21.2	24.5	-100.70	-828.2	-961.0	1,001.8	960.6	41.26	24.279			
5,300.0	5,174.0	5,189.3	5,000.7	21.6	25.0	-100.62	-846.1	-983.9	1,023.7	981.5	42.16	24.282			
5,400.0	5,271.2	5,286.8	5,093.8	22.1	25.6	-100.55	-864.1	-1,006.9	1,045.5	1,002.4	43.05	24.284			
5,500.0	5,368.3	5,384.4	5,186.9	22.5	26.1	-100.48	-882.1	-1,029.9	1,067.3	1,023.4	43.95	24.286			
5,600.0	5,465.4	5,482.0	5,280.0	23.0	26.7	-100.41	-900.1	-1,052.9	1,089.2	1,044.3	44.84	24.289			
5,700.0	5,562.6	5,579.6	5,373.2	23.5	27.2	-100.35	-918.1	-1,075.9	1,111.0	1,065.3	45.74	24.291			

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	147.11	-37.5	24.3	44.7					
100.0	100.0	100.0	100.0	0.1	0.1	147.11	-37.5	24.3	44.7	44.4	0.30	150.588		
200.0	200.0	200.0	200.0	0.3	0.3	147.11	-37.5	24.3	44.7	44.0	0.65	69.189		
300.0	300.0	300.0	300.0	0.5	0.5	147.11	-37.5	24.3	44.7	43.7	0.99	44.912 CC, ES		
400.0	400.0	400.1	400.1	0.7	0.7	-130.95	-38.1	23.1	45.4	44.1	1.35	33.729		
500.0	499.9	500.2	500.1	0.9	0.9	-129.78	-39.9	19.6	47.6	45.9	1.71	27.846		
600.0	599.7	600.2	599.9	1.1	1.1	-128.06	-42.9	13.8	51.3	49.2	2.10	24.452		
700.0	699.3	700.1	699.3	1.3	1.3	-126.03	-47.0	5.6	56.6	54.1	2.53	22.384		
800.0	798.6	799.8	798.4	1.5	1.5	-123.91	-52.4	-4.8	63.5	60.5	3.01	21.072		
900.0	897.5	899.3	896.9	1.8	1.8	-121.86	-58.9	-17.5	71.9	68.4	3.56	20.210		
1,000.0	996.1	998.7	994.8	2.1	2.1	-119.98	-66.5	-32.5	82.0	77.8	4.18	19.623		
1,100.0	1,094.2	1,097.7	1,091.9	2.5	2.5	-118.28	-75.3	-49.6	93.6	88.7	4.87	19.211		
1,200.0	1,191.7	1,196.5	1,188.3	2.9	2.9	-116.80	-85.2	-69.0	106.8	101.2	5.65	18.911		
1,300.0	1,288.8	1,295.0	1,283.7	3.4	3.4	-115.28	-96.2	-90.5	121.2	114.7	6.49	18.683		
1,400.0	1,386.0	1,393.3	1,378.4	3.8	3.8	-113.10	-108.2	-114.0	136.2	128.8	7.38	18.462		
1,500.0	1,483.1	1,492.0	1,473.3	4.2	4.3	-111.09	-120.6	-138.3	151.5	143.2	8.28	18.297		
1,600.0	1,580.2	1,590.7	1,568.2	4.7	4.8	-109.45	-133.0	-162.5	166.9	157.7	9.18	18.172		
1,700.0	1,677.4	1,689.4	1,663.1	5.1	5.3	-108.09	-145.4	-186.7	182.4	172.4	10.09	18.076		
1,800.0	1,774.5	1,788.1	1,757.9	5.6	5.8	-106.94	-157.8	-211.0	198.1	187.1	11.00	18.001		
1,900.0	1,871.6	1,886.8	1,852.8	6.0	6.3	-105.96	-170.2	-235.2	213.8	201.8	11.91	17.942		
2,000.0	1,968.7	1,985.5	1,947.7	6.5	6.8	-105.12	-182.6	-259.5	229.5	216.7	12.83	17.895		
2,100.0	2,065.9	2,084.2	2,042.5	6.9	7.4	-104.38	-195.0	-283.7	245.3	231.5	13.74	17.856		
2,200.0	2,163.0	2,182.9	2,137.4	7.4	7.9	-103.73	-207.3	-308.0	261.1	246.5	14.65	17.825		
2,300.0	2,260.1	2,281.6	2,232.3	7.8	8.4	-103.16	-219.7	-332.2	277.0	261.4	15.56	17.799		
2,400.0	2,357.3	2,380.3	2,327.1	8.3	8.9	-102.65	-232.1	-356.4	292.8	276.4	16.47	17.778		
2,500.0	2,454.4	2,479.0	2,422.0	8.8	9.4	-102.19	-244.5	-380.7	308.7	291.3	17.38	17.760		
2,600.0	2,551.5	2,577.7	2,516.9	9.2	9.9	-101.77	-256.9	-404.9	324.6	306.3	18.29	17.745		
2,700.0	2,648.7	2,676.4	2,611.8	9.7	10.4	-101.40	-269.3	-429.2	340.6	321.4	19.21	17.732		
2,800.0	2,745.8	2,775.1	2,706.6	10.1	11.0	-101.06	-281.7	-453.4	356.5	336.4	20.12	17.721		
2,900.0	2,842.9	2,873.8	2,801.5	10.6	11.5	-100.74	-294.1	-477.6	372.4	351.4	21.03	17.712		
3,000.0	2,940.1	2,972.5	2,896.4	11.0	12.0	-100.46	-306.5	-501.9	388.4	366.5	21.94	17.704		
3,100.0	3,037.2	3,071.2	2,991.2	11.5	12.5	-100.19	-318.9	-526.1	404.4	381.5	22.85	17.697		
3,200.0	3,134.3	3,169.9	3,086.1	12.0	13.0	-99.95	-331.3	-550.4	420.4	396.6	23.76	17.691		
3,300.0	3,231.4	3,268.6	3,181.0	12.4	13.5	-99.72	-343.7	-574.6	436.3	411.7	24.67	17.686		
3,400.0	3,328.6	3,367.3	3,275.9	12.9	14.0	-99.51	-356.1	-598.9	452.3	426.7	25.58	17.681		
3,500.0	3,425.7	3,466.0	3,370.7	13.3	14.6	-99.31	-368.4	-623.1	468.3	441.8	26.49	17.677		
3,600.0	3,522.8	3,564.7	3,465.6	13.8	15.1	-99.13	-380.8	-647.3	484.3	456.9	27.40	17.673		
3,700.0	3,620.0	3,663.4	3,560.5	14.3	15.6	-98.96	-393.2	-671.6	500.3	472.0	28.31	17.670		
3,800.0	3,717.1	3,762.1	3,655.3	14.7	16.1	-98.80	-405.6	-695.8	516.3	487.1	29.22	17.668		
3,900.0	3,814.2	3,860.8	3,750.2	15.2	16.6	-98.65	-418.0	-720.1	532.3	502.2	30.14	17.665		
4,000.0	3,911.4	3,959.5	3,845.1	15.6	17.1	-98.51	-430.4	-744.3	548.4	517.3	31.05	17.663		
4,100.0	4,008.5	4,058.2	3,940.0	16.1	17.7	-98.37	-442.8	-768.5	564.4	532.4	31.96	17.661		
4,200.0	4,105.6	4,156.9	4,034.8	16.6	18.2	-98.25	-455.2	-792.8	580.4	547.5	32.87	17.660		
4,300.0	4,202.7	4,255.6	4,129.7	17.0	18.7	-98.13	-467.6	-817.0	596.4	562.7	33.78	17.658		
4,400.0	4,299.9	4,354.3	4,224.6	17.5	19.2	-98.01	-480.0	-841.3	612.5	577.8	34.69	17.657		
4,500.0	4,397.0	4,453.0	4,319.4	17.9	19.7	-97.90	-492.4	-865.5	628.5	592.9	35.60	17.656		
4,600.0	4,494.1	4,551.7	4,414.3	18.4	20.3	-97.80	-504.8	-889.8	644.5	608.0	36.51	17.655		
4,700.0	4,591.3	4,650.4	4,509.2	18.9	20.8	-97.70	-517.2	-914.0	660.6	623.1	37.42	17.654		
4,800.0	4,688.4	4,749.1	4,604.0	19.3	21.3	-97.61	-529.5	-938.2	676.6	638.3	38.33	17.653		
4,900.0	4,785.5	4,847.8	4,698.9	19.8	21.8	-97.52	-541.9	-962.5	692.6	653.4	39.24	17.652		
5,000.0	4,882.7	4,946.5	4,793.8	20.2	22.3	-97.44	-554.3	-986.7	708.7	668.5	40.15	17.652		
5,100.0	4,979.8	5,045.2	4,888.7	20.7	22.8	-97.36	-566.7	-1,011.0	724.7	683.6	41.06	17.651		

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 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,200.0	5,076.9	5,143.9	4,983.5	21.2	23.4	-97.28	-579.1	-1,035.2	740.7	698.8	41.97	17.651		
5,300.0	5,174.0	5,242.6	5,078.4	21.6	23.9	-97.21	-591.5	-1,059.5	756.8	713.9	42.88	17.650		
5,400.0	5,271.2	5,341.3	5,173.3	22.1	24.4	-97.13	-603.9	-1,083.7	772.8	729.0	43.79	17.650		
5,500.0	5,368.3	5,440.0	5,268.1	22.5	24.9	-97.07	-616.3	-1,107.9	788.9	744.2	44.70	17.649		
5,600.0	5,465.4	5,538.7	5,363.0	23.0	25.4	-97.00	-628.7	-1,132.2	804.9	759.3	45.61	17.649		
5,700.0	5,562.6	5,637.4	5,457.9	23.5	26.0	-96.94	-641.1	-1,156.4	821.0	774.4	46.52	17.649		
5,800.0	5,659.7	5,736.1	5,552.8	23.9	26.5	-96.88	-653.5	-1,180.7	837.0	789.6	47.43	17.649		
5,900.0	5,756.8	5,834.8	5,647.6	24.4	27.0	-96.82	-665.9	-1,204.9	853.1	804.7	48.34	17.648		
6,000.0	5,854.0	5,933.5	5,742.5	24.8	27.5	-96.76	-678.3	-1,229.1	869.1	819.9	49.25	17.648		
6,100.0	5,951.1	6,039.4	5,844.4	25.3	28.0	-96.74	-691.3	-1,254.6	884.9	834.7	50.17	17.638		
6,200.0	6,048.5	6,150.4	5,952.0	25.7	28.5	-97.00	-703.7	-1,278.9	899.3	848.3	51.08	17.606		
6,300.0	6,146.5	6,261.8	6,060.8	26.1	29.0	-97.24	-714.7	-1,300.4	912.1	860.2	51.90	17.574		
6,400.0	6,245.0	6,373.7	6,170.7	26.4	29.4	-97.45	-724.2	-1,319.1	923.2	870.6	52.63	17.542		
6,500.0	6,343.9	6,485.8	6,281.4	26.7	29.7	-97.63	-732.4	-1,335.0	932.6	879.4	53.26	17.509		
6,600.0	6,443.1	6,598.3	6,392.9	27.0	30.0	-97.78	-739.0	-1,348.0	940.3	886.5	53.81	17.476		
6,700.0	6,542.7	6,711.0	6,505.0	27.2	30.2	-97.91	-744.2	-1,358.1	946.3	892.1	54.26	17.442		
6,800.0	6,642.4	6,823.8	6,617.6	27.3	30.4	-98.01	-747.9	-1,365.3	950.6	896.0	54.61	17.406		
6,900.0	6,742.3	6,936.8	6,730.4	27.4	30.5	-98.09	-750.0	-1,369.5	953.1	898.3	54.88	17.367		
7,000.0	6,842.3	7,048.7	6,842.3	27.5	30.6	-98.14	-750.7	-1,370.8	954.0	898.9	55.07	17.323		
7,100.0	6,942.3	7,148.7	6,942.3	27.6	30.7	-179.67	-750.7	-1,370.8	954.0	898.7	55.23	17.274		
7,200.0	7,042.3	7,248.7	7,042.3	27.7	30.8	-179.67	-750.7	-1,370.8	954.0	898.6	55.38	17.224		
7,300.0	7,142.3	7,348.7	7,142.3	27.8	30.9	-179.67	-750.7	-1,370.8	954.0	898.4	55.54	17.175		
7,400.0	7,242.3	7,448.7	7,242.3	27.8	30.9	-179.67	-750.7	-1,370.8	954.0	898.3	55.71	17.125		
7,500.0	7,342.3	7,548.7	7,342.3	27.9	31.0	-179.67	-750.7	-1,370.8	954.0	898.1	55.87	17.075		
7,600.0	7,442.3	7,648.7	7,442.3	28.0	31.1	-179.67	-750.7	-1,370.8	954.0	897.9	56.03	17.025		
7,700.0	7,542.3	7,748.7	7,542.3	28.1	31.1	-179.67	-750.7	-1,370.8	954.0	897.8	56.20	16.975		
7,800.0	7,642.3	7,848.7	7,642.3	28.2	31.2	-179.67	-750.7	-1,370.8	954.0	897.6	56.37	16.924		
7,900.0	7,742.3	7,948.7	7,742.3	28.3	31.3	-179.67	-750.7	-1,370.8	954.0	897.4	56.54	16.873		
8,000.0	7,842.3	8,048.7	7,842.3	28.3	31.4	-179.67	-750.7	-1,370.8	954.0	897.3	56.71	16.822		
8,100.0	7,942.3	8,148.7	7,942.3	28.4	31.5	-179.67	-750.7	-1,370.8	954.0	897.1	56.88	16.771		
8,200.0	8,042.3	8,248.7	8,042.3	28.5	31.5	-179.67	-750.7	-1,370.8	954.0	896.9	57.06	16.720		
8,300.0	8,142.3	8,348.7	8,142.3	28.6	31.6	-179.67	-750.7	-1,370.8	954.0	896.7	57.23	16.668		
8,400.0	8,242.3	8,448.7	8,242.3	28.7	31.7	-179.67	-750.7	-1,370.8	954.0	896.6	57.41	16.617		
8,500.0	8,342.3	8,548.7	8,342.3	28.8	31.8	-179.67	-750.7	-1,370.8	954.0	896.4	57.59	16.565		
8,600.0	8,442.3	8,648.7	8,442.3	28.9	31.9	-179.67	-750.7	-1,370.8	954.0	896.2	57.77	16.513		
8,700.0	8,542.3	8,748.7	8,542.3	29.0	31.9	-179.67	-750.7	-1,370.8	954.0	896.0	57.95	16.461		
8,800.0	8,642.3	8,848.7	8,642.3	29.1	32.0	-179.67	-750.7	-1,370.8	954.0	895.8	58.14	16.409		
8,831.1	8,673.4	8,879.8	8,673.4	29.1	32.0	-179.67	-750.7	-1,370.8	954.0	895.8	58.19	16.393		
8,866.7	8,709.0	8,890.4	8,684.0	29.1	32.1	-179.67	-750.7	-1,370.8	954.3	896.1	58.24	16.387 SF		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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: 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	146.93	-25.1	16.4	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	146.93	-25.1	16.4	30.0	29.7	0.30	101.080		
200.0	200.0	200.0	200.0	0.3	0.3	146.93	-25.1	16.4	30.0	29.3	0.65	46.442		
300.0	300.0	300.0	300.0	0.5	0.5	146.93	-25.1	16.4	30.0	29.0	0.99	30.147 CC, ES		
400.0	400.0	400.2	400.2	0.7	0.7	-131.02	-25.5	15.1	30.5	29.1	1.35	22.634		
