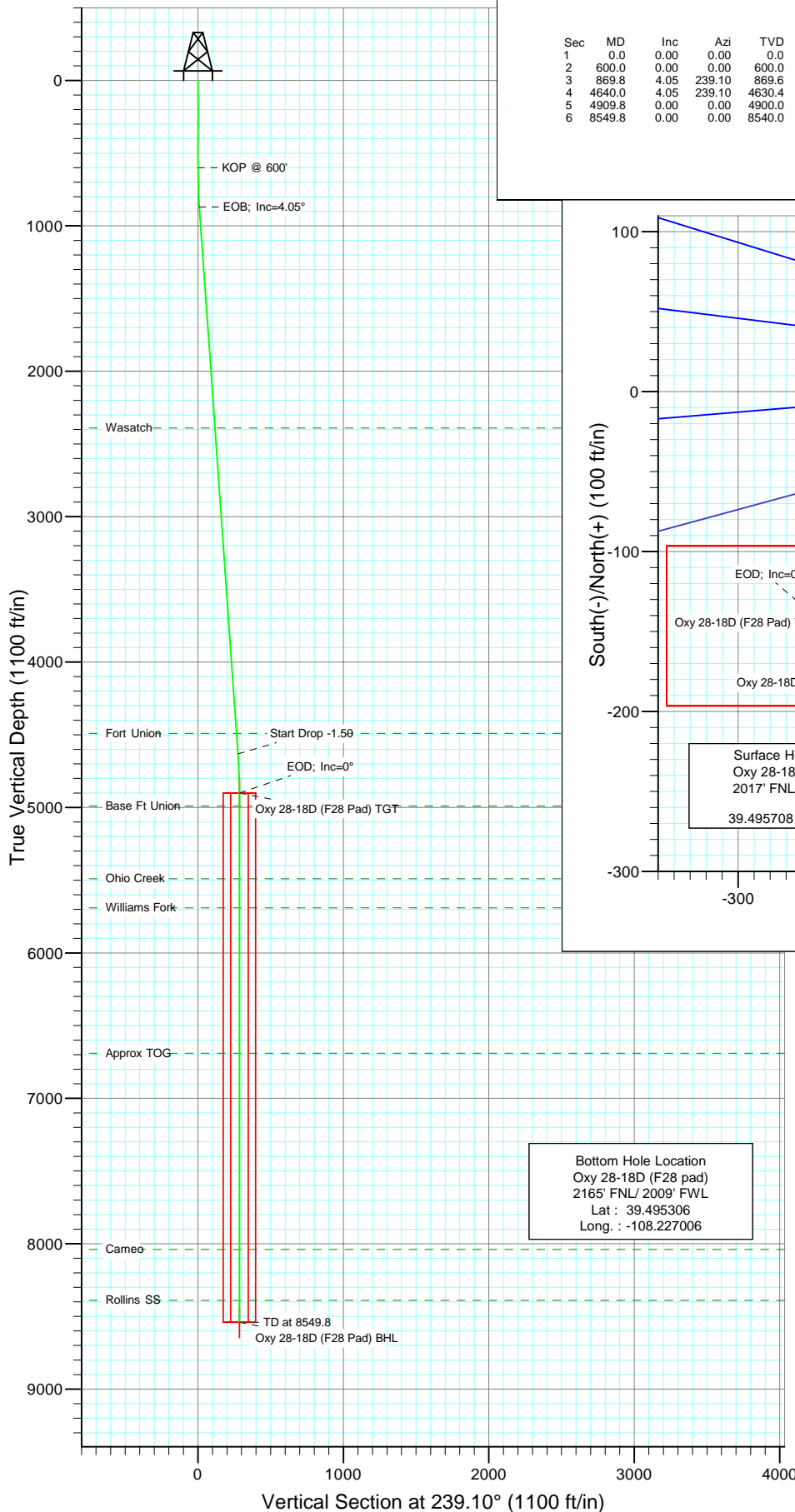




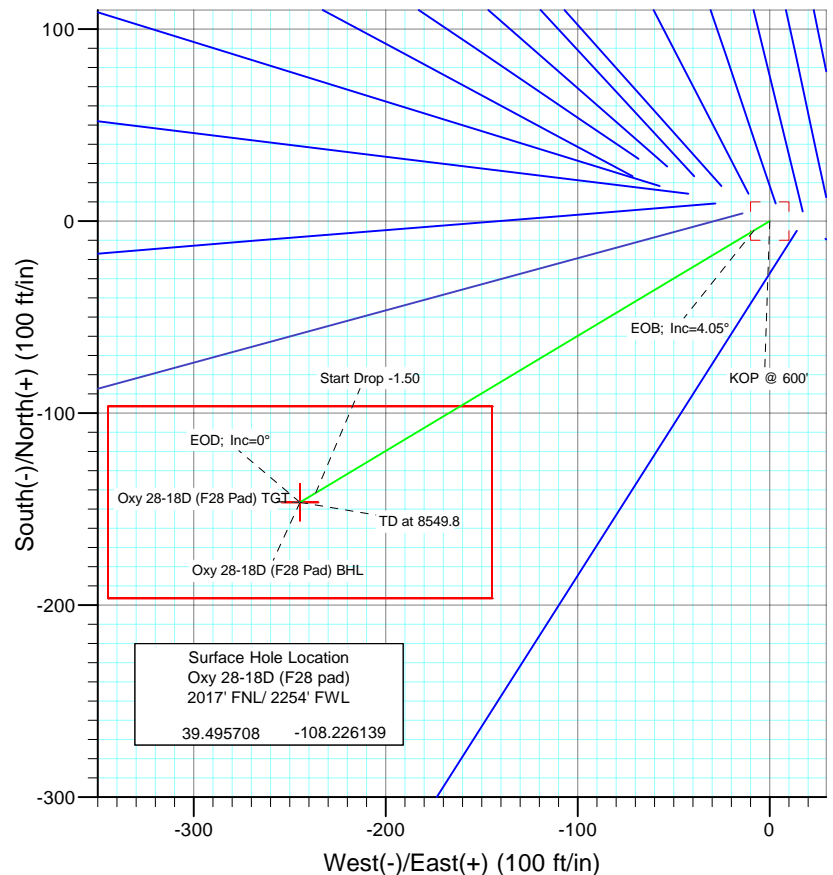
Berry Petroleum Company

Project: Garfield County  
Site: SENW S28-T6S-R97W (F28 Pad)  
Well: Oxy 28-18D (F28 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	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	869.8	4.05	239.10	869.8	-4.9	-8.2	1.50	239.10	9.5	
4	4640.0	4.05	239.10	4630.4	-141.5	-236.5	0.00	0.00	275.6	
5	4909.8	0.00	0.00	4900.0	-146.4	-244.7	1.50	180.00	285.1	Oxy 28-18D (F28 Pad) TGT
6	8549.8	0.00	0.00	8540.0	-146.4	-244.7	0.00	0.00	285.1	Oxy 28-18D (F28 Pad) BHL



Surface Hole Location  
Oxy 28-18D (F28 pad)  
2017' FNL/ 2254' FWL  
39.495708 -108.226139

Bottom Hole Location  
Oxy 28-18D (F28 pad)  
2165' FNL/ 2009' FWL  
Lat : 39.495306  
Long : -108.227006

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2390.0	2394.0	Wasatch
4490.0	4499.3	Fort Union
4990.0	4999.8	Base Ft Union
5490.0	5499.8	Ohio Creek
5690.0	5699.8	Williams Fork
6690.0	6699.8	Approx TOG
8040.0	8049.8	Cameo
8390.0	8399.8	Rollins SS



Azimuths to True North  
Magnetic North: 10.64°

Magnetic Field  
Strength: 52394.8snT  
Dip Angle: 65.75°  
Date: 10/21/2009  
Model: IGRF200510

#### DESIGN DETAILS: Plan #1

95XXX; BH  
KBE @ 8308.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
Oxy 28-18D (F28 Pad) BH	239.10	Slot	0.0	0.0	0.0

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 28-18D (F28 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		SENW S28-T6S-R97W (F28 Pad)			
Site Position:		Northing:	1,616,975.87 ft	Latitude:	39.495683
From:	Lat/Long	Easting:	2,230,827.80 ft	Longitude:	-108.226036
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.72 °

Well	Oxy 28-18D (F28 pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,616,985.83 ft	Latitude:	39.495708
	+E/-W	0.0 ft	Easting:	2,230,799.02 ft	Longitude:	-108.226139
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,293.0 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	10/21/2009	10.64	65.75	52,395

<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	239.10

<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	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
869.8	4.05	239.10	869.6	-4.9	-8.2	1.50	1.50	0.00	239.10	
4,640.0	4.05	239.10	4,630.4	-141.5	-236.5	0.00	0.00	0.00	0.00	
4,909.8	0.00	0.00	4,900.0	-146.4	-244.7	1.50	-1.50	0.00	180.00	Oxy 28-18D (F28 Pad
8,549.8	0.00	0.00	8,540.0	-146.4	-244.7	0.00	0.00	0.00	0.00	Oxy 28-18D (F28 Pad

