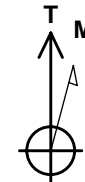
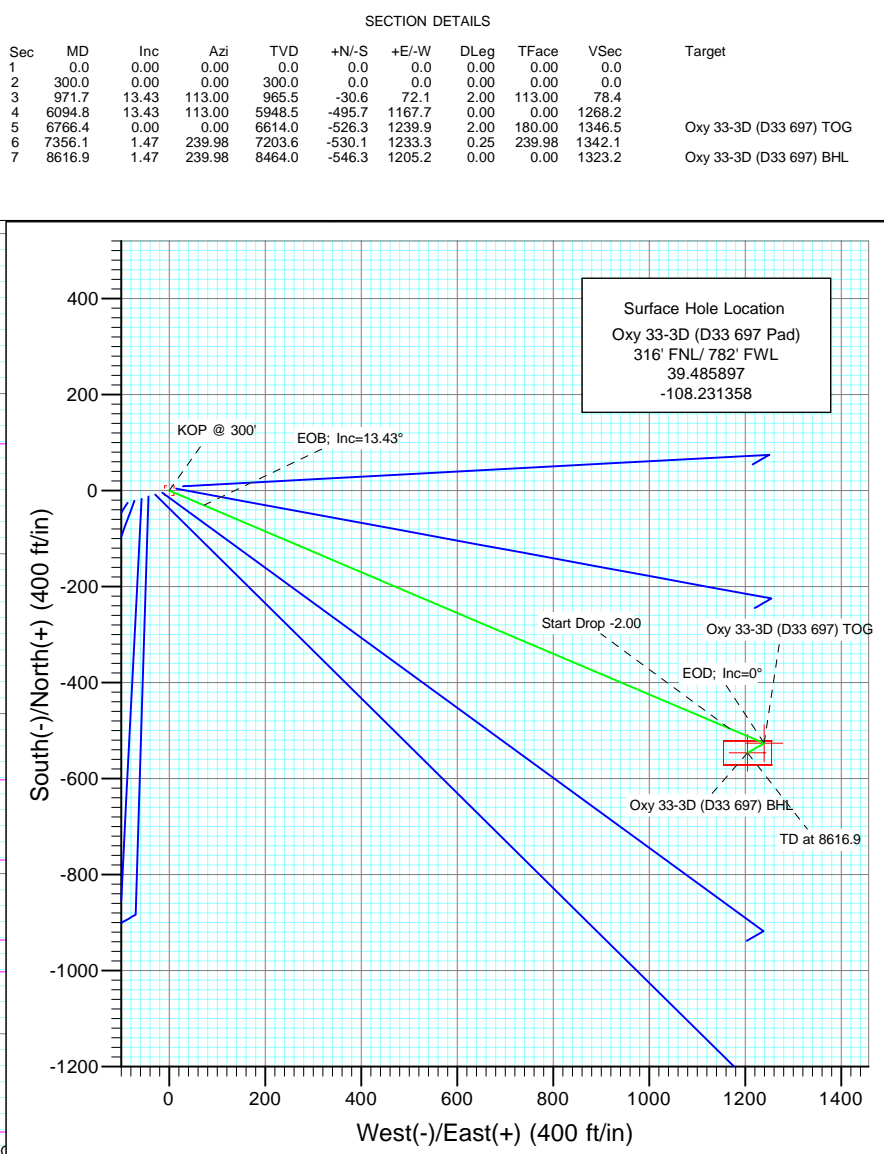
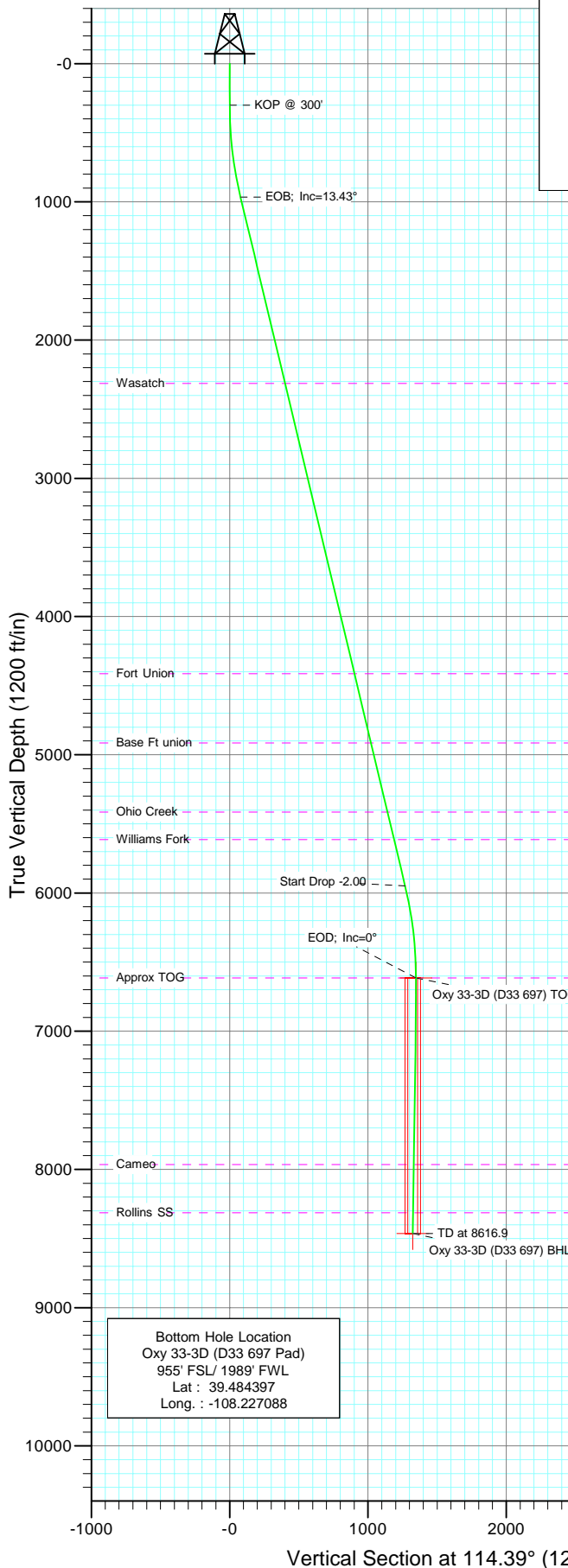




Project: Garfield County  
Site: Oxy D33 697 Pad  
Well: Oxy 33-3D (D33 697 Pad)  
Wellbore: DD  
Design: Plan #1



Azimuths to True North  
Magnetic North: 10.62°

Magnetic Field  
Strength: 52371.6snT  
Dip Angle: 65.74°  
Date: 12/31/2009  
Model: IGRF200510

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2314.0	2358.1	Wasatch
4414.0	4517.1	Fort Union
4914.0	5031.2	Base Ft union
5414.0	5545.3	Ohio Creek
5614.0	5750.9	Williams Fork
6614.0	6766.4	Approx TOG
7964.0	8116.8	Cameo
8314.0	8466.9	Rollins SS

#### DESIGN DETAILS: Plan #1

105XXX; BH  
KBE @ 8091.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
Oxy 33-3D (D33 697) BHL	114.39	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 33-3D (D33 697 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site:</b>	Oxy D33 697 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 33-3D (D33 697 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		