500.0	499.9	500.4	500.3	0.9	0.9	-129.54	-26.6	11.3	31.9	30.2	1.71	18.681		
600.0	599.7	600.6	600.3	1.1	1.1	-127.36	-28.4	5.0	34.4	32.3	2.10	16.402		
700.0	699.3	700.7	700.0	1.3	1.3	-124.80	-30.9	-3.8	38.0	35.5	2.53	15.015		
800.0	798.6	800.8	799.3	1.5	1.5	-122.14	-34.2	-15.1	42.7	39.6	3.02	14.134		
900.0	897.5	900.7	898.2	1.8	1.8	-119.57	-38.2	-28.9	48.4	44.9	3.57	13.554		
1,000.0	996.1	1,000.5	996.6	2.1	2.1	-117.23	-42.9	-45.2	55.3	51.1	4.21	13.158		
1,100.0	1,094.2	1,100.3	1,094.4	2.5	2.5	-115.16	-48.3	-63.9	63.4	58.5	4.92	12.878		
1,200.0	1,191.7	1,199.8	1,191.5	2.9	2.9	-113.35	-54.4	-85.0	72.5	66.8	5.72	12.673		
1,300.0	1,288.8	1,299.3	1,288.0	3.4	3.4	-111.66	-61.0	-108.1	82.5	75.9	6.57	12.547		
1,400.0	1,386.0	1,398.8	1,384.5	3.8	3.8	-110.24	-67.7	-131.4	92.5	85.0	7.44	12.432		
1,500.0	1,483.1	1,498.2	1,481.0	4.2	4.2	-109.10	-74.4	-154.6	102.5	94.2	8.31	12.331		
1,600.0	1,580.2	1,597.7	1,577.5	4.7	4.7	-108.17	-81.1	-177.9	112.6	103.4	9.20	12.244		
1,700.0	1,677.4	1,697.2	1,674.0	5.1	5.2	-107.39	-87.8	-201.2	122.7	112.6	10.08	12.169		
1,800.0	1,774.5	1,796.7	1,770.5	5.6	5.6	-106.72	-94.5	-224.4	132.8	121.9	10.98	12.103		
1,900.0	1,871.6	1,896.1	1,866.9	6.0	6.1	-106.16	-101.3	-247.7	143.0	131.1	11.87	12.046		
2,000.0	1,968.7	1,995.6	1,963.4	6.5	6.5	-105.66	-108.0	-271.0	153.1	140.4	12.77	11.996		
2,100.0	2,065.9	2,095.1	2,059.9	6.9	7.0	-105.23	-114.7	-294.2	163.3	149.6	13.66	11.951		
2,200.0	2,163.0	2,194.6	2,156.4	7.4	7.5	-104.85	-121.4	-317.5	173.5	158.9	14.56	11.912		
2,300.0	2,260.1	2,294.0	2,252.9	7.8	7.9	-104.51	-128.1	-340.8	183.7	168.2	15.46	11.876		
2,400.0	2,357.3	2,393.5	2,349.3	8.3	8.4	-104.21	-134.8	-364.1	193.9	177.5	16.37	11.845		
2,500.0	2,454.4	2,493.0	2,445.8	8.8	8.8	-103.94	-141.5	-387.3	204.0	186.8	17.27	11.816		
2,600.0	2,551.5	2,592.5	2,542.3	9.2	9.3	-103.69	-148.2	-410.6	214.2	196.1	18.17	11.790		
2,700.0	2,648.7	2,691.9	2,638.8	9.7	9.8	-103.47	-154.9	-433.9	224.4	205.4	19.07	11.767		
2,800.0	2,745.8	2,791.4	2,735.3	10.1	10.2	-103.26	-161.6	-457.1	234.6	214.7	19.98	11.745		
2,900.0	2,842.9	2,890.9	2,831.8	10.6	10.7	-103.07	-168.3	-480.4	244.8	224.0	20.88	11.725		
3,000.0	2,940.1	2,990.4	2,928.2	11.0	11.2	-102.90	-175.0	-503.7	255.1	233.3	21.79	11.707		
3,100.0	3,037.2	3,089.8	3,024.7	11.5	11.6	-102.74	-181.8	-527.0	265.3	242.6	22.69	11.690		
3,200.0	3,134.3	3,189.3	3,121.2	12.0	12.1	-102.59	-188.5	-550.2	275.5	251.9	23.60	11.675		
3,300.0	3,231.4	3,288.8	3,217.7	12.4	12.6	-102.46	-195.2	-573.5	285.7	261.2	24.50	11.660		
3,400.0	3,328.6	3,388.3	3,314.2	12.9	13.0	-102.33	-201.9	-596.8	295.9	270.5	25.41	11.647		
3,500.0	3,425.7	3,487.7	3,410.6	13.3	13.5	-102.21	-208.6	-620.0	306.1	279.8	26.31	11.634		
3,600.0	3,522.8	3,587.2	3,507.1	13.8	14.0	-102.10	-215.3	-643.3	316.3	289.1	27.22	11.622		
3,700.0	3,620.0	3,686.7	3,603.6	14.3	14.4	-101.99	-222.0	-666.6	326.5	298.4	28.12	11.611		
3,800.0	3,717.1	3,786.2	3,700.1	14.7	14.9	-101.89	-228.7	-689.8	336.8	307.7	29.03	11.601		
3,900.0	3,814.2	3,885.6	3,796.6	15.2	15.4	-101.80	-235.4	-713.1	347.0	317.1	29.94	11.591		
4,000.0	3,911.4	3,985.1	3,893.1	15.6	15.8	-101.72	-242.1	-736.4	357.2	326.4	30.84	11.582		
4,100.0	4,008.5	4,084.6	3,989.5	16.1	16.3	-101.63	-248.8	-759.7	367.4	335.7	31.75	11.573		
4,200.0	4,105.6	4,184.1	4,086.0	16.6	16.8	-101.56	-255.5	-782.9	377.7	345.0	32.65	11.565		
4,300.0	4,202.7	4,283.5	4,182.5	17.0	17.2	-101.48	-262.3	-806.2	387.9	354.3	33.56	11.558		
4,400.0	4,299.9	4,383.0	4,279.0	17.5	17.7	-101.41	-269.0	-829.5	398.1	363.6	34.47	11.550		
4,500.0	4,397.0	4,482.5	4,375.5	17.9	18.2	-101.35	-275.7	-852.7	408.3	372.9	35.37	11.543		
4,600.0	4,494.1	4,582.0	4,471.9	18.4	18.6	-101.28	-282.4	-876.0	418.5	382.3	36.28	11.537		
4,700.0	4,591.3	4,681.4	4,568.4	18.9	19.1	-101.22	-289.1	-899.3	428.8	391.6	37.19	11.530		
4,800.0	4,688.4	4,780.9	4,664.9	19.3	19.6	-101.16	-295.8	-922.6	439.0	400.9	38.09	11.524		
4,900.0	4,785.5	4,880.4	4,761.4	19.8	20.0	-101.11	-302.5	-945.8	449.2	410.2	39.00	11.519		
5,000.0	4,882.7	4,979.9	4,857.9	20.2	20.5	-101.06	-309.2	-969.1	459.5	419.5	39.91	11.513		
5,100.0	4,979.8	5,079.3	4,954.4	20.7	21.0	-101.01	-315.9	-992.4	469.7	428.9	40.81	11.508		

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 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,200.0	5,076.9	5,178.8	5,050.8	21.2	21.4	-100.96	-322.6	-1,015.6	479.9	438.2	41.72	11.503		
5,300.0	5,174.0	5,278.3	5,147.3	21.6	21.9	-100.91	-329.3	-1,038.9	490.1	447.5	42.63	11.498		
5,400.0	5,271.2	5,377.8	5,243.8	22.1	22.4	-100.87	-336.0	-1,062.2	500.4	456.8	43.53	11.493		
5,500.0	5,368.3	5,477.2	5,340.3	22.5	22.8	-100.83	-342.8	-1,085.4	510.6	466.1	44.44	11.489		
5,600.0	5,465.4	5,576.7	5,436.8	23.0	23.3	-100.79	-349.5	-1,108.7	520.8	475.5	45.35	11.485		
5,700.0	5,562.6	5,676.2	5,533.2	23.5	23.8	-100.75	-356.2	-1,132.0	531.0	484.8	46.26	11.481		
5,800.0	5,659.7	5,775.7	5,629.7	23.9	24.2	-100.71	-362.9	-1,155.3	541.3	494.1	47.16	11.477		
5,900.0	5,756.8	5,875.1	5,726.2	24.4	24.7	-100.67	-369.6	-1,178.5	551.5	503.4	48.07	11.473		
6,000.0	5,854.0	5,974.6	5,822.7	24.8	25.2	-100.64	-376.3	-1,201.8	561.7	512.8	48.98	11.469		
6,100.0	5,951.1	6,074.1	5,919.2	25.3	25.6	-100.61	-383.0	-1,225.1	572.0	522.1	49.88	11.466		
6,200.0	6,048.5	6,177.2	6,019.5	25.7	26.1	-100.72	-389.6	-1,247.9	581.6	530.9	50.73	11.464		
6,300.0	6,146.5	6,280.5	6,120.6	26.1	26.5	-100.82	-395.4	-1,268.1	590.2	538.7	51.50	11.461		
6,400.0	6,245.0	6,383.9	6,222.4	26.4	26.8	-100.91	-400.5	-1,285.8	597.7	545.5	52.18	11.455		
6,500.0	6,343.9	6,487.4	6,324.8	26.7	27.1	-100.98	-404.8	-1,300.7	604.0	551.3	52.77	11.447		
6,600.0	6,443.1	6,591.1	6,427.6	27.0	27.4	-101.05	-408.4	-1,313.1	609.2	556.0	53.27	11.437		
6,700.0	6,542.7	6,694.9	6,530.9	27.2	27.6	-101.11	-411.2	-1,322.7	613.3	559.6	53.69	11.423		
6,800.0	6,642.4	6,798.7	6,634.4	27.3	27.7	-101.16	-413.2	-1,329.7	616.3	562.3	54.03	11.407		
6,900.0	6,742.3	6,902.5	6,738.2	27.4	27.9	-101.20	-414.4	-1,333.9	618.1	563.9	54.28	11.388		
7,000.0	6,842.3	7,006.4	6,842.1	27.5	28.0	-101.23	-414.8	-1,335.5	618.8	564.4	54.45	11.365		
7,100.0	6,942.3	7,106.7	6,942.3	27.6	28.0	177.23	-414.8	-1,335.5	618.8	564.2	54.61	11.332		
7,200.0	7,042.3	7,206.7	7,042.3	27.7	28.1	177.23	-414.8	-1,335.5	618.8	564.1	54.77	11.299		
7,300.0	7,142.3	7,306.7	7,142.3	27.8	28.2	177.23	-414.8	-1,335.5	618.8	563.9	54.93	11.266		
7,400.0	7,242.3	7,406.7	7,242.3	27.8	28.3	177.23	-414.8	-1,335.5	618.8	563.7	55.09	11.233		
7,500.0	7,342.3	7,506.7	7,342.3	27.9	28.3	177.23	-414.8	-1,335.5	618.8	563.6	55.25	11.200		
7,600.0	7,442.3	7,606.7	7,442.3	28.0	28.4	177.23	-414.8	-1,335.5	618.8	563.4	55.42	11.166		
7,700.0	7,542.3	7,706.7	7,542.3	28.1	28.5	177.23	-414.8	-1,335.5	618.8	563.3	55.59	11.133		
7,800.0	7,642.3	7,806.7	7,642.3	28.2	28.6	177.23	-414.8	-1,335.5	618.8	563.1	55.76	11.099		
7,900.0	7,742.3	7,906.7	7,742.3	28.3	28.7	177.23	-414.8	-1,335.5	618.8	562.9	55.93	11.065		
8,000.0	7,842.3	8,006.7	7,842.3	28.3	28.8	177.23	-414.8	-1,335.5	618.8	562.7	56.10	11.031		
8,100.0	7,942.3	8,106.7	7,942.3	28.4	28.8	177.23	-414.8	-1,335.5	618.8	562.6	56.28	10.997		
8,200.0	8,042.3	8,206.7	8,042.3	28.5	28.9	177.23	-414.8	-1,335.5	618.8	562.4	56.45	10.962		
8,300.0	8,142.3	8,306.7	8,142.3	28.6	29.0	177.23	-414.8	-1,335.5	618.8	562.2	56.63	10.928		
8,400.0	8,242.3	8,406.7	8,242.3	28.7	29.1	177.23	-414.8	-1,335.5	618.8	562.0	56.81	10.893		
8,500.0	8,342.3	8,506.7	8,342.3	28.8	29.2	177.23	-414.8	-1,335.5	618.8	561.9	56.99	10.859		
8,600.0	8,442.3	8,606.7	8,442.3	28.9	29.3	177.23	-414.8	-1,335.5	618.8	561.7	57.17	10.824		
8,700.0	8,542.3	8,706.7	8,542.3	29.0	29.4	177.23	-414.8	-1,335.5	618.8	561.5	57.36	10.790		
8,800.0	8,642.3	8,806.7	8,642.3	29.1	29.5	177.23	-414.8	-1,335.5	618.8	561.3	57.54	10.755		
8,840.5	8,682.9	8,847.2	8,682.9	29.1	29.5	177.23	-414.8	-1,335.5	618.8	561.2	57.62	10.741		
8,866.7	8,709.0	8,863.4	8,699.0	29.1	29.5	177.23	-414.8	-1,335.5	618.9	561.3	57.66	10.735 SF		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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	148.93	-13.1	7.9	15.3					
100.0	100.0	100.0	100.0	0.1	0.1	148.93	-13.1	7.9	15.3	15.0	0.30	51.596		
200.0	200.0	200.0	200.0	0.3	0.3	148.93	-13.1	7.9	15.3	14.7	0.65	23.706		
300.0	300.0	300.0	300.0	0.5	0.5	148.93	-13.1	7.9	15.3	14.3	0.99	15.388 CC		
400.0	400.0	400.2	400.2	0.7	0.7	-128.93	-13.2	6.6	15.6	14.2	1.35	11.556 ES		
500.0	499.9	500.4	500.3	0.9	0.9	-127.21	-13.5	2.7	16.3	14.6	1.71	9.545		
600.0	599.7	600.5	600.2	1.1	1.1	-124.69	-14.1	-3.9	17.6	15.5	2.10	8.393		
700.0	699.3	700.7	699.9	1.3	1.3	-121.72	-14.8	-13.0	19.5	16.9	2.53	7.697		
800.0	798.6	800.8	799.3	1.5	1.5	-118.66	-15.7	-24.8	21.9	18.9	3.02	7.259		
900.0	897.5	900.9	898.4	1.8	1.8	-115.73	-16.9	-39.1	25.0	21.4	3.58	6.974		
1,000.0	996.1	1,000.9	997.0	2.1	2.2	-113.09	-18.3	-56.0	28.6	24.4	4.22	6.781		
1,100.0	1,094.2	1,101.0	1,095.1	2.5	2.5	-110.77	-19.8	-75.5	32.9	28.0	4.95	6.646		
1,200.0	1,191.7	1,201.0	1,192.6	2.9	2.9	-108.77	-21.6	-97.5	37.8	32.0	5.77	6.548		
1,300.0	1,288.8	1,300.8	1,289.7	3.4	3.4	-107.65	-23.5	-120.8	43.1	36.5	6.62	6.517		
1,400.0	1,386.0	1,400.7	1,386.8	3.8	3.8	-106.84	-25.4	-144.1	48.5	41.0	7.47	6.483		
1,500.0	1,483.1	1,500.5	1,483.9	4.2	4.2	-106.18	-27.2	-167.5	53.8	45.5	8.34	6.449		
1,600.0	1,580.2	1,600.4	1,580.9	4.7	4.7	-105.65	-29.1	-190.8	59.2	49.9	9.22	6.417		