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 28-18D (F28 pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	0.0	0.0	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	0.0	0.0	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	
210.0	0.00	0.00	210.0	0.0	0.0	0.0	0.00	0.00	
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	
270.0	0.00	0.00	270.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
330.0	0.00	0.00	330.0	0.0	0.0	0.0	0.00	0.00	
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	
390.0	0.00	0.00	390.0	0.0	0.0	0.0	0.00	0.00	
420.0	0.00	0.00	420.0	0.0	0.0	0.0	0.00	0.00	
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	
510.0	0.00	0.00	510.0	0.0	0.0	0.0	0.00	0.00	
540.0	0.00	0.00	540.0	0.0	0.0	0.0	0.00	0.00	
570.0	0.00	0.00	570.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	KOP @ 600'
630.0	0.45	239.10	630.0	-0.1	-0.1	0.1	1.50	1.50	
660.0	0.90	239.10	660.0	-0.2	-0.4	0.5	1.50	1.50	
690.0	1.35	239.10	690.0	-0.5	-0.9	1.1	1.50	1.50	
720.0	1.80	239.10	720.0	-1.0	-1.6	1.9	1.50	1.50	
750.0	2.25	239.10	750.0	-1.5	-2.5	2.9	1.50	1.50	
780.0	2.70	239.10	779.9	-2.2	-3.6	4.2	1.50	1.50	
810.0	3.15	239.10	809.9	-3.0	-5.0	5.8	1.50	1.50	
840.0	3.60	239.10	839.8	-3.9	-6.5	7.5	1.50	1.50	
869.8	4.05	239.10	869.6	-4.9	-8.2	9.5	1.50	1.50	EOB; Inc=4.05°
870.0	4.05	239.10	869.8	-4.9	-8.2	9.5	0.00	0.00	
900.0	4.05	239.10	899.7	-6.0	-10.0	11.7	0.00	0.00	
930.0	4.05	239.10	929.6	-7.1	-11.8	13.8	0.00	0.00	
960.0	4.05	239.10	959.6	-8.2	-13.6	15.9	0.00	0.00	
990.0	4.05	239.10	989.5	-9.2	-15.5	18.0	0.00	0.00	
1,020.0	4.05	239.10	1,019.4	-10.3	-17.3	20.1	0.00	0.00	
1,050.0	4.05	239.10	1,049.3	-11.4	-19.1	22.2	0.00	0.00	
1,080.0	4.05	239.10	1,079.3	-12.5	-20.9	24.4	0.00	0.00	
1,110.0	4.05	239.10	1,109.2	-13.6	-22.7	26.5	0.00	0.00	
1,140.0	4.05	239.10	1,139.1	-14.7	-24.5	28.6	0.00	0.00	
1,170.0	4.05	239.10	1,169.0	-15.8	-26.4	30.7	0.00	0.00	
1,200.0	4.05	239.10	1,199.0	-16.9	-28.2	32.8	0.00	0.00	
1,230.0	4.05	239.10	1,228.9	-17.9	-30.0	34.9	0.00	0.00	
1,260.0	4.05	239.10	1,258.8	-19.0	-31.8	37.1	0.00	0.00	
1,290.0	4.05	239.10	1,288.7	-20.1	-33.6	39.2	0.00	0.00	
1,320.0	4.05	239.10	1,318.7	-21.2	-35.4	41.3	0.00	0.00	
1,350.0	4.05	239.10	1,348.6	-22.3	-37.3	43.4	0.00	0.00	
1,380.0	4.05	239.10	1,378.5	-23.4	-39.1	45.5	0.00	0.00	
1,410.0	4.05	239.10	1,408.4	-24.5	-40.9	47.6	0.00	0.00	
1,440.0	4.05	239.10	1,438.4	-25.6	-42.7	49.8	0.00	0.00	
1,470.0	4.05	239.10	1,468.3	-26.6	-44.5	51.9	0.00	0.00	
1,500.0	4.05	239.10	1,498.2	-27.7	-46.3	54.0	0.00	0.00	

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 28-18D (F28 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	4.05	239.10	1,528.1	-28.8	-48.2	56.1	0.00	0.00	
1,560.0	4.05	239.10	1,558.1	-29.9	-50.0	58.2	0.00	0.00	
1,590.0	4.05	239.10	1,588.0	-31.0	-51.8	60.4	0.00	0.00	
1,620.0	4.05	239.10	1,617.9	-32.1	-53.6	62.5	0.00	0.00	
1,650.0	4.05	239.10	1,647.8	-33.2	-55.4	64.6	0.00	0.00	
1,680.0	4.05	239.10	1,677.8	-34.3	-57.2	66.7	0.00	0.00	
1,710.0	4.05	239.10	1,707.7	-35.3	-59.1	68.8	0.00	0.00	
1,740.0	4.05	239.10	1,737.6	-36.4	-60.9	70.9	0.00	0.00	
1,770.0	4.05	239.10	1,767.5	-37.5	-62.7	73.1	0.00	0.00	
1,800.0	4.05	239.10	1,797.5	-38.6	-64.5	75.2	0.00	0.00	
1,830.0	4.05	239.10	1,827.4	-39.7	-66.3	77.3	0.00	0.00	
1,860.0	4.05	239.10	1,857.3	-40.8	-68.1	79.4	0.00	0.00	
1,890.0	4.05	239.10	1,887.2	-41.9	-70.0	81.5	0.00	0.00	
1,920.0	4.05	239.10	1,917.2	-42.9	-71.8	83.6	0.00	0.00	
1,950.0	4.05	239.10	1,947.1	-44.0	-73.6	85.8	0.00	0.00	
1,980.0	4.05	239.10	1,977.0	-45.1	-75.4	87.9	0.00	0.00	
2,010.0	4.05	239.10	2,006.9	-46.2	-77.2	90.0	0.00	0.00	
2,040.0	4.05	239.10	2,036.9	-47.3	-79.0	92.1	0.00	0.00	
2,070.0	4.05	239.10	2,066.8	-48.4	-80.9	94.2	0.00	0.00	
2,100.0	4.05	239.10	2,096.7	-49.5	-82.7	96.3	0.00	0.00	
2,130.0	4.05	239.10	2,126.6	-50.6	-84.5	98.5	0.00	0.00	
2,160.0	4.05	239.10	2,156.6	-51.6	-86.3	100.6	0.00	0.00	
2,190.0	4.05	239.10	2,186.5	-52.7	-88.1	102.7	0.00	0.00	
2,220.0	4.05	239.10	2,216.4	-53.8	-89.9	104.8	0.00	0.00	
2,250.0	4.05	239.10	2,246.3	-54.9	-91.8	106.9	0.00	0.00	
2,280.0	4.05	239.10	2,276.3	-56.0	-93.6	109.0	0.00	0.00	
2,310.0	4.05	239.10	2,306.2	-57.1	-95.4	111.2	0.00	0.00	
2,340.0	4.05	239.10	2,336.1	-58.2	-97.2	113.3	0.00	0.00	
2,370.0	4.05	239.10	2,366.0	-59.3	-99.0	115.4	0.00	0.00	
2,394.0	4.05	239.10	2,390.0	-60.1	-100.5	117.1	0.00	0.00	Wasatch
2,400.0	4.05	239.10	2,396.0	-60.3	-100.8	117.5	0.00	0.00	
2,430.0	4.05	239.10	2,425.9	-61.4	-102.7	119.6	0.00	0.00	
2,460.0	4.05	239.10	2,455.8	-62.5	-104.5	121.8	0.00	0.00	
2,490.0	4.05	239.10	2,485.7	-63.6	-106.3	123.9	0.00	0.00	

