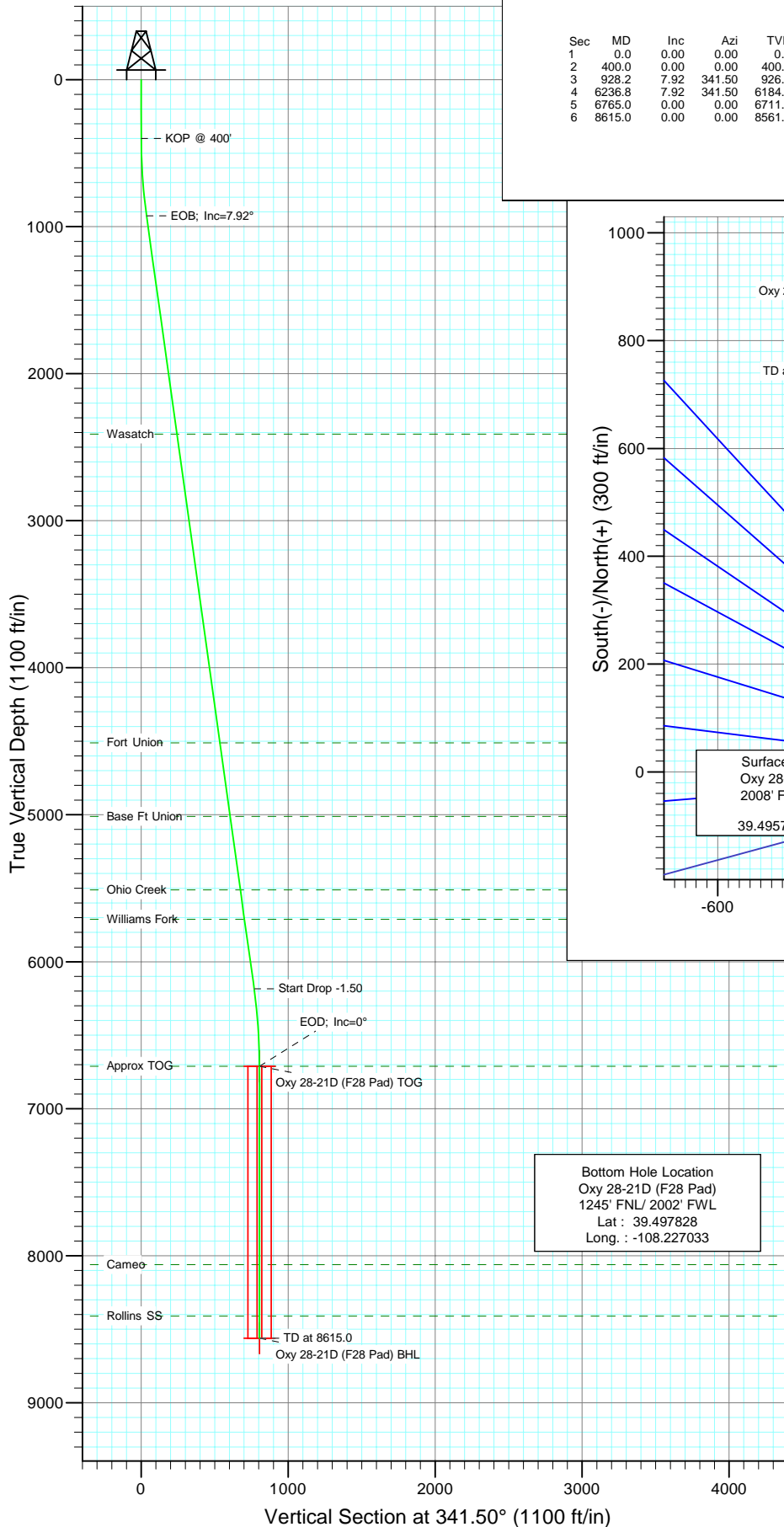




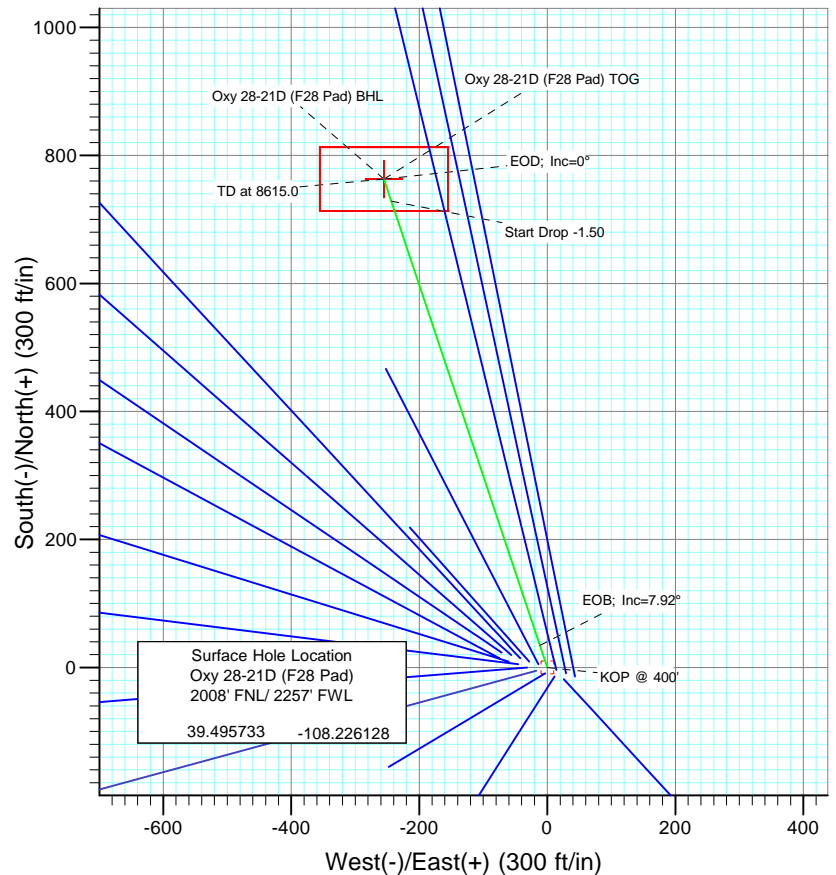
Berry Petroleum Company

Project: Garfield County  
Site: SENW S28-T6S-R97W (F28 Pad)  
Well: Oxy 28-21D (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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	928.2	7.92	341.50	926.5	34.6	-11.6	1.50	341.50	36.5	
4	6236.8	7.92	341.50	6184.5	728.5	-243.8	0.00	0.00	768.2	
5	6765.0	0.00	0.00	6711.0	763.1	-255.4	1.50	180.00	804.7	Oxy 28-21D (F28 Pad) TOG
6	8615.0	0.00	0.00	8561.0	763.1	-255.4	0.00	0.00	804.7	Oxy 28-21D (F28 Pad) BHL



#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2411.0	2427.0	Wasatch
4511.0	4547.2	Fort Union
5011.0	5052.0	Base Ft Union
5511.0	5556.9	Ohio Creek
5711.0	5758.8	Williams Fork
6711.0	6765.0	Approx TOG
8061.0	8115.0	Cameo
8411.0	8465.0	Rollins SS



Azimuths to True North  
Magnetic North: 10.64°

Magnetic Field  
Strength: 52394.5snT  
Dip Angle: 65.75°  
Date: 10/22/2009  
Model: IGRF200510

#### DESIGN DETAILS: Plan #1

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

Target	Azimuth	Origin	N/S	E/W	From TVD
Oxy 28-21D (F28 Pad) BHL	341.50	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 28-21D (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 28-21D (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 28-21D (F28 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,616,994.84 ft	Latitude:	39.495733
	+E/-W	0.0 ft	Easting:	2,230,802.39 ft	Longitude:	-108.226128
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</b> (nT)
	IGRF200510	10/22/2009	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)</b> (ft)	<b>+N/-S</b> (ft)	<b>+E/-W</b> (ft)	<b>Direction</b> (°)
	0.0	0.0	0.0	341.50

<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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
928.2	7.92	341.50	926.5	34.6	-11.6	1.50	1.50	0.00	341.50	
6,236.8	7.92	341.50	6,184.5	728.5	-243.8	0.00	0.00	0.00	0.00	
6,765.0	0.00	0.00	6,711.0	763.1	-255.4	1.50	-1.50	0.00	180.00	Oxy 28-21D (F28 Pad
8,615.0	0.00	0.00	8,561.0	763.1	-255.4	0.00	0.00	0.00	0.00	Oxy 28-21D (F28 Pad