1,700.0	1,677.4	1,700.2	1,678.0	5.1	5.1	-105.20	-31.0	-214.1	64.5	54.4	10.10	6.387		
1,800.0	1,774.5	1,800.1	1,775.1	5.6	5.5	-104.82	-32.9	-237.4	69.9	58.9	10.99	6.360		
1,900.0	1,871.6	1,899.9	1,872.2	6.0	6.0	-104.50	-34.7	-260.7	75.3	63.4	11.88	6.335		
2,000.0	1,968.7	1,999.8	1,969.2	6.5	6.4	-104.22	-36.6	-284.0	80.6	67.9	12.77	6.313		
2,100.0	2,065.9	2,099.7	2,066.3	6.9	6.9	-103.97	-38.5	-307.3	86.0	72.3	13.67	6.293		
2,200.0	2,163.0	2,199.5	2,163.4	7.4	7.3	-103.76	-40.4	-330.7	91.4	76.8	14.56	6.275		
2,300.0	2,260.1	2,299.4	2,260.5	7.8	7.8	-103.56	-42.3	-354.0	96.8	81.3	15.46	6.259		
2,400.0	2,357.3	2,399.2	2,357.6	8.3	8.2	-103.39	-44.1	-377.3	102.1	85.8	16.36	6.243		
2,500.0	2,454.4	2,499.1	2,454.6	8.8	8.7	-103.24	-46.0	-400.6	107.5	90.3	17.26	6.230		
2,600.0	2,551.5	2,598.9	2,551.7	9.2	9.1	-103.10	-47.9	-423.9	112.9	94.7	18.16	6.217		
2,700.0	2,648.7	2,698.8	2,648.8	9.7	9.6	-102.97	-49.8	-447.2	118.3	99.2	19.06	6.205		
2,800.0	2,745.8	2,798.6	2,745.9	10.1	10.0	-102.85	-51.6	-470.5	123.7	103.7	19.96	6.194		
2,900.0	2,842.9	2,898.5	2,842.9	10.6	10.5	-102.74	-53.5	-493.8	129.0	108.2	20.86	6.184		
3,000.0	2,940.1	2,998.3	2,940.0	11.0	10.9	-102.65	-55.4	-517.2	134.4	112.6	21.77	6.175		
3,100.0	3,037.2	3,098.2	3,037.1	11.5	11.4	-102.56	-57.3	-540.5	139.8	117.1	22.67	6.167		
3,200.0	3,134.3	3,198.1	3,134.2	12.0	11.8	-102.47	-59.2	-563.8	145.2	121.6	23.57	6.159		
3,300.0	3,231.4	3,297.9	3,231.2	12.4	12.3	-102.39	-61.0	-587.1	150.6	126.1	24.48	6.151		
3,400.0	3,328.6	3,397.8	3,328.3	12.9	12.7	-102.32	-62.9	-610.4	155.9	130.6	25.38	6.144		
3,500.0	3,425.7	3,497.6	3,425.4	13.3	13.2	-102.25	-64.8	-633.7	161.3	135.0	26.28	6.137		
3,600.0	3,522.8	3,597.5	3,522.5	13.8	13.7	-102.19	-66.7	-657.0	166.7	139.5	27.19	6.131		
3,700.0	3,620.0	3,697.3	3,619.6	14.3	14.1	-102.13	-68.5	-680.4	172.1	144.0	28.09	6.125		
3,800.0	3,717.1	3,797.2	3,716.6	14.7	14.6	-102.07	-70.4	-703.7	177.5	148.5	29.00	6.120		
3,900.0	3,814.2	3,897.0	3,813.7	15.2	15.0	-102.02	-72.3	-727.0	182.8	152.9	29.90	6.115		
4,000.0	3,911.4	3,996.9	3,910.8	15.6	15.5	-101.97	-74.2	-750.3	188.2	157.4	30.81	6.110		
4,100.0	4,008.5	4,096.7	4,007.9	16.1	15.9	-101.93	-76.1	-773.6	193.6	161.9	31.71	6.105		
4,200.0	4,105.6	4,196.6	4,104.9	16.6	16.4	-101.88	-77.9	-796.9	199.0	166.4	32.62	6.101		
4,300.0	4,202.7	4,296.5	4,202.0	17.0	16.8	-101.84	-79.8	-820.2	204.4	170.9	33.52	6.096		
4,400.0	4,299.9	4,396.3	4,299.1	17.5	17.3	-101.80	-81.7	-843.5	209.8	175.3	34.43	6.092		
4,500.0	4,397.0	4,496.2	4,396.2	17.9	17.7	-101.76	-83.6	-866.9	215.1	179.8	35.34	6.089		
4,600.0	4,494.1	4,596.0	4,493.2	18.4	18.2	-101.73	-85.5	-890.2	220.5	184.3	36.24	6.085		
4,700.0	4,591.3	4,695.9	4,590.3	18.9	18.6	-101.69	-87.3	-913.5	225.9	188.8	37.15	6.082		
4,800.0	4,688.4	4,795.7	4,687.4	19.3	19.1	-101.66	-89.2	-936.8	231.3	193.2	38.05	6.078		
4,900.0	4,785.5	4,895.6	4,784.5	19.8	19.5	-101.63	-91.1	-960.1	236.7	197.7	38.96	6.075		
5,000.0	4,882.7	4,995.4	4,881.6	20.2	20.0	-101.60	-93.0	-983.4	242.1	202.2	39.87	6.072		
5,100.0	4,979.8	5,095.3	4,978.6	20.7	20.4	-101.57	-94.8	-1,006.7	247.4	206.7	40.77	6.069		

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 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,200.0	5,076.9	5,195.2	5,075.7	21.2	20.9	-101.54	-96.7	-1,030.0	252.8	211.2	41.68	6.066		
5,300.0	5,174.0	5,295.0	5,172.8	21.6	21.4	-101.52	-98.6	-1,053.4	258.2	215.6	42.58	6.064		
5,400.0	5,271.2	5,394.9	5,269.9	22.1	21.8	-101.49	-100.5	-1,076.7	263.6	220.1	43.49	6.061		
5,500.0	5,368.3	5,494.7	5,366.9	22.5	22.3	-101.47	-102.4	-1,100.0	269.0	224.6	44.40	6.059		
5,600.0	5,465.4	5,594.6	5,464.0	23.0	22.7	-101.44	-104.2	-1,123.3	274.4	229.1	45.30	6.056		
5,700.0	5,562.6	5,694.4	5,561.1	23.5	23.2	-101.42	-106.1	-1,146.6	279.7	233.5	46.21	6.054		
5,800.0	5,659.7	5,794.3	5,658.2	23.9	23.6	-101.40	-108.0	-1,169.9	285.1	238.0	47.12	6.052		
5,900.0	5,756.8	5,894.1	5,755.3	24.4	24.1	-101.38	-109.9	-1,193.2	290.5	242.5	48.02	6.050		
6,000.0	5,854.0	5,994.0	5,852.3	24.8	24.5	-101.36	-111.7	-1,216.6	295.9	247.0	48.93	6.048		
6,100.0	5,951.1	6,093.8	5,949.4	25.3	25.0	-101.34	-113.6	-1,239.9	301.3	251.4	49.84	6.046		
6,200.0	6,048.5	6,193.9	6,046.9	25.7	25.4	-101.35	-115.4	-1,262.2	306.4	255.7	50.67	6.047		
6,300.0	6,146.5	6,294.0	6,145.0	26.1	25.8	-101.36	-117.0	-1,282.0	310.9	259.5	51.41	6.047		
6,400.0	6,245.0	6,394.1	6,243.6	26.4	26.1	-101.38	-118.4	-1,299.2	314.8	262.8	52.07	6.046		
6,500.0	6,343.9	6,494.3	6,342.7	26.7	26.4	-101.39	-119.6	-1,313.9	318.2	265.5	52.65	6.044		
6,600.0	6,443.1	6,594.5	6,442.2	27.0	26.6	-101.41	-120.6	-1,326.0	320.9	267.8	53.14	6.040		
6,700.0	6,542.7	6,694.7	6,541.9	27.2	26.8	-101.43	-121.3	-1,335.4	323.1	269.6	53.54	6.035		
6,800.0	6,642.4	6,794.9	6,641.9	27.3	27.0	-101.45	-121.9	-1,342.3	324.7	270.8	53.87	6.027		
6,900.0	6,742.3	6,895.2	6,742.1	27.4	27.1	-101.47	-122.2	-1,346.5	325.7	271.6	54.12	6.018		
7,000.0	6,842.3	6,995.4	6,842.3	27.5	27.2	-101.49	-122.3	-1,348.1	326.1	271.8	54.28	6.008		
7,100.0	6,942.3	7,095.4	6,942.3	27.6	27.3	176.98	-122.3	-1,348.2	326.1	271.7	54.44	5.990		
7,200.0	7,042.3	7,195.4	7,042.3	27.7	27.4	176.98	-122.3	-1,348.2	326.1	271.5	54.60	5.973		
7,300.0	7,142.3	7,295.4	7,142.3	27.8	27.4	176.98	-122.3	-1,348.2	326.1	271.3	54.76	5.955		
7,400.0	7,242.3	7,395.4	7,242.3	27.8	27.5	176.98	-122.3	-1,348.2	326.1	271.2	54.92	5.938		
7,500.0	7,342.3	7,495.4	7,342.3	27.9	27.6	176.98	-122.3	-1,348.2	326.1	271.0	55.08	5.920		
7,600.0	7,442.3	7,595.4	7,442.3	28.0	27.7	176.98	-122.3	-1,348.2	326.1	270.8	55.25	5.902		
7,700.0	7,542.3	7,695.4	7,542.3	28.1	27.8	176.98	-122.3	-1,348.2	326.1	270.7	55.42	5.884		
7,800.0	7,642.3	7,795.4	7,642.3	28.2	27.9	176.98	-122.3	-1,348.2	326.1	270.5	55.59	5.866		
7,900.0	7,742.3	7,895.4	7,742.3	28.3	27.9	176.98	-122.3	-1,348.2	326.1	270.3	55.76	5.848		
8,000.0	7,842.3	7,995.4	7,842.3	28.3	28.0	176.98	-122.3	-1,348.2	326.1	270.2	55.93	5.830		
8,100.0	7,942.3	8,095.4	7,942.3	28.4	28.1	176.98	-122.3	-1,348.2	326.1	270.0	56.11	5.812		
8,200.0	8,042.3	8,195.4	8,042.3	28.5	28.2	176.98	-122.3	-1,348.2	326.1	269.8	56.28	5.794		
8,300.0	8,142.3	8,295.4	8,142.3	28.6	28.3	176.98	-122.3	-1,348.2	326.1	269.6	56.46	5.775		
8,400.0	8,242.3	8,395.4	8,242.3	28.7	28.4	176.98	-122.3	-1,348.2	326.1	269.4	56.64	5.757		
8,500.0	8,342.3	8,495.4	8,342.3	28.8	28.5	176.98	-122.3	-1,348.2	326.1	269.3	56.82	5.739		
8,600.0	8,442.3	8,595.4	8,442.3	28.9	28.6	176.98	-122.3	-1,348.2	326.1	269.1	57.01	5.720		
8,700.0	8,542.3	8,695.4	8,542.3	29.0	28.7	176.98	-122.3	-1,348.2	326.1	268.9	57.19	5.702		
8,800.0	8,642.3	8,795.4	8,642.3	29.1	28.7	176.98	-122.3	-1,348.2	326.1	268.7	57.38	5.683		
8,842.7	8,685.0	8,838.1	8,685.0	29.1	28.8	176.98	-122.3	-1,348.2	326.1	268.6	57.45	5.676		
8,866.7	8,709.0	8,857.1	8,704.0	29.1	28.8	176.98	-122.3	-1,348.2	326.1	268.6	57.50	5.672 SF		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	17.1	0.0	17.1					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	17.1	0.0	17.1	16.8	0.30	57.698		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	17.1	0.0	17.1	16.5	0.65	26.510		
300.0	300.0	300.0	300.0	0.5	0.5	0.00	17.1	0.0	17.1	16.1	0.99	17.208 CC		
400.0	400.0	399.8	399.8	0.7	0.7	81.76	17.6	-1.2	17.4	16.0	1.35	12.912 ES		
500.0	499.9	499.7	499.6	0.9	0.9	82.41	19.0	-4.9	18.2	16.5	1.71	10.618		
600.0	599.7	599.5	599.2	1.1	1.1	83.38	21.2	-11.0	19.5	17.4	2.11	9.259		
700.0	699.3	699.3	698.6	1.3	1.3	84.52	24.5	-19.5	21.4	18.9	2.55	8.397		
800.0	798.6	799.1	797.7	1.5	1.5	85.72	28.6	-30.5	23.9	20.8	3.05	7.819		
900.0	897.5	898.9	896.4	1.8	1.8	86.89	33.6	-43.9	26.8	23.2	3.62	7.414		
1,000.0	996.1	998.6	994.8	2.1	2.1	87.96	39.5	-59.6	30.4	26.1	4.27	7.119		
1,100.0	1,094.2	1,098.4	1,092.6	2.5	2.5	88.92	46.4	-77.8	34.4	29.4	4.99	6.895		
1,200.0	1,191.7	1,198.0	1,189.8	2.9	2.9	89.75	54.1	-98.4	39.1	33.2	5.81	6.720		
1,300.0	1,288.8	1,297.8	1,286.6	3.4	3.4	89.82	62.6	-121.0	44.1	37.5	6.67	6.620		
1,400.0	1,386.0	1,397.7	1,383.4	3.8	3.8	89.61	71.2	-143.9	49.3	41.8	7.54	6.538		
1,500.0	1,483.1	1,497.5	1,480.2	4.2	4.3	89.43	79.8	-166.8	54.4	46.0	8.42	6.465		
1,600.0	1,580.2	1,597.4	1,577.1	4.7	4.7	89.28	88.4	-189.7	59.6	50.3	9.31	6.401		
1,700.0	1,677.4	1,697.3	1,673.9	5.1	5.2	89.16	97.0	-212.6	64.7	54.5	10.20	6.345		
1,800.0	1,774.5	1,797.2	1,770.7	5.6	5.6	89.05	105.6	-235.5	69.9	58.8	11.10	6.295		
1,900.0	1,871.6	1,897.0	1,867.5	6.0	6.1	88.96	114.2	-258.4	75.0	63.0	12.00	6.252		
2,000.0	1,968.7	1,996.9	1,964.4	6.5	6.5	88.88	122.8	-281.3	80.2	67.3	12.91	6.213		
2,100.0	2,065.9	2,096.8	2,061.2	6.9	7.0	88.81	131.4	-304.2	85.3	71.5	13.81	6.178		
2,200.0	2,163.0	2,196.6	2,158.0	7.4	7.5	88.75	140.1	-327.1	90.5	75.8	14.72	6.147		
2,300.0	2,260.1	2,296.5	2,254.8	7.8	7.9	88.69	148.7	-350.0	95.7	80.0	15.63	6.119		
2,400.0	2,357.3	2,396.4	2,351.7	8.3	8.4	88.65	157.3	-372.9	100.8	84.3	16.54	6.094		
2,500.0	2,454.4	2,496.2	2,448.5	8.8	8.9	88.60	165.9	-395.8	106.0	88.5	17.45	6.071		
2,600.0	2,551.5	2,596.1	2,545.3	9.2	9.3	88.56	174.5	-418.7	111.1	92.7	18.36	6.050		
2,700.0	2,648.7	2,696.0	2,642.1	9.7	9.8	88.52	183.1	-441.6	116.3	97.0	19.28	6.031		
2,800.0	2,745.8	2,795.8	2,739.0	10.1	10.3	88.49	191.7	-464.5	121.4	101.2	20.19	6.013		
2,900.0	2,842.9	2,895.7	2,835.8	10.6	10.8	88.46	200.3	-487.4	126.6	105.5	21.10	5.997		
3,000.0	2,940.1	2,995.6	2,932.6	11.0	11.2	88.43	208.9	-510.3	131.7	109.7	22.02	5.982		