<b>Site</b>	Oxy D33 697 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,613,451.00 ft	<b>Latitude:</b> 39.485875
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,229,190.14 ft	<b>Longitude:</b> -108.231461
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	in	<b>Grid Convergence:</b> -1.72 °

<b>Well</b>	Oxy 33-3D (D33 697 Pad)			
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,613,458.12 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	2,229,219.44 ft
<b>Position Uncertainty</b>	0.0 ft		<b>Wellhead Elevation:</b>	ft
			<b>Ground Level:</b>	8,076.0 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	12/31/2009	10.62	65.74	52,372

<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	114.39

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
971.7	13.43	113.00	965.5	-30.6	72.1	2.00	2.00	0.00	113.00	
6,094.8	13.43	113.00	5,948.5	-495.7	1,167.7	0.00	0.00	0.00	0.00	
6,766.4	0.00	0.00	6,614.0	-526.3	1,239.9	2.00	-2.00	0.00	180.00	Oxy 33-3D (D33 697)
7,356.1	1.47	239.98	7,203.6	-530.1	1,233.3	0.25	0.25	-20.35	239.98	
8,616.9	1.47	239.98	8,464.0	-546.3	1,205.2	0.00	0.00	0.00	0.00	Oxy 33-3D (D33 697)

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site:</b>	Oxy D33 697 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 33-3D (D33 697 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	0.0	0.0	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	0.0	0.0	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	
210.0	0.00	0.00	210.0	0.0	0.0	0.0	0.00	0.00	
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	
270.0	0.00	0.00	270.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300'
330.0	0.60	113.00	330.0	-0.1	0.1	0.2	2.00	2.00	
360.0	1.20	113.00	360.0	-0.2	0.6	0.6	2.00	2.00	
390.0	1.80	113.00	390.0	-0.6	1.3	1.4	2.00	2.00	
420.0	2.40	113.00	420.0	-1.0	2.3	2.5	2.00	2.00	
450.0	3.00	113.00	449.9	-1.5	3.6	3.9	2.00	2.00	
480.0	3.60	113.00	479.9	-2.2	5.2	5.7	2.00	2.00	
510.0	4.20	113.00	509.8	-3.0	7.1	7.7	2.00	2.00	
540.0	4.80	113.00	539.7	-3.9	9.2	10.0	2.00	2.00	
570.0	5.40	113.00	569.6	-5.0	11.7	12.7	2.00	2.00	
600.0	6.00	113.00	599.5	-6.1	14.4	15.7	2.00	2.00	
630.0	6.60	113.00	629.3	-7.4	17.5	19.0	2.00	2.00	
660.0	7.20	113.00	659.1	-8.8	20.8	22.6	2.00	2.00	
690.0	7.80	113.00	688.8	-10.4	24.4	26.5	2.00	2.00	
720.0	8.40	113.00	718.5	-12.0	28.3	30.7	2.00	2.00	
750.0	9.00	113.00	748.2	-13.8	32.5	35.3	2.00	2.00	
780.0	9.60	113.00	777.8	-15.7	36.9	40.1	2.00	2.00	
810.0	10.20	113.00	807.3	-17.7	41.7	45.3	2.00	2.00	
840.0	10.80	113.00	836.8	-19.8	46.7	50.7	2.00	2.00	
870.0	11.40	113.00	866.2	-22.1	52.0	56.5	2.00	2.00	
900.0	12.00	113.00	895.6	-24.5	57.6	62.6	2.00	2.00	
930.0	12.60	113.00	924.9	-27.0	63.5	69.0	2.00	2.00	
960.0	13.20	113.00	954.2	-29.6	69.7	75.7	2.00	2.00	
971.7	13.43	113.00	965.5	-30.6	72.1	78.4	2.00	2.00	EOB; Inc=13.43°
990.0	13.43	113.00	983.4	-32.3	76.1	82.6	0.00	0.00	
1,020.0	13.43	113.00	1,012.5	-35.0	82.5	89.6	0.00	0.00	
1,050.0	13.43	113.00	1,041.7	-37.7	88.9	96.5	0.00	0.00	
1,080.0	13.43	113.00	1,070.9	-40.5	95.3	103.5	0.00	0.00	
1,110.0	13.43	113.00	1,100.1	-43.2	101.7	110.5	0.00	0.00	
1,140.0	13.43	113.00	1,129.3	-45.9	108.1	117.5	0.00	0.00	
1,170.0	13.43	113.00	1,158.4	-48.6	114.6	124.4	0.00	0.00	
1,200.0	13.43	113.00	1,187.6	-51.4	121.0	131.4	0.00	0.00	
1,230.0	13.43	113.00	1,216.8	-54.1	127.4	138.4	0.00	0.00	
1,260.0	13.43	113.00	1,246.0	-56.8	133.8	145.3	0.00	0.00	
1,290.0	13.43	113.00	1,275.2	-59.5	140.2	152.3	0.00	0.00	
1,320.0	13.43	113.00	1,304.3	-62.2	146.6	159.3	0.00	0.00	
1,350.0	13.43	113.00	1,333.5	-65.0	153.1	166.2	0.00	0.00	
1,380.0	13.43	113.00	1,362.7	-67.7	159.5	173.2	0.00	0.00	
1,410.0	13.43	113.00	1,391.9	-70.4	165.9	180.2	0.00	0.00	
1,440.0	13.43	113.00	1,421.1	-73.1	172.3	187.1	0.00	0.00	
1,470.0	13.43	113.00	1,450.2	-75.9	178.7	194.1	0.00	0.00	
1,500.0	13.43	113.00	1,479.4	-78.6	185.1	201.1	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 33-3D (D33 697 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site:</b>	Oxy D33 697 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 33-3D (D33 697 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
1,530.0	13.43	113.00	1,508.6	-81.3	191.5	208.0	0.00	0.00	
1,560.0	13.43	113.00	1,537.8	-84.0	198.0	215.0	0.00	0.00	
1,590.0	13.43	113.00	1,566.9	-86.8	204.4	222.0	0.00	0.00	
1,620.0	13.43	113.00	1,596.1	-89.5	210.8	228.9	0.00	0.00	
1,650.0	13.43	113.00	1,625.3	-92.2	217.2	235.9	0.00	0.00	
1,680.0	13.43	113.00	1,654.5	-94.9	223.6	242.9	0.00	0.00	
1,710.0	13.43	113.00	1,683.7	-97.6	230.0	249.8	0.00	0.00	
1,740.0	13.43	113.00	1,712.8	-100.4	236.5	256.8	0.00	0.00	
1,770.0	13.43	113.00	1,742.0	-103.1	242.9	263.8	0.00	0.00	
1,800.0	13.43	113.00	1,771.2	-105.8	249.3	270.7	0.00	0.00	
1,830.0	13.43	113.00	1,800.4	-108.5	255.7	277.7	0.00	0.00	
1,860.0	13.43	113.00	1,829.6	-111.3	262.1	284.7	0.00	0.00	
1,890.0	13.43	113.00	1,858.7	-114.0	268.5	291.6	0.00	0.00	
1,920.0	13.43	113.00	1,887.9	-116.7	274.9	298.6	0.00	0.00	
1,950.0	13.43	113.00	1,917.1	-119.4	281.4	305.6	0.00	0.00	
1,980.0	13.43	113.00	1,946.3	-122.2	287.8	312.5	0.00	0.00	
2,010.0	13.43	113.00	1,975.5	-124.9	294.2	319.5	0.00	0.00	
2,040.0	13.43	113.00	2,004.6	-127.6	300.6	326.5	0.00	0.00	
2,070.0	13.43	113.00	2,033.8	-130.3	307.0	333.4	0.00	0.00	
2,100.0	13.43	113.00	2,063.0	-133.0	313.4	340.4	0.00	0.00	
2,130.0	13.43	113.00	2,092.2	-135.8	319.9	347.4	0.00	0.00	
2,160.0	13.43	113.00	2,121.4	-138.5	326.3	354.3	0.00	0.00	
2,190.0	13.43	113.00	2,150.5	-141.2	332.7	361.3	0.00	0.00	
2,220.0	13.43	113.00	2,179.7	-143.9	339.1	368.3	0.00	0.00	
2,250.0	13.43	113.00	2,208.9	-146.7	345.5	375.2	0.00	0.00	
2,280.0	13.43	113.00	2,238.1	-149.4	351.9	382.2	0.00	0.00	
2,310.0	13.43	113.00	2,267.2	-152.1	358.3	389.2	0.00	0.00	
2,340.0	13.43	113.00	2,296.4	-154.8	364.8	396.1	0.00	0.00	
2,358.1	13.43	113.00	2,314.0	-156.5	368.6	400.3	0.00	0.00	Wasatch
2,370.0	13.43	113.00	2,325.6	-157.6	371.2	403.1	0.00	0.00	
2,400.0	13.43	113.00	2,354.8	-160.3	377.6	410.1	0.00	0.00	
2,430.0	13.43	113.00	2,384.0	-163.0	384.0	417.0	0.00	0.00	
2,460.0	13.43	113.00	2,413.1	-165.7	390.4	424.0	0.00	0.00	
2,490.0	13.43	113.00	2,442.3	-168.5	396.8	431.0	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 33-3D (D33 697) Bt	0.00	0.00	8,464.0	-546.3	1,205.2	1,612,875.82	2,230,407.67	39.484397	-108.227088
- hit/miss target									
- Shape									
- plan misses target center by 6087.4ft at 2490.0ft MD (2442.3 TVD, -168.5 N, 396.8 E)									
- Rectangle (sides W50.0 H100.0 D0.0)									
Oxy 33-3D (D33 697) TC	0.00	0.00	6,614.0	-526.3	1,239.9	1,612,894.79	2,230,442.91	39.484452	-108.226965
- hit/miss target									
- Shape									
- plan misses target center by 4271.0ft at 2490.0ft MD (2442.3 TVD, -168.5 N, 396.8 E)									
- Point									