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 400'
420.0	0.30	341.50	420.0	0.0	0.0	0.1	1.50	1.50	
450.0	0.75	341.50	450.0	0.3	-0.1	0.3	1.50	1.50	
480.0	1.20	341.50	480.0	0.8	-0.3	0.8	1.50	1.50	
510.0	1.65	341.50	510.0	1.5	-0.5	1.6	1.50	1.50	
540.0	2.10	341.50	540.0	2.4	-0.8	2.6	1.50	1.50	
570.0	2.55	341.50	569.9	3.6	-1.2	3.8	1.50	1.50	
600.0	3.00	341.50	599.9	5.0	-1.7	5.2	1.50	1.50	
630.0	3.45	341.50	629.9	6.6	-2.2	6.9	1.50	1.50	
660.0	3.90	341.50	659.8	8.4	-2.8	8.8	1.50	1.50	
690.0	4.35	341.50	689.7	10.4	-3.5	11.0	1.50	1.50	
720.0	4.80	341.50	719.6	12.7	-4.3	13.4	1.50	1.50	
750.0	5.25	341.50	749.5	15.2	-5.1	16.0	1.50	1.50	
780.0	5.70	341.50	779.4	17.9	-6.0	18.9	1.50	1.50	
810.0	6.15	341.50	809.2	20.8	-7.0	22.0	1.50	1.50	
840.0	6.60	341.50	839.0	24.0	-8.0	25.3	1.50	1.50	
870.0	7.05	341.50	868.8	27.4	-9.2	28.9	1.50	1.50	
900.0	7.50	341.50	898.6	31.0	-10.4	32.7	1.50	1.50	
928.2	7.92	341.50	926.5	34.6	-11.6	36.5	1.50	1.50	EOB; Inc=7.92°
930.0	7.92	341.50	928.3	34.8	-11.7	36.7	0.00	0.00	
960.0	7.92	341.50	958.0	38.7	-13.0	40.8	0.00	0.00	
990.0	7.92	341.50	987.7	42.7	-14.3	45.0	0.00	0.00	
1,020.0	7.92	341.50	1,017.4	46.6	-15.6	49.1	0.00	0.00	
1,050.0	7.92	341.50	1,047.2	50.5	-16.9	53.3	0.00	0.00	
1,080.0	7.92	341.50	1,076.9	54.4	-18.2	57.4	0.00	0.00	
1,110.0	7.92	341.50	1,106.6	58.3	-19.5	61.5	0.00	0.00	
1,140.0	7.92	341.50	1,136.3	62.3	-20.8	65.7	0.00	0.00	
1,170.0	7.92	341.50	1,166.0	66.2	-22.2	69.8	0.00	0.00	
1,200.0	7.92	341.50	1,195.7	70.1	-23.5	73.9	0.00	0.00	
1,230.0	7.92	341.50	1,225.4	74.0	-24.8	78.1	0.00	0.00	
1,260.0	7.92	341.50	1,255.2	77.9	-26.1	82.2	0.00	0.00	
1,290.0	7.92	341.50	1,284.9	81.9	-27.4	86.3	0.00	0.00	
1,320.0	7.92	341.50	1,314.6	85.8	-28.7	90.5	0.00	0.00	
1,350.0	7.92	341.50	1,344.3	89.7	-30.0	94.6	0.00	0.00	
1,380.0	7.92	341.50	1,374.0	93.6	-31.3	98.7	0.00	0.00	
1,410.0	7.92	341.50	1,403.7	97.6	-32.6	102.9	0.00	0.00	
1,440.0	7.92	341.50	1,433.4	101.5	-34.0	107.0	0.00	0.00	
1,470.0	7.92	341.50	1,463.1	105.4	-35.3	111.1	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 28-21D (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 28-21D (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
1,500.0	7.92	341.50	1,492.9	109.3	-36.6	115.3	0.00	0.00	
1,530.0	7.92	341.50	1,522.6	113.2	-37.9	119.4	0.00	0.00	
1,560.0	7.92	341.50	1,552.3	117.2	-39.2	123.6	0.00	0.00	
1,590.0	7.92	341.50	1,582.0	121.1	-40.5	127.7	0.00	0.00	
1,620.0	7.92	341.50	1,611.7	125.0	-41.8	131.8	0.00	0.00	
1,650.0	7.92	341.50	1,641.4	128.9	-43.1	136.0	0.00	0.00	
1,680.0	7.92	341.50	1,671.1	132.9	-44.5	140.1	0.00	0.00	
1,710.0	7.92	341.50	1,700.9	136.8	-45.8	144.2	0.00	0.00	
1,740.0	7.92	341.50	1,730.6	140.7	-47.1	148.4	0.00	0.00	
1,770.0	7.92	341.50	1,760.3	144.6	-48.4	152.5	0.00	0.00	
1,800.0	7.92	341.50	1,790.0	148.5	-49.7	156.6	0.00	0.00	
1,830.0	7.92	341.50	1,819.7	152.5	-51.0	160.8	0.00	0.00	
1,860.0	7.92	341.50	1,849.4	156.4	-52.3	164.9	0.00	0.00	
1,890.0	7.92	341.50	1,879.1	160.3	-53.6	169.0	0.00	0.00	
1,920.0	7.92	341.50	1,908.9	164.2	-55.0	173.2	0.00	0.00	
1,950.0	7.92	341.50	1,938.6	168.1	-56.3	177.3	0.00	0.00	
1,980.0	7.92	341.50	1,968.3	172.1	-57.6	181.4	0.00	0.00	
2,010.0	7.92	341.50	1,998.0	176.0	-58.9	185.6	0.00	0.00	
2,040.0	7.92	341.50	2,027.7	179.9	-60.2	189.7	0.00	0.00	
2,070.0	7.92	341.50	2,057.4	183.8	-61.5	193.9	0.00	0.00	
2,100.0	7.92	341.50	2,087.1	187.8	-62.8	198.0	0.00	0.00	
2,130.0	7.92	341.50	2,116.8	191.7	-64.1	202.1	0.00	0.00	
2,160.0	7.92	341.50	2,146.6	195.6	-65.5	206.3	0.00	0.00	
2,190.0	7.92	341.50	2,176.3	199.5	-66.8	210.4	0.00	0.00	
2,220.0	7.92	341.50	2,206.0	203.4	-68.1	214.5	0.00	0.00	
2,250.0	7.92	341.50	2,235.7	207.4	-69.4	218.7	0.00	0.00	
2,280.0	7.92	341.50	2,265.4	211.3	-70.7	222.8	0.00	0.00	
2,310.0	7.92	341.50	2,295.1	215.2	-72.0	226.9	0.00	0.00	
2,340.0	7.92	341.50	2,324.8	219.1	-73.3	231.1	0.00	0.00	
2,370.0	7.92	341.50	2,354.6	223.0	-74.6	235.2	0.00	0.00	
2,400.0	7.92	341.50	2,384.3	227.0	-76.0	239.3	0.00	0.00	
2,427.0	7.92	341.50	2,411.0	230.5	-77.1	243.1	0.00	0.00	Wasatch
2,430.0	7.92	341.50	2,414.0	230.9	-77.3	243.5	0.00	0.00	
2,460.0	7.92	341.50	2,443.7	234.8	-78.6	247.6	0.00	0.00	
2,490.0	7.92	341.50	2,473.4	238.7	-79.9	251.7	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 28-21D (F28 Pad) T	0.00	0.00	6,711.0	763.1	-255.4	1,617,765.26	2,230,570.02	39.497828	-108.227033
- plan misses target center by 4273.5ft at 2490.0ft MD (2473.4 TVD, 238.7 N, -79.9 E)									
- Point									
Oxy 28-21D (F28 Pad) E	0.00	0.00	8,561.0	763.1	-255.4	1,617,765.26	2,230,570.02	39.497828	-108.227033
- plan misses target center by 6112.7ft at 2490.0ft MD (2473.4 TVD, 238.7 N, -79.9 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 28-21D (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 28-21D (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	7.92	341.50	2,483.3	240.0	-80.3	253.1	0.00	0.00	
2,600.0	7.92	341.50	2,582.4	253.1	-84.7	266.9	0.00	0.00	
2,700.0	7.92	341.50	2,681.4	266.2	-89.1	280.7	0.00	0.00	
2,800.0	7.92	341.50	2,780.4	279.3	-93.5	294.5	0.00	0.00	
2,900.0	7.92	341.50	2,879.5	292.3	-97.8	308.3	0.00	0.00	
3,000.0	7.92	341.50	2,978.5	305.4	-102.2	322.0	0.00	0.00	
3,100.0	7.92	341.50	3,077.6	318.5	-106.6	335.8	0.00	0.00	
3,200.0	7.92	341.50	3,176.6	331.5	-111.0	349.6	0.00	0.00	
3,300.0	7.92	341.50	3,275.7	344.6	-115.3	363.4	0.00	0.00	
3,400.0	7.92	341.50	3,374.7	357.7	-119.7	377.2	0.00	0.00	
3,500.0	7.92	341.50	3,473.8	370.8	-124.1	391.0	0.00	0.00	
3,600.0	7.92	341.50	3,572.8	383.8	-128.5	404.8	0.00	0.00	
3,700.0	7.92	341.50	3,671.9	396.9	-132.8	418.5	0.00	0.00	
3,800.0	7.92	341.50	3,770.9	410.0	-137.2	432.3	0.00	0.00	
3,900.0	7.92	341.50	3,869.9	423.0	-141.6	446.1	0.00	0.00	
4,000.0	7.92	341.50	3,969.0	436.1	-146.0	459.9	0.00	0.00	
4,100.0	7.92	341.50	4,068.0	449.2	-150.3	473.7	0.00	0.00	
4,200.0	7.92	341.50	4,167.1	462.3	-154.7	487.5	0.00	0.00	
4,300.0	7.92	341.50	4,266.1	475.3	-159.1	501.2	0.00	0.00	
4,400.0	7.92	341.50	4,365.2	488.4	-163.5	515.0	0.00	0.00	
4,500.0	7.92	341.50	4,464.2	501.5	-167.8	528.8	0.00	0.00	
4,547.2	7.92	341.50	4,511.0	507.7	-169.9	535.3	0.00	0.00	Fort Union
4,600.0	7.92	341.50	4,563.3	514.6	-172.2	542.6	0.00	0.00	
4,700.0	7.92	341.50	4,662.3	527.6	-176.6	556.4	0.00	0.00	
4,800.0	7.92	341.50	4,761.4	540.7	-181.0	570.2	0.00	0.00	
4,900.0	7.92	341.50	4,860.4	553.8	-185.3	584.0	0.00	0.00	
5,000.0	7.92	341.50	4,959.4	566.8	-189.7	597.7	0.00	0.00	
5,052.0	7.92	341.50	5,011.0	573.6	-192.0	604.9	0.00	0.00	Base Ft Union
5,100.0	7.92	341.50	5,058.5	579.9	-194.1	611.5	0.00	0.00	
5,200.0	7.92	341.50	5,157.5	593.0	-198.5	625.3	0.00	0.00	
5,300.0	7.92	341.50	5,256.6	606.1	-202.8	639.1	0.00	0.00	
5,400.0	7.92	341.50	5,355.6	619.1	-207.2	652.9	0.00	0.00	
5,500.0	7.92	341.50	5,454.7	632.2	-211.6	666.7	0.00	0.00	
5,556.9	7.92	341.50	5,511.0	639.6	-214.1	674.5	0.00	0.00	Ohio Creek
5,600.0	7.92	341.50	5,553.7	645.3	-216.0	680.4	0.00	0.00	
5,700.0	7.92	341.50	5,652.8	658.3	-220.3	694.2	0.00	0.00	
5,758.8	7.92	341.50	5,711.0	666.0	-222.9	702.3	0.00	0.00	Williams Fork
5,800.0	7.92	341.50	5,751.8	671.4	-224.7	708.0	0.00	0.00	
5,900.0	7.92	341.50	5,850.9	684.5	-229.1	721.8	0.00	0.00	
6,000.0	7.92	341.50	5,949.9	697.6	-233.5	735.6	0.00	0.00	
6,100.0	7.92	341.50	6,048.9	710.6	-237.8	749.4	0.00	0.00	
6,200.0	7.92	341.50	6,148.0	723.7	-242.2	763.2	0.00	0.00	
6,236.8	7.92	341.50	6,184.5	728.5	-243.8	768.2	0.00	0.00	Start Drop -1.50
6,300.0	6.98	341.50	6,247.1	736.3	-246.4	776.4	1.50	-1.50	
6,400.0	5.48	341.50	6,346.5	746.6	-249.9	787.3	1.50	-1.50	
6,500.0	3.98	341.50	6,446.2	754.4	-252.5	795.5	1.50	-1.50	
6,600.0	2.48	341.50	6,546.0	759.7	-254.3	801.1	1.50	-1.50	
6,700.0	0.98	341.50	6,646.0	762.6	-255.2	804.1	1.50	-1.50	
6,765.0	0.00	0.00	6,711.0	763.1	-255.4	804.7	1.50	-1.50	EOD; Inc=0° - Approx TOG - Oxy 28-21D (F28
6,800.0	0.00	0.00	6,746.0	763.1	-255.4	804.7	0.00	0.00	
6,900.0	0.00	0.00	6,846.0	763.1	-255.4	804.7	0.00	0.00	
7,000.0	0.00	0.00	6,946.0	763.1	-255.4	804.7	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 28-21D (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 28-21D (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
7,100.0	0.00	0.00	7,046.0	763.1	-255.4	804.7	0.00	0.00	
7,200.0	0.00	0.00	7,146.0	763.1	-255.4	804.7	0.00	0.00	
7,300.0	0.00	0.00	7,246.0	763.1	-255.4	804.7	0.00	0.00	
7,400.0	0.00	0.00	7,346.0	763.1	-255.4	804.7	0.00	0.00	
7,500.0	0.00	0.00	7,446.0	763.1	-255.4	804.7	0.00	0.00	
7,600.0	0.00	0.00	7,546.0	763.1	-255.4	804.7	0.00	0.00	
7,700.0	0.00	0.00	7,646.0	763.1	-255.4	804.7	0.00	0.00	
7,800.0	0.00	0.00	7,746.0	763.1	-255.4	804.7	0.00	0.00	
7,900.0	0.00	0.00	7,846.0	763.1	-255.4	804.7	0.00	0.00	
8,000.0	0.00	0.00	7,946.0	763.1	-255.4	804.7	0.00	0.00	
8,100.0	0.00	0.00	8,046.0	763.1	-255.4	804.7	0.00	0.00	
8,115.0	0.00	0.00	8,061.0	763.1	-255.4	804.7	0.00	0.00	Cameo
8,200.0	0.00	0.00	8,146.0	763.1	-255.4	804.7	0.00	0.00	
8,300.0	0.00	0.00	8,246.0	763.1	-255.4	804.7	0.00	0.00	
8,400.0	0.00	0.00	8,346.0	763.1	-255.4	804.7	0.00	0.00	
8,465.0	0.00	0.00	8,411.0	763.1	-255.4	804.7	0.00	0.00	Rollins SS
8,500.0	0.00	0.00	8,446.0	763.1	-255.4	804.7	0.00	0.00	
8,600.0	0.00	0.00	8,546.0	763.1	-255.4	804.7	0.00	0.00	
8,615.0	0.00	0.00	8,561.0	763.1	-255.4	804.7	0.00	0.00	TD at 8615.0 - Oxy 28-21D (F28 Pad) BHL

### Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Oxy 28-21D (F28 Pad) T - plan hits target center - Point	0.00	0.00	6,711.0	763.1	-255.4	1,617,765.26	2,230,570.02	39.497828	-108.227033
Oxy 28-21D (F28 Pad) E - plan hits target center - Rectangle (sides W100.0 H200.0 D0.0)	0.00	0.00	8,561.0	763.1	-255.4	1,617,765.26	2,230,570.02	39.497828	-108.227033

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,427.0	2,411.0	Wasatch		0.00	
4,547.2	4,511.0	Fort Union		0.00	
5,052.0	5,011.0	Base Ft Union		0.00	
5,556.9	5,511.0	Ohio Creek		0.00	
5,758.8	5,711.0	Williams Fork		0.00	
6,765.0	6,711.0	Approx TOG		0.00	
8,115.0	8,061.0	Cameo		0.00	
8,465.0	8,411.0	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 28-21D (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 28-21D (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)	
400.0	400.0	0.0	0.0	KOP @ 400'
928.2	926.5	34.6	-11.6	EOB; Inc=7.92°
6,236.8	6,184.5	728.5	-243.8	Start Drop -1.50
6,765.0	6,711.0	763.1	-255.4	EOD; Inc=0°
8,615.0	8,561.0	763.1	-255.4	TD at 8615.0