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Oxy 28-18D (F28 Pad) T	0.00	0.00	4,900.0	-146.4	-244.7	1,616,846.83	2,230,550.06	39.495306	-108.227006
- hit/miss target									
- Shape									
- plan misses target center by 2419.6ft at 2490.0ft MD (2485.7 TVD, -63.6 N, -106.3 E)									
- Point									
Oxy 28-18D (F28 Pad) E	0.00	0.00	8,540.0	-146.4	-244.7	1,616,846.83	2,230,550.06	39.495306	-108.227006
- plan misses target center by 6056.4ft at 2490.0ft MD (2485.7 TVD, -63.6 N, -106.3 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 28-18D (F28 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	4.05	239.10	2,495.7	-64.0	-106.9	124.6	0.00	0.00	
2,600.0	4.05	239.10	2,595.5	-67.6	-113.0	131.6	0.00	0.00	
2,700.0	4.05	239.10	2,695.2	-71.2	-119.0	138.7	0.00	0.00	
2,800.0	4.05	239.10	2,795.0	-74.8	-125.1	145.7	0.00	0.00	
2,900.0	4.05	239.10	2,894.7	-78.5	-131.1	152.8	0.00	0.00	
3,000.0	4.05	239.10	2,994.5	-82.1	-137.2	159.9	0.00	0.00	
3,100.0	4.05	239.10	3,094.2	-85.7	-143.2	166.9	0.00	0.00	
3,200.0	4.05	239.10	3,194.0	-89.3	-149.3	174.0	0.00	0.00	
3,300.0	4.05	239.10	3,293.7	-93.0	-155.3	181.0	0.00	0.00	
3,400.0	4.05	239.10	3,393.5	-96.6	-161.4	188.1	0.00	0.00	
3,500.0	4.05	239.10	3,493.2	-100.2	-167.5	195.2	0.00	0.00	
3,600.0	4.05	239.10	3,593.0	-103.8	-173.5	202.2	0.00	0.00	
3,700.0	4.05	239.10	3,692.7	-107.5	-179.6	209.3	0.00	0.00	
3,800.0	4.05	239.10	3,792.5	-111.1	-185.6	216.3	0.00	0.00	
3,900.0	4.05	239.10	3,892.2	-114.7	-191.7	223.4	0.00	0.00	
4,000.0	4.05	239.10	3,992.0	-118.3	-197.7	230.4	0.00	0.00	
4,100.0	4.05	239.10	4,091.7	-122.0	-203.8	237.5	0.00	0.00	
4,200.0	4.05	239.10	4,191.5	-125.6	-209.8	244.6	0.00	0.00	
4,300.0	4.05	239.10	4,291.2	-129.2	-215.9	251.6	0.00	0.00	
4,400.0	4.05	239.10	4,391.0	-132.8	-222.0	258.7	0.00	0.00	
4,499.3	4.05	239.10	4,490.0	-136.4	-228.0	265.7	0.00	0.00	Fort Union
4,500.0	4.05	239.10	4,490.7	-136.4	-228.0	265.7	0.00	0.00	
4,600.0	4.05	239.10	4,590.5	-140.1	-234.1	272.8	0.00	0.00	
4,640.0	4.05	239.10	4,630.4	-141.5	-236.5	275.6	0.00	0.00	Start Drop -1.50
4,700.0	3.15	239.10	4,690.3	-143.5	-239.7	279.4	1.50	-1.50	
4,800.0	1.65	239.10	4,790.2	-145.6	-243.3	283.6	1.50	-1.50	
4,900.0	0.15	239.10	4,890.2	-146.4	-244.7	285.1	1.50	-1.50	
4,909.8	0.00	0.00	4,900.0	-146.4	-244.7	285.1	1.50	-1.50	EOD; Inc=0° - Oxy 28-18D (F28 Pad) TGT
4,999.8	0.00	0.00	4,990.0	-146.4	-244.7	285.1	0.00	0.00	Base Ft Union
5,000.0	0.00	0.00	4,990.2	-146.4	-244.7	285.1	0.00	0.00	
5,100.0	0.00	0.00	5,090.2	-146.4	-244.7	285.1	0.00	0.00	
5,200.0	0.00	0.00	5,190.2	-146.4	-244.7	285.1	0.00	0.00	
5,300.0	0.00	0.00	5,290.2	-146.4	-244.7	285.1	0.00	0.00	
5,400.0	0.00	0.00	5,390.2	-146.4	-244.7	285.1	0.00	0.00	
5,499.8	0.00	0.00	5,490.0	-146.4	-244.7	285.1	0.00	0.00	Ohio Creek
5,500.0	0.00	0.00	5,490.2	-146.4	-244.7	285.1	0.00	0.00	
5,600.0	0.00	0.00	5,590.2	-146.4	-244.7	285.1	0.00	0.00	
5,699.8	0.00	0.00	5,690.0	-146.4	-244.7	285.1	0.00	0.00	Williams Fork
5,700.0	0.00	0.00	5,690.2	-146.4	-244.7	285.1	0.00	0.00	
5,800.0	0.00	0.00	5,790.2	-146.4	-244.7	285.1	0.00	0.00	
5,900.0	0.00	0.00	5,890.2	-146.4	-244.7	285.1	0.00	0.00	
6,000.0	0.00	0.00	5,990.2	-146.4	-244.7	285.1	0.00	0.00	
6,100.0	0.00	0.00	6,090.2	-146.4	-244.7	285.1	0.00	0.00	
6,200.0	0.00	0.00	6,190.2	-146.4	-244.7	285.1	0.00	0.00	
6,300.0	0.00	0.00	6,290.2	-146.4	-244.7	285.1	0.00	0.00	
6,400.0	0.00	0.00	6,390.2	-146.4	-244.7	285.1	0.00	0.00	
6,500.0	0.00	0.00	6,490.2	-146.4	-244.7	285.1	0.00	0.00	
6,600.0	0.00	0.00	6,590.2	-146.4	-244.7	285.1	0.00	0.00	
6,699.8	0.00	0.00	6,690.0	-146.4	-244.7	285.1	0.00	0.00	Approx TOG
6,700.0	0.00	0.00	6,690.2	-146.4	-244.7	285.1	0.00	0.00	
6,800.0	0.00	0.00	6,790.2	-146.4	-244.7	285.1	0.00	0.00	
6,900.0	0.00	0.00	6,890.2	-146.4	-244.7	285.1	0.00	0.00	

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 28-18D (F28 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
7,000.0	0.00	0.00	6,990.2	-146.4	-244.7	285.1	0.00	0.00	
7,100.0	0.00	0.00	7,090.2	-146.4	-244.7	285.1	0.00	0.00	
7,200.0	0.00	0.00	7,190.2	-146.4	-244.7	285.1	0.00	0.00	
7,300.0	0.00	0.00	7,290.2	-146.4	-244.7	285.1	0.00	0.00	
7,400.0	0.00	0.00	7,390.2	-146.4	-244.7	285.1	0.00	0.00	
7,500.0	0.00	0.00	7,490.2	-146.4	-244.7	285.1	0.00	0.00	
7,600.0	0.00	0.00	7,590.2	-146.4	-244.7	285.1	0.00	0.00	
7,700.0	0.00	0.00	7,690.2	-146.4	-244.7	285.1	0.00	0.00	
7,800.0	0.00	0.00	7,790.2	-146.4	-244.7	285.1	0.00	0.00	
7,900.0	0.00	0.00	7,890.2	-146.4	-244.7	285.1	0.00	0.00	
8,000.0	0.00	0.00	7,990.2	-146.4	-244.7	285.1	0.00	0.00	
8,049.8	0.00	0.00	8,040.0	-146.4	-244.7	285.1	0.00	0.00	Cameo
8,100.0	0.00	0.00	8,090.2	-146.4	-244.7	285.1	0.00	0.00	
8,200.0	0.00	0.00	8,190.2	-146.4	-244.7	285.1	0.00	0.00	
8,300.0	0.00	0.00	8,290.2	-146.4	-244.7	285.1	0.00	0.00	
8,399.8	0.00	0.00	8,390.0	-146.4	-244.7	285.1	0.00	0.00	Rollins SS
8,400.0	0.00	0.00	8,390.2	-146.4	-244.7	285.1	0.00	0.00	
8,500.0	0.00	0.00	8,490.2	-146.4	-244.7	285.1	0.00	0.00	
8,549.8	0.00	0.00	8,540.0	-146.4	-244.7	285.1	0.00	0.00	TD at 8549.8 - Oxy 28-18D (F28 Pad) BHL

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Oxy 28-18D (F28 Pad) T	0.00	0.00	4,900.0	-146.4	-244.7	1,616,846.83	2,230,550.06	39.495306	-108.227006
- plan hits target center									
- Point									
Oxy 28-18D (F28 Pad) E	0.00	0.00	8,540.0	-146.4	-244.7	1,616,846.83	2,230,550.06	39.495306	-108.227006
- plan hits target center									
- Rectangle (sides W100.0 H200.0 D0.0)									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,394.0	2,390.0	Wasatch		0.00		
4,499.3	4,490.0	Fort Union		0.00		
4,999.8	4,990.0	Base Ft Union		0.00		
5,499.8	5,490.0	Ohio Creek		0.00		
5,699.8	5,690.0	Williams Fork		0.00		
6,699.8	6,690.0	Approx TOG		0.00		
8,049.8	8,040.0	Cameo		0.00		
8,399.8	8,390.0	Rollins SS		0.00		

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 28-18D (F28 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)	
600.0	600.0	0.0	0.0	KOP @ 600'
869.8	869.6	-4.9	-8.2	EOB; Inc=4.05°
4,640.0	4,630.4	-141.5	-236.5	Start Drop -1.50
4,909.8	4,900.0	-146.4	-244.7	EOD; Inc=0°
8,549.8	8,540.0	-146.4	-244.7	TD at 8549.8