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site:</b>	Oxy D33 697 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 33-3D (D33 697 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
2,500.0	13.43	113.00	2,452.0	-169.4	399.0	433.3	0.00	0.00	
2,600.0	13.43	113.00	2,549.3	-178.4	420.4	456.5	0.00	0.00	
2,700.0	13.43	113.00	2,646.6	-187.5	441.7	479.8	0.00	0.00	
2,800.0	13.43	113.00	2,743.8	-196.6	463.1	503.0	0.00	0.00	
2,900.0	13.43	113.00	2,841.1	-205.7	484.5	526.2	0.00	0.00	
3,000.0	13.43	113.00	2,938.4	-214.7	505.9	549.4	0.00	0.00	
3,100.0	13.43	113.00	3,035.6	-223.8	527.3	572.7	0.00	0.00	
3,200.0	13.43	113.00	3,132.9	-232.9	548.7	595.9	0.00	0.00	
3,300.0	13.43	113.00	3,230.2	-242.0	570.1	619.1	0.00	0.00	
3,400.0	13.43	113.00	3,327.4	-251.1	591.4	642.3	0.00	0.00	
3,500.0	13.43	113.00	3,424.7	-260.1	612.8	665.6	0.00	0.00	
3,600.0	13.43	113.00	3,522.0	-269.2	634.2	688.8	0.00	0.00	
3,700.0	13.43	113.00	3,619.2	-278.3	655.6	712.0	0.00	0.00	
3,800.0	13.43	113.00	3,716.5	-287.4	677.0	735.2	0.00	0.00	
3,900.0	13.43	113.00	3,813.7	-296.4	698.4	758.5	0.00	0.00	
4,000.0	13.43	113.00	3,911.0	-305.5	719.7	781.7	0.00	0.00	
4,100.0	13.43	113.00	4,008.3	-314.6	741.1	804.9	0.00	0.00	
4,200.0	13.43	113.00	4,105.5	-323.7	762.5	828.1	0.00	0.00	
4,300.0	13.43	113.00	4,202.8	-332.8	783.9	851.4	0.00	0.00	
4,400.0	13.43	113.00	4,300.1	-341.8	805.3	874.6	0.00	0.00	
4,500.0	13.43	113.00	4,397.3	-350.9	826.7	897.8	0.00	0.00	
4,517.1	13.43	113.00	4,414.0	-352.5	830.3	901.8	0.00	0.00	Fort Union
4,600.0	13.43	113.00	4,494.6	-360.0	848.1	921.0	0.00	0.00	
4,700.0	13.43	113.00	4,591.9	-369.1	869.4	944.2	0.00	0.00	
4,800.0	13.43	113.00	4,689.1	-378.1	890.8	967.5	0.00	0.00	
4,900.0	13.43	113.00	4,786.4	-387.2	912.2	990.7	0.00	0.00	
5,000.0	13.43	113.00	4,883.7	-396.3	933.6	1,013.9	0.00	0.00	
5,031.2	13.43	113.00	4,914.0	-399.1	940.3	1,021.2	0.00	0.00	Base Ft union
5,100.0	13.43	113.00	4,980.9	-405.4	955.0	1,037.1	0.00	0.00	
5,200.0	13.43	113.00	5,078.2	-414.5	976.4	1,060.4	0.00	0.00	
5,300.0	13.43	113.00	5,175.4	-423.5	997.7	1,083.6	0.00	0.00	
5,400.0	13.43	113.00	5,272.7	-432.6	1,019.1	1,106.8	0.00	0.00	
5,500.0	13.43	113.00	5,370.0	-441.7	1,040.5	1,130.0	0.00	0.00	
5,545.3	13.43	113.00	5,414.0	-445.8	1,050.2	1,140.6	0.00	0.00	Ohio Creek
5,600.0	13.43	113.00	5,467.2	-450.8	1,061.9	1,153.3	0.00	0.00	
5,700.0	13.43	113.00	5,564.5	-459.8	1,083.3	1,176.5	0.00	0.00	
5,750.9	13.43	113.00	5,614.0	-464.5	1,094.2	1,188.3	0.00	0.00	Williams Fork
5,800.0	13.43	113.00	5,661.8	-468.9	1,104.7	1,199.7	0.00	0.00	
5,900.0	13.43	113.00	5,759.0	-478.0	1,126.1	1,222.9	0.00	0.00	
6,000.0	13.43	113.00	5,856.3	-487.1	1,147.4	1,246.2	0.00	0.00	
6,094.8	13.43	113.00	5,948.5	-495.7	1,167.7	1,268.2	0.00	0.00	Start Drop -2.00
6,100.0	13.33	113.00	5,953.6	-496.1	1,168.8	1,269.4	2.00	-2.00	
6,200.0	11.33	113.00	6,051.2	-504.5	1,188.5	1,290.7	2.00	-2.00	
6,300.0	9.33	113.00	6,149.6	-511.5	1,205.0	1,308.7	2.00	-2.00	
6,400.0	7.33	113.00	6,248.6	-517.2	1,218.3	1,323.1	2.00	-2.00	
6,500.0	5.33	113.00	6,347.9	-521.5	1,228.5	1,334.2	2.00	-2.00	
6,600.0	3.33	113.00	6,447.7	-524.4	1,235.4	1,341.7	2.00	-2.00	
6,700.0	1.33	113.00	6,547.6	-526.0	1,239.1	1,345.8	2.00	-2.00	
6,766.4	0.00	0.00	6,614.0	-526.3	1,239.9	1,346.5	2.00	-2.00	EOD; Inc=0° - Approx TOG - Oxy 33-3D (D33 6
6,800.0	0.08	239.98	6,647.6	-526.3	1,239.8	1,346.5	0.25	0.25	
6,900.0	0.33	239.98	6,747.6	-526.5	1,239.5	1,346.3	0.25	0.25	
7,000.0	0.58	239.98	6,847.6	-526.9	1,238.8	1,345.8	0.25	0.25	