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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>Reference</b>	Plan #1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0ft	<b>Error Model:</b>	Systematic Ellipse
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 200.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b>	10/26/2009		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	8,615.0	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	400.0	400.0	31.7	30.4	23.596	CC, ES
Oxy 28-15D (F28 Pad) - DD - Plan #1	600.0	599.0	37.3	35.3	18.290	SF
Oxy 28-17D (F28 Pad) - DD - Plan #1	400.0	400.0	18.0	16.6	13.372	CC, ES
Oxy 28-17D (F28 Pad) - DD - Plan #1	600.0	599.9	23.0	20.9	11.258	SF
Oxy 28-18D (F28 pad) - DD - Plan #1	400.0	400.0	9.6	8.3	7.159	CC, ES
Oxy 28-18D (F28 pad) - DD - Plan #1	500.0	500.0	10.7	9.0	6.315	SF
Oxy 28-19D (F28 Pad) - DD - Plan #1	724.3	723.5	25.3	22.8	10.061	CC, ES
Oxy 28-19D (F28 Pad) - DD - Plan #1	900.0	898.4	28.8	25.5	8.859	SF
Oxy 28-20D (F28 Pad) - DD - Plan #1	678.2	677.7	12.8	10.5	5.471	CC
Oxy 28-20D (F28 Pad) - DD - Plan #1	700.0	699.5	12.8	10.4	5.294	ES
Oxy 28-20D (F28 Pad) - DD - Plan #1	900.0	899.3	15.2	11.9	4.636	SF
Oxy 28-22D (F28 Pad) - DD - Plan #1	400.0	400.0	45.5	44.1	33.822	CC, ES
Oxy 28-22D (F28 Pad) - DD - Plan #1	1,900.0	1,904.4	62.5	53.1	6.631	SF
Oxy 28-23D (F28 Pad) - DD - Plan #1	400.0	400.0	14.7	13.3	10.914	CC, ES
Oxy 28-23D (F28 Pad) - DD - Plan #1	1,400.0	1,402.7	21.4	15.2	3.440	SF
Oxy 28-24D (F28 Pad) - DD - Plan #1	644.2	645.2	28.3	26.0	12.476	CC
Oxy 28-24D (F28 Pad) - DD - Plan #1	700.0	701.0	28.4	25.9	11.344	ES
Oxy 28-24D (F28 Pad) - DD - Plan #1	1,100.0	1,100.7	34.4	29.7	7.332	SF
Oxy 28-25D (F28 Pad) - DD - Plan #1	400.0	400.0	18.0	16.6	13.359	CC, ES
Oxy 28-25D (F28 Pad) - DD - Plan #1	500.0	499.5	19.3	17.6	11.370	SF
Oxy 28-26D (F28 Pad) - DD - Plan #1	400.0	400.0	31.3	30.0	23.309	CC, ES
Oxy 28-26D (F28 Pad) - DD - Plan #1	700.0	696.9	41.0	38.6	16.967	SF
Oxy 28-27D (F28 Pad) - DD - Plan #1	400.0	400.0	45.7	44.4	34.020	CC, ES
Oxy 28-27D (F28 Pad) - DD - Plan #1	800.0	794.1	60.5	57.7	21.531	SF
Oxy 28-28D (F28 Pad) - DD - Plan #1	400.0	400.0	61.1	59.7	45.445	CC, ES
Oxy 28-28D (F28 Pad) - DD - Plan #1	1,000.0	987.8	92.2	88.5	24.845	SF
Oxy 28-29D (F28 Pad) - DD - Plan #1	400.0	400.0	75.8	74.5	56.435	CC, ES
Oxy 28-29D (F28 Pad) - DD - Plan #1	1,200.0	1,180.8	124.1	119.4	26.292	SF
Oxy 28-30D (F28 Pad) - DD - Plan #1	200.0	200.0	75.1	74.5	116.305	CC, ES
Oxy 28-30D (F28 Pad) - DD - Plan #1	1,200.0	1,170.8	155.2	150.6	33.302	SF
Oxy 28-31D (F28 Pad) - DD - Plan #1	300.0	300.0	59.7	58.7	59.960	CC, ES
Oxy 28-31D (F28 Pad) - DD - Plan #1	1,200.0	1,181.7	112.5	107.8	23.913	SF
Oxy 28-32D (F28 Pad) - DD - Plan #1	200.0	200.0	44.7	44.0	69.142	CC, ES
Oxy 28-32D (F28 Pad) - DD - Plan #1	1,100.0	1,084.2	99.9	95.7	23.888	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 28-21D (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 28-21D (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 28-15D (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		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.0	0.0	0.0	0.0	0.0	0.0	125.04	-18.2	26.0	31.7				
100.0	100.0	100.0	100.0	0.1	0.1	125.04	-18.2	26.0	31.7	31.4	0.30	106.876	
200.0	200.0	200.0	200.0	0.3	0.3	125.04	-18.2	26.0	31.7	31.1	0.65	49.105	
300.0	300.0	300.0	300.0	0.5	0.5	125.04	-18.2	26.0	31.7	30.7	0.99	31.875	
400.0	400.0	400.0	400.0	0.7	0.7	125.04	-18.2	26.0	31.7	30.4	1.34	23.596 CC, ES	
500.0	500.0	500.0	500.0	0.8	0.8	144.90	-18.2	26.0	32.8	31.1	1.69	19.357	
600.0	599.9	599.0	598.9	1.0	1.0	148.67	-19.2	26.8	37.3	35.3	2.04	18.290 SF	
700.0	699.7	697.4	697.3	1.2	1.2	153.31	-22.0	29.4	46.9	44.5	2.39	19.640	
800.0	799.3	794.8	794.5	1.4	1.4	157.26	-26.6	33.7	61.7	58.9	2.73	22.545	
900.0	898.6	891.0	890.3	1.7	1.6	160.14	-32.9	39.5	81.5	78.4	3.08	26.481	
1,000.0	997.6	985.6	984.3	2.0	1.8	162.10	-40.9	46.8	105.7	102.3	3.42	30.897	
1,100.0	1,096.7	1,079.1	1,076.9	2.2	2.1	163.22	-50.5	55.6	132.4	128.6	3.76	35.176	
1,200.0	1,195.7	1,171.2	1,167.8	2.5	2.3	163.85	-61.5	65.7	161.5	157.4	4.11	39.317	
1,300.0	1,294.8	1,262.0	1,257.0	2.8	2.6	164.18	-74.0	77.2	192.8	188.3	4.45	43.341	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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	142.23	-14.2	11.0	18.0					
100.0	100.0	100.0	100.0	0.1	0.1	142.23	-14.2	11.0	18.0	17.7	0.30	60.565		
200.0	200.0	200.0	200.0	0.3	0.3	142.23	-14.2	11.0	18.0	17.3	0.65	27.827		
300.0	300.0	300.0	300.0	0.5	0.5	142.23	-14.2	11.0	18.0	17.0	0.99	18.063		
400.0	400.0	400.0	400.0	0.7	0.7	142.23	-14.2	11.0	18.0	16.6	1.34	13.372 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	162.02	-14.2	11.0	19.2	17.5	1.69	11.349		
600.0	599.9	599.9	599.9	1.0	1.0	165.03	-14.2	11.0	23.0	20.9	2.04	11.258 SF		
700.0	699.7	699.3	699.3	1.2	1.2	170.50	-15.3	10.3	30.0	27.6	2.39	12.550		
800.0	799.3	798.1	798.0	1.4	1.4	177.27	-18.5	8.3	41.2	38.5	2.73	15.070		
900.0	898.6	895.9	895.6	1.7	1.6	-176.97	-23.9	4.9	57.0	53.9	3.08	18.505		
1,000.0	997.6	993.3	992.6	2.0	1.8	-172.70	-31.0	0.3	76.6	73.2	3.44	22.292		
1,100.0	1,096.7	1,091.2	1,090.1	2.2	2.0	-170.06	-38.4	-4.4	96.8	93.0	3.80	25.473		
1,200.0	1,195.7	1,189.0	1,187.6	2.5	2.2	-168.32	-45.9	-9.1	117.2	113.0	4.17	28.111		
1,300.0	1,294.8	1,286.9	1,285.0	2.8	2.4	-167.10	-53.3	-13.8	137.5	133.0	4.54	30.325		
1,400.0	1,393.8	1,384.8	1,382.5	3.1	2.6	-166.20	-60.7	-18.6	158.0	153.1	4.91	32.204		
1,500.0	1,492.9	1,482.6	1,480.0	3.4	2.8	-165.50	-68.2	-23.3	178.5	173.2	5.28	33.817		
1,600.0	1,591.9	1,580.5	1,577.4	3.6	3.0	-164.95	-75.6	-28.0	198.9	193.3	5.65	35.215		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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 28-18D (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	-161.18	-9.1	-3.1	9.6					
100.0	100.0	100.0	100.0	0.1	0.1	-161.18	-9.1	-3.1	9.6	9.3	0.30	32.425		
200.0	200.0	200.0	200.0	0.3	0.3	-161.18	-9.1	-3.1	9.6	9.0	0.65	14.898		
300.0	300.0	300.0	300.0	0.5	0.5	-161.18	-9.1	-3.1	9.6	8.6	0.99	9.671		
400.0	400.0	400.0	400.0	0.7	0.7	-161.18	-9.1	-3.1	9.6	8.3	1.34	7.159 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	-146.92	-9.1	-3.1	10.7	9.0	1.69	6.315 SF		
600.0	599.9	599.9	599.9	1.0	1.0	-155.61	-9.1	-3.1	14.1	12.1	2.04	6.926		
700.0	699.7	699.4	699.4	1.2	1.2	-160.11	-9.8	-4.2	20.9	18.6	2.39	8.760		
800.0	799.3	798.5	798.4	1.4	1.4	-159.73	-11.8	-7.5	31.6	28.9	2.74	11.523		
900.0	898.6	897.0	896.7	1.7	1.6	-158.03	-15.0	-12.9	46.1	43.0	3.11	14.830		
1,000.0	997.6	995.6	995.1	2.0	1.8	-157.35	-18.6	-18.9	62.7	59.2	3.48	18.019		
1,100.0	1,096.7	1,094.2	1,093.5	2.2	1.9	-157.00	-22.1	-24.9	79.4	75.6	3.86	20.586		
1,200.0	1,195.7	1,192.8	1,191.8	2.5	2.1	-156.77	-25.7	-30.8	96.2	91.9	4.24	22.676		
1,300.0	1,294.8	1,291.4	1,290.1	2.8	2.3	-156.61	-29.3	-36.8	112.9	108.3	4.63	24.408		
1,400.0	1,393.8	1,390.0	1,388.5	3.1	2.6	-156.49	-32.8	-42.8	129.6	124.6	5.01	25.864		
1,500.0	1,492.9	1,488.6	1,486.8	3.4	2.8	-156.39	-36.4	-48.8	146.4	141.0	5.40	27.105		
1,600.0	1,591.9	1,587.2	1,585.2	3.6	3.0	-156.32	-40.0	-54.7	163.1	157.3	5.79	28.173		
1,700.0	1,691.0	1,685.8	1,683.5	3.9	3.2	-156.26	-43.6	-60.7	179.8	173.7	6.18	29.102		
1,800.0	1,790.0	1,784.4	1,781.9	4.2	3.4	-156.21	-47.1	-66.7	196.6	190.0	6.57	29.917		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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		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	-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		
500.0	500.0	500.0	500.0	0.8	0.8	-55.71	9.1	-28.2	28.9	27.2	1.69	17.061		
600.0	599.9	599.9	599.9	1.0	1.0	-62.66	9.1	-28.2	26.9	24.8	2.05	13.120		
700.0	699.7	699.3	699.3	1.2	1.2	-73.95	10.1	-29.1	25.4	22.9	2.42	10.488		
724.3	723.9	723.5	723.4	1.3	1.2	-77.01	10.6	-29.5	25.3	22.8	2.52	10.061 CC, ES		
800.0	799.3	798.8	798.7	1.4	1.4	-86.74	13.0	-31.7	26.0	23.1	2.82	9.212		
900.0	898.6	898.4	898.1	1.7	1.6	-98.72	17.7	-35.9	28.8	25.5	3.25	8.859 SF		
1,000.0	997.6	998.1	997.5	2.0	1.8	-110.20	23.0	-40.6	33.3	29.6	3.68	9.046		
1,100.0	1,096.7	1,097.8	1,097.0	2.2	2.0	-118.84	28.3	-45.4	38.9	34.8	4.10	9.478		
1,200.0	1,195.7	1,197.5	1,196.4	2.5	2.2	-125.21	33.6	-50.1	45.1	40.6	4.52	9.997		
1,300.0	1,294.8	1,297.2	1,295.8	2.8	2.4	-129.99	39.0	-54.8	51.8	46.9	4.92	10.531		
1,400.0	1,393.8	1,396.9	1,395.3	3.1	2.6	-133.66	44.3	-59.5	58.8	53.4	5.32	11.046		
1,500.0	1,492.9	1,496.5	1,494.7	3.4	2.8	-136.54	49.6	-64.2	65.9	60.2	5.71	11.529		
1,600.0	1,591.9	1,596.2	1,594.2	3.6	3.0	-138.86	54.9	-69.0	73.1	67.0	6.11	11.974		
1,700.0	1,691.0	1,695.9	1,693.6	3.9	3.2	-140.76	60.2	-73.7	80.5	74.0	6.50	12.384		
1,800.0	1,790.0	1,795.6	1,793.1	4.2	3.4	-142.34	65.5	-78.4	87.9	81.1	6.89	12.759		
1,900.0	1,889.0	1,895.3	1,892.5	4.5	3.6	-143.67	70.8	-83.1	95.4	88.2	7.28	13.102		
2,000.0	1,988.1	1,995.0	1,991.9	4.8	3.8	-144.81	76.1	-87.9	103.0	95.3	7.67	13.418		
2,100.0	2,087.1	2,094.7	2,091.4	5.1	4.0	-145.79	81.4	-92.6	110.5	102.5	8.06	13.707		
2,200.0	2,186.2	2,194.4	2,190.8	5.4	4.2	-146.65	86.7	-97.3	118.1	109.7	8.45	13.974		
2,300.0	2,285.2	2,294.1	2,290.3	5.7	4.5	-147.40	92.0	-102.0	125.8	116.9	8.84	14.219		
2,400.0	2,384.3	2,393.8	2,389.7	6.0	4.7	-148.06	97.3	-106.8	133.4	124.2	9.23	14.447		
2,500.0	2,483.3	2,493.5	2,489.2	6.3	4.9	-148.66	102.6	-111.5	141.1	131.4	9.62	14.658		
2,600.0	2,582.4	2,593.2	2,588.6	6.6	5.1	-149.19	107.9	-116.2	148.7	138.7	10.01	14.854		
2,700.0	2,681.4	2,692.9	2,688.1	6.9	5.3	-149.67	113.2	-120.9	156.4	146.0	10.40	15.036		
2,800.0	2,780.4	2,792.6	2,787.5	7.2	5.5	-150.11	118.5	-125.6	164.1	153.3	10.79	15.207		
2,900.0	2,879.5	2,892.3	2,886.9	7.5	5.7	-150.50	123.8	-130.4	171.8	160.6	11.18	15.366		
3,000.0	2,978.5	2,992.0	2,986.4	7.8	5.9	-150.87	129.1	-135.1	179.5	167.9	11.57	15.515		
3,100.0	3,077.6	3,091.7	3,085.8	8.0	6.1	-151.20	134.4	-139.8	187.2	175.3	11.96	15.655		
3,200.0	3,176.6	3,191.4	3,185.3	8.3	6.4	-151.51	139.7	-144.5	194.9	182.6	12.35	15.787		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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		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	-70.13	5.1	-14.1	15.0					
100.0	100.0	100.0	100.0	0.1	0.1	-70.13	5.1	-14.1	15.0	14.7	0.30	50.566		
200.0	200.0	200.0	200.0	0.3	0.3	-70.13	5.1	-14.1	15.0	14.4	0.65	23.233		
300.0	300.0	300.0	300.0	0.5	0.5	-70.13	5.1	-14.1	15.0	14.0	0.99	15.081		
400.0	400.0	400.0	400.0	0.7	0.7	-70.13	5.1	-14.1	15.0	13.7	1.34	11.164		
500.0	500.0	500.0	500.0	0.8	0.8	-55.77	5.1	-14.1	14.2	12.5	1.69	8.401		
600.0	599.9	599.7	599.7	1.0	1.0	-65.83	6.3	-14.7	13.1	11.1	2.05	6.397		
678.2	677.9	677.7	677.7	1.2	1.2	-75.16	8.8	-16.0	12.8	10.5	2.34	5.471 CC		
700.0	699.7	699.5	699.5	1.2	1.2	-77.87	9.7	-16.5	12.8	10.4	2.43	5.294 ES		
800.0	799.3	799.4	799.1	1.4	1.4	-90.01	15.5	-19.5	13.6	10.7	2.84	4.774		
900.0	898.6	899.3	898.7	1.7	1.6	-102.25	23.2	-23.4	15.2	11.9	3.28	4.636 SF		
1,000.0	997.6	999.2	998.1	2.0	1.8	-116.85	31.0	-27.5	18.2	14.5	3.71	4.905		
1,100.0	1,096.7	1,099.1	1,097.6	2.2	2.0	-127.13	38.8	-31.5	22.1	17.9	4.11	5.372		
1,200.0	1,195.7	1,198.9	1,197.1	2.5	2.2	-134.19	46.7	-35.6	26.4	21.9	4.49	5.887		
1,300.0	1,294.8	1,298.8	1,296.5	2.8	2.5	-139.20	54.5	-39.6	31.0	26.2	4.86	6.389		
1,400.0	1,393.8	1,398.6	1,396.0	3.1	2.7	-142.89	62.3	-43.6	35.9	30.6	5.23	6.857		
1,500.0	1,492.9	1,498.5	1,495.5	3.4	2.9	-145.70	70.2	-47.7	40.8	35.2	5.60	7.285		
1,600.0	1,591.9	1,598.4	1,595.0	3.6	3.1	-147.90	78.0	-51.7	45.8	39.8	5.97	7.673		
1,700.0	1,691.0	1,698.2	1,694.4	3.9	3.4	-149.66	85.8	-55.8	50.8	44.5	6.34	8.025		
1,800.0	1,790.0	1,798.1	1,793.9	4.2	3.6	-151.10	93.7	-59.8	55.9	49.2	6.70	8.344		
1,900.0	1,889.0	1,898.0	1,893.4	4.5	3.8	-152.31	101.5	-63.9	61.1	54.0	7.07	8.634		
2,000.0	1,988.1	1,997.8	1,992.8	4.8	4.1	-153.32	109.3	-67.9	66.2	58.8	7.44	8.898		
2,100.0	2,087.1	2,097.7	2,092.3	5.1	4.3	-154.19	117.1	-71.9	71.4	63.6	7.81	9.140		
2,200.0	2,186.2	2,197.5	2,191.8	5.4	4.5	-154.94	125.0	-76.0	76.6	68.4	8.18	9.361		
2,300.0	2,285.2	2,297.4	2,291.3	5.7	4.7	-155.60	132.8	-80.0	81.8	73.2	8.55	9.564		
2,400.0	2,384.3	2,397.3	2,390.7	6.0	5.0	-156.18	140.6	-84.1	87.0	78.0	8.92	9.752		
2,500.0	2,483.3	2,497.1	2,490.2	6.3	5.2	-156.69	148.5	-88.1	92.2	82.9	9.29	9.925		
2,600.0	2,582.4	2,597.0	2,589.7	6.6	5.4	-157.15	156.3	-92.1	97.4	87.7	9.66	10.085		
2,700.0	2,681.4	2,696.8	2,689.1	6.9	5.7	-157.56	164.1	-96.2	102.6	92.6	10.03	10.235		
2,800.0	2,780.4	2,796.7	2,788.6	7.2	5.9	-157.93	171.9	-100.2	107.8	97.4	10.39	10.374		
2,900.0	2,879.5	2,896.6	2,888.1	7.5	6.1	-158.26	179.8	-104.3	113.1	102.3	10.76	10.504		
3,000.0	2,978.5	2,996.4	2,987.6	7.8	6.4	-158.57	187.6	-108.3	118.3	107.2	11.13	10.625		
3,100.0	3,077.6	3,096.3	3,087.0	8.0	6.6	-158.85	195.4	-112.3	123.5	112.0	11.50	10.739		
3,200.0	3,176.6	3,196.1	3,186.5	8.3	6.8	-159.11	203.3	-116.4	128.8	116.9	11.87	10.846		
3,300.0	3,275.7	3,296.0	3,286.0	8.6	7.1	-159.35	211.1	-120.4	134.0	121.8	12.24	10.947		
3,400.0	3,374.7	3,395.9	3,385.5	8.9	7.3	-159.57	218.9	-124.5	139.3	126.6	12.61	11.041		
3,500.0	3,473.8	3,495.7	3,484.9	9.2	7.5	-159.77	226.8	-128.5	144.5	131.5	12.98	11.131		
3,600.0	3,572.8	3,595.6	3,584.4	9.5	7.7	-159.96	234.6	-132.5	149.8	136.4	13.35	11.216		
3,700.0	3,671.9	3,695.4	3,683.9	9.8	8.0	-160.14	242.4	-136.6	155.0	141.3	13.72	11.296		
3,800.0	3,770.9	3,795.3	3,783.3	10.1	8.2	-160.30	250.2	-140.6	160.3	146.2	14.09	11.372		
3,900.0	3,869.9	3,895.2	3,882.8	10.4	8.4	-160.46	258.1	-144.7	165.5	151.0	14.46	11.445		
4,000.0	3,969.0	3,995.0	3,982.3	10.7	8.7	-160.60	265.9	-148.7	170.8	155.9	14.83	11.513		
4,100.0	4,068.0	4,094.9	4,081.8	11.0	8.9	-160.74	273.7	-152.7	176.0	160.8	15.20	11.579		
4,200.0	4,167.1	4,194.8	4,181.2	11.3	9.1	-160.87	281.6	-156.8	181.3	165.7	15.57	11.641		
4,300.0	4,266.1	4,294.6	4,280.7	11.6	9.4	-160.99	289.4	-160.8	186.5	170.6	15.94	11.701		
4,400.0	4,365.2	4,394.5	4,380.2	11.9	9.6	-161.11	297.2	-164.9	191.8	175.5	16.31	11.758		
4,500.0	4,464.2	4,494.3	4,479.6	12.2	9.8	-161.21	305.0	-168.9	197.0	180.4	16.68	11.812		