3,100.0	3,037.2	3,095.4	3,029.4	11.5	11.7	88.40	217.5	-533.2	136.9	113.9	22.93	5.968		
3,200.0	3,134.3	3,195.3	3,126.3	12.0	12.2	88.38	226.1	-556.1	142.0	118.2	23.85	5.955		
3,300.0	3,231.4	3,295.2	3,223.1	12.4	12.6	88.36	234.7	-579.0	147.2	122.4	24.76	5.943		
3,400.0	3,328.6	3,395.0	3,319.9	12.9	13.1	88.33	243.3	-601.9	152.3	126.6	25.68	5.931		
3,500.0	3,425.7	3,494.9	3,416.7	13.3	13.6	88.31	252.0	-624.8	157.5	130.9	26.60	5.921		
3,600.0	3,522.8	3,594.8	3,513.5	13.8	14.0	88.30	260.6	-647.7	162.6	135.1	27.51	5.911		
3,700.0	3,620.0	3,694.6	3,610.4	14.3	14.5	88.28	269.2	-670.6	167.8	139.3	28.43	5.902		
3,800.0	3,717.1	3,794.5	3,707.2	14.7	15.0	88.26	277.8	-693.5	172.9	143.6	29.34	5.893		
3,900.0	3,814.2	3,894.4	3,804.0	15.2	15.4	88.25	286.4	-716.4	178.1	147.8	30.26	5.885		
4,000.0	3,911.4	3,994.2	3,900.8	15.6	15.9	88.23	295.0	-739.3	183.2	152.0	31.18	5.877		
4,100.0	4,008.5	4,094.1	3,997.7	16.1	16.4	88.22	303.6	-762.2	188.4	156.3	32.09	5.869		
4,200.0	4,105.6	4,194.0	4,094.5	16.6	16.9	88.21	312.2	-785.1	193.5	160.5	33.01	5.862		
4,300.0	4,202.7	4,293.8	4,191.3	17.0	17.3	88.19	320.8	-808.0	198.7	164.8	33.93	5.856		
4,400.0	4,299.9	4,393.7	4,288.1	17.5	17.8	88.18	329.4	-830.9	203.8	169.0	34.85	5.849		
4,500.0	4,397.0	4,493.6	4,385.0	17.9	18.3	88.17	338.0	-853.8	209.0	173.2	35.76	5.843		
4,600.0	4,494.1	4,593.4	4,481.8	18.4	18.7	88.16	346.6	-876.7	214.1	177.5	36.68	5.838		
4,700.0	4,591.3	4,693.3	4,578.6	18.9	19.2	88.15	355.2	-899.6	219.3	181.7	37.60	5.832		
4,800.0	4,688.4	4,793.2	4,675.4	19.3	19.7	88.14	363.9	-922.5	224.4	185.9	38.52	5.827		
4,900.0	4,785.5	4,893.0	4,772.3	19.8	20.2	88.13	372.5	-945.4	229.6	190.2	39.43	5.822		
5,000.0	4,882.7	4,992.9	4,869.1	20.2	20.6	88.12	381.1	-968.3	234.7	194.4	40.35	5.817		
5,100.0	4,979.8	5,092.8	4,965.9	20.7	21.1	88.11	389.7	-991.2	239.9	198.6	41.27	5.813		

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 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
5,200.0	5,076.9	5,192.6	5,062.7	21.2	21.6	88.10	398.3	-1,014.1	245.0	202.9	42.19	5.808		
5,300.0	5,174.0	5,292.5	5,159.6	21.6	22.0	88.10	406.9	-1,037.0	250.2	207.1	43.11	5.804		
5,400.0	5,271.2	5,392.4	5,256.4	22.1	22.5	88.09	415.5	-1,059.9	255.3	211.3	44.02	5.800		
5,500.0	5,368.3	5,492.2	5,353.2	22.5	23.0	88.08	424.1	-1,082.8	260.5	215.6	44.94	5.796		
5,600.0	5,465.4	5,592.1	5,450.0	23.0	23.4	88.08	432.7	-1,105.7	265.7	219.8	45.86	5.793		
5,700.0	5,562.6	5,692.0	5,546.9	23.5	23.9	88.07	441.3	-1,128.6	270.8	224.0	46.78	5.789		
5,800.0	5,659.7	5,791.8	5,643.7	23.9	24.4	88.06	449.9	-1,151.6	276.0	228.3	47.70	5.786		
5,900.0	5,756.8	5,891.7	5,740.5	24.4	24.9	88.06	458.5	-1,174.5	281.1	232.5	48.61	5.782		
6,000.0	5,854.0	5,991.6	5,837.3	24.8	25.3	88.05	467.1	-1,197.4	286.3	236.7	49.53	5.779		
6,100.0	5,951.1	6,091.6	5,934.3	25.3	25.8	88.05	475.8	-1,220.3	291.4	241.0	50.45	5.776		
6,200.0	6,048.5	6,193.3	6,033.3	25.7	26.2	88.14	484.0	-1,242.2	296.3	245.0	51.30	5.775		
6,300.0	6,146.5	6,295.1	6,132.9	26.1	26.6	88.21	491.3	-1,261.7	300.5	248.5	52.06	5.773		
6,400.0	6,245.0	6,396.9	6,233.1	26.4	27.0	88.28	497.7	-1,278.7	304.3	251.6	52.73	5.771		
6,500.0	6,343.9	6,498.8	6,333.8	26.7	27.3	88.33	503.2	-1,293.2	307.5	254.2	53.32	5.767		
6,600.0	6,443.1	6,600.7	6,434.9	27.0	27.5	88.36	507.7	-1,305.2	310.1	256.3	53.82	5.763		
6,700.0	6,542.7	6,702.7	6,536.3	27.2	27.7	88.39	511.2	-1,314.6	312.2	258.0	54.23	5.757		
6,800.0	6,642.4	6,804.6	6,638.0	27.3	27.9	88.40	513.8	-1,321.6	313.7	259.2	54.57	5.750		
6,900.0	6,742.3	6,906.6	6,739.9	27.4	28.0	88.39	515.5	-1,325.9	314.7	259.9	54.82	5.741		
7,000.0	6,842.3	7,008.6	6,841.9	27.5	28.1	88.38	516.2	-1,327.8	315.1	260.1	54.99	5.731		
7,100.0	6,942.3	7,109.0	6,942.3	27.6	28.2	6.84	516.2	-1,327.8	315.1	260.0	55.14	5.715		
7,200.0	7,042.3	7,209.0	7,042.3	27.7	28.3	6.84	516.2	-1,327.8	315.1	259.8	55.30	5.698		
7,300.0	7,142.3	7,309.0	7,142.3	27.8	28.4	6.84	516.2	-1,327.8	315.1	259.7	55.46	5.682		
7,400.0	7,242.3	7,409.0	7,242.3	27.8	28.4	6.84	516.2	-1,327.8	315.1	259.5	55.62	5.665		
7,500.0	7,342.3	7,509.0	7,342.3	27.9	28.5	6.84	516.2	-1,327.8	315.1	259.3	55.78	5.649		
7,600.0	7,442.3	7,609.0	7,442.3	28.0	28.6	6.84	516.2	-1,327.8	315.1	259.2	55.95	5.632		
7,700.0	7,542.3	7,709.0	7,542.3	28.1	28.7	6.84	516.2	-1,327.8	315.1	259.0	56.12	5.616		
7,800.0	7,642.3	7,809.0	7,642.3	28.2	28.8	6.84	516.2	-1,327.8	315.1	258.8	56.28	5.599		
7,900.0	7,742.3	7,909.0	7,742.3	28.3	28.8	6.84	516.2	-1,327.8	315.1	258.7	56.45	5.582		
8,000.0	7,842.3	8,009.0	7,842.3	28.3	28.9	6.84	516.2	-1,327.8	315.1	258.5	56.62	5.565		
8,100.0	7,942.3	8,109.0	7,942.3	28.4	29.0	6.84	516.2	-1,327.8	315.1	258.3	56.80	5.548		
8,200.0	8,042.3	8,209.0	8,042.3	28.5	29.1	6.84	516.2	-1,327.8	315.1	258.2	56.97	5.531		
8,300.0	8,142.3	8,309.0	8,142.3	28.6	29.2	6.84	516.2	-1,327.8	315.1	258.0	57.15	5.514		
8,400.0	8,242.3	8,409.0	8,242.3	28.7	29.3	6.84	516.2	-1,327.8	315.1	257.8	57.32	5.497		
8,500.0	8,342.3	8,509.0	8,342.3	28.8	29.4	6.84	516.2	-1,327.8	315.1	257.6	57.50	5.480		
8,600.0	8,442.3	8,609.0	8,442.3	28.9	29.4	6.84	516.2	-1,327.8	315.1	257.4	57.68	5.463		
8,700.0	8,542.3	8,709.0	8,542.3	29.0	29.5	6.84	516.2	-1,327.8	315.1	257.3	57.87	5.446		
8,800.0	8,642.3	8,809.0	8,642.3	29.1	29.6	6.84	516.2	-1,327.8	315.1	257.1	58.05	5.429		
8,866.7	8,709.0	8,875.7	8,709.0	29.1	29.7	6.84	516.2	-1,327.8	315.1	257.0	58.17	5.417 SF		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-17D (Oxy I21 pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-33.32	12.0	-7.9	14.4					
100.0	100.0	100.0	100.0	0.1	0.1	-33.32	12.0	-7.9	14.4	14.1	0.30	48.479		
200.0	200.0	200.0	200.0	0.3	0.3	-33.32	12.0	-7.9	14.4	13.7	0.65	22.274 CC, ES		
300.0	300.0	299.7	299.7	0.5	0.5	-36.29	12.4	-9.1	15.4	14.4	1.00	15.496		
400.0	400.0	399.3	399.2	0.7	0.7	40.99	13.7	-12.8	17.8	16.4	1.35	13.190		
500.0	499.9	498.8	498.5	0.9	0.9	38.84	15.8	-19.0	20.4	18.7	1.70	11.976		
600.0	599.7	598.3	597.5	1.1	1.1	38.16	18.7	-27.5	23.3	21.3	2.07	11.249		
700.0	699.3	697.6	696.2	1.3	1.4	38.49	22.4	-38.6	26.5	24.0	2.46	10.759		
800.0	798.6	796.9	794.5	1.5	1.7	39.49	26.9	-52.0	29.9	27.0	2.88	10.384		
900.0	897.5	896.2	892.3	1.8	2.0	40.93	32.3	-67.8	33.5	30.2	3.34	10.058		
1,000.0	996.1	995.3	989.6	2.1	2.4	42.66	38.5	-86.0	37.5	33.6	3.85	9.744		
1,100.0	1,094.2	1,094.3	1,086.2	2.5	2.8	44.54	45.4	-106.6	41.7	37.3	4.43	9.423		
1,200.0	1,191.7	1,193.3	1,182.1	2.9	3.2	46.51	53.2	-129.5	46.3	41.2	5.09	9.093		
1,300.0	1,288.8	1,292.1	1,277.3	3.4	3.7	47.80	61.7	-154.8	51.8	46.0	5.80	8.933 SF		
1,400.0	1,386.0	1,390.7	1,371.5	3.8	4.3	47.33	71.0	-182.3	59.3	52.8	6.46	9.177		
1,500.0	1,483.1	1,488.9	1,464.6	4.2	4.9	45.69	81.1	-211.9	68.9	61.8	7.06	9.751		
1,600.0	1,580.2	1,586.6	1,556.4	4.7	5.5	43.43	91.8	-243.7	80.6	73.0	7.60	10.605		
1,700.0	1,677.4	1,683.7	1,646.7	5.1	6.2	40.95	103.3	-277.4	94.6	86.5	8.08	11.705		
1,800.0	1,774.5	1,780.0	1,735.3	5.6	6.9	38.49	115.3	-313.0	110.9	102.4	8.52	13.023		
1,900.0	1,871.6	1,875.4	1,822.2	6.0	7.7	36.18	128.0	-350.4	129.6	120.7	8.92	14.532		
2,000.0	1,968.7	1,969.9	1,907.3	6.5	8.5	34.07	141.2	-389.4	150.6	141.3	9.29	16.209		
2,100.0	2,065.9	2,063.3	1,990.3	6.9	9.3	32.19	154.9	-429.9	174.1	164.4	9.65	18.032		
2,200.0	2,163.0	2,155.6	2,071.3	7.4	10.1	30.52	169.1	-471.8	199.8	189.8	10.00	19.981		
2,300.0	2,260.1	2,246.6	2,150.1	7.8	11.0	29.04	183.7	-514.9	227.9	217.6	10.34	22.038		
2,400.0	2,357.3	2,336.3	2,226.7	8.3	12.0	27.74	198.6	-559.2	258.3	247.6	10.68	24.190		
2,500.0	2,454.4	2,428.6	2,304.6	8.8	12.9	26.57	214.5	-606.1	290.5	279.5	11.01	26.372		
2,600.0	2,551.5	2,523.1	2,384.2	9.2	13.9	25.60	230.8	-654.2	322.9	311.5	11.37	28.405		
2,700.0	2,648.7	2,617.6	2,463.8	9.7	14.9	24.80	247.1	-702.4	355.4	343.7	11.73	30.289		
2,800.0	2,745.8	2,712.0	2,543.5	10.1	15.9	24.14	263.4	-750.5	387.9	375.8	12.11	32.038		
2,900.0	2,842.9	2,806.5	2,623.1	10.6	16.9	23.58	279.7	-798.6	420.5	408.0	12.49	33.667		
3,000.0	2,940.1	2,901.0	2,702.7	11.0	17.9	23.10	296.0	-846.8	453.1	440.3	12.88	35.185		
3,100.0	3,037.2	2,995.4	2,782.4	11.5	18.9	22.69	312.3	-894.9	485.8	472.5	13.27	36.605		
3,200.0	3,134.3	3,089.9	2,862.0	12.0	19.9	22.32	328.6	-943.1	518.4	504.8	13.67	37.934		
3,300.0	3,231.4	3,184.4	2,941.6	12.4	20.9	22.00	344.9	-991.2	551.1	537.1	14.07	39.182		
3,400.0	3,328.6	3,278.8	3,021.3	12.9	21.9	21.72	361.2	-1,039.3	583.8	569.3	14.47	40.355		
3,500.0	3,425.7	3,373.3	3,100.9	13.3	22.9	21.47	377.5	-1,087.5	616.5	601.6	14.87	41.460		
3,600.0	3,522.8	3,467.8	3,180.5	13.8	23.9	21.24	393.8	-1,135.6	649.2	633.9	15.28	42.502		
3,700.0	3,620.0	3,562.3	3,260.2	14.3	24.9	21.03	410.1	-1,183.8	681.9	666.3	15.68	43.488		
3,800.0	3,717.1	3,656.7	3,339.8	14.7	25.9	20.84	426.4	-1,231.9	714.7	698.6	16.09	44.420		
3,900.0	3,814.2	3,751.2	3,419.4	15.2	26.9	20.67	442.7	-1,280.0	747.4	730.9	16.50	45.304		
4,000.0	3,911.4	3,845.7	3,499.1	15.6	27.9	20.52	458.9	-1,328.2	780.1	763.2	16.91	46.143		
4,100.0	4,008.5	3,940.1	3,578.7	16.1	28.9	20.37	475.2	-1,376.3	812.9	795.6	17.32	46.940		
4,200.0	4,105.6	4,034.6	3,658.3	16.6	29.9	20.24	491.5	-1,424.5	845.6	827.9	17.73	47.699		
4,300.0	4,202.7	4,129.1	3,737.9	17.0	30.9	20.12	507.8	-1,472.6	878.4	860.2	18.14	48.422		
4,400.0	4,299.9	4,223.5	3,817.6	17.5	31.9	20.00	524.1	-1,520.7	911.1	892.6	18.55	49.111		
4,500.0	4,397.0	4,318.0	3,897.2	17.9	32.9	19.90	540.4	-1,568.9	943.9	924.9	18.97	49.769		