# Directional Plus

## Planning Report

<b>Database:</b>	EDM 2003.21 US Multi User Db	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site:</b>	Oxy D33 697 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 33-3D (D33 697 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	0.83	239.98	6,947.5	-527.5	1,237.7	1,345.1	0.25	0.25	
7,200.0	1.08	239.98	7,047.5	-528.4	1,236.3	1,344.1	0.25	0.25	
7,300.0	1.33	239.98	7,147.5	-529.4	1,234.5	1,342.9	0.25	0.25	
7,356.1	1.47	239.98	7,203.6	-530.1	1,233.3	1,342.1	0.25	0.25	
7,400.0	1.47	239.98	7,247.5	-530.7	1,232.3	1,341.5	0.00	0.00	
7,500.0	1.47	239.98	7,347.4	-531.9	1,230.1	1,340.0	0.00	0.00	
7,600.0	1.47	239.98	7,447.4	-533.2	1,227.8	1,338.5	0.00	0.00	
7,700.0	1.47	239.98	7,547.4	-534.5	1,225.6	1,337.0	0.00	0.00	
7,800.0	1.47	239.98	7,647.3	-535.8	1,223.4	1,335.5	0.00	0.00	
7,900.0	1.47	239.98	7,747.3	-537.1	1,221.2	1,334.0	0.00	0.00	
8,000.0	1.47	239.98	7,847.3	-538.4	1,218.9	1,332.5	0.00	0.00	
8,100.0	1.47	239.98	7,947.3	-539.7	1,216.7	1,331.0	0.00	0.00	
8,116.8	1.47	239.98	7,964.0	-539.9	1,216.3	1,330.7	0.00	0.00	Cameo
8,200.0	1.47	239.98	8,047.2	-541.0	1,214.5	1,329.5	0.00	0.00	
8,300.0	1.47	239.98	8,147.2	-542.2	1,212.3	1,328.0	0.00	0.00	
8,400.0	1.47	239.98	8,247.2	-543.5	1,210.0	1,326.5	0.00	0.00	
8,466.9	1.47	239.98	8,314.0	-544.4	1,208.5	1,325.5	0.00	0.00	Rollins SS
8,500.0	1.47	239.98	8,347.1	-544.8	1,207.8	1,325.0	0.00	0.00	
8,600.0	1.47	239.98	8,447.1	-546.1	1,205.6	1,323.5	0.00	0.00	
8,616.9	1.47	239.98	8,464.0	-546.3	1,205.2	1,323.2	0.00	0.00	TD at 8616.9 - Oxy 33-3D (D33 697) 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 33-3D (D33 697) Bf	0.00	0.00	8,464.0	-546.3	1,205.2	1,612,875.82	2,230,407.67	39.484397	-108.227088
- plan hits target center									
- Rectangle (sides W50.0 H100.0 D0.0)									
Oxy 33-3D (D33 697) TC	0.00	0.00	6,614.0	-526.3	1,239.9	1,612,894.79	2,230,442.91	39.484452	-108.226965
- plan hits target center									
- Point									

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,358.1	2,314.0	Wasatch		0.00	
4,517.1	4,414.0	Fort Union		0.00	
5,031.2	4,914.0	Base Ft union		0.00	
5,545.3	5,414.0	Ohio Creek		0.00	
5,750.9	5,614.0	Williams Fork		0.00	
6,766.4	6,614.0	Approx TOG		0.00	
8,116.8	7,964.0	Cameo		0.00	
8,466.9	8,314.0	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 33-3D (D33 697 Pad)
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site:</b>	Oxy D33 697 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Oxy 33-3D (D33 697 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.0	300.0	0.0	0.0	KOP @ 300'
971.7	965.5	-30.6	72.1	EOB; Inc=13.43°
6,094.8	5,948.5	-495.7	1,167.7	Start Drop -2.00
6,766.4	6,614.0	-526.3	1,239.9	EOD; Inc=0°
8,616.9	8,464.0	-546.3	1,205.2	TD at 8616.9

# **Berry Petroleum Company (NAD 83)**

**Garfield County**

**Oxy D33 697 Pad**

**Oxy 33-3D (D33 697 Pad)**

**DD**

**Plan #1**

## **Anticollision Report**

**09 February, 2010**



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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	2/9/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	8,616.9	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						
Oxy D33 697 Pad						
Oxy 33-10D (D33 697 Pad) - DD - Plan #1	300.0	300.0	104.6	103.6	105.161	CC, ES
Oxy 33-10D (D33 697 Pad) - DD - Plan #1	900.0	895.6	158.2	155.0	50.213	SF
Oxy 33-1D (Oxy D33 Pad) - DD - Plan #1	300.0	300.0	30.2	29.2	30.312	CC, ES
Oxy 33-1D (Oxy D33 Pad) - DD - Plan #1	1,300.0	1,300.3	84.5	76.8	11.093	SF
Oxy 33-2D (D33 697 Pad) - DD - Plan #1	300.0	300.0	14.7	13.7	14.746	CC
Oxy 33-2D (D33 697 Pad) - DD - Plan #1	400.0	400.3	15.0	13.6	11.100	ES
Oxy 33-2D (D33 697 Pad) - DD - Plan #1	1,300.0	1,301.1	47.0	39.5	6.234	SF
Oxy 33-4D (D33 697 Pad) - DD - Plan #1	200.0	200.0	15.2	14.6	23.559	CC, ES
Oxy 33-4D (D33 697 Pad) - DD - Plan #1	2,600.0	2,592.1	106.4	87.8	5.715	SF
Oxy 33-5D (D33 697 Pad) - DD - Plan #1	200.0	200.0	30.2	29.5	46.759	CC, ES
Oxy 33-5D (D33 697 Pad) - DD - Plan #1	2,400.0	2,382.8	194.1	177.7	11.826	SF
Oxy 33-6D (D33 697 Pad) - DD - Plan #1	300.0	300.0	59.8	58.8	60.108	CC, ES
Oxy 33-6D (D33 697 Pad) - DD - Plan #1	700.0	697.7	84.3	81.9	34.632	SF
Oxy 33-7D (D33 697 Pad) - DD - Plan #1	300.0	300.0	44.8	43.8	45.057	CC, ES
Oxy 33-7D (D33 697 Pad) - DD - Plan #1	600.0	599.1	58.2	56.1	28.314	SF
Oxy 33-8D (D33 697 Pad) - DD - Plan #1	300.0	300.0	75.3	74.3	75.670	CC, ES
Oxy 33-8D (D33 697 Pad) - DD - Plan #1	700.0	695.4	101.6	99.2	41.837	SF
Oxy 33-9D (D33 697 Pad) - DD - Plan #1	300.0	300.0	89.9	89.0	90.416	CC, ES
Oxy 33-9D (D33 697 Pad) - DD - Plan #1	800.0	797.5	126.7	123.9	45.539	SF