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 28-21D (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 28-21D (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		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	108.21	-14.2	43.2	45.5					
100.0	100.0	100.0	100.0	0.1	0.1	108.21	-14.2	43.2	45.5	45.2	0.30	153.194		
200.0	200.0	200.0	200.0	0.3	0.3	108.21	-14.2	43.2	45.5	44.8	0.65	70.387		
300.0	300.0	300.0	300.0	0.5	0.5	108.21	-14.2	43.2	45.5	44.5	0.99	45.690		
400.0	400.0	400.0	400.0	0.7	0.7	108.21	-14.2	43.2	45.5	44.1	1.34	33.822 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	128.01	-14.2	43.2	46.2	44.6	1.69	27.308		
600.0	599.9	600.6	600.6	1.0	1.0	130.34	-12.9	42.9	48.0	46.0	2.05	23.446		
700.0	699.7	701.3	701.2	1.2	1.2	132.26	-9.0	42.1	50.1	47.7	2.41	20.763		
800.0	799.3	802.1	801.8	1.4	1.4	133.77	-2.5	40.8	52.5	49.7	2.80	18.769		
900.0	898.6	902.9	902.1	1.7	1.6	134.90	6.6	39.0	55.2	51.9	3.21	17.203		
1,000.0	997.6	1,003.8	1,002.3	2.0	1.9	135.25	18.3	36.6	57.6	53.9	3.64	15.800		
1,100.0	1,096.7	1,104.7	1,102.2	2.2	2.1	133.60	32.6	33.7	58.4	54.3	4.13	14.164		
1,200.0	1,195.7	1,205.5	1,201.5	2.5	2.4	129.84	49.5	30.3	57.9	53.2	4.68	12.376		
1,300.0	1,294.8	1,305.9	1,300.0	2.8	2.8	123.73	68.8	26.4	56.4	51.0	5.32	10.591		
1,400.0	1,393.8	1,405.7	1,397.6	3.1	3.2	116.56	88.8	22.3	55.2	49.2	6.03	9.158		
1,478.1	1,471.2	1,483.6	1,473.9	3.3	3.4	110.82	104.4	19.2	54.9	48.3	6.60	8.320		
1,500.0	1,492.9	1,505.4	1,495.2	3.4	3.5	109.21	108.8	18.3	54.9	48.2	6.76	8.126		
1,600.0	1,591.9	1,605.2	1,592.9	3.6	3.9	101.90	128.8	14.3	55.6	48.1	7.49	7.421		
1,700.0	1,691.0	1,704.9	1,690.5	3.9	4.3	94.88	148.8	10.2	57.1	48.9	8.19	6.976		
1,800.0	1,790.0	1,804.7	1,788.2	4.2	4.6	88.31	168.8	6.2	59.5	50.6	8.84	6.729		
1,900.0	1,889.0	1,904.4	1,885.8	4.5	5.0	82.31	188.8	2.1	62.5	53.1	9.43	6.631 SF		
2,000.0	1,988.1	2,004.2	1,983.4	4.8	5.4	76.92	208.9	-1.9	66.2	56.2	9.97	6.642		
2,100.0	2,087.1	2,103.9	2,081.1	5.1	5.8	72.14	228.9	-6.0	70.4	60.0	10.46	6.732		
2,200.0	2,186.2	2,203.7	2,178.7	5.4	6.2	67.92	248.9	-10.0	75.1	64.1	10.92	6.876		
2,300.0	2,285.2	2,303.4	2,276.3	5.7	6.6	64.20	268.9	-14.1	80.1	68.7	11.34	7.058		
2,400.0	2,384.3	2,403.2	2,374.0	6.0	7.0	60.94	288.9	-18.1	85.4	73.6	11.75	7.265		
2,500.0	2,483.3	2,502.9	2,471.6	6.3	7.4	58.06	308.9	-22.2	90.9	78.8	12.14	7.488		
2,600.0	2,582.4	2,602.7	2,569.2	6.6	7.7	55.52	328.9	-26.2	96.6	84.1	12.52	7.719		
2,700.0	2,681.4	2,702.4	2,666.9	6.9	8.1	53.26	348.9	-30.3	102.6	89.7	12.89	7.954		
2,800.0	2,780.4	2,802.2	2,764.5	7.2	8.5	51.26	368.9	-34.3	108.6	95.3	13.26	8.189		
2,900.0	2,879.5	2,901.9	2,862.2	7.5	8.9	49.47	389.0	-38.4	114.8	101.1	13.63	8.422		
3,000.0	2,978.5	3,001.6	2,959.8	7.8	9.3	47.86	409.0	-42.4	121.0	107.1	13.99	8.651		
3,100.0	3,077.6	3,101.4	3,057.4	8.0	9.7	46.41	429.0	-46.5	127.4	113.1	14.35	8.875		
3,200.0	3,176.6	3,201.1	3,155.1	8.3	10.1	45.10	449.0	-50.5	133.8	119.1	14.72	9.093		
3,300.0	3,275.7	3,300.9	3,252.7	8.6	10.5	43.91	469.0	-54.5	140.3	125.2	15.08	9.305		
3,400.0	3,374.7	3,400.6	3,350.3	8.9	10.9	42.83	489.0	-58.6	146.9	131.4	15.44	9.510		
3,500.0	3,473.8	3,500.4	3,448.0	9.2	11.3	41.84	509.0	-62.6	153.5	137.7	15.81	9.708		
3,600.0	3,572.8	3,600.1	3,545.6	9.5	11.7	40.93	529.0	-66.7	160.1	143.9	16.17	9.899		
3,700.0	3,671.9	3,699.9	3,643.3	9.8	12.1	40.09	549.0	-70.7	166.8	150.2	16.54	10.084		
3,800.0	3,770.9	3,799.6	3,740.9	10.1	12.5	39.32	569.0	-74.8	173.5	156.6	16.91	10.262		
3,900.0	3,869.9	3,899.4	3,838.5	10.4	12.9	38.60	589.1	-78.8	180.2	163.0	17.27	10.433		
4,000.0	3,969.0	3,999.1	3,936.2	10.7	13.3	37.94	609.1	-82.9	187.0	169.4	17.64	10.599		
4,100.0	4,068.0	4,098.9	4,033.8	11.0	13.6	37.32	629.1	-86.9	193.8	175.8	18.01	10.758		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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		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	105.85	-4.0	14.1	14.7					
100.0	100.0	100.0	100.0	0.1	0.1	105.85	-4.0	14.1	14.7	14.4	0.30	49.436		
200.0	200.0	200.0	200.0	0.3	0.3	105.85	-4.0	14.1	14.7	14.0	0.65	22.714		
300.0	300.0	300.0	300.0	0.5	0.5	105.85	-4.0	14.1	14.7	13.7	0.99	14.744		
400.0	400.0	400.0	400.0	0.7	0.7	105.85	-4.0	14.1	14.7	13.3	1.34	10.914 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	128.36	-4.0	14.1	15.4	13.8	1.69	9.119		
600.0	599.9	600.2	600.2	1.0	1.0	134.96	-2.7	13.8	17.3	15.2	2.05	8.438		
700.0	699.7	700.5	700.4	1.2	1.2	139.74	1.1	12.9	19.4	17.0	2.41	8.071		
800.0	799.3	800.9	800.6	1.4	1.4	143.08	7.5	11.3	21.8	19.0	2.78	7.858		
900.0	898.6	901.3	900.5	1.7	1.6	145.32	16.5	9.1	24.4	21.2	3.16	7.721		
1,000.0	997.6	1,001.8	1,000.3	2.0	1.9	145.95	28.0	6.3	26.6	23.0	3.56	7.453		
1,100.0	1,096.7	1,102.3	1,099.8	2.2	2.1	143.11	42.0	2.9	26.8	22.8	4.02	6.671		
1,200.0	1,195.7	1,202.7	1,198.8	2.5	2.4	136.13	58.6	-1.1	25.3	20.7	4.57	5.533		
1,300.0	1,294.8	1,302.9	1,297.0	2.8	2.8	122.91	77.7	-5.8	22.8	17.5	5.31	4.299		
1,397.4	1,391.2	1,400.1	1,391.8	3.1	3.2	101.48	98.6	-10.9	21.4	15.2	6.20	3.453		
1,400.0	1,393.8	1,402.7	1,394.3	3.1	3.2	100.80	99.2	-11.0	21.4	15.2	6.22	3.440 SF		
1,500.0	1,492.9	1,502.0	1,490.6	3.4	3.6	73.33	123.0	-16.8	24.1	17.3	6.79	3.553		
1,600.0	1,591.9	1,601.0	1,585.9	3.6	4.1	51.68	148.8	-23.1	32.4	25.6	6.85	4.729		
1,700.0	1,691.0	1,700.0	1,681.2	3.9	4.5	39.52	174.9	-29.5	43.6	36.7	6.92	6.305		
1,800.0	1,790.0	1,799.1	1,776.5	4.2	5.0	32.49	201.0	-35.8	56.0	48.9	7.08	7.898		
1,900.0	1,889.0	1,898.1	1,871.9	4.5	5.5	28.04	227.2	-42.2	68.8	61.5	7.32	9.403		
2,000.0	1,988.1	1,997.2	1,967.2	4.8	6.0	24.99	253.3	-48.6	82.0	74.4	7.59	10.794		
2,100.0	2,087.1	2,096.2	2,062.5	5.1	6.5	22.80	279.5	-54.9	95.3	87.4	7.89	12.071		
2,200.0	2,186.2	2,195.3	2,157.8	5.4	6.9	21.14	305.6	-61.3	108.7	100.5	8.21	13.243		
2,300.0	2,285.2	2,294.3	2,253.2	5.7	7.4	19.85	331.7	-67.7	122.2	113.6	8.53	14.320		
2,400.0	2,384.3	2,393.4	2,348.5	6.0	7.9	18.81	357.9	-74.0	135.7	126.8	8.86	15.311		
2,500.0	2,483.3	2,492.4	2,443.8	6.3	8.4	17.96	384.0	-80.4	149.3	140.1	9.20	16.225		
2,600.0	2,582.4	2,591.5	2,539.2	6.6	8.9	17.26	410.1	-86.8	162.9	153.3	9.54	17.072		
2,700.0	2,681.4	2,690.5	2,634.5	6.9	9.4	16.66	436.3	-93.2	176.5	166.6	9.88	17.856		
2,800.0	2,780.4	2,789.6	2,729.8	7.2	9.9	16.15	462.4	-99.5	190.1	179.9	10.23	18.586		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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		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	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					
200.0	200.0	200.0	200.0	0.3	0.3	107.39	-9.1	29.1	30.5	29.8	0.65	47.168		
300.0	300.0	300.0	300.0	0.5	0.5	107.39	-9.1	29.1	30.5	29.5	0.99	30.618		
400.0	400.0	400.4	400.4	0.7	0.7	105.19	-7.8	28.8	29.8	28.5	1.35	22.176		
500.0	500.0	500.7	500.6	0.8	0.9	118.90	-4.0	28.0	28.9	27.1	1.70	16.926		
600.0	599.9	600.9	600.6	1.0	1.1	113.58	2.5	26.6	28.4	26.3	2.08	13.602		
644.2	644.1	645.2	644.7	1.1	1.2	111.12	6.1	25.8	28.3	26.0	2.27	12.476 CC		
700.0	699.7	701.0	700.3	1.2	1.3	107.96	11.5	24.6	28.4	25.9	2.50	11.344 ES		
800.0	799.3	801.1	799.7	1.4	1.5	102.30	23.0	22.2	29.0	26.0	2.97	9.744		
900.0	898.6	901.1	898.6	1.7	1.8	96.87	37.0	19.1	30.1	26.6	3.51	8.586		
1,000.0	997.6	1,001.0	997.1	2.0	2.1	90.70	53.6	15.6	31.8	27.7	4.09	7.766		
1,100.0	1,096.7	1,100.7	1,094.8	2.2	2.5	81.13	72.6	11.5	34.4	29.7	4.69	7.332 SF		
1,200.0	1,195.7	1,200.0	1,191.7	2.5	2.9	69.59	94.1	6.9	38.9	33.6	5.21	7.454		
1,300.0	1,294.8	1,298.7	1,287.4	2.8	3.4	58.16	117.8	1.8	46.1	40.5	5.62	8.209		
1,400.0	1,393.8	1,396.9	1,381.8	3.1	3.8	48.32	143.8	-3.8	56.6	50.7	5.93	9.553		
1,500.0	1,492.9	1,494.3	1,474.9	3.4	4.4	40.50	171.9	-9.9	70.4	64.2	6.19	11.375		
1,600.0	1,591.9	1,590.8	1,566.3	3.6	4.9	34.52	202.1	-16.4	87.2	80.8	6.44	13.553		
1,700.0	1,691.0	1,688.5	1,658.4	3.9	5.5	30.09	234.0	-23.3	106.1	99.4	6.69	15.848		
1,800.0	1,790.0	1,786.4	1,750.7	4.2	6.1	27.00	266.0	-30.1	125.4	118.4	6.98	17.966		
1,900.0	1,889.0	1,884.3	1,843.0	4.5	6.6	24.73	298.0	-37.0	145.0	137.7	7.28	19.902		
2,000.0	1,988.1	1,982.2	1,935.3	4.8	7.2	23.00	330.0	-43.9	164.7	157.1	7.60	21.670		
2,100.0	2,087.1	2,080.2	2,027.6	5.1	7.8	21.64	362.0	-50.8	184.6	176.7	7.93	23.285		