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 200.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	10/26/2009		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	8,549.8	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						
SENW S28-T6S-R97W (F28 Pad)						
687-28A-18 (Marathon offset) - DD - Plan #1						Out of range
Oxy 28-15D (F28 Pad) - DD - Plan #1	500.0	500.0	30.5	28.8	17.991	CC, ES
Oxy 28-15D (F28 Pad) - DD - Plan #1	700.0	698.4	35.9	33.5	15.004	SF
Oxy 28-17D (F28 Pad) - DD - Plan #1	600.0	600.0	15.0	13.0	7.347	CC, ES
Oxy 28-17D (F28 Pad) - DD - Plan #1	800.0	800.1	17.2	14.5	6.255	SF
Oxy 28-19D (F28 Pad) - DD - Plan #1	600.0	600.0	31.0	29.0	15.193	CC, ES
Oxy 28-19D (F28 Pad) - DD - Plan #1	800.0	798.2	34.5	31.8	12.592	SF
Oxy 28-20D (F28 Pad) - DD - Plan #1	500.0	500.0	18.0	16.3	10.615	CC, ES
Oxy 28-20D (F28 Pad) - DD - Plan #1	600.0	599.5	19.3	17.2	9.428	SF
Oxy 28-21D (F28 Pad) - DD - Plan #1	400.0	400.0	9.6	8.3	7.159	CC, ES
Oxy 28-21D (F28 Pad) - DD - Plan #1	500.0	499.8	10.7	9.0	6.314	SF
Oxy 28-22D (F28 Pad) - DD - Plan #1	642.8	643.2	46.0	43.8	20.956	CC, ES
Oxy 28-22D (F28 Pad) - DD - Plan #1	800.0	800.3	49.3	46.5	17.816	SF
Oxy 28-23D (F28 Pad) - DD - Plan #1	500.0	500.0	18.0	16.3	10.605	CC
Oxy 28-23D (F28 Pad) - DD - Plan #1	600.0	600.0	18.1	16.0	8.846	ES
Oxy 28-23D (F28 Pad) - DD - Plan #1	700.0	699.7	20.3	17.9	8.449	SF
Oxy 28-24D (F28 Pad) - DD - Plan #1	527.3	527.4	31.5	29.7	17.540	CC, ES
Oxy 28-24D (F28 Pad) - DD - Plan #1	700.0	699.2	35.8	33.3	14.553	SF
Oxy 28-25D (F28 Pad) - DD - Plan #1	400.0	400.0	14.7	13.3	10.914	CC, ES
Oxy 28-25D (F28 Pad) - DD - Plan #1	500.0	499.6	15.8	14.1	9.334	SF
Oxy 28-26D (F28 Pad) - DD - Plan #1	400.0	400.0	29.7	28.3	22.065	CC, ES
Oxy 28-26D (F28 Pad) - DD - Plan #1	800.0	796.1	45.6	42.8	16.609	SF
Oxy 28-27D (F28 Pad) - DD - Plan #1	400.0	400.0	44.7	43.3	33.224	CC, ES
Oxy 28-27D (F28 Pad) - DD - Plan #1	900.0	892.5	68.7	65.6	22.190	SF
Oxy 28-28D (F28 Pad) - DD - Plan #1	400.0	400.0	60.1	58.8	44.730	CC, ES
Oxy 28-28D (F28 Pad) - DD - Plan #1	1,000.0	987.4	94.9	91.4	27.491	SF
Oxy 28-29D (F28 Pad) - DD - Plan #1	400.0	400.0	75.1	73.8	55.887	CC, ES
Oxy 28-29D (F28 Pad) - DD - Plan #1	1,000.0	984.9	110.4	106.9	32.036	SF
Oxy 28-30D (F28 Pad) - DD - Plan #1	200.0	200.0	75.6	75.0	117.063	CC, ES
Oxy 28-30D (F28 Pad) - DD - Plan #1	900.0	879.9	132.2	129.2	43.034	SF
Oxy 28-31D (F28 Pad) - DD - Plan #1	300.0	300.0	60.4	59.4	60.745	CC, ES
Oxy 28-31D (F28 Pad) - DD - Plan #1	900.0	886.5	101.4	98.3	32.867	SF
Oxy 28-32D (F28 Pad) - DD - Plan #1	200.0	200.0	45.6	45.0	70.660	CC, ES
Oxy 28-32D (F28 Pad) - DD - Plan #1	600.0	594.1	65.7	63.6	31.046	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 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-15D (F28 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	107.39	-9.1	29.1	30.5				
100.0	100.0	100.0	100.0	0.1	0.1	107.39	-9.1	29.1	30.5	30.2	0.30	102.655	
200.0	200.0	200.0	200.0	0.3	0.3	107.39	-9.1	29.1	30.5	29.8	0.65	47.166	
300.0	300.0	300.0	300.0	0.5	0.5	107.39	-9.1	29.1	30.5	29.5	0.99	30.617	
400.0	400.0	400.0	400.0	0.7	0.7	107.39	-9.1	29.1	30.5	29.1	1.34	22.664	
500.0	500.0	500.0	500.0	0.8	0.8	107.39	-9.1	29.1	30.5	28.8	1.69	17.991 CC, ES	
600.0	600.0	599.3	599.3	1.0	1.0	108.56	-10.1	29.9	31.6	29.5	2.04	15.472	
700.0	700.0	698.4	698.3	1.2	1.2	-129.09	-12.9	32.6	35.9	33.5	2.39	15.004 SF	
800.0	799.9	797.2	796.9	1.4	1.4	-129.07	-17.6	36.9	44.1	41.3	2.74	16.068	
900.0	899.7	895.3	894.6	1.6	1.6	-129.79	-24.2	42.9	56.2	53.1	3.11	18.081	
1,000.0	999.5	992.8	991.4	1.8	1.8	-129.72	-32.5	50.5	70.9	67.4	3.48	20.385	
1,100.0	1,099.2	1,089.6	1,087.2	2.0	2.1	-128.90	-42.5	59.8	87.8	83.9	3.85	22.782	
1,200.0	1,199.0	1,185.5	1,181.8	2.2	2.4	-127.75	-54.3	70.6	107.0	102.7	4.24	25.247	
1,300.0	1,298.7	1,280.5	1,275.1	2.4	2.7	-126.48	-67.6	82.8	128.4	123.7	4.62	27.766	
1,400.0	1,398.5	1,374.5	1,366.9	2.6	3.1	-125.20	-82.5	96.5	152.0	147.0	5.01	30.329	
1,500.0	1,498.2	1,467.3	1,457.0	2.8	3.5	-123.98	-98.8	111.5	177.9	172.5	5.40	32.931	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-17D (F28 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	109.87	-5.1	14.1	15.0					
100.0	100.0	100.0	100.0	0.1	0.1	109.87	-5.1	14.1	15.0	14.7	0.30	50.566		
200.0	200.0	200.0	200.0	0.3	0.3	109.87	-5.1	14.1	15.0	14.4	0.65	23.233		
300.0	300.0	300.0	300.0	0.5	0.5	109.87	-5.1	14.1	15.0	14.0	0.99	15.081		
400.0	400.0	400.0	400.0	0.7	0.7	109.87	-5.1	14.1	15.0	13.7	1.34	11.164		
500.0	500.0	500.0	500.0	0.8	0.8	109.87	-5.1	14.1	15.0	13.3	1.69	8.862		
600.0	600.0	600.0	600.0	1.0	1.0	109.87	-5.1	14.1	15.0	13.0	2.04	7.347 CC, ES		
700.0	700.0	700.1	700.1	1.2	1.2	-128.25	-6.2	13.4	15.5	13.2	2.39	6.499		
800.0	799.9	800.1	800.1	1.4	1.4	-125.68	-9.5	11.3	17.2	14.5	2.75	6.255 SF		
900.0	899.7	900.2	899.8	1.6	1.6	-122.07	-15.0	7.8	20.0	16.8	3.13	6.383		
1,000.0	999.5	1,000.1	999.4	1.8	1.8	-115.26	-22.4	3.1	23.0	19.5	3.53	6.537		
1,100.0	1,099.2	1,100.0	1,098.9	2.0	2.0	-109.57	-30.0	-1.7	26.4	22.5	3.93	6.712		
1,200.0	1,199.0	1,199.9	1,198.4	2.2	2.2	-105.19	-37.6	-6.5	30.0	25.6	4.35	6.891		
1,300.0	1,298.7	1,299.8	1,297.9	2.4	2.4	-101.76	-45.2	-11.4	33.7	28.9	4.77	7.063		
1,400.0	1,398.5	1,399.7	1,397.4	2.6	2.6	-99.01	-52.8	-16.2	37.5	32.3	5.19	7.222		
1,500.0	1,498.2	1,499.7	1,496.9	2.8	2.9	-96.78	-60.4	-21.0	41.3	35.7	5.61	7.369		
1,600.0	1,598.0	1,599.6	1,596.5	3.0	3.1	-94.92	-67.9	-25.8	45.2	39.2	6.03	7.503		
1,700.0	1,697.7	1,699.5	1,696.0	3.2	3.3	-93.37	-75.5	-30.7	49.2	42.7	6.45	7.625		
1,800.0	1,797.5	1,799.4	1,795.5	3.4	3.5	-92.05	-83.1	-35.5	53.2	46.3	6.88	7.736		
1,900.0	1,897.2	1,899.3	1,895.0	3.6	3.8	-90.91	-90.7	-40.3	57.2	49.9	7.30	7.838		
2,000.0	1,997.0	1,999.2	1,994.5	3.8	4.0	-89.92	-98.3	-45.1	61.2	53.5	7.72	7.930		
2,100.0	2,096.7	2,099.1	2,094.0	4.0	4.2	-89.05	-105.9	-49.9	65.3	57.1	8.14	8.015		
2,200.0	2,196.5	2,199.1	2,193.5	4.2	4.5	-88.29	-113.5	-54.8	69.3	60.8	8.57	8.093		
2,300.0	2,296.2	2,299.0	2,293.0	4.5	4.7	-87.61	-121.1	-59.6	73.4	64.4	8.99	8.165		
2,400.0	2,396.0	2,398.9	2,392.5	4.7	4.9	-87.00	-128.7	-64.4	77.5	68.1	9.41	8.232		
2,500.0	2,495.7	2,498.8	2,492.0	4.9	5.2	-86.45	-136.2	-69.2	81.6	71.7	9.84	8.293		
2,600.0	2,595.5	2,598.7	2,591.5	5.1	5.4	-85.96	-143.8	-74.1	85.7	75.4	10.26	8.350		
2,700.0	2,695.2	2,698.6	2,691.0	5.3	5.6	-85.51	-151.4	-78.9	89.8	79.1	10.68	8.404		
2,800.0	2,795.0	2,798.5	2,790.5	5.5	5.9	-85.10	-159.0	-83.7	93.9	82.8	11.11	8.453		
2,900.0	2,894.7	2,898.5	2,890.1	5.7	6.1	-84.72	-166.6	-88.5	98.0	86.5	11.53	8.499		
3,000.0	2,994.5	2,998.4	2,989.6	5.9	6.3	-84.37	-174.2	-93.4	102.1	90.2	11.95	8.543		
3,100.0	3,094.2	3,098.3	3,089.1	6.2	6.5	-84.05	-181.8	-98.2	106.2	93.8	12.38	8.583		
3,200.0	3,194.0	3,198.2	3,188.6	6.4	6.8	-83.76	-189.4	-103.0	110.3	97.5	12.80	8.621		
3,300.0	3,293.7	3,298.1	3,288.1	6.6	7.0	-83.49	-196.9	-107.8	114.5	101.2	13.22	8.657		
3,400.0	3,393.5	3,398.0	3,387.6	6.8	7.2	-83.23	-204.5	-112.6	118.6	104.9	13.64	8.691		
3,500.0	3,493.2	3,497.9	3,487.1	7.0	7.5	-82.99	-212.1	-117.5	122.7	108.7	14.07	8.723		
3,600.0	3,593.0	3,597.8	3,586.6	7.2	7.7	-82.77	-219.7	-122.3	126.8	112.4	14.49	8.753		
3,700.0	3,692.7	3,697.8	3,686.1	7.4	7.9	-82.56	-227.3	-127.1	131.0	116.1	14.91	8.782		
3,800.0	3,792.5	3,797.7	3,785.6	7.6	8.2	-82.37	-234.9	-131.9	135.1	119.8	15.34	8.809		
3,900.0	3,892.2	3,897.6	3,885.1	7.9	8.4	-82.18	-242.5	-136.8	139.2	123.5	15.76	8.835		
4,000.0	3,992.0	3,997.5	3,984.6	8.1	8.6	-82.01	-250.1	-141.6	143.4	127.2	16.18	8.860		
4,100.0	4,091.7	4,097.4	4,084.2	8.3	8.9	-81.84	-257.6	-146.4	147.5	130.9	16.61	8.883		
4,200.0	4,191.5	4,197.3	4,183.7	8.5	9.1	-81.69	-265.2	-151.2	151.7	134.6	17.03	8.905		
4,300.0	4,291.2	4,297.2	4,283.2	8.7	9.3	-81.54	-272.8	-156.0	155.8	138.3	17.45	8.927		
4,400.0	4,391.0	4,397.2	4,382.7	8.9	9.6	-81.40	-280.4	-160.9	159.9	142.1	17.88	8.947		
4,500.0	4,490.7	4,497.1	4,482.2	9.1	9.8	-81.27	-288.0	-165.7	164.1	145.8	18.30	8.966		
4,600.0	4,590.5	4,597.0	4,581.7	9.3	10.1	-81.15	-295.6	-170.5	168.2	149.5	18.72	8.985		
4,700.0	4,690.3	4,696.9	4,681.2	9.5	10.3	-80.91	-303.2	-175.3	172.4	153.3	19.13	9.013		
4,800.0	4,790.2	4,796.7	4,780.6	9.7	10.5	-79.95	-310.7	-180.2	177.1	157.6	19.48	9.089		
4,900.0	4,890.2	4,896.4	4,879.9	9.9	10.8	-78.24	-318.3	-185.0	182.3	162.5	19.77	9.220		
5,000.0	4,990.2	4,996.0	4,979.1	10.0	11.0	162.99	-325.9	-189.8	188.0	168.0	20.03	9.386		
5,100.0	5,090.2	5,095.6	5,078.3	10.2	11.2	165.01	-333.4	-194.6	194.0	173.7	20.29	9.560		