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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> Oxy D33 697 Pad - Oxy 33-10D (D33 697 Pad) - DD - Plan #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	-106.17	-29.1	-100.5	104.6				
100.0	100.0	100.0	100.0	0.1	0.1	-106.17	-29.1	-100.5	104.6	104.3	0.30	352.598	
200.0	200.0	200.0	200.0	0.3	0.3	-106.17	-29.1	-100.5	104.6	104.0	0.65	162.005	
300.0	300.0	300.0	300.0	0.5	0.5	-106.17	-29.1	-100.5	104.6	103.6	0.99	105.161 CC, ES	
400.0	400.0	400.0	400.0	0.7	0.7	141.41	-29.1	-100.5	106.0	104.6	1.34	78.814	
500.0	499.8	499.8	499.8	0.9	0.8	143.05	-29.1	-100.5	110.1	108.4	1.70	64.838	
600.0	599.5	599.5	599.5	1.1	1.0	145.53	-29.1	-100.5	117.2	115.1	2.06	56.953	
700.0	698.7	698.7	698.7	1.3	1.2	148.52	-29.1	-100.5	127.5	125.0	2.42	52.618	
800.0	797.5	797.5	797.5	1.6	1.4	151.70	-29.1	-100.5	141.1	138.3	2.79	50.602	
900.0	895.6	895.6	895.6	2.0	1.5	154.82	-29.1	-100.5	158.2	155.0	3.15	50.213 SF	
1,000.0	993.1	993.1	993.1	2.4	1.7	157.75	-29.1	-100.5	178.7	175.2	3.51	50.964	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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 Oxy D33 697 Pad - Oxy 33-1D (Oxy D33 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	-105.41	-8.0	-29.1	30.2					
100.0	100.0	100.0	100.0	0.1	0.1	-105.41	-8.0	-29.1	30.2	29.9	0.30	101.633		
200.0	200.0	200.0	200.0	0.3	0.3	-105.41	-8.0	-29.1	30.2	29.5	0.65	46.696		
300.0	300.0	300.0	300.0	0.5	0.5	-105.41	-8.0	-29.1	30.2	29.2	0.99	30.312 CC, ES		
400.0	400.0	400.5	400.5	0.7	0.7	140.76	-9.3	-27.8	30.7	29.3	1.35	22.741		
500.0	499.8	501.0	500.9	0.9	0.9	138.44	-13.0	-24.1	32.2	30.5	1.72	18.725		
600.0	599.5	601.5	600.9	1.1	1.1	135.03	-19.2	-17.8	34.8	32.7	2.13	16.349		
700.0	698.7	701.8	700.5	1.3	1.3	131.06	-27.8	-9.1	38.7	36.1	2.61	14.821		
800.0	797.5	802.1	799.5	1.6	1.7	126.99	-38.9	2.1	43.8	40.6	3.18	13.765		
900.0	895.6	902.2	897.8	2.0	2.0	123.17	-52.4	15.8	50.3	46.5	3.87	13.000		
1,000.0	993.1	1,002.2	995.2	2.4	2.4	119.69	-68.2	31.8	58.2	53.5	4.68	12.436		
1,100.0	1,090.4	1,102.0	1,091.5	2.8	2.9	114.80	-86.4	50.2	66.2	60.6	5.59	11.840		
1,200.0	1,187.6	1,201.3	1,186.5	3.3	3.4	108.36	-106.9	70.9	74.8	68.2	6.60	11.324		
1,300.0	1,284.9	1,300.3	1,280.3	3.7	4.0	101.47	-129.1	93.4	84.5	76.8	7.61	11.093 SF		
1,400.0	1,382.1	1,399.3	1,374.1	4.1	4.6	95.91	-151.4	116.0	95.2	86.6	8.58	11.097		
1,500.0	1,479.4	1,498.4	1,467.9	4.6	5.2	91.51	-173.8	138.6	106.6	97.1	9.50	11.223		
1,600.0	1,576.7	1,597.4	1,561.7	5.0	5.7	87.97	-196.2	161.2	118.5	108.1	10.39	11.410		
1,700.0	1,673.9	1,696.5	1,655.5	5.5	6.3	85.08	-218.5	183.9	130.8	119.6	11.25	11.623		
1,800.0	1,771.2	1,795.5	1,749.3	5.9	6.9	82.69	-240.9	206.5	143.4	131.3	12.10	11.845		
1,900.0	1,868.5	1,894.6	1,843.1	6.3	7.5	80.69	-263.2	229.1	156.1	143.2	12.94	12.066		
2,000.0	1,965.7	1,993.6	1,936.9	6.8	8.1	78.99	-285.6	251.7	169.1	155.3	13.77	12.280		
2,100.0	2,063.0	2,092.7	2,030.7	7.2	8.7	77.54	-308.0	274.3	182.1	167.5	14.59	12.484		
2,200.0	2,160.3	2,191.7	2,124.5	7.7	9.3	76.27	-330.3	297.0	195.3	179.9	15.40	12.677		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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 Oxy D33 697 Pad - Oxy 33-2D (D33 697 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	-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	49.442		
200.0	200.0	200.0	200.0	0.3	0.3	-105.85	-4.0	-14.1	14.7	14.0	0.65	22.717		
300.0	300.0	300.0	300.0	0.5	0.5	-105.85	-4.0	-14.1	14.7	13.7	0.99	14.746 CC		
400.0	400.0	400.3	400.3	0.7	0.7	140.05	-5.0	-12.7	15.0	13.6	1.35	11.100 ES		
500.0	499.8	500.6	500.5	0.9	0.9	137.00	-8.1	-8.4	15.8	14.1	1.72	9.228		
600.0	599.5	600.9	600.4	1.1	1.1	132.63	-13.3	-1.4	17.4	15.3	2.13	8.179		
700.0	698.7	701.2	699.9	1.3	1.3	127.71	-20.5	8.5	19.7	17.1	2.61	7.551		
800.0	797.5	801.4	798.8	1.6	1.7	122.89	-29.8	21.2	22.8	19.6	3.19	7.148		
900.0	895.6	901.5	897.1	2.0	2.0	118.55	-41.1	36.7	26.8	22.9	3.89	6.876		
1,000.0	993.1	1,001.7	994.7	2.4	2.4	114.64	-54.4	54.9	31.5	26.8	4.71	6.685		
1,100.0	1,090.4	1,101.6	1,091.2	2.8	2.9	107.75	-69.7	75.9	36.3	30.6	5.66	6.405		
1,200.0	1,187.6	1,201.4	1,187.2	3.3	3.4	100.84	-85.6	97.7	41.4	34.8	6.62	6.259		
1,300.0	1,284.9	1,301.1	1,283.3	3.7	3.9	95.51	-101.5	119.5	47.0	39.5	7.55	6.234 SF		
1,400.0	1,382.1	1,400.9	1,379.3	4.1	4.4	91.35	-117.4	141.3	53.0	44.5	8.45	6.271		
1,500.0	1,479.4	1,500.6	1,475.3	4.6	4.9	88.04	-133.3	163.1	59.2	49.8	9.33	6.339		
1,600.0	1,576.7	1,600.4	1,571.4	5.0	5.4	85.36	-149.2	184.9	65.5	55.3	10.20	6.420		
1,700.0	1,673.9	1,700.2	1,667.4	5.5	5.9	83.15	-165.2	206.7	71.9	60.9	11.06	6.506		
1,800.0	1,771.2	1,799.9	1,763.4	5.9	6.4	81.31	-181.1	228.5	78.5	66.6	11.90	6.592		
1,900.0	1,868.5	1,899.7	1,859.5	6.3	6.9	79.76	-197.0	250.3	85.1	72.3	12.74	6.675		
2,000.0	1,965.7	1,999.4	1,955.5	6.8	7.4	78.43	-212.9	272.1	91.7	78.1	13.58	6.754		
2,100.0	2,063.0	2,099.2	2,051.5	7.2	7.9	77.28	-228.8	294.0	98.4	84.0	14.41	6.829		
2,200.0	2,160.3	2,198.9	2,147.6	7.7	8.4	76.28	-244.8	315.8	105.1	89.9	15.24	6.900		
2,300.0	2,257.5	2,298.7	2,243.6	8.1	8.9	75.39	-260.7	337.6	111.9	95.8	16.06	6.966		
2,400.0	2,354.8	2,398.5	2,339.6	8.6	9.4	74.61	-276.6	359.4	118.7	101.8	16.89	7.028		
2,500.0	2,452.0	2,498.2	2,435.7	9.0	9.9	73.92	-292.5	381.2	125.5	107.8	17.71	7.086		
2,600.0	2,549.3	2,598.0	2,531.7	9.5	10.5	73.29	-308.4	403.0	132.3	113.8	18.53	7.141		
2,700.0	2,646.6	2,697.7	2,627.7	9.9	11.0	72.73	-324.3	424.8	139.1	119.8	19.35	7.192		
2,800.0	2,743.8	2,797.5	2,723.8	10.4	11.5	72.22	-340.3	446.6	146.0	125.8	20.17	7.240		
2,900.0	2,841.1	2,897.2	2,819.8	10.8	12.0	71.75	-356.2	468.4	152.9	131.9	20.98	7.284		
3,000.0	2,938.4	2,997.0	2,915.8	11.3	12.5	71.33	-372.1	490.2	159.7	137.9	21.80	7.327		
3,100.0	3,035.6	3,096.8	3,011.9	11.7	13.0	70.94	-388.0	512.1	166.6	144.0	22.62	7.366		
3,200.0	3,132.9	3,196.5	3,107.9	12.2	13.5	70.58	-403.9	533.9	173.5	150.0	23.43	7.404		
3,300.0	3,230.2	3,296.3	3,203.9	12.6	14.0	70.24	-419.8	555.7	180.4	156.1	24.25	7.439		
3,400.0	3,327.4	3,396.0	3,300.0	13.1	14.5	69.94	-435.8	577.5	187.3	162.2	25.06	7.472		
3,500.0	3,424.7	3,495.8	3,396.0	13.5	15.1	69.65	-451.7	599.3	194.1	168.3	25.87	7.504		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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 Oxy D33 697 Pad - Oxy 33-4D (D33 697 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	74.73	4.0	14.7	15.2					
100.0	100.0	100.0	100.0	0.1	0.1	74.73	4.0	14.7	15.2	14.9	0.30	51.275		
200.0	200.0	200.0	200.0	0.3	0.3	74.73	4.0	14.7	15.2	14.6	0.65	23.559 CC, ES		
300.0	300.0	299.5	299.5	0.5	0.5	77.29	3.7	16.4	16.8	15.8	1.00	16.867		
400.0	400.0	398.8	398.7	0.7	0.7	-32.77	2.8	21.5	20.2	18.8	1.35	15.007		
500.0	499.8	498.0	497.5	0.9	0.9	-32.34	1.2	29.9	23.9	22.2	1.70	14.046		
600.0	599.5	597.1	595.8	1.1	1.2	-33.42	-1.0	41.7	28.0	25.9	2.08	13.463		
700.0	698.7	696.0	693.6	1.3	1.5	-35.42	-3.8	56.8	32.4	29.9	2.48	13.027		
800.0	797.5	794.8	790.6	1.6	1.9	-37.93	-7.2	75.2	37.1	34.2	2.94	12.612		
900.0	895.6	894.5	888.0	2.0	2.2	-41.52	-11.0	95.9	41.3	37.8	3.49	11.837		
1,000.0	993.1	994.4	985.6	2.4	2.6	-47.53	-14.8	116.8	43.4	39.2	4.19	10.342		
1,100.0	1,090.4	1,094.2	1,083.2	2.8	3.1	-53.86	-18.7	137.6	45.3	40.3	5.01	9.035		
1,200.0	1,187.6	1,194.1	1,180.8	3.3	3.5	-59.62	-22.5	158.4	47.8	41.9	5.90	8.089		
1,300.0	1,284.9	1,294.0	1,278.4	3.7	3.9	-64.76	-26.3	179.2	50.6	43.8	6.83	7.411		