4,600.0	4,494.1	4,412.5	3,976.8	18.4	33.9	19.80	556.7	-1,617.0	976.7	957.3	19.38	50.399		
4,700.0	4,591.3	4,506.9	4,056.5	18.9	34.9	19.70	573.0	-1,665.2	1,009.4	989.6	19.79	51.001		
4,800.0	4,688.4	4,601.4	4,136.1	19.3	35.9	19.62	589.3	-1,713.3	1,042.2	1,022.0	20.21	51.577		
4,900.0	4,785.5	4,695.9	4,215.7	19.8	37.0	19.53	605.6	-1,761.4	1,075.0	1,054.3	20.62	52.130		
5,000.0	4,882.7	4,790.3	4,295.4	20.2	38.0	19.46	621.9	-1,809.6	1,107.7	1,086.7	21.04	52.660		

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 21-15D (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 21-15D (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 (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	147.44	-126.4	80.7	150.0					
100.0	100.0	100.0	100.0	0.1	0.1	147.44	-126.4	80.7	150.0	149.7	0.30	505.392		
200.0	200.0	200.0	200.0	0.3	0.3	147.44	-126.4	80.7	150.0	149.3	0.65	232.207		
300.0	300.0	300.0	300.0	0.5	0.5	147.44	-126.4	80.7	150.0	149.0	0.99	150.731	CC, ES	
400.0	400.0	396.9	396.9	0.7	0.7	-131.09	-127.6	80.6	151.8	150.5	1.34	113.332		
500.0	499.9	493.6	493.5	0.9	0.8	-131.28	-131.3	80.4	157.5	155.8	1.69	93.132		
600.0	599.7	589.8	589.6	1.1	1.0	-131.56	-137.4	80.0	166.9	164.8	2.05	81.215		
700.0	699.3	685.5	684.9	1.3	1.2	-131.89	-145.8	79.5	180.0	177.6	2.44	73.852		
800.0	798.6	780.4	779.1	1.5	1.5	-132.24	-156.5	78.8	196.9	194.0	2.84	69.203		
900.0	897.5	874.2	872.0	1.8	1.7	-132.57	-169.4	78.0	217.4	214.1	3.28	66.254		
1,000.0	996.1	966.9	963.5	2.1	2.0	-132.85	-184.3	77.1	241.5	237.7	3.75	64.405		
1,100.0	1,094.2	1,058.2	1,053.3	2.5	2.4	-133.09	-201.3	76.1	269.1	264.9	4.25	63.282		
1,200.0	1,191.7	1,148.1	1,141.1	2.9	2.7	-133.26	-220.0	74.9	300.3	295.5	4.79	62.645		
1,300.0	1,288.8	1,236.5	1,227.2	3.4	3.1	-133.59	-240.4	73.6	334.2	328.9	5.36	62.321		
1,400.0	1,386.0	1,323.8	1,311.6	3.8	3.5	-133.70	-262.5	72.3	369.9	363.9	5.95	62.117		
1,500.0	1,483.1	1,410.0	1,394.4	4.2	3.9	-133.60	-286.2	70.8	407.1	400.6	6.56	62.041		
1,600.0	1,580.2	1,502.3	1,482.9	4.7	4.4	-133.40	-312.7	69.1	445.2	438.0	7.20	61.842		
1,700.0	1,677.4	1,594.8	1,571.4	5.1	4.8	-133.24	-339.2	67.5	483.3	475.4	7.84	61.624		
1,800.0	1,774.5	1,687.2	1,660.0	5.6	5.3	-133.11	-365.6	65.9	521.4	512.9	8.49	61.405		
1,900.0	1,871.6	1,779.7	1,748.6	6.0	5.8	-132.99	-392.1	64.2	559.4	550.3	9.14	61.194		
2,000.0	1,968.7	1,872.1	1,837.1	6.5	6.3	-132.88	-418.6	62.6	597.5	587.7	9.80	60.993		
2,100.0	2,065.9	1,964.6	1,925.7	6.9	6.7	-132.79	-445.1	60.9	635.6	625.2	10.45	60.804		
2,200.0	2,163.0	2,057.0	2,014.3	7.4	7.2	-132.71	-471.6	59.3	673.7	662.6	11.11	60.627		
2,300.0	2,260.1	2,149.5	2,102.8	7.8	7.7	-132.64	-498.1	57.6	711.8	700.0	11.77	60.461		
2,400.0	2,357.3	2,242.0	2,191.4	8.3	8.2	-132.57	-524.6	56.0	749.9	737.4	12.43	60.307		
2,500.0	2,454.4	2,334.4	2,280.0	8.8	8.7	-132.51	-551.0	54.3	788.0	774.9	13.10	60.163		
2,600.0	2,551.5	2,426.9	2,368.5	9.2	9.2	-132.46	-577.5	52.7	826.1	812.3	13.76	60.029		
2,700.0	2,648.7	2,519.3	2,457.1	9.7	9.6	-132.41	-604.0	51.1	864.1	849.7	14.43	59.903		
2,800.0	2,745.8	2,611.8	2,545.7	10.1	10.1	-132.37	-630.5	49.4	902.2	887.1	15.09	59.786		
2,900.0	2,842.9	2,704.3	2,634.2	10.6	10.6	-132.33	-657.0	47.8	940.3	924.6	15.76	59.677		
3,000.0	2,940.1	2,796.7	2,722.8	11.0	11.1	-132.29	-683.5	46.1	978.4	962.0	16.42	59.574		
3,100.0	3,037.2	2,889.2	2,811.4	11.5	11.6	-132.25	-710.0	44.5	1,016.5	999.4	17.09	59.478		
3,200.0	3,134.3	2,981.6	2,900.0	12.0	12.1	-132.22	-736.4	42.8	1,054.6	1,036.9	17.76	59.388		
3,300.0	3,231.4	3,074.1	2,988.5	12.4	12.6	-132.19	-762.9	41.2	1,092.7	1,074.3	18.43	59.303	SF	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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		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	135.43	-33.5	33.0	47.0					
100.0	100.0	100.0	100.0	0.1	0.1	135.43	-33.5	33.0	47.0	46.7	0.30	158.541		
200.0	200.0	200.0	200.0	0.3	0.3	135.43	-33.5	33.0	47.0	46.4	0.65	72.843 CC, ES		
300.0	300.0	299.1	299.1	0.5	0.5	136.47	-34.8	33.1	48.0	47.0	0.99	48.288		
400.0	400.0	398.0	397.9	0.7	0.7	-140.03	-38.6	33.2	52.0	50.6	1.35	38.602		
500.0	499.9	496.5	496.2	0.9	0.9	-138.43	-45.0	33.4	60.0	58.3	1.71	35.140		
600.0	599.7	594.5	593.8	1.1	1.1	-137.34	-53.8	33.7	72.0	69.9	2.08	34.587 SF		
700.0	699.3	691.6	690.2	1.3	1.4	-136.68	-65.1	34.1	87.9	85.4	2.47	35.528		
800.0	798.6	787.6	785.3	1.5	1.6	-136.30	-78.6	34.6	107.7	104.8	2.89	37.252		
900.0	897.5	882.4	878.8	1.8	1.9	-136.10	-94.3	35.1	131.3	128.0	3.34	39.364		
1,000.0	996.1	975.7	970.4	2.1	2.3	-135.98	-112.0	35.7	158.7	154.9	3.81	41.634		
1,100.0	1,094.2	1,067.4	1,060.0	2.5	2.7	-135.89	-131.5	36.4	189.7	185.4	4.32	43.935		
1,200.0	1,191.7	1,160.4	1,150.5	2.9	3.0	-135.92	-153.0	37.1	223.8	219.0	4.86	46.078		
1,300.0	1,288.8	1,254.0	1,241.5	3.4	3.4	-136.43	-174.6	37.8	259.2	253.8	5.42	47.803		
1,400.0	1,386.0	1,347.5	1,332.4	3.8	3.8	-136.87	-196.2	38.6	294.6	288.6	6.00	49.127		
1,500.0	1,483.1	1,441.0	1,423.4	4.2	4.2	-137.22	-217.8	39.3	330.0	323.5	6.58	50.179		
1,600.0	1,580.2	1,534.5	1,514.4	4.7	4.6	-137.50	-239.4	40.1	365.5	358.3	7.16	51.031		
1,700.0	1,677.4	1,628.0	1,605.3	5.1	5.0	-137.73	-261.0	40.8	400.9	393.2	7.75	51.733		
1,800.0	1,774.5	1,721.5	1,696.3	5.6	5.4	-137.92	-282.6	41.6	436.3	428.0	8.34	52.321		
1,900.0	1,871.6	1,815.0	1,787.3	6.0	5.8	-138.08	-304.3	42.3	471.8	462.9	8.93	52.819		
2,000.0	1,968.7	1,908.5	1,878.2	6.5	6.3	-138.23	-325.9	43.0	507.2	497.7	9.53	53.246		
2,100.0	2,065.9	2,002.0	1,969.2	6.9	6.7	-138.35	-347.5	43.8	542.7	532.6	10.12	53.616		
2,200.0	2,163.0	2,095.5	2,060.2	7.4	7.1	-138.46	-369.1	44.5	578.1	567.4	10.72	53.940		
2,300.0	2,260.1	2,189.0	2,151.1	7.8	7.5	-138.55	-390.7	45.3	613.6	602.3	11.32	54.225		
2,400.0	2,357.3	2,282.5	2,242.1	8.3	7.9	-138.64	-412.3	46.0	649.0	637.1	11.91	54.477		
2,500.0	2,454.4	2,376.0	2,333.1	8.8	8.3	-138.71	-433.9	46.7	684.5	672.0	12.51	54.703		
2,600.0	2,551.5	2,469.5	2,424.0	9.2	8.7	-138.78	-455.6	47.5	720.0	706.8	13.11	54.905		
2,700.0	2,648.7	2,563.0	2,515.0	9.7	9.1	-138.84	-477.2	48.2	755.4	741.7	13.71	55.088		
2,800.0	2,745.8	2,656.5	2,605.9	10.1	9.5	-138.90	-498.8	49.0	790.9	776.6	14.31	55.254		
2,900.0	2,842.9	2,750.0	2,696.9	10.6	9.9	-138.95	-520.4	49.7	826.3	811.4	14.91	55.405		
3,000.0	2,940.1	2,843.5	2,787.9	11.0	10.3	-139.00	-542.0	50.5	861.8	846.3	15.52	55.543		
3,100.0	3,037.2	2,937.0	2,878.8	11.5	10.7	-139.04	-563.6	51.2	897.3	881.1	16.12	55.670		
3,200.0	3,134.3	3,030.5	2,969.8	12.0	11.2	-139.08	-585.2	51.9	932.7	916.0	16.72	55.786		
3,300.0	3,231.4	3,124.0	3,060.8	12.4	11.6	-139.12	-606.9	52.7	968.2	950.8	17.32	55.894		
3,400.0	3,328.6	3,217.5	3,151.7	12.9	12.0	-139.15	-628.5	53.4	1,003.6	985.7	17.92	55.994		
3,500.0	3,425.7	3,311.0	3,242.7	13.3	12.4	-139.19	-650.1	54.2	1,039.1	1,020.6	18.53	56.087		
3,600.0	3,522.8	3,404.5	3,333.7	13.8	12.8	-139.22	-671.7	54.9	1,074.6	1,055.4	19.13	56.173		
3,700.0	3,620.0	3,498.0	3,424.6	14.3	13.2	-139.24	-693.3	55.6	1,110.0	1,090.3	19.73	56.254		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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	145.79	-107.1	72.8	129.5					
100.0	100.0	100.0	100.0	0.1	0.1	145.79	-107.1	72.8	129.5	129.2	0.30	436.417		
200.0	200.0	200.0	200.0	0.3	0.3	145.79	-107.1	72.8	129.5	128.8	0.65	200.516		
300.0	300.0	300.0	300.0	0.5	0.5	145.79	-107.1	72.8	129.5	128.5	0.99	130.160 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	-133.09	-107.1	72.8	130.4	129.0	1.34	96.966		
500.0	499.9	499.9	499.9	0.9	0.8	-134.29	-107.1	72.8	133.1	131.4	1.70	78.388		
600.0	599.7	597.1	597.1	1.1	1.0	-135.78	-108.3	72.7	138.7	136.6	2.05	67.529		
700.0	699.3	694.0	693.9	1.3	1.2	-137.12	-112.0	72.4	148.1	145.7	2.42	61.184		
800.0	798.6	790.3	790.0	1.5	1.4	-138.23	-118.1	71.8	161.3	158.5	2.80	57.538		
900.0	897.5	885.8	885.2	1.8	1.6	-139.09	-126.5	71.0	178.2	175.0	3.21	55.569		
1,000.0	996.1	980.4	979.2	2.1	1.8	-139.71	-137.1	70.1	198.9	195.2	3.64	54.657		
1,100.0	1,094.2	1,073.9	1,071.8	2.5	2.1	-140.10	-149.9	68.9	223.1	219.0	4.10	54.412		
1,200.0	1,191.7	1,166.9	1,163.5	2.9	2.3	-140.33	-164.9	67.5	250.8	246.2	4.59	54.610		
1,300.0	1,288.8	1,262.4	1,257.6	3.4	2.6	-140.80	-181.0	66.1	280.4	275.2	5.11	54.832		
1,400.0	1,386.0	1,357.9	1,351.8	3.8	2.9	-141.23	-197.1	64.6	309.9	304.3	5.64	54.923		
1,500.0	1,483.1	1,453.4	1,445.9	4.2	3.2	-141.58	-213.2	63.2	339.5	333.4	6.18	54.937		
1,600.0	1,580.2	1,548.9	1,540.0	4.7	3.5	-141.88	-229.3	61.7	369.1	362.4	6.72	54.906		
1,700.0	1,677.4	1,644.4	1,634.1	5.1	3.8	-142.13	-245.4	60.2	398.8	391.5	7.27	54.850		
1,800.0	1,774.5	1,739.9	1,728.3	5.6	4.1	-142.35	-261.4	58.8	428.4	420.6	7.82	54.780		
1,900.0	1,871.6	1,835.4	1,822.4	6.0	4.5	-142.54	-277.5	57.3	458.0	449.6	8.37	54.702		
2,000.0	1,968.7	1,930.9	1,916.5	6.5	4.8	-142.70	-293.6	55.8	487.7	478.7	8.93	54.621		
2,100.0	2,065.9	2,026.4	2,010.6	6.9	5.1	-142.85	-309.7	54.4	517.3	507.8	9.48	54.541		
2,200.0	2,163.0	2,121.9	2,104.7	7.4	5.4	-142.98	-325.8	52.9	546.9	536.9	10.04	54.461		
2,300.0	2,260.1	2,217.4	2,198.9	7.8	5.7	-143.10	-341.9	51.4	576.6	566.0	10.60	54.384		
2,400.0	2,357.3	2,312.9	2,293.0	8.3	6.1	-143.21	-358.0	50.0	606.2	595.0	11.16	54.310		
2,500.0	2,454.4	2,408.4	2,387.1	8.8	6.4	-143.30	-374.1	48.5	635.9	624.1	11.72	54.239		
2,600.0	2,551.5	2,503.9	2,481.2	9.2	6.7	-143.39	-390.2	47.1	665.5	653.2	12.29	54.171		
2,700.0	2,648.7	2,599.4	2,575.4	9.7	7.0	-143.47	-406.3	45.6	695.1	682.3	12.85	54.107		