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 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 2003.21 US Multi User Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-19D (F28 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	-54.05	18.2	-25.1	31.0					
100.0	100.0	100.0	100.0	0.1	0.1	-54.05	18.2	-25.1	31.0	30.7	0.30	104.561		
200.0	200.0	200.0	200.0	0.3	0.3	-54.05	18.2	-25.1	31.0	30.4	0.65	48.042		
300.0	300.0	300.0	300.0	0.5	0.5	-54.05	18.2	-25.1	31.0	30.0	0.99	31.185		
400.0	400.0	400.0	400.0	0.7	0.7	-54.05	18.2	-25.1	31.0	29.7	1.34	23.085		
500.0	500.0	500.0	500.0	0.8	0.8	-54.05	18.2	-25.1	31.0	29.3	1.69	18.325		
600.0	600.0	600.0	600.0	1.0	1.0	-54.05	18.2	-25.1	31.0	29.0	2.04	15.193 CC, ES		
700.0	700.0	699.2	699.2	1.2	1.2	69.48	19.2	-26.0	31.8	29.4	2.39	13.308		
800.0	799.9	798.2	798.1	1.4	1.4	76.58	22.1	-28.5	34.5	31.8	2.74	12.592 SF		
900.0	899.7	897.2	896.9	1.6	1.6	85.85	26.8	-32.7	40.0	36.9	3.11	12.872		
1,000.0	999.5	996.8	996.2	1.8	1.8	93.43	32.1	-37.5	47.0	43.5	3.48	13.509		
1,100.0	1,099.2	1,096.3	1,095.5	2.0	2.0	98.98	37.4	-42.2	54.6	50.7	3.85	14.160		
1,200.0	1,199.0	1,195.9	1,194.9	2.2	2.2	103.14	42.7	-46.9	62.5	58.3	4.23	14.773		
1,300.0	1,298.7	1,295.5	1,294.2	2.4	2.4	106.36	48.0	-51.6	70.8	66.2	4.62	15.330		
1,400.0	1,398.5	1,395.1	1,393.6	2.6	2.6	108.89	53.3	-56.3	79.2	74.2	5.00	15.829		
1,500.0	1,498.2	1,494.7	1,492.9	2.8	2.8	110.94	58.6	-61.1	87.7	82.3	5.39	16.275		
1,600.0	1,598.0	1,594.3	1,592.2	3.0	3.0	112.63	63.9	-65.8	96.3	90.5	5.78	16.673		
1,700.0	1,697.7	1,693.9	1,691.6	3.2	3.2	114.03	69.2	-70.5	105.0	98.8	6.17	17.029		
1,800.0	1,797.5	1,793.5	1,790.9	3.4	3.4	115.22	74.5	-75.2	113.8	107.2	6.56	17.349		
1,900.0	1,897.2	1,893.1	1,890.3	3.6	3.6	116.24	79.8	-79.9	122.5	115.6	6.95	17.637		
2,000.0	1,997.0	1,992.7	1,989.6	3.8	3.8	117.13	85.1	-84.6	131.4	124.0	7.34	17.897		
2,100.0	2,096.7	2,092.3	2,088.9	4.0	4.0	117.90	90.3	-89.4	140.2	132.5	7.73	18.133		
2,200.0	2,196.5	2,191.9	2,188.3	4.2	4.2	118.58	95.6	-94.1	149.1	140.9	8.12	18.348		
2,300.0	2,296.2	2,291.4	2,287.6	4.5	4.4	119.19	100.9	-98.8	158.0	149.4	8.52	18.544		
2,400.0	2,396.0	2,391.0	2,386.9	4.7	4.7	119.73	106.2	-103.5	166.9	157.9	8.91	18.724		
2,500.0	2,495.7	2,490.6	2,486.3	4.9	4.9	120.21	111.5	-108.2	175.8	166.5	9.30	18.890		
2,600.0	2,595.5	2,590.2	2,585.6	5.1	5.1	120.65	116.8	-113.0	184.7	175.0	9.70	19.043		
2,700.0	2,695.2	2,689.8	2,685.0	5.3	5.3	121.05	122.1	-117.7	193.6	183.5	10.09	19.185		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-20D (F28 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	-37.77	14.2	-11.0	18.0					
100.0	100.0	100.0	100.0	0.1	0.1	-37.77	14.2	-11.0	18.0	17.7	0.30	60.565		
200.0	200.0	200.0	200.0	0.3	0.3	-37.77	14.2	-11.0	18.0	17.3	0.65	27.827		
300.0	300.0	300.0	300.0	0.5	0.5	-37.77	14.2	-11.0	18.0	17.0	0.99	18.063		
400.0	400.0	400.0	400.0	0.7	0.7	-37.77	14.2	-11.0	18.0	16.6	1.34	13.372		
500.0	500.0	500.0	500.0	0.8	0.8	-37.77	14.2	-11.0	18.0	16.3	1.69	10.615 CC, ES		
600.0	600.0	599.5	599.5	1.0	1.0	-37.07	15.4	-11.6	19.3	17.2	2.04	9.428 SF		
700.0	700.0	698.9	698.8	1.2	1.2	88.64	18.8	-13.4	23.0	20.7	2.39	9.641		
800.0	799.9	797.9	797.6	1.4	1.4	97.14	24.5	-16.3	29.8	27.0	2.74	10.850		
900.0	899.7	897.0	896.3	1.6	1.6	105.47	32.1	-20.2	39.6	36.5	3.11	12.748		
1,000.0	999.5	996.3	995.2	1.8	1.8	111.12	39.9	-24.3	50.4	46.9	3.48	14.488		
1,100.0	1,099.2	1,095.6	1,094.2	2.0	2.0	114.76	47.7	-28.3	61.4	57.6	3.85	15.953		
1,200.0	1,199.0	1,194.9	1,193.1	2.2	2.2	117.28	55.5	-32.3	72.7	68.5	4.23	17.185		
1,300.0	1,298.7	1,294.2	1,292.0	2.4	2.5	119.12	63.3	-36.3	84.0	79.4	4.61	18.225		
1,400.0	1,398.5	1,393.6	1,391.0	2.6	2.7	120.52	71.0	-40.3	95.4	90.4	4.99	19.113		
1,500.0	1,498.2	1,492.9	1,489.9	2.8	2.9	121.63	78.8	-44.4	106.9	101.5	5.38	19.876		
1,600.0	1,598.0	1,592.2	1,588.8	3.0	3.1	122.52	86.6	-48.4	118.4	112.6	5.76	20.538		
1,700.0	1,697.7	1,691.5	1,687.8	3.2	3.4	123.25	94.4	-52.4	129.9	123.8	6.15	21.118		
1,800.0	1,797.5	1,790.9	1,786.7	3.4	3.6	123.86	102.2	-56.4	141.4	134.9	6.54	21.629		
1,900.0	1,897.2	1,890.2	1,885.6	3.6	3.8	124.38	110.0	-60.4	153.0	146.1	6.93	22.082		
2,000.0	1,997.0	1,989.5	1,984.6	3.8	4.0	124.83	117.8	-64.5	164.5	157.2	7.32	22.487		
2,100.0	2,096.7	2,088.8	2,083.5	4.0	4.3	125.22	125.6	-68.5	176.1	168.4	7.71	22.851		
2,200.0	2,196.5	2,188.2	2,182.4	4.2	4.5	125.56	133.3	-72.5	187.7	179.6	8.10	23.179		
2,300.0	2,296.2	2,287.5	2,281.4	4.5	4.7	125.86	141.1	-76.5	199.2	190.8	8.49	23.477		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-21D (F28 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	18.82	9.1	3.1	9.6					
100.0	100.0	100.0	100.0	0.1	0.1	18.82	9.1	3.1	9.6	9.3	0.30	32.425		
200.0	200.0	200.0	200.0	0.3	0.3	18.82	9.1	3.1	9.6	9.0	0.65	14.898		
300.0	300.0	300.0	300.0	0.5	0.5	18.82	9.1	3.1	9.6	8.6	0.99	9.671		
400.0	400.0	400.0	400.0	0.7	0.7	18.82	9.1	3.1	9.6	8.3	1.34	7.159 CC, ES		
500.0	500.0	499.8	499.8	0.8	0.8	14.58	10.3	2.7	10.7	9.0	1.69	6.314 SF		
600.0	600.0	599.4	599.3	1.0	1.0	5.91	14.0	1.5	14.1	12.1	2.04	6.914		
700.0	700.0	698.8	698.5	1.2	1.2	122.23	20.2	-0.6	20.9	18.5	2.39	8.741		
800.0	799.9	797.6	796.8	1.4	1.4	122.50	28.7	-3.5	31.6	28.8	2.75	11.484		
900.0	899.7	895.6	894.2	1.6	1.7	124.09	39.5	-7.1	46.0	42.8	3.11	14.760		
1,000.0	999.5	993.8	991.5	1.8	1.9	124.77	52.3	-11.3	62.6	59.1	3.49	17.939		
1,100.0	1,099.2	1,092.4	1,089.1	2.0	2.2	125.12	65.1	-15.7	79.3	75.4	3.87	20.510		
1,200.0	1,199.0	1,191.0	1,186.8	2.2	2.5	125.35	78.0	-20.0	96.0	91.8	4.25	22.605		
1,300.0	1,298.7	1,289.6	1,284.4	2.4	2.8	125.51	90.9	-24.3	112.8	108.1	4.63	24.341		
1,400.0	1,398.5	1,388.2	1,382.1	2.6	3.0	125.63	103.8	-28.6	129.5	124.5	5.02	25.801		
1,500.0	1,498.2	1,486.8	1,479.7	2.8	3.3	125.72	116.7	-32.9	146.2	140.8	5.41	27.045		
1,600.0	1,598.0	1,585.3	1,577.4	3.0	3.6	125.80	129.6	-37.2	163.0	157.2	5.80	28.116		
1,700.0	1,697.7	1,683.9	1,675.0	3.2	3.9	125.86	142.5	-41.5	179.7	173.5	6.19	29.048		
1,800.0	1,797.5	1,782.5	1,772.7	3.4	4.2	125.91	155.4	-45.8	196.4	189.8	6.58	29.866		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-22D (F28 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	96.29	-5.1	46.3	46.6					
100.0	100.0	100.0	100.0	0.1	0.1	96.29	-5.1	46.3	46.6	46.3	0.30	156.927		
200.0	200.0	200.0	200.0	0.3	0.3	96.29	-5.1	46.3	46.6	45.9	0.65	72.102		
300.0	300.0	300.0	300.0	0.5	0.5	96.29	-5.1	46.3	46.6	45.6	0.99	46.803		
400.0	400.0	400.0	400.0	0.7	0.7	96.29	-5.1	46.3	46.6	45.2	1.34	34.646		
500.0	500.0	500.0	500.0	0.8	0.8	96.29	-5.1	46.3	46.6	44.9	1.69	27.503		
600.0	600.0	600.3	600.3	1.0	1.0	94.73	-3.8	46.0	46.2	44.1	2.04	22.601		
642.8	642.8	643.2	643.2	1.1	1.1	-146.18	-2.5	45.7	46.0	43.8	2.20	20.956 CC, ES		
700.0	700.0	700.5	700.4	1.2	1.2	-150.00	0.1	45.2	46.4	44.0	2.40	19.324		
800.0	799.9	800.3	800.0	1.4	1.4	-159.78	6.5	43.9	49.3	46.5	2.77	17.816 SF		
900.0	899.7	899.3	898.6	1.6	1.6	-171.31	15.3	42.1	56.4	53.2	3.15	17.905		
1,000.0	999.5	997.7	996.2	1.8	1.8	177.94	26.6	39.9	66.7	63.2	3.54	18.839		
1,100.0	1,099.2	1,095.2	1,092.8	2.0	2.1	168.71	40.3	37.1	80.1	76.1	3.94	20.307		
1,200.0	1,199.0	1,191.9	1,188.1	2.2	2.4	161.07	56.2	33.9	96.4	92.1	4.35	22.187		
1,300.0	1,298.7	1,287.5	1,282.0	2.4	2.7	154.84	74.2	30.2	115.8	111.0	4.75	24.376		
1,400.0	1,398.5	1,384.7	1,377.1	2.6	3.1	149.99	93.7	26.3	137.0	131.8	5.15	26.611		
1,500.0	1,498.2	1,481.9	1,472.2	2.8	3.4	146.45	113.2	22.4	158.9	153.4	5.54	28.666		
1,600.0	1,598.0	1,579.0	1,567.3	3.0	3.8	143.77	132.7	18.4	181.3	175.3	5.94	30.530		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-23D (F28 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	73.50	5.1	17.2	18.0				
100.0	100.0	100.0	100.0	0.1	0.1	73.50	5.1	17.2	18.0	17.7	0.30	60.510	
200.0	200.0	200.0	200.0	0.3	0.3	73.50	5.1	17.2	18.0	17.3	0.65	27.802	
300.0	300.0	300.0	300.0	0.5	0.5	73.50	5.1	17.2	18.0	17.0	0.99	18.047	
400.0	400.0	400.0	400.0	0.7	0.7	73.50	5.1	17.2	18.0	16.6	1.34	13.359	
500.0	500.0	500.0	500.0	0.8	0.8	73.50	5.1	17.2	18.0	16.3	1.69	10.605 CC	
600.0	600.0	600.0	599.9	1.0	1.0	69.35	6.4	16.9	18.1	16.0	2.04	8.846 ES	
700.0	700.0	699.7	699.6	1.2	1.2	178.52	10.2	16.0	20.3	17.9	2.40	8.449 SF	
800.0	799.9	799.1	798.8	1.4	1.4	165.51	16.5	14.4	27.0	24.2	2.76	9.782	
900.0	899.7	897.8	897.1	1.6	1.6	156.32	25.2	12.3	38.4	35.3	3.12	12.314	
1,000.0	999.5	995.8	994.4	1.8	1.8	149.84	36.3	9.6	52.9	49.4	3.50	15.115	
1,100.0	1,099.2	1,093.1	1,090.7	2.0	2.1	144.86	49.7	6.3	69.6	65.7	3.88	17.957	
1,200.0	1,199.0	1,189.4	1,185.7	2.2	2.4	140.91	65.4	2.5	88.8	84.5	4.26	20.830	
1,300.0	1,298.7	1,284.8	1,279.3	2.4	2.7	137.71	83.2	-1.8	110.3	105.7	4.65	23.727	
1,400.0	1,398.5	1,379.1	1,371.4	2.6	3.1	135.07	103.0	-6.6	134.2	129.2	5.04	26.640	
1,500.0	1,498.2	1,472.3	1,461.8	2.8	3.5	132.86	124.7	-11.9	160.4	155.0	5.43	29.566	
1,600.0	1,598.0	1,564.7	1,551.0	3.0	3.9	130.98	148.3	-17.7	188.9	183.1	5.81	32.503	