1,400.0	1,382.1	1,393.8	1,375.9	4.1	4.3	-69.32	-30.2	200.1	53.9	46.1	7.78	6.926		
1,500.0	1,479.4	1,493.7	1,473.5	4.6	4.7	-73.34	-34.0	220.9	57.4	48.7	8.73	6.578		
1,600.0	1,576.7	1,593.5	1,571.1	5.0	5.1	-76.88	-37.9	241.7	61.2	51.6	9.68	6.327		
1,700.0	1,673.9	1,693.4	1,668.7	5.5	5.5	-79.99	-41.7	262.5	65.2	54.6	10.62	6.145		
1,800.0	1,771.2	1,793.3	1,766.3	5.9	5.9	-82.74	-45.6	283.4	69.4	57.9	11.54	6.014		
1,900.0	1,868.5	1,893.1	1,863.9	6.3	6.3	-85.17	-49.4	304.2	73.7	61.3	12.46	5.918		
2,000.0	1,965.7	1,993.0	1,961.5	6.8	6.7	-87.33	-53.2	325.0	78.2	64.8	13.36	5.849		
2,100.0	2,063.0	2,092.8	2,059.1	7.2	7.2	-89.26	-57.1	345.9	82.7	68.4	14.26	5.799		
2,200.0	2,160.3	2,192.7	2,156.7	7.7	7.6	-90.98	-60.9	366.7	87.3	72.2	15.14	5.765		
2,300.0	2,257.5	2,292.6	2,254.2	8.1	8.0	-92.53	-64.8	387.5	92.0	76.0	16.02	5.742		
2,400.0	2,354.8	2,392.4	2,351.8	8.6	8.4	-93.93	-68.6	408.3	96.7	79.8	16.89	5.727		
2,500.0	2,452.0	2,492.3	2,449.4	9.0	8.8	-95.20	-72.4	429.2	101.5	83.8	17.76	5.718		
2,600.0	2,549.3	2,592.1	2,547.0	9.5	9.2	-96.35	-76.3	450.0	106.4	87.8	18.62	5.715 SF		
2,700.0	2,646.6	2,692.0	2,644.6	9.9	9.6	-97.40	-80.1	470.8	111.3	91.8	19.47	5.715		
2,800.0	2,743.8	2,791.9	2,742.2	10.4	10.1	-98.36	-84.0	491.7	116.2	95.9	20.32	5.718		
2,900.0	2,841.1	2,891.7	2,839.8	10.8	10.5	-99.25	-87.8	512.5	121.1	100.0	21.16	5.724		
3,000.0	2,938.4	2,991.6	2,937.4	11.3	10.9	-100.06	-91.7	533.3	126.1	104.1	22.00	5.731		
3,100.0	3,035.6	3,091.5	3,035.0	11.7	11.3	-100.82	-95.5	554.1	131.1	108.3	22.84	5.739		
3,200.0	3,132.9	3,191.3	3,132.5	12.2	11.7	-101.51	-99.3	575.0	136.1	112.4	23.68	5.749		
3,300.0	3,230.2	3,291.2	3,230.1	12.6	12.1	-102.16	-103.2	595.8	141.2	116.6	24.51	5.759		
3,400.0	3,327.4	3,391.0	3,327.7	13.1	12.6	-102.77	-107.0	616.6	146.2	120.9	25.34	5.770		
3,500.0	3,424.7	3,490.9	3,425.3	13.5	13.0	-103.33	-110.9	637.4	151.3	125.1	26.17	5.781		
3,600.0	3,522.0	3,590.8	3,522.9	14.0	13.4	-103.85	-114.7	658.3	156.4	129.4	27.00	5.792		
3,700.0	3,619.2	3,690.6	3,620.5	14.4	13.8	-104.35	-118.6	679.1	161.5	133.6	27.82	5.803		
3,800.0	3,716.5	3,790.5	3,718.1	14.9	14.2	-104.81	-122.4	699.9	166.6	137.9	28.65	5.814		
3,900.0	3,813.7	3,890.3	3,815.7	15.3	14.6	-105.25	-126.2	720.8	171.7	142.2	29.47	5.826		
4,000.0	3,911.0	3,990.2	3,913.3	15.8	15.0	-105.66	-130.1	741.6	176.8	146.5	30.29	5.837		
4,100.0	4,008.3	4,090.1	4,010.8	16.2	15.5	-106.04	-133.9	762.4	181.9	150.8	31.11	5.848		
4,200.0	4,105.5	4,189.9	4,108.4	16.7	15.9	-106.41	-137.8	783.2	187.1	155.2	31.93	5.859		
4,300.0	4,202.8	4,289.8	4,206.0	17.1	16.3	-106.75	-141.6	804.1	192.2	159.5	32.75	5.870		
4,400.0	4,300.1	4,389.6	4,303.6	17.6	16.7	-107.08	-145.4	824.9	197.4	163.8	33.57	5.881		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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 Oxy D33 697 Pad - Oxy 33-5D (D33 697 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	72.44	9.1	28.8	30.2					
100.0	100.0	100.0	100.0	0.1	0.1	72.44	9.1	28.8	30.2	29.9	0.30	101.770		
200.0	200.0	200.0	200.0	0.3	0.3	72.44	9.1	28.8	30.2	29.5	0.65	46.759 CC, ES		
300.0	300.0	299.0	298.9	0.5	0.5	73.21	9.2	30.5	31.9	30.9	1.00	32.019		
400.0	400.0	397.8	397.6	0.7	0.7	-39.57	9.5	35.6	35.6	34.2	1.34	26.492		
500.0	499.8	496.4	495.9	0.9	0.9	-41.38	9.9	44.1	39.9	38.2	1.70	23.486		
600.0	599.5	594.8	593.6	1.1	1.2	-44.54	10.6	55.9	45.1	43.0	2.08	21.660		
700.0	698.7	693.0	690.6	1.3	1.5	-48.46	11.4	71.1	51.2	48.7	2.51	20.390		
800.0	797.5	791.6	787.4	1.6	1.8	-52.71	12.4	89.6	58.4	55.4	3.02	19.353		
900.0	895.6	890.6	884.3	2.0	2.2	-57.77	13.5	109.8	65.5	61.9	3.64	18.002		
1,000.0	993.1	990.1	981.7	2.4	2.6	-64.21	14.6	130.2	71.5	67.1	4.40	16.248		
1,100.0	1,090.4	1,089.6	1,079.0	2.8	3.0	-70.27	15.6	150.6	78.0	72.8	5.24	14.885		
1,200.0	1,187.6	1,189.0	1,176.4	3.3	3.4	-75.37	16.7	170.9	85.2	79.1	6.11	13.950		
1,300.0	1,284.9	1,288.5	1,273.8	3.7	3.8	-79.64	17.8	191.3	93.0	86.0	6.99	13.306		
1,400.0	1,382.1	1,388.0	1,371.1	4.1	4.2	-83.24	18.9	211.7	101.2	93.3	7.87	12.859		
1,500.0	1,479.4	1,487.5	1,468.5	4.6	4.6	-86.29	20.0	232.0	109.7	101.0	8.75	12.545		
1,600.0	1,576.7	1,586.9	1,565.8	5.0	5.0	-88.90	21.1	252.4	118.6	108.9	9.62	12.323		
1,700.0	1,673.9	1,686.4	1,663.2	5.5	5.4	-91.14	22.2	272.8	127.6	117.1	10.49	12.166		
1,800.0	1,771.2	1,785.9	1,760.6	5.9	5.8	-93.08	23.3	293.1	136.8	125.4	11.35	12.053		
1,900.0	1,868.5	1,885.4	1,857.9	6.3	6.2	-94.78	24.4	313.5	146.1	133.9	12.20	11.973		
2,000.0	1,965.7	1,984.8	1,955.3	6.8	6.6	-96.28	25.5	333.9	155.6	142.5	13.05	11.917		
2,100.0	2,063.0	2,084.3	2,052.7	7.2	7.0	-97.60	26.6	354.3	165.1	151.2	13.90	11.878		
2,200.0	2,160.3	2,183.8	2,150.0	7.7	7.4	-98.77	27.7	374.6	174.7	160.0	14.74	11.852		
2,300.0	2,257.5	2,283.3	2,247.4	8.1	7.8	-99.83	28.8	395.0	184.4	168.8	15.58	11.835		
2,400.0	2,354.8	2,382.8	2,344.7	8.6	8.2	-100.78	29.9	415.4	194.1	177.7	16.41	11.826 SF		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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> Oxy D33 697 Pad - Oxy 33-6D (D33 697 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	-106.64	-17.1	-57.3	59.8					
100.0	100.0	100.0	100.0	0.1	0.1	-106.64	-17.1	-57.3	59.8	59.5	0.30	201.539		
200.0	200.0	200.0	200.0	0.3	0.3	-106.64	-17.1	-57.3	59.8	59.2	0.65	92.599		
300.0	300.0	300.0	300.0	0.5	0.5	-106.64	-17.1	-57.3	59.8	58.8	0.99	60.108 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	141.39	-17.1	-57.3	61.2	59.8	1.34	45.478		
500.0	499.8	499.8	499.8	0.9	0.8	144.21	-17.1	-57.3	65.3	63.6	1.70	38.473		
600.0	599.5	598.9	598.9	1.1	1.0	146.81	-18.8	-57.4	72.9	70.9	2.06	35.458		
700.0	698.7	697.7	697.5	1.3	1.2	147.80	-23.9	-57.6	84.3	81.9	2.44	34.632 SF		
800.0	797.5	795.9	795.4	1.6	1.4	147.60	-32.4	-58.1	99.4	96.5	2.85	34.891		
900.0	895.6	893.3	892.1	2.0	1.6	146.67	-44.0	-58.7	118.0	114.7	3.31	35.628		
1,000.0	993.1	989.8	987.5	2.4	1.9	145.40	-58.8	-59.4	140.1	136.3	3.84	36.492		
1,100.0	1,090.4	1,085.6	1,081.5	2.8	2.2	143.67	-76.7	-60.3	163.8	159.4	4.44	36.918		
1,200.0	1,187.6	1,181.2	1,174.8	3.3	2.6	141.47	-97.5	-61.4	188.5	183.5	5.09	37.045		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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 Oxy D33 697 Pad - Oxy 33-7D (D33 697 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	-105.55	-12.0	-43.2	44.8					
100.0	100.0	100.0	100.0	0.1	0.1	-105.55	-12.0	-43.2	44.8	44.5	0.30	151.074		
200.0	200.0	200.0	200.0	0.3	0.3	-105.55	-12.0	-43.2	44.8	44.2	0.65	69.412		
300.0	300.0	300.0	300.0	0.5	0.5	-105.55	-12.0	-43.2	44.8	43.8	0.99	45.057 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	142.78	-12.0	-43.2	46.2	44.9	1.34	34.362		
500.0	499.8	499.8	499.8	0.9	0.8	146.32	-12.0	-43.2	50.5	48.8	1.70	29.738		
600.0	599.5	599.1	599.1	1.1	1.0	149.34	-13.7	-43.2	58.2	56.1	2.05	28.314 SF		
700.0	698.7	698.2	698.0	1.3	1.2	150.13	-18.9	-43.4	69.5	67.1	2.43	28.603		
800.0	797.5	796.7	796.1	1.6	1.4	149.49	-27.4	-43.7	84.4	81.5	2.84	29.694		
900.0	895.6	894.4	893.2	2.0	1.6	148.08	-39.1	-44.0	102.7	99.4	3.30	31.082		
1,000.0	993.1	991.7	989.3	2.4	1.9	146.57	-53.7	-44.5	124.4	120.6	3.82	32.568		
1,100.0	1,090.4	1,089.1	1,085.6	2.8	2.2	145.67	-68.7	-44.9	147.0	142.6	4.37	33.665		
1,200.0	1,187.6	1,186.5	1,181.8	3.3	2.5	145.00	-83.6	-45.4	169.5	164.6	4.93	34.418		
1,300.0	1,284.9	1,283.9	1,278.0	3.7	2.8	144.50	-98.6	-45.8	192.1	186.6	5.50	34.952		



# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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> Oxy D33 697 Pad - Oxy 33-8D (D33 697 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	-106.30	-21.1	-72.3	75.3					
100.0	100.0	100.0	100.0	0.1	0.1	-106.30	-21.1	-72.3	75.3	75.0	0.30	253.715		
200.0	200.0	200.0	200.0	0.3	0.3	-106.30	-21.1	-72.3	75.3	74.6	0.65	116.572		
300.0	300.0	300.0	300.0	0.5	0.5	-106.30	-21.1	-72.3	75.3	74.3	0.99	75.670 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	141.51	-21.1	-72.3	76.6	75.3	1.34	56.995		
500.0	499.8	499.8	499.8	0.9	0.8	143.77	-21.1	-72.3	80.8	79.1	1.70	47.584		
600.0	599.5	597.9	597.9	1.1	1.0	146.05	-22.7	-72.8	88.9	86.8	2.06	43.218		
700.0	698.7	695.4	695.3	1.3	1.2	147.26	-27.4	-74.6	101.6	99.2	2.43	41.837 SF		
800.0	797.5	792.1	791.6	1.6	1.4	147.59	-35.1	-77.4	119.0	116.2	2.83	42.069		
900.0	895.6	889.9	888.9	2.0	1.6	147.96	-44.3	-80.8	140.1	136.8	3.25	43.031		
1,000.0	993.1	986.9	985.4	2.4	1.8	148.84	-53.5	-84.2	163.9	160.2	3.69	44.358		
1,100.0	1,090.4	1,083.8	1,081.8	2.8	2.1	149.78	-62.7	-87.6	188.5	184.4	4.15	45.475		