2,800.0	2,745.8	2,694.9	2,669.5	10.1	7.3	-143.55	-422.4	44.1	724.8	711.4	13.41	54.045		
2,900.0	2,842.9	2,790.4	2,763.6	10.6	7.7	-143.61	-438.5	42.7	754.4	740.5	13.97	53.987		
3,000.0	2,940.1	2,885.9	2,857.7	11.0	8.0	-143.68	-454.6	41.2	784.1	769.6	14.54	53.932		
3,100.0	3,037.2	2,981.4	2,951.8	11.5	8.3	-143.74	-470.7	39.7	813.8	798.6	15.10	53.879		
3,200.0	3,134.3	3,076.9	3,046.0	12.0	8.6	-143.79	-486.8	38.3	843.4	827.7	15.67	53.829		
3,300.0	3,231.4	3,172.4	3,140.1	12.4	9.0	-143.84	-502.9	36.8	873.1	856.8	16.23	53.782		
3,400.0	3,328.6	3,267.9	3,234.2	12.9	9.3	-143.89	-519.0	35.3	902.7	885.9	16.80	53.737		
3,500.0	3,425.7	3,363.4	3,328.3	13.3	9.6	-143.93	-535.1	33.9	932.4	915.0	17.36	53.694		
3,600.0	3,522.8	3,458.9	3,422.5	13.8	9.9	-143.97	-551.2	32.4	962.0	944.1	17.93	53.653		
3,700.0	3,620.0	3,554.4	3,516.6	14.3	10.3	-144.01	-567.3	31.0	991.7	973.2	18.50	53.614		
3,800.0	3,717.1	3,649.9	3,610.7	14.7	10.6	-144.05	-583.3	29.5	1,021.3	1,002.3	19.06	53.577		
3,900.0	3,814.2	3,745.4	3,704.8	15.2	10.9	-144.08	-599.4	28.0	1,051.0	1,031.4	19.63	53.542		
4,000.0	3,911.4	3,840.9	3,798.9	15.6	11.2	-144.12	-615.5	26.6	1,080.6	1,060.4	20.20	53.508		
4,100.0	4,008.5	3,936.4	3,893.1	16.1	11.6	-144.15	-631.6	25.1	1,110.3	1,089.5	20.76	53.476 SF		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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 (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	147.57	-101.3	64.3	120.0				
100.0	100.0	100.0	100.0	0.1	0.1	147.57	-101.3	64.3	120.0	119.7	0.30	404.329	
200.0	200.0	200.0	200.0	0.3	0.3	147.57	-101.3	64.3	120.0	119.3	0.65	185.773	
300.0	300.0	300.0	300.0	0.5	0.5	147.57	-101.3	64.3	120.0	119.0	0.99	120.589 CC, ES	
400.0	400.0	400.0	400.0	0.7	0.7	-131.36	-101.3	64.3	120.8	119.5	1.34	89.859	
500.0	499.9	499.9	499.9	0.9	0.8	-132.70	-101.3	64.3	123.5	121.8	1.70	72.699	
600.0	599.7	599.7	599.7	1.1	1.0	-134.80	-101.3	64.3	128.0	125.9	2.06	62.181	
700.0	699.3	696.9	696.9	1.3	1.2	-137.04	-102.5	64.2	135.5	133.0	2.42	55.914	
800.0	798.6	793.7	793.7	1.5	1.4	-138.93	-106.1	63.7	146.8	144.0	2.80	52.446	
900.0	897.5	890.0	889.7	1.8	1.5	-140.40	-112.2	62.8	161.9	158.7	3.19	50.726	
1,000.0	996.1	985.4	984.8	2.1	1.7	-141.47	-120.5	61.7	180.6	177.0	3.60	50.103 SF	
1,100.0	1,094.2	1,081.6	1,080.4	2.5	2.0	-142.27	-130.9	60.2	202.7	198.7	4.04	50.139	
1,200.0	1,191.7	1,178.5	1,176.7	2.9	2.2	-143.23	-141.7	58.8	227.1	222.6	4.50	50.451	
1,300.0	1,288.8	1,275.0	1,272.6	3.4	2.4	-144.38	-152.4	57.3	252.8	247.9	4.97	50.903	
1,400.0	1,386.0	1,371.5	1,368.5	3.8	2.6	-145.35	-163.0	55.8	278.7	273.3	5.44	51.252	
1,500.0	1,483.1	1,468.0	1,464.3	4.2	2.9	-146.16	-173.7	54.4	304.7	298.8	5.91	51.531	
1,600.0	1,580.2	1,564.5	1,560.2	4.7	3.1	-146.84	-184.4	52.9	330.7	324.3	6.39	51.760	
1,700.0	1,677.4	1,661.0	1,656.1	5.1	3.4	-147.43	-195.1	51.4	356.7	349.9	6.87	51.952	
1,800.0	1,774.5	1,757.5	1,752.0	5.6	3.6	-147.93	-205.8	49.9	382.8	375.4	7.35	52.114	
1,900.0	1,871.6	1,854.0	1,847.9	6.0	3.8	-148.37	-216.5	48.5	408.9	401.0	7.82	52.252	
2,000.0	1,968.7	1,950.5	1,943.8	6.5	4.1	-148.76	-227.2	47.0	435.0	426.7	8.31	52.373	
2,100.0	2,065.9	2,047.0	2,039.7	6.9	4.3	-149.10	-237.9	45.5	461.1	452.3	8.79	52.478	
2,200.0	2,163.0	2,143.4	2,135.6	7.4	4.6	-149.41	-248.6	44.0	487.3	478.0	9.27	52.571	
2,300.0	2,260.1	2,239.9	2,231.4	7.8	4.8	-149.68	-259.2	42.6	513.4	503.7	9.75	52.654	
2,400.0	2,357.3	2,336.4	2,327.3	8.3	5.1	-149.93	-269.9	41.1	539.6	529.3	10.23	52.728	
2,500.0	2,454.4	2,432.9	2,423.2	8.8	5.3	-150.15	-280.6	39.6	565.7	555.0	10.72	52.795	
2,600.0	2,551.5	2,529.4	2,519.1	9.2	5.6	-150.36	-291.3	38.2	591.9	580.7	11.20	52.856	
2,700.0	2,648.7	2,625.9	2,615.0	9.7	5.8	-150.55	-302.0	36.7	618.1	606.4	11.68	52.911	
2,800.0	2,745.8	2,722.4	2,710.9	10.1	6.1	-150.72	-312.7	35.2	644.3	632.1	12.17	52.961	
2,900.0	2,842.9	2,818.9	2,806.8	10.6	6.3	-150.88	-323.4	33.7	670.5	657.8	12.65	53.007	
3,000.0	2,940.1	2,915.4	2,902.6	11.0	6.6	-151.03	-334.1	32.3	696.7	683.5	13.13	53.050	
3,100.0	3,037.2	3,011.9	2,998.5	11.5	6.8	-151.16	-344.8	30.8	722.9	709.3	13.62	53.089	
3,200.0	3,134.3	3,108.4	3,094.4	12.0	7.1	-151.29	-355.5	29.3	749.1	735.0	14.10	53.125	
3,300.0	3,231.4	3,204.9	3,190.3	12.4	7.3	-151.41	-366.1	27.8	775.3	760.7	14.58	53.159	
3,400.0	3,328.6	3,301.3	3,286.2	12.9	7.6	-151.52	-376.8	26.4	801.5	786.4	15.07	53.191	
3,500.0	3,425.7	3,397.8	3,382.1	13.3	7.8	-151.62	-387.5	24.9	827.7	812.2	15.55	53.220	
3,600.0	3,522.8	3,494.3	3,478.0	13.8	8.1	-151.72	-398.2	23.4	854.0	837.9	16.04	53.248	
3,700.0	3,620.0	3,590.8	3,573.9	14.3	8.3	-151.81	-408.9	22.0	880.2	863.6	16.52	53.273	
3,800.0	3,717.1	3,687.3	3,669.7	14.7	8.6	-151.90	-419.6	20.5	906.4	889.4	17.01	53.298	
3,900.0	3,814.2	3,783.8	3,765.6	15.2	8.8	-151.98	-430.3	19.0	932.6	915.1	17.49	53.321	
4,000.0	3,911.4	3,880.3	3,861.5	15.6	9.1	-152.06	-441.0	17.5	958.8	940.9	17.98	53.342	
4,100.0	4,008.5	3,976.8	3,957.4	16.1	9.3	-152.13	-451.7	16.1	985.1	966.6	18.46	53.363	
4,200.0	4,105.6	4,073.3	4,053.3	16.6	9.6	-152.20	-462.4	14.6	1,011.3	992.4	18.94	53.382	
4,300.0	4,202.7	4,169.8	4,149.2	17.0	9.8	-152.26	-473.0	13.1	1,037.5	1,018.1	19.43	53.400	
4,400.0	4,299.9	4,266.3	4,245.1	17.5	10.1	-152.33	-483.7	11.7	1,063.8	1,043.8	19.91	53.418	
4,500.0	4,397.0	4,362.8	4,340.9	17.9	10.3	-152.39	-494.4	10.2	1,090.0	1,069.6	20.40	53.434	

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 21-15D (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 21-15D (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)				Between Centres (ft)	Between Ellipses (ft)	
0.0	0.0	0.0	0.0	0.0	0.0	147.59	-88.9	56.4	105.3					
100.0	100.0	100.0	100.0	0.1	0.1	147.59	-88.9	56.4	105.3	0.30	354.820			
200.0	200.0	200.0	200.0	0.3	0.3	147.59	-88.9	56.4	105.3	0.65	163.025			
300.0	300.0	300.0	300.0	0.5	0.5	147.59	-88.9	56.4	105.3	0.99	105.824 CC, ES			
400.0	400.0	400.0	400.0	0.7	0.7	-131.41	-88.9	56.4	106.1	1.34	78.935			
500.0	499.9	499.9	499.9	0.9	0.8	-132.93	-88.9	56.4	108.8	1.70	64.056			
600.0	599.7	599.7	599.7	1.1	1.0	-135.30	-88.9	56.4	113.3	2.06	55.072			
700.0	699.3	697.3	697.3	1.3	1.2	-137.78	-90.1	56.2	120.8	2.42	49.877			
800.0	798.6	794.6	794.5	1.5	1.4	-139.77	-93.7	55.5	132.0	2.80	47.192			
900.0	897.5	891.4	891.1	1.8	1.6	-141.25	-99.8	54.3	146.9	3.19	46.055			
1,000.0	996.1	989.7	989.2	2.1	1.7	-142.66	-107.0	52.9	164.6	3.60	45.719 SF			
1,100.0	1,094.2	1,087.6	1,086.8	2.5	1.9	-144.24	-114.2	51.4	184.4	4.02	45.881			
1,200.0	1,191.7	1,184.9	1,183.8	2.9	2.1	-145.87	-121.4	50.0	206.5	4.45	46.444			
1,300.0	1,288.8	1,281.9	1,280.5	3.4	2.3	-147.55	-128.5	48.6	230.2	4.88	47.204			
1,400.0	1,386.0	1,378.8	1,377.2	3.8	2.5	-148.95	-135.6	47.2	254.1	5.31	47.875			
1,500.0	1,483.1	1,475.8	1,473.9	4.2	2.7	-150.11	-142.8	45.8	278.0	5.74	48.473			
1,600.0	1,580.2	1,572.7	1,570.5	4.7	3.0	-151.09	-149.9	44.4	302.1	6.16	49.009			
1,700.0	1,677.4	1,669.7	1,667.2	5.1	3.2	-151.92	-157.0	43.0	326.2	6.59	49.491			
1,800.0	1,774.5	1,766.6	1,763.9	5.6	3.4	-152.64	-164.2	41.6	350.4	7.02	49.927			
1,900.0	1,871.6	1,863.5	1,860.5	6.0	3.6	-153.26	-171.3	40.2	374.7	7.45	50.322			
2,000.0	1,968.7	1,960.5	1,957.2	6.5	3.8	-153.81	-178.4	38.7	399.0	7.87	50.682			
2,100.0	2,065.9	2,057.4	2,053.9	6.9	4.0	-154.30	-185.6	37.3	423.3	8.30	51.011			
2,200.0	2,163.0	2,154.4	2,150.5	7.4	4.2	-154.73	-192.7	35.9	447.6	8.72	51.313			
2,300.0	2,260.1	2,251.3	2,247.2	7.8	4.4	-155.12	-199.9	34.5	472.0	9.15	51.591			
2,400.0	2,357.3	2,348.2	2,343.9	8.3	4.6	-155.47	-207.0	33.1	496.4	9.57	51.847			
2,500.0	2,454.4	2,445.2	2,440.5	8.8	4.8	-155.79	-214.1	31.7	520.8	10.00	52.084			
2,600.0	2,551.5	2,542.1	2,537.2	9.2	5.0	-156.08	-221.3	30.3	545.2	10.42	52.304			
2,700.0	2,648.7	2,639.1	2,633.9	9.7	5.2	-156.34	-228.4	28.9	569.6	10.85	52.508			
2,800.0	2,745.8	2,736.0	2,730.5	10.1	5.4	-156.58	-235.5	27.5	594.0	11.27	52.699			
2,900.0	2,842.9	2,833.0	2,827.2	10.6	5.7	-156.81	-242.7	26.1	618.4	11.70	52.877			
3,000.0	2,940.1	2,929.9	2,923.9	11.0	5.9	-157.01	-249.8	24.7	642.9	12.12	53.044			
3,100.0	3,037.2	3,026.8	3,020.5	11.5	6.1	-157.21	-256.9	23.3	667.3	12.54	53.201			
3,200.0	3,134.3	3,123.8	3,117.2	12.0	6.3	-157.38	-264.1	21.8	691.8	12.97	53.348			
3,300.0	3,231.4	3,220.7	3,213.9	12.4	6.5	-157.55	-271.2	20.4	716.3	13.39	53.487			
3,400.0	3,328.6	3,317.7	3,310.5	12.9	6.7	-157.70	-278.3	19.0	740.7	13.82	53.618			
3,500.0	3,425.7	3,414.6	3,407.2	13.3	6.9	-157.85	-285.5	17.6	765.2	14.24	53.741			
3,600.0	3,522.8	3,511.5	3,503.9	13.8	7.1	-157.98	-292.6	16.2	789.7	14.66	53.858			
3,700.0	3,620.0	3,608.5	3,600.5	14.3	7.3	-158.11	-299.7	14.8	814.2	15.09	53.969			
3,800.0	3,717.1	3,705.4	3,697.2	14.7	7.6	-158.23	-306.9	13.4	838.7	15.51	54.074			
3,900.0	3,814.2	3,802.4	3,793.9	15.2	7.8	-158.35	-314.0	12.0	863.2	15.93	54.174			
4,000.0	3,911.4	3,899.3	3,890.5	15.6	8.0	-158.45	-321.1	10.6	887.7	16.36	54.269			
4,100.0	4,008.5	3,996.2	3,987.2	16.1	8.2	-158.55	-328.3	9.2	912.2	16.78	54.360			
4,200.0	4,105.6	4,093.2	4,083.9	16.6	8.4	-158.65	-335.4	7.8	936.7	17.20	54.446			
4,300.0	4,202.7	4,190.1	4,180.5	17.0	8.6	-158.74	-342.5	6.4	961.2	17.63	54.529			
4,400.0	4,299.9	4,287.1	4,277.2	17.5	8.8	-158.83	-349.7	4.9	985.7	18.05	54.608			
4,500.0	4,397.0	4,384.0	4,373.9	17.9	9.0	-158.91	-356.8	3.5	1,010.2	18.47	54.683			
4,600.0	4,494.1	4,480.9	4,470.5	18.4	9.2	-158.99	-363.9	2.1	1,034.7	18.90	54.755			