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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 28-25D (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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)					
0.0	0.0	0.0	0.0	0.0	0.0	-106.50	-5.1	-17.2	18.0						
100.0	100.0	100.0	100.0	0.1	0.1	-106.50	-5.1	-17.2	18.0	17.7	0.30	60.510			
200.0	200.0	200.0	200.0	0.3	0.3	-106.50	-5.1	-17.2	18.0	17.3	0.65	27.802			
300.0	300.0	300.0	300.0	0.5	0.5	-106.50	-5.1	-17.2	18.0	17.0	0.99	18.047			
400.0	400.0	400.0	400.0	0.7	0.7	-106.50	-5.1	-17.2	18.0	16.6	1.34	13.359 CC, ES			
500.0	500.0	499.5	499.5	0.8	0.8	-91.77	-5.4	-18.5	19.3	17.6	1.69	11.370 SF			
600.0	599.9	598.8	598.7	1.0	1.0	-100.40	-6.5	-22.2	23.5	21.5	2.05	11.485			
700.0	699.7	697.7	697.4	1.2	1.2	-109.18	-8.1	-28.4	31.4	29.0	2.42	12.985			
800.0	799.3	796.1	795.4	1.4	1.4	-115.84	-10.5	-37.0	43.1	40.3	2.81	15.343			
900.0	898.6	893.7	892.3	1.7	1.7	-120.36	-13.5	-48.0	58.5	55.3	3.23	18.145			
1,000.0	997.6	990.5	988.2	2.0	1.9	-123.13	-17.0	-61.2	77.3	73.6	3.67	21.063			
1,100.0	1,096.7	1,086.6	1,082.9	2.2	2.2	-124.00	-21.2	-76.6	98.1	94.0	4.13	23.745			
1,200.0	1,195.7	1,181.8	1,176.3	2.5	2.6	-123.84	-26.0	-94.1	120.9	116.3	4.61	26.201			
1,300.0	1,294.8	1,276.1	1,268.4	2.8	3.0	-123.14	-31.3	-113.7	145.6	140.4	5.11	28.479			
1,400.0	1,393.8	1,369.3	1,358.9	3.1	3.4	-122.18	-37.2	-135.3	172.2	166.5	5.62	30.625			