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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> Oxy D33 697 Pad - Oxy 33-9D (D33 697 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	-106.23	-25.1	-86.4	89.9				
100.0	100.0	100.0	100.0	0.1	0.1	-106.23	-25.1	-86.4	89.9	89.7	0.30	303.161	
200.0	200.0	200.0	200.0	0.3	0.3	-106.23	-25.1	-86.4	89.9	89.3	0.65	139.290	
300.0	300.0	300.0	300.0	0.5	0.5	-106.23	-25.1	-86.4	89.9	89.0	0.99	90.416	CC, ES
400.0	400.0	400.0	400.0	0.7	0.7	141.45	-25.1	-86.4	91.3	90.0	1.34	67.906	
500.0	499.8	499.8	499.8	0.9	0.8	143.35	-25.1	-86.4	95.5	93.8	1.70	56.210	
600.0	599.5	599.5	599.5	1.1	1.0	146.18	-25.1	-86.4	102.6	100.5	2.06	49.868	
700.0	698.7	698.7	698.7	1.3	1.2	149.51	-25.1	-86.4	112.9	110.5	2.42	46.670	
800.0	797.5	797.5	797.5	1.6	1.4	152.97	-25.1	-86.4	126.7	123.9	2.78	45.539	SF
900.0	895.6	895.6	895.6	2.0	1.5	156.27	-25.1	-86.4	144.0	140.9	3.14	45.861	
1,000.0	993.1	993.1	993.1	2.4	1.7	159.28	-25.1	-86.4	164.8	161.3	3.49	47.189	
1,100.0	1,090.4	1,087.7	1,087.7	2.8	1.9	161.36	-26.3	-87.1	187.4	183.5	3.84	48.741	

# Directional Plus

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Oxy 33-3D (D33 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Reference Site:</b>	Oxy D33 697 Pad	<b>MD Reference:</b>	KBE @ 8091.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Oxy 33-3D (D33 697 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 @ 8091.0ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Oxy 33-3D (D33 697 Pad)  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.72°