4,700.0	4,591.3	4,577.9	4,567.2	18.9	9.4	-159.06	-371.1	0.7	1,059.2	19.32	54.825			
4,800.0	4,688.4	4,674.8	4,663.9	19.3	9.7	-159.14	-378.2	-0.7	1,083.7	19.74	54.891			
4,900.0	4,785.5	4,771.8	4,760.5	19.8	9.9	-159.20	-385.3	-2.1	1,108.2	20.17	54.955			

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 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
0.0	0.0	300.0	300.0	0.0	0.0	129.54	-20.0	24.3	31.5							
100.0	100.0	400.0	400.0	0.1	0.1	129.54	-20.0	24.3	31.5	31.2	0.30	106.053				
200.0	200.0	500.0	500.0	0.3	0.3	129.54	-20.0	24.3	31.5	30.8	0.65	48.727	CC, ES			
300.0	300.0	599.2	599.2	0.5	0.5	129.90	-21.0	25.1	32.7	31.8	1.00	32.904				
400.0	400.0	698.1	698.1	0.7	0.7	-148.66	-23.9	27.7	37.7	36.4	1.34	28.117				
500.0	499.9	796.9	796.6	0.9	0.9	-149.84	-28.6	31.8	47.4	45.7	1.69	28.040	SF			
600.0	599.7	896.0	895.5	1.1	1.1	-151.68	-34.0	36.5	60.1	58.1	2.04	29.424				
700.0	699.3	994.9	994.1	1.3	1.3	-153.75	-39.3	41.2	75.2	72.8	2.40	31.354				
800.0	798.6	1,093.3	1,092.2	1.5	1.5	-155.77	-44.6	45.8	92.7	89.9	2.75	33.644				
900.0	897.5	1,191.2	1,189.9	1.8	1.7	-157.63	-49.9	50.4	112.6	109.5	3.11	36.189				
1,000.0	996.1	1,288.6	1,287.0	2.1	1.9	-159.29	-55.1	55.0	135.0	131.6	3.47	38.925				
1,100.0	1,094.2	1,385.3	1,383.5	2.5	2.1	-160.76	-60.3	59.6	160.0	156.1	3.83	41.811				
1,200.0	1,191.7	1,481.4	1,479.4	2.9	2.3	-162.05	-65.5	64.1	187.4	183.2	4.18	44.819				
1,300.0	1,288.8	1,577.0	1,574.7	3.4	2.5	-163.23	-70.6	68.6	216.5	211.9	4.54	47.644				
1,400.0	1,386.0	1,672.6	1,670.0	3.8	2.7	-164.15	-75.8	73.1	245.6	240.7	4.91	50.057				
1,500.0	1,483.1	1,768.2	1,765.4	4.2	2.9	-164.88	-80.9	77.7	274.9	269.6	5.27	52.151				
1,600.0	1,580.2	1,870.2	1,867.2	4.7	3.1	-165.59	-85.6	81.8	303.2	297.6	5.64	53.772				
1,700.0	1,677.4	1,974.4	1,971.3	5.1	3.3	-166.41	-88.3	84.1	329.3	323.3	6.00	54.867				
1,800.0	1,774.5	2,077.5	2,074.5	5.6	3.5	-167.31	-88.9	84.6	353.2	346.8	6.36	55.570				
1,900.0	1,871.6	2,174.7	2,171.6	6.0	3.6	-168.11	-88.9	84.6	376.4	369.7	6.70	56.209				
2,000.0	1,968.7	2,271.8	2,268.7	6.5	3.8	-168.81	-88.9	84.6	399.8	392.7	7.04	56.804				
2,100.0	2,065.9	2,368.9	2,365.9	6.9	3.9	-169.43	-88.9	84.6	423.2	415.8	7.38	57.357				
2,200.0	2,163.0	2,466.1	2,463.0	7.4	4.1	-169.99	-88.9	84.6	446.6	438.9	7.72	57.872				
2,300.0	2,260.1	2,563.2	2,560.1	7.8	4.2	-170.50	-88.9	84.6	470.0	462.0	8.06	58.350				
2,400.0	2,357.3	2,660.3	2,657.3	8.3	4.4	-170.95	-88.9	84.6	493.5	485.1	8.39	58.795				
2,500.0	2,454.4	2,757.4	2,754.4	8.8	4.6	-171.37	-88.9	84.6	517.0	508.3	8.73	59.211				
2,600.0	2,551.5	2,854.6	2,851.5	9.2	4.7	-171.75	-88.9	84.6	540.6	531.5	9.07	59.598				
2,700.0	2,648.7	2,951.7	2,948.7	9.7	4.9	-172.09	-88.9	84.6	564.1	554.7	9.41	59.960				
2,800.0	2,745.8	3,048.8	3,045.8	10.1	5.0	-172.41	-88.9	84.6	587.7	578.0	9.75	60.299				
2,900.0	2,842.9	3,146.0	3,142.9	10.6	5.2	-172.71	-88.9	84.6	611.3	601.2	10.08	60.617				
3,000.0	2,940.1	3,243.1	3,240.1	11.0	5.4	-172.98	-88.9	84.6	634.9	624.5	10.42	60.916				
3,100.0	3,037.2	3,340.2	3,337.2	11.5	5.5	-173.23	-88.9	84.6	658.6	647.8	10.76	61.196				
3,200.0	3,134.3	3,437.4	3,434.3	12.0	5.7	-173.47	-88.9	84.6	682.2	671.1	11.10	61.460				
3,300.0	3,231.4	3,534.5	3,531.4	12.4	5.8	-173.69	-88.9	84.6	705.8	694.4	11.44	61.709				
3,400.0	3,328.6	3,631.6	3,628.6	12.9	6.0	-173.89	-88.9	84.6	729.5	717.7	11.78	61.944				
3,500.0	3,425.7	3,728.7	3,725.7	13.3	6.2	-174.08	-88.9	84.6	753.1	741.0	12.12	62.166				
3,600.0	3,522.8	3,825.9	3,822.8	13.8	6.3	-174.26	-88.9	84.6	776.8	764.4	12.45	62.376				
3,700.0	3,620.0	3,923.0	3,920.0	14.3	6.5	-174.43	-88.9	84.6	800.5	787.7	12.79	62.575				
3,800.0	3,717.1	4,020.1	4,017.1	14.7	6.7	-174.59	-88.9	84.6	824.2	811.0	13.13	62.764				
3,900.0	3,814.2	4,117.3	4,114.2	15.2	6.8	-174.75	-88.9	84.6	847.9	834.4	13.47	62.943				
4,000.0	3,911.4	4,214.4	4,211.4	15.6	7.0	-174.89	-88.9	84.6	871.5	857.7	13.81	63.113				
4,100.0	4,008.5	4,311.5	4,308.5	16.1	7.2	-175.02	-88.9	84.6	895.2	881.1	14.15	63.276				
4,200.0	4,105.6	4,408.7	4,405.6	16.6	7.3	-175.15	-88.9	84.6	918.9	904.5	14.49	63.430				
4,300.0	4,202.7	4,505.8	4,502.7	17.0	7.5	-175.28	-88.9	84.6	942.7	927.8	14.83	63.578				
4,400.0	4,299.9	4,602.9	4,599.9	17.5	7.7	-175.39	-88.9	84.6	966.4	951.2	15.17	63.719				
4,500.0	4,397.0	4,700.1	4,697.0	17.9	7.8	-175.50	-88.9	84.6	990.1	974.6	15.51	63.853				
4,600.0	4,494.1	4,797.2	4,794.1	18.4	8.0	-175.61	-88.9	84.6	1,013.8	997.9	15.85	63.982				
4,700.0	4,591.3	4,894.3	4,891.3	18.9	8.2	-175.71	-88.9	84.6	1,037.5	1,021.3	16.18	64.105				
4,800.0	4,688.4	4,991.4	4,988.4	19.3	8.3	-175.80	-88.9	84.6	1,061.2	1,044.7	16.52	64.223				
4,900.0	4,785.5	5,088.6	5,085.5	19.8	8.5	-175.90	-88.9	84.6	1,085.0	1,068.1	16.86	64.336				
5,000.0	4,882.7	5,185.7	5,182.7	20.2	8.7	-175.98	-88.9	84.6	1,108.7	1,091.5	17.20	64.445				

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 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance									
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	116.09	-8.0	16.4	18.2							
100.0	100.0	100.0	100.0	0.1	0.1	116.09	-8.0	16.4	18.2	17.9	0.30	61.414				
200.0	200.0	200.0	200.0	0.3	0.3	116.09	-8.0	16.4	18.2	17.6	0.65	28.217				
300.0	300.0	300.0	300.0	0.5	0.5	116.09	-8.0	16.4	18.2	17.2	0.99	18.316 CC, ES				
400.0	400.0	400.0	400.0	0.7	0.7	-163.54	-8.0	16.4	19.5	18.1	1.34	14.492				
500.0	499.9	499.9	499.9	0.9	0.8	-166.27	-8.0	16.4	23.3	21.6	1.69	13.748 SF				
600.0	599.7	599.9	599.8	1.1	1.0	-171.73	-6.7	16.5	29.4	27.3	2.04	14.399				
700.0	699.3	699.5	699.4	1.3	1.2	-179.52	-2.8	16.9	38.0	35.6	2.39	15.899				
800.0	798.6	798.6	798.3	1.5	1.4	172.94	3.5	17.5	49.8	47.1	2.75	18.089				
900.0	897.5	897.4	896.8	1.8	1.6	168.09	10.6	18.1	64.8	61.6	3.13	20.723				
1,000.0	996.1	995.7	994.9	2.1	1.8	165.50	17.7	18.8	82.5	79.0	3.50	23.542				
1,100.0	1,094.2	1,093.6	1,092.6	2.5	2.0	164.20	24.7	19.5	102.8	98.9	3.89	26.439				
1,200.0	1,191.7	1,191.0	1,189.7	2.9	2.2	163.64	31.7	20.2	125.6	121.3	4.28	29.377				
1,300.0	1,288.8	1,288.0	1,286.4	3.4	2.4	163.49	38.7	20.8	150.0	145.3	4.67	32.094				
1,400.0	1,386.0	1,384.9	1,383.1	3.8	2.6	163.40	45.7	21.5	174.5	169.4	5.08	34.358				
1,500.0	1,483.1	1,481.9	1,479.8	4.2	2.8	163.33	52.6	22.2	198.9	193.4	5.48	36.274				
1,600.0	1,580.2	1,578.9	1,576.5	4.7	3.0	163.28	59.6	22.8	223.3	217.4	5.89	37.915				
1,700.0	1,677.4	1,675.8	1,673.3	5.1	3.2	163.23	66.6	23.5	247.8	241.5	6.30	39.335				
1,800.0	1,774.5	1,772.8	1,770.0	5.6	3.4	163.20	73.5	24.2	272.2	265.5	6.71	40.575				
1,900.0	1,871.6	1,869.8	1,866.7	6.0	3.6	163.17	80.5	24.8	296.7	289.5	7.12	41.667				
2,000.0	1,968.7	1,966.7	1,963.4	6.5	3.8	163.15	87.5	25.5	321.1	313.6	7.53	42.635				
2,100.0	2,065.9	2,063.7	2,060.1	6.9	4.0	163.12	94.4	26.2	345.5	337.6	7.94	43.500				
2,200.0	2,163.0	2,160.7	2,156.8	7.4	4.2	163.11	101.4	26.8	370.0	361.6	8.36	44.276				
2,300.0	2,260.1	2,257.6	2,253.5	7.8	4.4	163.09	108.4	27.5	394.4	385.7	8.77	44.976				
2,400.0	2,357.3	2,354.6	2,350.3	8.3	4.6	163.08	115.3	28.1	418.9	409.7	9.18	45.612				
2,500.0	2,454.4	2,451.6	2,447.0	8.8	4.9	163.06	122.3	28.8	443.3	433.7	9.60	46.190				
2,600.0	2,551.5	2,548.5	2,543.7	9.2	5.1	163.05	129.3	29.5	467.7	457.7	10.01	46.720				
2,700.0	2,648.7	2,645.5	2,640.4	9.7	5.3	163.04	136.3	30.1	492.2	481.8	10.43	47.206				
2,800.0	2,745.8	2,742.5	2,737.1	10.1	5.5	163.03	143.2	30.8	516.6	505.8	10.84	47.654				
2,900.0	2,842.9	2,839.4	2,833.8	10.6	5.7	163.02	150.2	31.5	541.1	529.8	11.26	48.068				
3,000.0	2,940.1	2,936.4	2,930.5	11.0	5.9	163.02	157.2	32.1	565.5	553.8	11.67	48.451				
3,100.0	3,037.2	3,033.4	3,027.3	11.5	6.1	163.01	164.1	32.8	590.0	577.9	12.09	48.808				
3,200.0	3,134.3	3,130.3	3,124.0	12.0	6.3	163.00	171.1	33.5	614.4	601.9	12.50	49.140				
3,300.0	3,231.4	3,231.2	3,224.7	12.4	6.5	163.12	177.0	34.0	638.5	625.6	12.90	49.516				
3,400.0	3,328.6	3,332.3	3,325.7	12.9	6.7	163.45	180.3	34.4	662.1	648.9	13.25	49.981				
3,500.0	3,425.7	3,432.3	3,425.7	13.3	6.8	163.97	181.0	34.4	685.1	671.6	13.56	50.513				
3,600.0	3,522.8	3,529.5	3,522.8	13.8	7.0	164.50	181.0	34.4	708.1	694.2	13.87	51.040				
3,700.0	3,620.0	3,626.6	3,620.0	14.3	7.1	165.00	181.0	34.4	731.1	716.9	14.18	51.545				
3,800.0	3,717.1	3,723.7	3,717.1	14.7	7.3	165.47	181.0	34.4	754.1	739.6	14.49	52.028				
3,900.0	3,814.2	3,820.8	3,814.2	15.2	7.4	165.91	181.0	34.4	777.2	762.4	14.81	52.491				
4,000.0	3,911.4	3,918.0	3,911.4	15.6	7.6	166.32	181.0	34.4	800.3	785.2	15.12	52.935				
4,100.0	4,008.5	4,015.1	4,008.5	16.1	7.7	166.71	181.0	34.4	823.5	808.1	15.43	53.359				
4,200.0	4,105.6	4,112.2	4,105.6	16.6	7.9	167.08	181.0	34.4	846.7	830.9	15.75	53.767				
4,300.0	4,202.7	4,209.4	4,202.7	17.0	8.0	167.43	181.0	34.4	869.9	853.9	16.06	54.157				
4,400.0	4,299.9	4,306.5	4,299.9	17.5	8.2	167.76	181.0	34.4	893.2	876.8	16.38	54.531				
4,500.0	4,397.0	4,403.6	4,397.0	17.9	8.3	168.08	181.0	34.4	916.5	899.8	16.70	54.890				
4,600.0	4,494.1	4,500.8	4,494.1	18.4	8.5	168.38	181.0	34.4	939.8	922.8	17.01	55.235				
4,700.0	4,591.3	4,597.9	4,591.3	18.9	8.7	168.66	181.0	34.4	963.1	945.8	17.33	55.566				
4,800.0	4,688.4	4,695.0	4,688.4	19.3	8.8	168.93	181.0	34.4	986.5	968.8	17.65	55.883				
4,900.0	4,785.5	4,792.2	4,785.5	19.8	9.0	169.19	181.0	34.4	1,009.8	991.9	17.97	56.189				
5,000.0	4,882.7	4,889.3	4,882.7	20.2	9.1	169.44	181.0	34.4	1,033.2	1,014.9	18.29	56.483				