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-24D (F28 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	90.00	0.0	32.2	32.2					
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	32.2	32.2	31.9	0.30	108.427		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	32.2	32.2	31.5	0.65	49.818		
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	32.2	32.2	31.2	0.99	32.338		
400.0	400.0	400.2	400.1	0.7	0.7	87.70	1.3	31.9	31.9	30.6	1.34	23.736		
500.0	500.0	500.2	500.1	0.8	0.9	80.63	5.1	31.1	31.5	29.8	1.70	18.558		
527.3	527.3	527.4	527.3	0.9	0.9	77.85	6.6	30.7	31.5	29.7	1.79	17.540	CC, ES	
600.0	600.0	599.9	599.6	1.0	1.1	68.82	11.5	29.7	31.8	29.8	2.05	15.559		
700.0	700.0	699.2	698.5	1.2	1.3	174.83	20.4	27.8	35.8	33.3	2.46	14.553	SF	
800.0	799.9	797.7	796.3	1.4	1.5	161.79	31.7	25.4	45.6	42.8	2.84	16.086		
900.0	899.7	895.3	892.9	1.6	1.8	152.96	45.3	22.4	61.0	57.8	3.21	18.984		
1,000.0	999.5	991.9	988.1	1.8	2.1	146.90	61.1	19.0	79.7	76.1	3.60	22.171		
1,100.0	1,099.2	1,087.5	1,082.0	2.0	2.5	142.38	79.1	15.1	101.0	97.1	3.98	25.386		
1,200.0	1,199.0	1,182.0	1,174.2	2.2	2.8	138.88	99.1	10.8	124.8	120.5	4.36	28.602		
1,300.0	1,298.7	1,275.4	1,264.8	2.4	3.2	136.08	121.1	6.1	151.1	146.3	4.75	31.807		
1,400.0	1,398.5	1,367.4	1,353.5	2.6	3.7	133.80	144.9	1.0	179.6	174.5	5.13	34.996		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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
SENW S28-T6S-R97W (F28 Pad) - Oxy 28-25D (F28 Pad) - DD - Plan #1														
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-74.15	4.0	-14.1	14.7					
100.0	100.0	100.0	100.0	0.1	0.1	-74.15	4.0	-14.1	14.7	14.4	0.30	49.436		
200.0	200.0	200.0	200.0	0.3	0.3	-74.15	4.0	-14.1	14.7	14.0	0.65	22.714		
300.0	300.0	300.0	300.0	0.5	0.5	-74.15	4.0	-14.1	14.7	13.7	0.99	14.744		
400.0	400.0	400.0	400.0	0.7	0.7	-74.15	4.0	-14.1	14.7	13.3	1.34	10.914 CC, ES		
500.0	500.0	499.6	499.6	0.8	0.8	-76.58	3.7	-15.4	15.8	14.1	1.69	9.334 SF		
600.0	600.0	599.2	599.1	1.0	1.0	-82.12	2.6	-19.1	19.3	17.3	2.04	9.455		
700.0	700.0	698.5	698.2	1.2	1.2	34.67	0.9	-25.4	24.4	22.0	2.39	10.183		
800.0	799.9	797.7	797.0	1.4	1.4	33.23	-1.4	-34.1	29.8	27.0	2.74	10.841		
900.0	899.7	896.7	895.3	1.6	1.7	33.18	-4.5	-45.2	35.5	32.4	3.10	11.454		
1,000.0	999.5	995.4	993.0	1.8	2.0	32.60	-8.1	-58.8	43.3	39.8	3.46	12.485		
1,100.0	1,099.2	1,093.7	1,089.9	2.0	2.3	31.42	-12.5	-74.7	53.4	49.6	3.83	13.968		
1,200.0	1,199.0	1,191.4	1,185.8	2.2	2.6	30.05	-17.4	-92.9	66.1	61.9	4.19	15.795		
1,300.0	1,298.7	1,288.4	1,280.5	2.4	3.0	28.71	-23.0	-113.4	81.3	76.7	4.54	17.889		
1,400.0	1,398.5	1,384.6	1,373.8	2.6	3.4	27.49	-29.1	-135.9	98.9	94.0	4.90	20.195		
1,500.0	1,498.2	1,479.9	1,465.6	2.8	3.9	26.41	-35.8	-160.5	119.0	113.7	5.25	22.668		
1,600.0	1,598.0	1,574.2	1,555.8	3.0	4.4	25.48	-43.0	-186.9	141.4	135.8	5.60	25.275		
1,700.0	1,697.7	1,667.7	1,644.5	3.2	4.9	24.67	-50.7	-215.2	166.3	160.4	5.94	27.990		
1,800.0	1,797.5	1,763.8	1,735.4	3.4	5.5	24.00	-58.9	-245.5	192.4	186.1	6.29	30.575		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-26D (F28 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	-72.12	9.1	-28.2	29.7					
100.0	100.0	100.0	100.0	0.1	0.1	-72.12	9.1	-28.2	29.7	29.4	0.30	99.941		
200.0	200.0	200.0	200.0	0.3	0.3	-72.12	9.1	-28.2	29.7	29.0	0.65	45.919		
300.0	300.0	300.0	300.0	0.5	0.5	-72.12	9.1	-28.2	29.7	28.7	0.99	29.807		
400.0	400.0	400.0	400.0	0.7	0.7	-72.12	9.1	-28.2	29.7	28.3	1.34	22.065 CC, ES		
500.0	500.0	499.3	499.3	0.8	0.8	-73.03	9.0	-29.5	30.9	29.2	1.69	18.236		
600.0	600.0	598.4	598.3	1.0	1.0	-75.39	8.7	-33.4	34.5	32.5	2.04	16.892		
700.0	700.0	697.3	697.0	1.2	1.2	43.73	8.2	-39.8	39.7	37.3	2.39	16.629		
800.0	799.9	796.1	795.4	1.4	1.4	43.66	7.5	-48.7	45.6	42.8	2.74	16.609 SF		
900.0	899.7	894.7	893.3	1.6	1.7	44.65	6.5	-60.1	52.0	48.9	3.10	16.761		
1,000.0	999.5	993.0	990.6	1.8	2.0	45.08	5.4	-74.0	60.5	57.0	3.47	17.419		
1,100.0	1,099.2	1,090.8	1,087.0	2.0	2.3	44.74	4.1	-90.3	71.4	67.6	3.85	18.564		
1,200.0	1,199.0	1,188.0	1,182.4	2.2	2.6	43.95	2.6	-109.0	84.7	80.5	4.22	20.076		
1,300.0	1,298.7	1,284.5	1,276.6	2.4	3.0	42.96	0.9	-129.8	100.4	95.8	4.59	21.873		
1,400.0	1,398.5	1,380.2	1,369.5	2.6	3.4	41.91	-0.9	-152.9	118.6	113.6	4.96	23.897		
1,500.0	1,498.2	1,475.0	1,460.8	2.8	3.9	40.88	-3.0	-178.0	139.1	133.8	5.33	26.104		
1,600.0	1,598.0	1,569.0	1,550.8	3.0	4.4	39.91	-5.1	-205.1	162.0	156.3	5.69	28.460		
1,700.0	1,697.7	1,666.1	1,643.4	3.2	4.9	39.08	-7.5	-234.1	185.9	179.8	6.06	30.681		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-27D (F28 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	-71.45	14.2	-42.3	44.7					
100.0	100.0	100.0	100.0	0.1	0.1	-71.45	14.2	-42.3	44.7	44.4	0.30	150.486		
200.0	200.0	200.0	200.0	0.3	0.3	-71.45	14.2	-42.3	44.7	44.0	0.65	69.142		
300.0	300.0	300.0	300.0	0.5	0.5	-71.45	14.2	-42.3	44.7	43.7	0.99	44.882		
400.0	400.0	400.0	400.0	0.7	0.7	-71.45	14.2	-42.3	44.7	43.3	1.34	33.224 CC, ES		
500.0	500.0	498.8	498.8	0.8	0.8	-71.77	14.4	-43.6	45.9	44.2	1.69	27.145		
600.0	600.0	597.6	597.5	1.0	1.0	-72.63	14.8	-47.4	49.7	47.7	2.04	24.343		
700.0	700.0	696.1	695.8	1.2	1.2	48.02	15.6	-53.7	55.2	52.8	2.39	23.143		
800.0	799.9	794.4	793.7	1.4	1.4	49.17	16.7	-62.5	61.5	58.8	2.74	22.468		
900.0	899.7	892.5	891.1	1.6	1.7	51.23	18.1	-73.8	68.7	65.6	3.10	22.190 SF		
1,000.0	999.5	990.2	987.8	1.8	1.9	52.82	19.8	-87.5	78.1	74.6	3.47	22.538		
1,100.0	1,099.2	1,087.4	1,083.7	2.0	2.2	53.63	21.7	-103.6	90.0	86.1	3.84	23.431		
1,200.0	1,199.0	1,184.0	1,178.5	2.2	2.6	53.85	24.0	-121.9	104.3	100.1	4.22	24.719		
1,300.0	1,298.7	1,279.9	1,272.2	2.4	3.0	53.69	26.5	-142.5	121.0	116.4	4.60	26.305		
1,400.0	1,398.5	1,375.0	1,364.4	2.6	3.4	53.30	29.3	-165.2	140.0	135.0	4.98	28.123		
1,500.0	1,498.2	1,469.1	1,455.2	2.8	3.8	52.78	32.3	-189.9	161.4	156.1	5.36	30.127		
1,600.0	1,598.0	1,563.3	1,545.4	3.0	4.3	52.19	35.6	-216.7	185.1	179.3	5.74	32.260		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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> SENW S28-T6S-R97W (F28 Pad) - Oxy 28-28D (F28 Pad) - DD - Plan #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-72.36	18.2	-57.3	60.1				
100.0	100.0	100.0	100.0	0.1	0.1	-72.36	18.2	-57.3	60.1	59.8	0.30	202.598	
200.0	200.0	200.0	200.0	0.3	0.3	-72.36	18.2	-57.3	60.1	59.5	0.65	93.086	
300.0	300.0	300.0	300.0	0.5	0.5	-72.36	18.2	-57.3	60.1	59.1	0.99	60.424	
400.0	400.0	400.0	400.0	0.7	0.7	-72.36	18.2	-57.3	60.1	58.8	1.34	44.730 CC, ES	
500.0	500.0	498.4	498.4	0.8	0.8	-72.37	18.6	-58.5	61.4	59.7	1.69	36.308	
600.0	600.0	596.7	596.6	1.0	1.0	-72.40	19.7	-62.1	65.3	63.2	2.04	31.948	
700.0	700.0	694.8	694.5	1.2	1.2	49.18	21.6	-68.2	70.8	68.5	2.38	29.730	
800.0	799.9	792.7	792.0	1.4	1.4	51.14	24.2	-76.6	77.3	74.6	2.73	28.303	
900.0	899.7	890.2	888.9	1.6	1.7	53.96	27.5	-87.3	84.9	81.8	3.09	27.504	
1,000.0	999.5	987.4	985.1	1.8	1.9	56.46	31.5	-100.4	94.9	91.4	3.45	27.491 SF	
1,100.0	1,099.2	1,084.0	1,080.4	2.0	2.2	58.24	36.3	-115.6	107.5	103.7	3.82	28.124	
1,200.0	1,199.0	1,180.0	1,174.6	2.2	2.6	59.40	41.7	-133.1	122.6	118.4	4.20	29.214	
1,300.0	1,298.7	1,275.3	1,267.6	2.4	3.0	60.09	47.7	-152.7	140.2	135.6	4.58	30.637	
1,400.0	1,398.5	1,369.6	1,359.2	2.6	3.4	60.44	54.4	-174.2	160.1	155.2	4.96	32.311	
1,500.0	1,498.2	1,463.0	1,449.3	2.8	3.8	60.54	61.6	-197.7	182.4	177.1	5.34	34.179	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-29D (F28 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	-71.92	23.3	-71.4	75.1					
100.0	100.0	100.0	100.0	0.1	0.1	-71.92	23.3	-71.4	75.1	74.8	0.30	253.134		
200.0	200.0	200.0	200.0	0.3	0.3	-71.92	23.3	-71.4	75.1	74.5	0.65	116.305		
300.0	300.0	300.0	300.0	0.5	0.5	-71.92	23.3	-71.4	75.1	74.1	0.99	75.496		
400.0	400.0	400.0	400.0	0.7	0.7	-71.92	23.3	-71.4	75.1	73.8	1.34	55.887 CC, ES		
500.0	500.0	498.1	498.1	0.8	0.8	-71.75	23.9	-72.5	76.4	74.7	1.69	45.172		
600.0	600.0	596.0	595.9	1.0	1.0	-71.28	25.7	-75.8	80.2	78.1	2.04	39.243		
700.0	700.0	693.8	693.5	1.2	1.2	50.90	28.7	-81.3	85.7	83.3	2.38	35.971		
800.0	799.9	791.2	790.5	1.4	1.4	53.45	32.8	-89.0	92.2	89.4	2.73	33.758		
900.0	899.7	888.3	887.0	1.6	1.7	56.89	38.1	-98.9	100.0	96.9	3.08	32.416		
1,000.0	999.5	984.9	982.6	1.8	1.9	60.14	44.5	-110.8	110.4	106.9	3.44	32.036 SF		
1,100.0	1,099.2	1,081.0	1,077.4	2.0	2.2	62.74	52.0	-124.7	123.5	119.7	3.81	32.422		
1,200.0	1,199.0	1,176.3	1,171.0	2.2	2.6	64.72	60.5	-140.7	139.4	135.2	4.18	33.345		
1,300.0	1,298.7	1,270.9	1,263.4	2.4	2.9	66.19	70.1	-158.5	157.8	153.2	4.55	34.652		
1,400.0	1,398.5	1,364.6	1,354.3	2.6	3.3	67.23	80.6	-178.1	178.6	173.7	4.93	36.241		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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												SENW S28-T6S-R97W (F28 Pad) - Oxy 28-30D (F28 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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)							
0.0	0.0	0.0	0.0	0.0	0.0	-64.61	32.4	-68.3	75.6								
100.0	100.0	100.0	100.0	0.1	0.1	-64.61	32.4	-68.3	75.6	75.3	0.30	254.785					
200.0	200.0	200.0	200.0	0.3	0.3	-64.61	32.4	-68.3	75.6	75.0	0.65	117.063	CC, ES				
300.0	300.0	298.1	298.0	0.5	0.5	-64.46	33.1	-69.3	76.9	75.9	0.99	77.392					
400.0	400.0	396.0	395.9	0.7	0.7	-64.06	35.2	-72.5	80.7	79.3	1.35	59.835					
500.0	500.0	493.7	493.4	0.8	0.9	-63.48	38.7	-77.6	87.0	85.3	1.72	50.683					
600.0	600.0	591.0	590.3	1.0	1.1	-62.79	43.6	-84.8	95.9	93.8	2.10	45.577					
700.0	700.0	687.8	686.5	1.2	1.3	59.28	49.9	-94.0	106.6	104.3	2.37	44.942					
800.0	799.9	784.1	781.9	1.4	1.6	61.36	57.4	-105.2	118.7	115.9	2.72	43.631					
900.0	899.7	879.9	876.3	1.6	1.9	64.02	66.3	-118.3	132.2	129.2	3.07	43.034	SF				
1,000.0	999.5	974.9	969.6	1.8	2.3	66.47	76.3	-133.1	148.3	144.9	3.43	43.212					
1,100.0	1,099.2	1,069.1	1,061.6	2.0	2.7	68.38	87.6	-149.8	167.0	163.2	3.80	43.997					
1,200.0	1,199.0	1,162.4	1,152.2	2.2	3.1	69.84	100.1	-168.1	188.3	184.1	4.16	45.209					