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 28-21D (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 28-21D (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 28-26D (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		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-31.3	31.3				
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-31.3	31.3	31.0	0.30	105.574	
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-31.3	31.3	30.7	0.65	48.507	
300.0	300.0	300.0	300.0	0.5	0.5	-90.00	0.0	-31.3	31.3	30.3	0.99	31.487	
400.0	400.0	400.0	400.0	0.7	0.7	-90.00	0.0	-31.3	31.3	30.0	1.34	23.309 CC, ES	
500.0	500.0	499.2	499.2	0.8	0.8	-73.86	-0.1	-32.6	32.2	30.5	1.69	19.042	
600.0	599.9	598.2	598.1	1.0	1.0	-80.14	-0.4	-36.4	35.2	33.2	2.05	17.212	
700.0	699.7	696.9	696.6	1.2	1.2	-88.35	-0.9	-42.8	41.0	38.6	2.42	16.967 SF	
800.0	799.3	795.1	794.4	1.4	1.4	-96.38	-1.6	-51.7	50.1	47.3	2.81	17.819	
900.0	898.6	892.8	891.4	1.7	1.7	-103.07	-2.5	-63.0	62.8	59.5	3.24	19.363	
1,000.0	997.6	989.8	987.4	2.0	1.9	-107.91	-3.6	-76.6	78.8	75.1	3.70	21.293	
1,100.0	1,096.7	1,086.2	1,082.5	2.2	2.2	-110.35	-4.9	-92.6	97.2	93.0	4.18	23.268	
1,200.0	1,195.7	1,181.8	1,176.4	2.5	2.6	-111.29	-6.4	-110.8	117.7	113.0	4.67	25.185	
1,300.0	1,294.8	1,276.7	1,269.0	2.8	3.0	-111.36	-8.0	-131.2	140.2	135.0	5.19	27.030	
1,400.0	1,393.8	1,370.6	1,360.2	3.1	3.4	-110.92	-9.9	-153.6	164.7	159.0	5.72	28.813	
1,500.0	1,492.9	1,463.5	1,449.8	3.4	3.8	-110.18	-11.8	-177.9	191.1	184.8	6.25	30.555	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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 28-27D (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	-83.60	5.1	-45.4	45.7				
100.0	100.0	100.0	100.0	0.1	0.1	-83.60	5.1	-45.4	45.7	45.4	0.30	154.091	
200.0	200.0	200.0	200.0	0.3	0.3	-83.60	5.1	-45.4	45.7	45.1	0.65	70.799	
300.0	300.0	300.0	300.0	0.5	0.5	-83.60	5.1	-45.4	45.7	44.7	0.99	45.957	
400.0	400.0	400.0	400.0	0.7	0.7	-83.60	5.1	-45.4	45.7	44.4	1.34	34.020 CC, ES	
500.0	500.0	498.8	498.8	0.8	0.8	-66.51	5.3	-46.7	46.5	44.8	1.69	27.471	
600.0	599.9	597.5	597.4	1.0	1.0	-70.49	5.7	-50.5	48.9	46.9	2.05	23.907	
700.0	699.7	695.9	695.6	1.2	1.2	-76.23	6.5	-56.8	53.4	51.0	2.41	22.128	
800.0	799.3	794.1	793.4	1.4	1.4	-82.71	7.6	-65.6	60.5	57.7	2.81	21.531 SF	
900.0	898.6	891.7	890.4	1.7	1.7	-88.97	9.0	-76.8	70.5	67.2	3.24	21.721	
1,000.0	997.6	988.9	986.6	2.0	1.9	-94.17	10.6	-90.4	83.4	79.7	3.71	22.481	
1,100.0	1,096.7	1,085.6	1,081.9	2.2	2.2	-97.23	12.6	-106.3	99.0	94.8	4.20	23.565	
1,200.0	1,195.7	1,181.7	1,176.3	2.5	2.6	-98.76	14.8	-124.6	116.9	112.1	4.71	24.793	
1,300.0	1,294.8	1,277.2	1,269.5	2.8	3.0	-99.27	17.3	-145.0	136.7	131.5	5.24	26.089	
1,400.0	1,393.8	1,371.8	1,361.3	3.1	3.4	-99.15	20.1	-167.5	158.6	152.8	5.78	27.427	
1,500.0	1,492.9	1,465.5	1,451.7	3.4	3.8	-98.62	23.1	-192.0	182.4	176.1	6.33	28.801	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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 28-28D (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	-81.43	9.1	-60.4	61.1							
100.0	100.0	100.0	100.0	0.1	0.1	-81.43	9.1	-60.4	61.1	60.8	0.30	205.840				
200.0	200.0	200.0	200.0	0.3	0.3	-81.43	9.1	-60.4	61.1	60.4	0.65	94.575				
300.0	300.0	300.0	300.0	0.5	0.5	-81.43	9.1	-60.4	61.1	60.1	0.99	61.391				
400.0	400.0	400.0	400.0	0.7	0.7	-81.43	9.1	-60.4	61.1	59.7	1.34	45.445	CC, ES			
500.0	500.0	498.4	498.4	0.8	0.8	-63.80	9.5	-61.6	61.8	60.1	1.69	36.518				
600.0	599.9	596.8	596.7	1.0	1.0	-66.32	10.6	-65.2	63.9	61.9	2.04	31.258				
700.0	699.7	695.0	694.7	1.2	1.2	-70.13	12.5	-71.3	67.7	65.3	2.41	28.081				
800.0	799.3	792.9	792.2	1.4	1.4	-74.75	15.1	-79.7	73.5	70.7	2.81	26.208				
900.0	898.6	890.5	889.2	1.7	1.7	-79.66	18.4	-90.4	81.6	78.4	3.24	25.185				
1,000.0	997.6	987.8	985.5	2.0	1.9	-84.12	22.4	-103.5	92.2	88.5	3.71	24.845	SF			
1,100.0	1,096.7	1,084.7	1,081.0	2.2	2.2	-86.98	27.2	-118.9	105.3	101.1	4.21	25.039				
1,200.0	1,195.7	1,181.1	1,175.6	2.5	2.6	-88.52	32.6	-136.4	120.7	116.0	4.72	25.557				
1,300.0	1,294.8	1,276.9	1,269.2	2.8	3.0	-89.12	38.7	-156.1	138.2	132.9	5.26	26.285				
1,400.0	1,393.8	1,372.0	1,361.5	3.1	3.4	-89.06	45.5	-177.9	157.6	151.8	5.80	27.165				
1,500.0	1,492.9	1,466.2	1,452.5	3.4	3.8	-88.57	52.8	-201.6	179.1	172.7	6.36	28.167				