5,100.0	4,979.8	4,986.4	4,979.8	20.7	9.3	169.67	181.0	34.4	1,056.6	1,038.0	18.61	56.765				

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 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1													<b>Offset Site Error:</b> 0.0 ft
Survey Program: 0-MWD													<b>Offset Well Error:</b> 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)			
5,200.0	5,076.9	5,083.5	5,076.9	21.2	9.4	169.90	181.0	34.4	1,080.1	1,061.1	18.94	57.037	
5,300.0	5,174.0	5,180.7	5,174.0	21.6	9.6	170.12	181.0	34.4	1,103.5	1,084.3	19.26	57.299	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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 Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	58.93	5.1	8.5	9.9					
100.0	100.0	100.0	100.0	0.1	0.1	58.93	5.1	8.5	9.9	9.6	0.30	33.306		
200.0	200.0	200.0	200.0	0.3	0.3	58.93	5.1	8.5	9.9	9.2	0.65	15.303		
300.0	300.0	300.0	300.0	0.5	0.5	58.93	5.1	8.5	9.9	8.9	0.99	9.933 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	144.83	5.1	8.5	10.9	9.6	1.34	8.126 SF		
500.0	499.9	499.9	499.9	0.9	0.8	153.90	5.1	8.5	14.3	12.6	1.69	8.449		
600.0	599.7	599.6	599.6	1.1	1.0	158.39	6.4	8.4	20.6	18.6	2.04	10.089		
700.0	699.3	699.0	698.9	1.3	1.2	157.49	10.3	8.4	30.0	27.6	2.40	12.465		
800.0	798.6	798.0	797.7	1.5	1.4	154.94	16.7	8.3	42.3	39.5	2.78	15.214		
900.0	897.5	896.7	896.1	1.8	1.6	152.90	24.9	8.2	57.6	54.4	3.18	18.115		
1,000.0	996.1	995.2	994.2	2.1	1.8	152.56	33.2	8.0	75.2	71.6	3.59	20.967		
1,100.0	1,094.2	1,093.2	1,091.8	2.5	2.0	153.02	41.5	7.9	95.1	91.1	4.00	23.769		
1,200.0	1,191.7	1,190.6	1,189.0	2.9	2.2	153.85	49.7	7.8	117.3	112.9	4.42	26.541		
1,300.0	1,288.8	1,287.8	1,285.7	3.4	2.4	154.80	57.8	7.7	141.0	136.2	4.85	29.105		
1,400.0	1,386.0	1,384.9	1,382.5	3.8	2.6	155.50	66.0	7.5	164.8	159.5	5.28	31.240		
1,500.0	1,483.1	1,482.0	1,479.3	4.2	2.9	156.03	74.1	7.4	188.6	182.9	5.71	33.043		
1,600.0	1,580.2	1,579.1	1,576.0	4.7	3.1	156.43	82.3	7.3	212.4	206.3	6.14	34.584		
1,700.0	1,677.4	1,676.2	1,672.8	5.1	3.3	156.76	90.5	7.2	236.3	229.7	6.58	35.915		
1,800.0	1,774.5	1,773.3	1,769.6	5.6	3.5	157.03	98.6	7.0	260.1	253.1	7.02	37.075		
1,900.0	1,871.6	1,870.4	1,866.3	6.0	3.7	157.25	106.8	6.9	284.0	276.5	7.45	38.096		
2,000.0	1,968.7	1,967.5	1,963.1	6.5	3.9	157.43	115.0	6.8	307.8	299.9	7.89	39.000		
2,100.0	2,065.9	2,064.7	2,059.9	6.9	4.2	157.59	123.1	6.7	331.7	323.3	8.33	39.806		
2,200.0	2,163.0	2,161.8	2,156.6	7.4	4.4	157.73	131.3	6.6	355.5	346.7	8.77	40.529		
2,300.0	2,260.1	2,258.9	2,253.4	7.8	4.6	157.85	139.5	6.4	379.4	370.1	9.21	41.181		
2,400.0	2,357.3	2,356.0	2,350.2	8.3	4.8	157.96	147.6	6.3	403.2	393.6	9.65	41.772		
2,500.0	2,454.4	2,453.1	2,446.9	8.8	5.0	158.05	155.8	6.2	427.1	417.0	10.09	42.310		
2,600.0	2,551.5	2,550.2	2,543.7	9.2	5.3	158.14	164.0	6.1	450.9	440.4	10.53	42.802		
2,700.0	2,648.7	2,647.3	2,640.5	9.7	5.5	158.21	172.1	5.9	474.8	463.8	10.98	43.253		
2,800.0	2,745.8	2,744.4	2,737.2	10.1	5.7	158.28	180.3	5.8	498.6	487.2	11.42	43.669		
2,900.0	2,842.9	2,841.5	2,834.0	10.6	5.9	158.35	188.4	5.7	522.5	510.6	11.86	44.053		
3,000.0	2,940.1	2,938.7	2,930.8	11.0	6.1	158.40	196.6	5.6	546.3	534.0	12.30	44.409		
3,100.0	3,037.2	3,035.8	3,027.5	11.5	6.4	158.46	204.8	5.4	570.2	557.5	12.75	44.739		
3,200.0	3,134.3	3,132.9	3,124.3	12.0	6.6	158.50	212.9	5.3	594.1	580.9	13.19	45.047		
3,300.0	3,231.4	3,230.0	3,221.1	12.4	6.8	158.55	221.1	5.2	617.9	604.3	13.63	45.334		
3,400.0	3,328.6	3,327.1	3,317.8	12.9	7.0	158.59	229.3	5.1	641.8	627.7	14.07	45.603		
3,500.0	3,425.7	3,424.2	3,414.6	13.3	7.2	158.63	237.4	4.9	665.6	651.1	14.52	45.855		
3,600.0	3,522.8	3,521.3	3,511.4	13.8	7.5	158.66	245.6	4.8	689.5	674.5	14.96	46.092		
3,700.0	3,620.0	3,618.4	3,608.1	14.3	7.7	158.70	253.8	4.7	713.4	698.0	15.40	46.315		
3,800.0	3,717.1	3,715.5	3,704.9	14.7	7.9	158.73	261.9	4.6	737.2	721.4	15.85	46.525		
3,900.0	3,814.2	3,812.6	3,801.7	15.2	8.1	158.76	270.1	4.5	761.1	744.8	16.29	46.724		
4,000.0	3,911.4	3,909.8	3,898.4	15.6	8.3	158.78	278.2	4.3	784.9	768.2	16.73	46.912		
4,100.0	4,008.5	4,006.9	3,995.2	16.1	8.6	158.81	286.4	4.2	808.8	791.6	17.18	47.090		
4,200.0	4,105.6	4,104.0	4,092.0	16.6	8.8	158.83	294.6	4.1	832.7	815.1	17.62	47.259		
4,300.0	4,202.7	4,201.1	4,188.7	17.0	9.0	158.86	302.7	4.0	856.5	838.5	18.06	47.420		
4,400.0	4,299.9	4,298.2	4,285.5	17.5	9.2	158.88	310.9	3.8	880.4	861.9	18.51	47.572		
4,500.0	4,397.0	4,395.3	4,382.3	17.9	9.4	158.90	319.1	3.7	904.3	885.3	18.95	47.718		
4,600.0	4,494.1	4,492.4	4,479.0	18.4	9.7	158.92	327.2	3.6	928.1	908.7	19.39	47.856		
4,700.0	4,591.3	4,589.5	4,575.8	18.9	9.9	158.94	335.4	3.5	952.0	932.1	19.84	47.989		
4,800.0	4,688.4	4,686.6	4,672.6	19.3	10.1	158.95	343.6	3.3	975.8	955.6	20.28	48.115		
4,900.0	4,785.5	4,783.8	4,769.3	19.8	10.3	158.97	351.7	3.2	999.7	979.0	20.73	48.236		
5,000.0	4,882.7	4,880.9	4,866.1	20.2	10.6	158.99	359.9	3.1	1,023.6	1,002.4	21.17	48.352		
5,100.0	4,979.8	4,978.0	4,962.9	20.7	10.8	159.00	368.1	3.0	1,047.4	1,025.8	21.61	48.463		

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 21-15D (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 21-15D (Oxy I21 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1													<b>Offset Site Error:</b> 0.0 ft
Survey Program: 0-MWD													<b>Offset Well Error:</b> 0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)			
5,200.0	5,076.9	5,075.1	5,059.6	21.2	11.0	159.02	376.2	2.8	1,071.3	1,049.2	22.06	48.570	
5,300.0	5,174.0	5,172.2	5,156.4	21.6	11.2	159.03	384.4	2.7	1,095.2	1,072.7	22.50	48.672	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
0.0	0.0	0.0	0.0	0.0	0.0	147.36	-75.8	48.5	90.0					
100.0	100.0	100.0	100.0	0.1	0.1	147.36	-75.8	48.5	90.0	89.7	0.30	303.241		
200.0	200.0	200.0	200.0	0.3	0.3	147.36	-75.8	48.5	90.0	89.3	0.65	139.327 CC, ES		
300.0	300.0	299.3	299.3	0.5	0.5	148.14	-76.7	47.7	90.4	89.4	0.99	90.930		
400.0	400.0	398.5	398.4	0.7	0.7	-128.63	-79.7	45.2	92.4	91.1	1.35	68.239		
500.0	499.9	497.5	497.2	0.9	0.9	-126.78	-84.5	41.0	97.0	95.3	1.73	56.024		
600.0	599.7	596.2	595.5	1.1	1.1	-124.93	-91.3	35.2	104.3	102.1	2.14	48.724		
700.0	699.3	694.6	693.2	1.3	1.4	-123.20	-100.0	27.7	114.1	111.5	2.59	44.093		
800.0	798.6	792.5	790.1	1.5	1.7	-121.66	-110.6	18.7	126.4	123.3	3.08	41.026		
900.0	897.5	889.8	886.0	1.8	2.0	-120.33	-122.9	8.1	141.3	137.7	3.63	38.923		
1,000.0	996.1	986.5	980.9	2.1	2.3	-119.20	-137.0	-4.0	158.7	154.4	4.24	37.438		
1,100.0	1,094.2	1,082.5	1,074.7	2.5	2.7	-118.25	-152.8	-17.6	178.5	173.6	4.91	36.360		
1,200.0	1,191.7	1,177.7	1,167.1	2.9	3.2	-117.46	-170.2	-32.5	200.7	195.0	5.64	35.559		
1,300.0	1,288.8	1,272.2	1,258.1	3.4	3.6	-116.86	-189.2	-48.8	224.8	218.4	6.43	34.985		
1,400.0	1,386.0	1,365.9	1,347.9	3.8	4.1	-115.96	-209.7	-66.5	250.2	243.0	7.24	34.543		
1,500.0	1,483.1	1,458.8	1,436.2	4.2	4.7	-114.81	-231.7	-85.4	276.9	268.8	8.09	34.233		
1,600.0	1,580.2	1,550.8	1,522.9	4.7	5.2	-113.49	-255.1	-105.4	304.9	296.0	8.96	34.049		
1,700.0	1,677.4	1,641.9	1,607.9	5.1	5.8	-112.08	-279.8	-126.6	334.4	324.5	9.84	33.987 SF		
1,800.0	1,774.5	1,731.8	1,691.1	5.6	6.5	-110.61	-305.7	-148.9	365.3	354.6	10.73	34.055		
1,900.0	1,871.6	1,825.2	1,776.9	6.0	7.1	-109.14	-333.6	-172.8	397.3	385.7	11.63	34.153		
2,000.0	1,968.7	1,919.5	1,863.6	6.5	7.8	-107.87	-361.8	-197.0	429.5	417.0	12.54	34.257		
2,100.0	2,065.9	2,013.7	1,950.2	6.9	8.5	-106.78	-390.0	-221.2	461.9	448.5	13.44	34.368		
2,200.0	2,163.0	2,108.0	2,036.8	7.4	9.1	-105.83	-418.2	-245.4	494.5	480.1	14.34	34.483		
2,300.0	2,260.1	2,202.3	2,123.5	7.8	9.8	-105.00	-446.3	-269.6	527.1	511.9	15.23	34.598		
2,400.0	2,357.3	2,296.5	2,210.1	8.3	10.5	-104.27	-474.5	-293.8	559.8	543.7	16.13	34.711		
2,500.0	2,454.4	2,390.8	2,296.8	8.8	11.2	-103.61	-502.7	-318.0	592.6	575.6	17.02	34.820		
2,600.0	2,551.5	2,485.1	2,383.4	9.2	11.9	-103.03	-530.9	-342.2	625.5	607.6	17.91	34.925		
2,700.0	2,648.7	2,579.3	2,470.0	9.7	12.5	-102.50	-559.1	-366.4	658.4	639.6	18.80	35.027		
2,800.0	2,745.8	2,673.6	2,556.7	10.1	13.2	-102.02	-587.2	-390.5	691.3	671.7	19.68	35.123		
2,900.0	2,842.9	2,767.8	2,643.3	10.6	13.9	-101.59	-615.4	-414.7	724.3	703.8	20.57	35.216		
3,000.0	2,940.1	2,862.1	2,730.0	11.0	14.6	-101.19	-643.6	-438.9	757.4	735.9	21.45	35.303		
3,100.0	3,037.2	2,956.4	2,816.6	11.5	15.3	-100.83	-671.8	-463.1	790.4	768.1	22.34	35.387		
3,200.0	3,134.3	3,050.6	2,903.2	12.0	16.0	-100.49	-700.0	-487.3	823.5	800.3	23.22	35.467		
3,300.0	3,231.4	3,144.9	2,989.9	12.4	16.7	-100.18	-728.2	-511.5	856.6	832.5	24.10	35.543		
3,400.0	3,328.6	3,239.2	3,076.5	12.9	17.3	-99.90	-756.3	-535.7	889.7	864.8	24.98	35.615		
3,500.0	3,425.7	3,333.4	3,163.1	13.3	18.0	-99.63	-784.5	-559.9	922.9	897.0	25.86	35.684		
3,600.0	3,522.8	3,427.7	3,249.8	13.8	18.7	-99.39	-812.7	-584.1	956.1	929.3	26.74	35.750		
3,700.0	3,620.0	3,522.0	3,336.4	14.3	19.4	-99.16	-840.9	-608.3	989.2	961.6	27.62	35.812		
3,800.0	3,717.1	3,616.2	3,423.1	14.7	20.1	-98.94	-869.1	-632.5	1,022.4	993.9	28.50	35.872		
3,900.0	3,814.2	3,710.5	3,509.7	15.2	20.8	-98.74	-897.2	-656.7	1,055.6	1,026.2	29.38	35.929		
4,000.0	3,911.4	3,804.7	3,596.3	15.6	21.5	-98.55	-925.4	-680.9	1,088.8	1,058.6	30.26	35.983		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 21-15D (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 21-15D (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 21-15D (Oxy I21 Pad)  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.71°