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-31D (F28 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	-61.96	28.4	-53.3	60.4				
100.0	100.0	100.0	100.0	0.1	0.1	-61.96	28.4	-53.3	60.4	60.1	0.30	203.673	
200.0	200.0	200.0	200.0	0.3	0.3	-61.96	28.4	-53.3	60.4	59.8	0.65	93.580	
300.0	300.0	300.0	300.0	0.5	0.5	-61.96	28.4	-53.3	60.4	59.4	0.99	60.745 CC, ES	
400.0	400.0	398.5	398.4	0.7	0.7	-61.69	29.2	-54.3	61.7	60.3	1.34	45.946	
500.0	500.0	496.8	496.7	0.8	0.9	-60.95	31.7	-57.2	65.5	63.8	1.70	38.575	
600.0	600.0	594.9	594.6	1.0	1.0	-59.89	35.9	-61.9	71.8	69.7	2.06	34.769	
700.0	700.0	692.6	691.9	1.2	1.3	62.92	41.7	-68.5	80.0	77.6	2.38	33.596	
800.0	799.9	789.8	788.5	1.4	1.5	66.11	49.1	-76.9	89.8	87.0	2.73	32.876	
900.0	899.7	886.5	884.2	1.6	1.8	70.02	58.0	-87.2	101.4	98.3	3.09	32.867 SF	
1,000.0	999.5	982.5	978.9	1.8	2.1	73.46	68.5	-99.1	115.8	112.4	3.45	33.591	
1,100.0	1,099.2	1,077.8	1,072.4	2.0	2.4	76.05	80.4	-112.7	133.0	129.2	3.82	34.860	
1,200.0	1,199.0	1,172.1	1,164.6	2.2	2.8	77.94	93.7	-127.9	152.8	148.6	4.19	36.492	
1,300.0	1,298.7	1,265.6	1,255.3	2.4	3.2	79.29	108.3	-144.7	175.2	170.6	4.56	38.375	
1,400.0	1,398.5	1,357.9	1,344.4	2.6	3.7	80.23	124.3	-162.9	199.9	195.0	4.94	40.435	