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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 28-29D (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							
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	-79.20	14.2	-74.5	75.8					
100.0	100.0	100.0	100.0	0.1	0.1	-79.20	14.2	-74.5	75.8	75.5	0.30	255.618		
200.0	200.0	200.0	200.0	0.3	0.3	-79.20	14.2	-74.5	75.8	75.2	0.65	117.446		
300.0	300.0	300.0	300.0	0.5	0.5	-79.20	14.2	-74.5	75.8	74.8	0.99	76.237		
400.0	400.0	400.0	400.0	0.7	0.7	-79.20	14.2	-74.5	75.8	74.5	1.34	56.435 CC, ES		
500.0	500.0	498.1	498.1	0.8	0.8	-61.25	14.8	-75.6	76.4	74.7	1.69	45.207		
600.0	599.9	596.2	596.1	1.0	1.0	-62.84	16.6	-78.9	78.2	76.2	2.04	38.288		
700.0	699.7	694.2	693.9	1.2	1.2	-65.33	19.6	-84.5	81.4	79.0	2.41	33.761		
800.0	799.3	792.0	791.3	1.4	1.4	-68.49	23.7	-92.2	86.0	83.2	2.80	30.684		
900.0	898.6	889.6	888.3	1.7	1.7	-72.06	29.0	-102.1	92.3	89.1	3.24	28.533		
1,000.0	997.6	987.0	984.7	2.0	1.9	-75.49	35.5	-114.2	100.6	96.9	3.71	27.154		
1,100.0	1,096.7	1,084.1	1,080.4	2.2	2.2	-77.72	43.1	-128.3	111.3	107.1	4.20	26.481		
1,200.0	1,195.7	1,180.8	1,175.4	2.5	2.6	-78.88	51.8	-144.6	124.1	119.4	4.72	26.292 SF		
1,300.0	1,294.8	1,277.0	1,269.4	2.8	3.0	-79.21	61.6	-162.8	139.0	133.8	5.26	26.450		
1,400.0	1,393.8	1,372.6	1,362.2	3.1	3.4	-78.93	72.5	-183.0	155.9	150.1	5.80	26.874		
1,500.0	1,492.9	1,467.5	1,453.7	3.4	3.8	-78.25	84.3	-205.1	174.8	168.4	6.35	27.512		
1,600.0	1,591.9	1,561.5	1,543.7	3.6	4.3	-77.30	97.1	-228.9	195.6	188.7	6.91	28.331		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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						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 CC, ES		
300.0	300.0	298.1	298.1	0.5	0.5	-71.66	24.0	-72.4	76.3	75.4	0.99	76.990		
400.0	400.0	396.1	396.0	0.7	0.7	-70.92	26.1	-75.6	80.1	78.7	1.34	59.865		
500.0	500.0	493.9	493.6	0.8	0.9	-51.94	29.7	-80.8	85.5	83.8	1.69	50.685		
600.0	599.9	591.5	590.8	1.0	1.1	-52.38	34.6	-88.0	91.7	89.7	2.04	44.965		
700.0	699.7	688.9	687.6	1.2	1.3	-53.53	40.8	-97.3	98.9	96.5	2.41	41.085		
800.0	799.3	786.0	783.7	1.4	1.6	-55.23	48.5	-108.5	107.0	104.2	2.80	38.261		
900.0	898.6	882.9	879.2	1.7	2.0	-57.29	57.5	-121.8	116.1	112.9	3.22	36.060		
1,000.0	997.6	979.3	973.9	2.0	2.3	-59.43	67.7	-137.0	126.8	123.1	3.68	34.447		
1,100.0	1,096.7	1,075.3	1,067.7	2.2	2.7	-60.88	79.3	-154.1	139.8	135.7	4.16	33.589		
1,200.0	1,195.7	1,170.8	1,160.4	2.5	3.1	-61.71	92.1	-173.0	155.2	150.6	4.66	33.302 SF		
1,300.0	1,294.8	1,265.5	1,251.8	2.8	3.6	-62.04	106.1	-193.6	172.8	167.7	5.17	33.447		
1,400.0	1,393.8	1,359.5	1,341.8	3.1	4.1	-62.00	121.3	-216.0	192.6	187.0	5.68	33.929		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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	-71.12	19.3	-56.4	59.7					
100.0	100.0	100.0	100.0	0.1	0.1	-71.12	19.3	-56.4	59.7	59.4	0.30	201.042		
200.0	200.0	200.0	200.0	0.3	0.3	-71.12	19.3	-56.4	59.7	59.0	0.65	92.371		
300.0	300.0	300.0	300.0	0.5	0.5	-71.12	19.3	-56.4	59.7	58.7	0.99	59.960 CC, ES		
400.0	400.0	398.6	398.5	0.7	0.7	-70.66	20.1	-57.4	60.8	59.5	1.34	45.360		
500.0	500.0	497.0	496.9	0.8	0.9	-51.77	22.6	-60.3	63.6	61.9	1.69	37.655		
600.0	599.9	595.4	595.1	1.0	1.0	-52.33	26.8	-65.0	67.2	65.2	2.04	32.871		
700.0	699.7	693.6	692.9	1.2	1.3	-53.69	32.6	-71.7	71.6	69.2	2.41	29.668		
800.0	799.3	791.7	790.4	1.4	1.5	-55.66	40.1	-80.2	76.8	74.0	2.81	27.386		
900.0	898.6	889.6	887.3	1.7	1.8	-58.05	49.2	-90.6	83.1	79.8	3.24	25.660		
1,000.0	997.6	987.4	983.7	2.0	2.1	-60.39	59.9	-102.9	90.7	87.0	3.71	24.460		
1,100.0	1,096.7	1,084.8	1,079.3	2.2	2.5	-61.68	72.2	-116.9	100.5	96.3	4.20	23.934		
1,200.0	1,195.7	1,181.7	1,173.9	2.5	2.8	-62.05	86.0	-132.7	112.5	107.8	4.71	23.913 SF		
1,300.0	1,294.8	1,278.2	1,267.5	2.8	3.3	-61.75	101.3	-150.2	126.7	121.4	5.22	24.279		
1,400.0	1,393.8	1,374.0	1,359.9	3.1	3.7	-60.99	118.1	-169.3	142.9	137.2	5.73	24.952		
1,500.0	1,492.9	1,469.0	1,450.8	3.4	4.2	-59.95	136.2	-190.0	161.3	155.1	6.23	25.879		
1,600.0	1,591.9	1,563.1	1,540.2	3.6	4.8	-58.76	155.6	-212.2	181.9	175.2	6.73	27.019		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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 28-32D (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						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 CC, ES	
300.0	300.0	299.0	299.0	0.5	0.5	-70.68	15.1	-43.2	45.8	44.8	0.99	46.109	
400.0	400.0	397.8	397.7	0.7	0.7	-68.58	18.0	-45.8	49.3	47.9	1.34	36.749	
500.0	500.0	496.4	496.1	0.8	0.9	-48.13	22.6	-50.1	54.3	52.6	1.69	32.024	
600.0	599.9	594.9	594.2	1.0	1.1	-47.37	29.2	-56.2	59.9	57.9	2.05	29.182	
700.0	699.7	693.2	691.9	1.2	1.4	-47.50	37.6	-63.9	66.2	63.7	2.43	27.283	
800.0	799.3	791.4	789.0	1.4	1.6	-48.30	47.8	-73.3	73.0	70.2	2.82	25.899	
900.0	898.6	889.3	885.5	1.7	2.0	-49.57	59.8	-84.4	80.5	77.3	3.25	24.795	
1,000.0	997.6	987.0	981.4	2.0	2.3	-50.89	73.5	-97.2	89.1	85.4	3.71	24.032	
1,100.0	1,096.7	1,084.2	1,076.4	2.2	2.7	-51.37	89.0	-111.5	99.9	95.7	4.18	23.888 SF	
1,200.0	1,195.7	1,181.0	1,170.2	2.5	3.2	-51.16	106.2	-127.4	112.9	108.2	4.66	24.233	
1,300.0	1,294.8	1,277.1	1,262.9	2.8	3.6	-50.50	125.0	-144.7	128.2	123.0	5.14	24.958	
1,400.0	1,393.8	1,372.5	1,354.1	3.1	4.2	-49.56	145.3	-163.5	145.7	140.1	5.60	25.989	
1,500.0	1,492.9	1,467.0	1,443.9	3.4	4.7	-48.47	167.1	-183.6	165.4	159.3	6.07	27.270	
1,600.0	1,591.9	1,560.5	1,531.9	3.6	5.3	-47.32	190.3	-205.0	187.4	180.9	6.52	28.761	



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 28-21D (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 28-21D (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 28-21D (F28 Pad)  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.72°