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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> SENW S28-T6S-R97W (F28 Pad) - Oxy 28-32D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-59.28	23.3	-39.2	45.6					
100.0	100.0	100.0	100.0	0.1	0.1	-59.28	23.3	-39.2	45.6	45.3	0.30	153.789		
200.0	200.0	200.0	200.0	0.3	0.3	-59.28	23.3	-39.2	45.6	45.0	0.65	70.660 CC, ES		
300.0	300.0	298.8	298.8	0.5	0.5	-58.83	24.3	-40.1	46.9	45.9	0.99	47.119		
400.0	400.0	397.6	397.5	0.7	0.7	-57.63	27.1	-42.7	50.6	49.3	1.35	37.430		
500.0	500.0	496.0	495.7	0.8	0.9	-55.98	31.7	-47.0	56.9	55.2	1.72	32.985		
600.0	600.0	594.1	593.4	1.0	1.1	-54.20	38.2	-53.0	65.7	63.6	2.12	31.046 SF		
700.0	700.0	691.6	690.3	1.2	1.4	69.12	46.5	-60.7	76.6	74.2	2.38	32.153		
800.0	799.9	788.6	786.3	1.4	1.6	72.63	56.6	-69.9	89.3	86.6	2.73	32.722		
900.0	899.7	884.8	881.1	1.6	2.0	76.59	68.3	-80.8	104.2	101.2	3.08	33.802		
1,000.0	999.5	980.2	974.7	1.8	2.3	79.91	81.6	-93.1	121.9	118.5	3.45	35.392		
1,100.0	1,099.2	1,074.6	1,067.0	2.0	2.7	82.31	96.5	-106.9	142.4	138.6	3.81	37.335		
1,200.0	1,199.0	1,168.1	1,157.8	2.2	3.1	84.00	112.9	-122.0	165.4	161.2	4.19	39.503		
1,300.0	1,298.7	1,260.5	1,246.9	2.4	3.6	85.18	130.7	-138.5	190.8	186.3	4.56	41.818		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-18D (F28 pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Reference Site:</b>	SENW S28-T6S-R97W (F28 Pad)	<b>MD Reference:</b>	KBE @ 8308.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 28-18D (F28 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 @ 8308.0ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Oxy 28-18D (F28 pad)  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.72°

